



# **PBS-SR-0011**

## **Nuclear Materials**

### **Stabilization and Disposition-2035**

## **Risk Management Plan**

**Document No. Y-RAR-G-00023**  
**Revision 0**

**UNCLASSIFIED**  
**DOES NOT CONTAIN UNCLASSIFIED**  
**CONTROLLED NUCLEAR INFORMATION**

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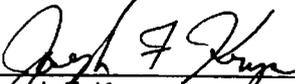


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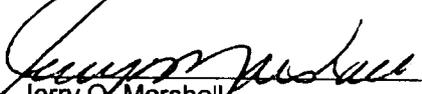
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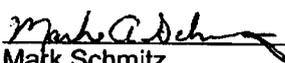
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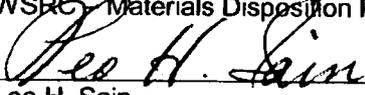
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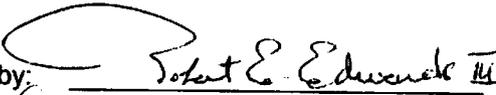
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## REVISION SUMMARY

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0	July 2006	Full Document	Initial issue

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## ACRONYMS

ASAP	As Soon as Possible
B	Benefit
C	Consequence
Cf	Californium
CSSC	Container Storage and Surveillance Capability
CD	Critical Decision
DBT	Design Basis Threat
D&D	Demolition and Dismantle
DOE	Department of Energy
DSA	Documented Safety Analysis
EM	Environmental Management
FAMS	F Area Material Storage
FONSI	Finding of No Significant Impact
FY	Fiscal Year
HEU	High Enriched Uranium
HRP	Human Reliability Program
KIS	K-Area Interim Surveillance
L	Likelihood
LES	Limited Extent Surveillance
MC&A	Material Control and Accountability
MFFF	Mixed Oxide Fuel Fabrication Facility
NEPA	National Environmental Policy Act
NM	Nuclear Materials
NMM	Nuclear Materials Management
NNSA	Nuclear Nonproliferation Security Agency
OBU	Operations Business Unit
OHS	Opportunity Handling Strategy
ORR	Operational Readiness Review
PBS	Project Baseline Summary
PDCF	Pit Disassembly and Conversion Facility
PEP	Program Execution Plan
Pu	Plutonium
RAR	Risk Analysis Report
RBOF	Receiving Basin for Off-Site Fuel
R&O	Risk & Opportunity
RHS	Risk Handling Strategy
ROMP	Risk and Opportunity Management Plan
SFP	Spent Fuel Project
SNM	Special Nuclear Materials
SSC	Structures, Systems and Components
STD	Standard
S&M	Surveillance and Monitoring
S&S	Safeguards and Security
TVA	Tennessee Valley Authority
WSRC	Washington Savannah River Company

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## 1.0 EXECUTIVE SUMMARY

The Project Baseline Summary (PBS) Risk Management Plan for PBS SR-0011, Nuclear Material Stabilization and Disposition, documents the results of the risk and opportunity assessment conducted by Department of Energy (DOE) Savannah River Operations Office (SR) and Washington Savannah River Company (WSRC), communicates the risk handling strategies developed for identified risks, and provides a plan for monitoring risks throughout the life of the project. It establishes the basis of the amount to be used as a contingency estimate for this PBS. Project and programmatic risks for the entire project (both near-term—FY 2007 through FY 2012—and the balance of the lifecycle baseline—FY 2013 through FY 2031) are considered and contingency estimated. The contingency estimate for this PBS, other Savannah River Site (SRS) PBS, and crosscutting project and programmatic risks are documented in SRS Risk Summary and Integrated Contingency Estimate (Document No. Y-RAR-B-00003). The integrated contingency data establishes the SRS portion of the DOE unfunded contingency amount used to determine the EM liability that must be added to the EM performance baseline.

The purpose of utilizing the Risk and Opportunity management process is to increase the overall effectiveness of the Department of Energy (DOE) Environmental Management (EM) work associated with the nuclear material stabilization effort such that risks are managed to acceptable levels and opportunities can be taken advantage of to enhance Project Baseline Summary (PBS) scope completion. This Risk Management Plan (RMP) documents the risk assessment conducted by DOE-SR and WSRC personnel on PBS-SR-0011, Nuclear Materials Stabilization and Disposition. The scope of this PBS includes facility Operations and Line Item Projects:

- 1) F-Area Operations,
- 2) H-Area Operations,
- 3) RBOF Surveillance and Monitoring,
- 4) Design/Construction 3013 CSSC and Interim Surveillance Capability,
- 5) Design/Construction Pu Vitrification/Pu Alternate Disposition
- 6) K-Area Operations
- 7) FAMS Operations

This RMP is an update of previous assessments. This assessment is focused on the changes in the Savannah River 2006 PEP, and the consolidation of the PBS-SR-0011B and -0011C into one RMP.

Several previously identified facility level and Line Item Project risks, the previous PBS 11B and 11C risk assessments and the utilization of the Risk Categories identified in Appendix A provided the basis for risk and opportunity identification at this PBS level.

This PBS Risk Assessment is based on Operational budgets being available to support the PBS milestones. This PBS Risk Assessment also does not reflect any schedule impacts caused by Acquisition Strategy changes over the PBS Lifecycle.

### **Risk Identification and Assessment**

A total of 40 risks were identified, 5 were *High*, 18 were *Moderate* and 17 were *Low*. No opportunities were identified. A summary of the risks are presented in Table ES-1.

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The 5 *High* risks are associated with Operations. They are:

- Risk ID 003 – Additional Processing Needs Extend H-Canyon Operation
- Risk ID 028 – F Canyon Mission Change from Deactivation
- Risk ID 029 – Tank Farm Waste Storage Limit Bound
- Risk ID 031 -- Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase
- Risk ID 033 -- Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations

### **Risk Handling Strategies and Contingency Estimates**

The majority of the risks handling strategies were “Accept” due to the following reasons:

1. The source of the risk event is outside the direct control of the DOE-SR and WSRC, (Applies to 7 risks: ID 003, 005, 007, 009, 015, 016, 020)
    - Risks ID 003. This risk is associated with extending H-Canyon operations due to other Programs either not being available or additional materials to process. The handling strategy is Accept because H-Canyon must continue to provide a unique processing capability. When Program schedules are finalized, H-Canyon response actions will be developed.
    - Risks ID 005 and 007. These 2 risks are associated with changing DBT and Programmatic requirements. The decision to implement these requirements will not be made at the WSRC and DOE-SR level. As requirement decisions are made, response actions will be developed.
    - Risk ID 009. This risk is associated with the continued availability of an external interface that DOE-SR and WSRC does not control. If this risk is realized, response actions will be developed.
    - Risks ID 015, and 020. These 2 risks are associated with Line Item Project funding. Funding is outside of DOE-SR and WSRC control. When funding issues are realized, response actions will be developed.
    - Risk ID 016. This risk is associated with the unique capability provided by the future Pu Vitrification/Pu Alternate Disposition. As feed materials are identified, the project will develop response actions.
  2. There are already plans to perform risk reduction actions, and no new plans and/or actions were identified by this PBS Risk Assessment, (Applies to 2 risks: ID 004, 006)
    - Risk ID 004. The System Health Program provides system monitoring and surveillance with maintenance provided as warranted to maintain SSC capabilities.
    - Risk ID 006. Procedures are already in place to deal with process performance.
  3. Future risk issues that have not matured to develop and/or finalize a handling strategy (Applies to 7 Risks: ID 010, 013, 018, 019, 022, 023, 025)
    - Risks ID 010 and 013. These risks are associated with the future Pu Vitrification/Pu Alternate Disposition Project. Potential generic actions have been identified; because project is not authorized no actions will be implemented.
-

- Risks ID 018 and 019. These risks are associated with future 3013 CSSC Project work.
  - Risks ID 022 and 023. These risks are associated with future KIS work.
  - Risk ID 025. This risk is associated with changing F-Canyon S&M requirements.
4. For *Low* risks with the initial evaluation likelihood of “Very Unlikely” (applies to 2 Risks: ID 012, 024)  
The decision was made to accept the *Low* risks due to already having the lowest possible likelihood of occurrence.

Further discussion of the handling strategies is in Section 4.3. The handling strategy “Mitigate” was identified for 2 *Low* risks. Only 1 of the High risks will be reduced by an identified handling strategy, 3 *High* risks remain post handling.

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**Table ES-1 PBS SR-0011 Risks**

PBS Element	Risk Identifier and Risk Title	Risk Category	Source of Risk	PBS Impact Cost Schedule Performance	Likelihood	Consequence (\$M months)	Risk Level	Risk Handling Strategy (RHS)	Risk Level after RHS
<b>High Risks</b>									
11B.2	ID 003--Additional Processing Needs Extend H-Canyon Operation	Interfaces	External	Cost Schedule	Very Likely	Crisis \$200M 12 Months	H	Accept	H
11B.1	ID 028--F-Canyon Mission Change from Deactivation	Resource/ Conditions	External	Cost Schedule	Likely	Crisis \$100M 12 Months	H	Accept	H
11B.2	ID 029--Tank Farm Waste Storage Limit Bound	Interfaces	External	Cost Schedule	Very Likely	Critical \$100M 6 Months	H	Mitigate	M
11C.1	ID 031--Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase	Design	External	Cost Schedule	Likely	Critical \$140M 12 Month	H	Accept	H
11C.1	ID 033--Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations	Management	External	Cost Schedule	Likely	Critical \$140M 12 Month	H	Accept	H
<b>Moderate Risks</b>									
11B.2	ID 004--Major Interruption of Facility Operations resulting in shutdown or loss of processing capability	Resource/ Conditions	Internal	Cost Schedule	Likely	Marginal \$5M 2 Months	M	Accept	M
11B.5	ID 010--Pu Vitrification/Pu Alternate Disposition Materials of Construction	Resource/ Conditions	Internal	Cost Schedule	Likely	Marginal > \$10M 4 Month	M	Accept	M
11B.5	ID 013--Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) after CD-2	Design	Internal	Cost Schedule	Likely	Marginal > \$10M 4 Month	M	Accept	M
11B.5	ID 015--Pu Vitrification/Pu Alternate Disposition Funding Delay	Management	External	Cost Schedule	Very Likely	Marginal >\$5M 6 Months	M	Accept	M
11B.4	ID 018--3013 CSSC Requirement Changes after CD-2	Design	Internal	Cost Schedule	Likely	Marginal > \$10M 4 Month	M	Accept	M
11B.4	ID 019--3013 CSSC Lack of Resources	Res/Cond	Internal	Cost	Likely	Marginal	M	Accept	M

PBS Element	Risk Identifier and Risk Title	Risk Category	Source of Risk	PBS Impact Cost Schedule Performance	Likelihood	Consequence (\$M months)	Risk Level	Risk Handling Strategy (RHS)	Risk Level after RHS
				Schedule		< \$5M 2 Month			
11B.4	ID 020--3013 CSSC Project Funding Delay	Management	External	Cost Schedule	Likely	Marginal > \$10M 6 Month	M	Accept	M
11B.4	ID 022--K-Area Interim Surveillance (KIS) Extended Life	Design	Internal	Cost	Likely	Marginal \$4M	M	Accept	M
11B.4	ID 023--K-Area Interim Surveillance (KIS) Requirement Changes	Design	Internal	Cost Schedule	Likely	Marginal \$5M 2 Month	M	Accept	M
11B.1	ID 025--Requirement Changes affecting Deactivation Endpoints and Surveillance and Monitoring (S&M)	Design	Internal	Cost Schedule	Likely	Marginal > \$10M 12 Month	M	Accept	M
11C.2	ID 030--KIS Delay impacts FAMS	Interfaces	Internal	Cost	Unlikely	Marginal \$17M	M	Accept	M
11C.1	ID 034--Additional Pu Vitrification/Pu Alternate Disposition Feed Material that Impacts Operations	Resource/Conditions	External	Cost Schedule	Very Unlikely	Critical \$140M 12 Month	M	Accept	M
11C.1	ID 037--Deinventory HEU from Assembly Area	Resource/Conditions	Internal	Cost	Likely	Marginal \$1M	M	Mitigate	L
11C.1	ID 041--K-Area Fire Protection Upgrades	Design	Internal	Cost	Very Likely	Marginal \$10M	M	Accept	M
11C.1	ID 042--H-Completion Schedule impacts on K-Area Material Receipts	Resource/Conditions	External	Cost	Likely	Marginal \$10M	M	Accept	M
11B.1	ID 043--F Canyon Not Funded for Loading, Shipment and Disposal of 25,000 depleted uranium oxide (DUO) drums.	Resource/Conditions	Internal	Cost	Likely	Significant \$10M (annual)	M	Accept	M
11C.1	ID 044--Em Pu Consolidation Impact of New Containers	Resource/Conditions	External	Cost	Likely	Marginal \$10M	M	Accept	M
11B.4	ID 045--Potential Challenge to Storage Space for Interim Storage of NNSA Materials	Res/Cond	Internal	Cost	Likely	Marginal \$10M	M	Mitigate	L

PBS Element	Risk Identifier and Risk Title	Risk Category	Source of Risk	PBS Impact Cost Schedule Performance	Likelihood	Consequence (\$M months)	Risk Level	Risk Handling Strategy (RHS)	Risk Level after RHS
Low Risks									
11B.2	ID 005--Programmatic Issues	Reg & En	External	Cost Schedule	Unlikely	Negligible \$500K <1 Month	L	Accept	L
11B.2	ID 006--Process Performance	Resource/ Conditions	Internal	Cost Schedule	Likely	Negligible \$100K 1 Month	L	Accept	L
11B.2	ID 007--S&S Requirement Changes	S&S	External	Cost Schedule	Very Unlikely	Marginal > \$10M 12 Month	L	Accept	L
11B.2	ID 009--Availability of External Interfaces	Interfaces	External	Cost	Very Unlikely	Marginal \$1M	L	Accept	L
11B.5	ID 012--Pu Vitrification/Pu Alternate Disposition Product Acceptability	Reg & En	Internal	Cost Schedule	Very Unlikely	Marginal > \$10M 6 Month	L	Accept	L
11B.5	ID 014--Pu Vitrification/Pu Alternate Disposition Inadequate Resources	Resource/ Conditions	Internal	Schedule	Likely	Negligible 2 Months	L	Mitigate	L
11B.5	ID 016--Pu Vitrification/Pu Alternate Disposition Feed Material	Resource/ Conditions	External	Cost Schedule	Unlikely	Marginal > \$10M 4 Month	L	Accept	L
11B.5	ID 017--Pu Vitrification/Pu Alternate Disposition NEPA Action	Reg & En	External	Schedule	Unlikely	Negligible 4 Months	L	Mitigate	L
11B.4	ID 024--H-Area impact on K-Area Interim Surveillance (KIS)	Interfaces	Internal	Cost	Very Unlikely	Marginal \$5M	L	Accept	L
11B.4	ID 026--3013 CSSC Requirement Changes prior to CD-2	Design	Internal	Cost	Likely	Negligible \$500K	L	Accept	L
11B.5	ID 027--Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) prior to CD-2	Design	Internal	Cost Schedule	Likely	Negligible \$500K <3 Months	L	Accept	L
11C.2	ID 035--Complete K-Area Facility mods to support storage of misc Pu from FAMS	Resource/ Conditions	Internal	Cost	Unlikely	Marginal \$1M	L	Accept	L
11C.1	ID 036--MC&A requirements may dictate need for Cf shuffler	Design	External	Cost	Unlikely	Marginal \$7M	L	Mitigate	L
11C.1	ID 038--Capability to respond to	Resource/	Internal	Cost	Very	Marginal	L	Accept	L

PBS Element	Risk Identifier and Risk Title	Risk Category	Source of Risk	PBS Impact Cost Schedule Performance	Likelihood	Consequence (\$M months)	Risk Level	Risk Handling Strategy (RHS)	Risk Level after RHS
	significant 3013 surveillance issues	Conditions			Unlikely	\$10M			
11C.2	ID 039--Delay of FAMS Facility D&D	Design	Internal	Cost	Unlikely	Marginal \$19M	L	Accept	L
11C.2	ID 040--Materials scheduled for H-Area disposition require alternate lag storage in K-Area	Resource/ Conditions	Internal	Cost	Likely	Negligible \$100K	L	Mitigate	L

No risks were identified for 11B.4 RBOF

## 2.0 BACKGROUND

### 2.1 Risk/Opportunity Assessment Scope

This Risk Management Plan combines two previously separate PBSs (11B and 11C). The scope of PBS-SR-0011 is divided into seven assessable elements with PBS focus as described below, and is based on the Savannah River Site 2006 Project Execution Plan

#### 11B.1 F-Area

##### Scope

F Complex Deinventory  
F-Complex Deactivation  
F-Complex Surveillance and Monitoring

##### Issues

- § Higher than expected levels of mercury and plutonium in the 800 Underground Tanks.
- § Available non-labor funding for removal and shipping of DUO from F Complex buildings.
- § Water intrusion which may require re-roofing the F-Canyon Complex

##### Assumptions

- § F Complex will be deactivated by November 2006.
- § F Complex will be turned over to Site D&D (PBS SR-0040) at the completion of F Complex Deactivation.
- § Approximately 25,000 drums containing DUO will remain in F Area buildings , N Area buildings, and R Area at the end of the contract period.

#### 11B.2 H-Area

##### Scope

Operate H Area facilities to safely stabilize and/or disposition EM legacy nuclear materials which include plutonium/uranium residues and scrap materials and irradiated and unirradiated fuels. Other legacy nuclear material may be identified by DOE. This scope includes operation of H-Canyon facilities (i.e. H Canyon and HB Line) through end of FY2019 and begins deactivation by FY 2020.

##### Issues

- § Resolution of product moisture issues in Np processing
- § Resolution of chemistry and process issues associated with processing of PuBe material.
- § Adequate funding to maintain aging facility process and support equipment

##### Assumptions

- § Dissolution of nuclear materials completed and facilities ready for deactivation by 2019
  - § Process approximately 100% of the aluminum clad fuel in storage at SRS, including Foreign Research Reactor (FRR) and Domestic Research Reactor (DRR) fuel receipts during this timeframe
  - § HEU solutions resulting from the disposition of the High Flux Isotope Reactor (HFIR) cores and FRR/DRR fuel will be added to the HEU to LEU downblend program
  - § The additional HEU solutions will be dispositioned through an extended HEU to LEU downblend program in the FY 2007 to FY 2019 timeframe or an alternate disposition method will be provided
  - § Process approximately 500 containers (DOE-STD-3013) of low-grade plutonium oxide
  - § Maintain H-Canyon and HB-Line to less than or equal to a safeguards Category II facility
-

- § Old HB Line ventilation project will be completed within the contract period, i.e. by November 2006
- § Congressional authorization to deactivate H Canyon/HB Line materials processing facilities and CLAB facilities will be received no later than the end of FY 2019
- § H Canyon Deactivation cost profile is based on the F Closure profile
- § Central Laboratory (CLAB) scope will remain the same through FY 2019, then begin deactivation in parallel with H Canyon and HB Line facilities
- § CLAB sample analysis scope will be transitioned to other facilities during H-Completion deactivation timeframe
- § Proposed Pu Vitrification/Pu Alternate Disposition project will be approved, funded and operational in FY 2012
- § No facilities will be transferred to another DOE Lead Program Secretarial Office (PSO).

### **11B.3 RBOF**

#### Scope

Perform Long Term surveillance until turnover to SR-0040 at the end of FY06 for decommissioning.

### **11B.4 Design/Construct 3013 CSSC and Interim Surveillance Capability**

#### Scope

Install surveillance & stabilization capability to perform DOE-STD-3013 compliant destructive and non-destructive 3013 examinations. This scope includes capability to store approximately 1900 additional 3013s. Because the first DE is required in 2/07, an interim surveillance capability is also required until completion of the CSSC project.

#### Issues

The 3013 CSSC project for K area is not presently funded in FY 06, thus threatening FY09 completion.

#### Assumptions

- § DBT scope impacts are manageable.
- § New building codes and standards are not invoked.
- § Funding and authorization are timely to support Construction.
- § H-Canyon can receive and process materials after DE.

### **11B.5 Disposition of non-MOXable Pu (Pu Vitrification/Pu Alternate Disposition)**

#### Scope

Provide disposition capability for Pu stored at SRS. For non-MOXable Pu, a leading alternative under consideration is Pu Vitrification/Pu Alternate Disposition with Pu immobilized in LaBS glass then inserted into DWPF canisters for final disposition in a geologic repository.

#### Issues

- § Funding of this project must be timely to complete in FY18.
- § Uncertainty of which alternative will be selected at CD-1
- § The facility throughput requirements are not well defined.
- § Technical and logistics challenges for Construction, Operations, and Safeguards and Security (See CD-0 Risk Assessment)<sup>4</sup>.
- § EIS/ROD for Pu Vitrification/Pu Alternate Disposition.

#### Assumptions

---

- § Funding & Technical challenges are resolved.
- § CD-0 Approval will clarify scope of Conceptual Design.
- § The feed is based on up to 13 metric tons (MT).

### 11C.1 K-Area Operation

#### Scope

Operate KAC to safely store, ship and receive and perform surveillance on SNM. Scope includes operation of CSSC, Pu Vitrification/Pu Alternate Disposition, and support of FAMS deinventory.

#### Issues

- § Implementation of DBT03 by 9/06.
- § Implementation of DBT04 by 9/08.
- § Maintain qualified staff with Q clearance and HRP
- § MC&A requirements may dictate \$5-7M additional costs for equipment installation (shuffler) for Uranium measurement.
- § Deinventory all HEU from Assembly Area by 9/30/06.
- § Maintain facility infrastructure until FY18.
- § Potential for IAEA expansion
- § Capability to respond to significant 3013 surveillance issues.

#### Assumptions

- § Funding per PMP
- § CSSC and Pu Vitrification/Pu Alternate Disposition Projects are operable in FY09 and FY12, respectively.
- § Significant S&S changes do not threaten planning.

### 11C.2 FAMS Operation

#### Scope

Safely operate FAMS, complete deinventory of all SNM except legacy "hold-up" material by 9/30/06.

#### Issues

- § 9975 drum availability
- § H-area processing schedule is critical to avoid repackaging and alternative disposition.
- § DSA recognizes risks with short facility life. Facility life extension could require significant modifications.
- § Transition to D&D could be threatened if the End State Plan changes from building removal to an alternative End State requiring Regulatory input.
- § Complete K-Area facility modifications to support storage of miscellaneous Pu from FAMS by 9/06.

#### Assumptions

- § KAC and HB-Line can support deinventory schedule
- § Drum/repackaging availability exists.

The basis for the PBS Assessment Scope was that Operation funding would be available to support the PBS milestones and that the Acquisition strategy (i.e. Site contracts) would not impact PBS milestones.

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## 2.2 Risk/Opportunity Assessment Goals

The primary goal of this assessment was to identify risks to the successful completions of the mission defined in PBS-SR-0011 within the planned cost budgets and schedule. A secondary goal of the assessment was to capture opportunities that may exploit to reduce cost and schedules and/or provide cost effective performance improvements. To support these goals, the focus of this assessment was limited to the identification of risks and opportunities that had potential impacts at the PBS level rather than lower risk levels, such as individual facilities.

## 2.3 Risk/Opportunity Assessment Team

A team of WSRC and DOE-SR personnel serves as the Risk and Opportunity Assessment Team. The team consists of the DOE-SR Federal Project Director, DOE-SR Program Support personnel, WSRC SFP Business Manager, WSRC SPF Subject Mater Experts, and WSRC Systems Engineers. The team met initially in June 2004, at the start of FY06 and in June 2006 for this review. Table 2.3-1 shows Team members for the 2005-2006 assessments. The results of the assessments were issued in risk and opportunity assessment reports. All active risks are listed in this RMP. Table 2.3-2 delineates team roles and responsibilities. Figure 2.3-1 provides R&O activities performed by the team.

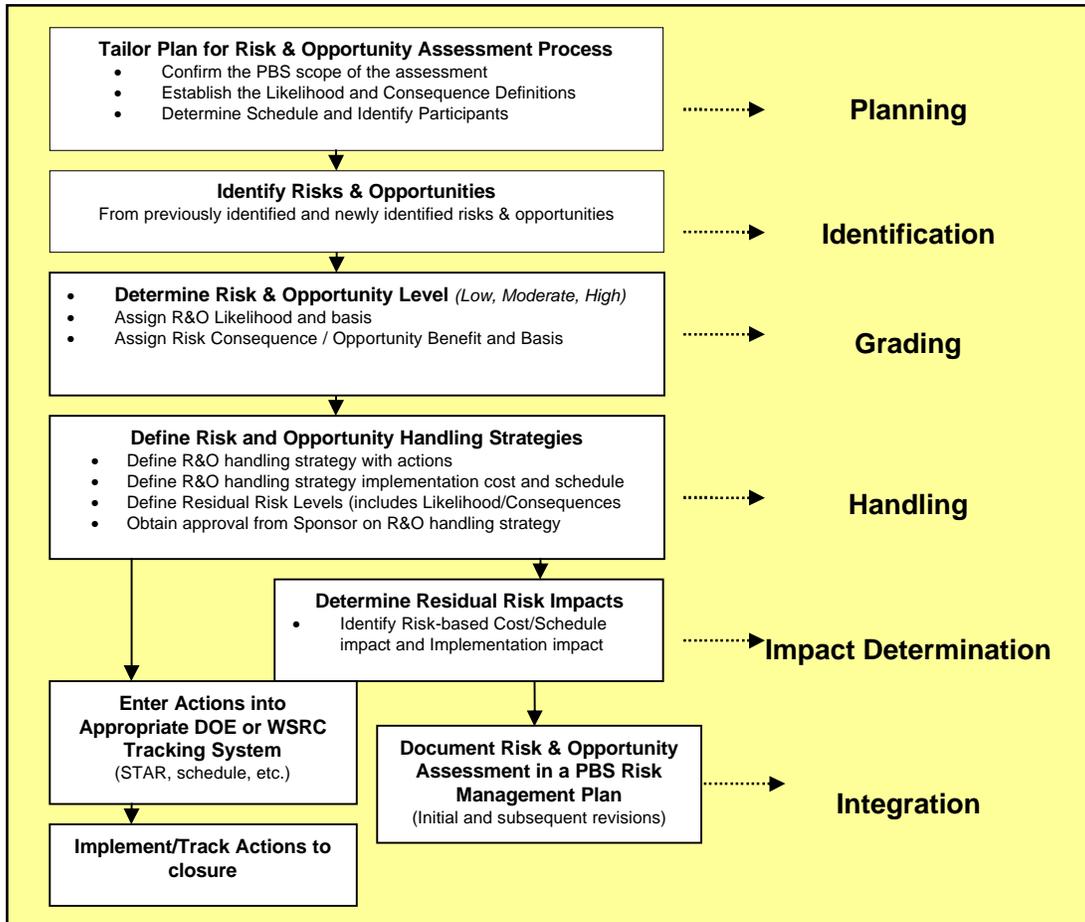
**Table 2.3-1 2005-2006 Risk Team Members**

Name	Organization
Sachiko McAlhany	DOE-SR
George Zachmann	WSRC, F-Area Project
Richard Williamson	WSRC, H-Area Project
Jimmie Stuberfield	WSRC, H-Area Project
Chris Loyal	WSRC, H-Area Project
Steve Yano	WSRC, H-Area Project
Matt Hackney	WSRC, NMM Project
Steve Kuhl	WSRC, NMM Project
Bill Bates	WSRC, NMM Project
John Phillips	DOE-SR
Bill Swift	WSRC, SFP Project
Rich Koenig	WSRC, NMM Project
Dara Dixon	WSRC, Systems Engineering
Hilda Coleman	WSRC, Systems Engineering
Jane Carter	WSRC, Systems Engineering
Bill Bates	WSRC, NMM Business Manager
Allen Gunter	DOE-SR
Rich Koenig	WSRC, NMM Project
Jay Ray	DOE-SR
Mike Cercy	WSRC, Systems Engineering
Joe Krupa	WSRC, Systems Engineering
Ron Oprea	WSRC, H-Area Project

**Table 2.3-2 R&O Assessment Team Responsibilities**

<b><u>DOE-SR Federal Project Director for the PBS</u></b>	
Identifies and assigns DOE participants	Approves the Risk Management Plan (RMP) and its revisions
Identifies SMEs and obtains commitment for participation	Approves the transfer of risk from facility, project, or modification activities to the PBS
Approves Core Team members	Attaining Office of the Assistant Manager approval of the RMP Provides oversight of the R&O management process to ensure implementation and integration between DOE and contractors
<b><u>WSRC Manager for PBSs</u></b>	
Chairs formal R&O meetings	Actively engages in monitoring and addressing project R&Os; ensures R&Os are identified and managed
Ensures R&O process steps specified in this plan are implemented	Proposes the assessment likelihood and consequences/benefit criteria and any changes to those criteria
Identifies budget and resources to support R&O process	Ensures R&O status is reviewed and updated on an annual basis or more frequently as warranted by PBS
Approves the RMP	
Defines scope/schedule of risk assessments	Ensures R&O handling strategies are implemented and tracked to closure
Nominates/Determines WSRC Team members	Ensures configuration control is maintained for PBS R&O database
Assigns R&O handling strategies	
<b><u>WSRC R&amp;O Lead</u></b>	
Prepares and maintains RMP	Prepares status/tracking/closure reports as requested
Provides training and guidance to R&O Team on applying R&O management process	Ensures R&O and their handling strategy responsibilities transferred to the PBS from facilities, projects and modifications are approved, documented and reflected in subsequent R&O analyses
Facilitates assessment meetings as required	
Performs R&O analysis and prepares R&O forms	Maintains configuration control of initial PBS database

Figure 2.3-1 R&O Assessment Activities





### **3.2 Risk Grading**

Grading involves determining the likelihood of an occurrence and the consequences of occurrence in the absence of any handling strategy to identify the “Risk or Opportunity Level.” Following team discussion and reaching consensus, likelihood and consequence values and their associated bases are documented on the Risk and Opportunity Assessment Form. This level represents a judgment as to the relative risk or opportunity to the scope as a whole and is categorized as Low, Moderate or High. Consequence criteria are unique to each PBS assessment scope and were determined during the Assessment Planning Phase.

Risk grading involves determining the likelihood of an occurrence and the consequences of occurrence in the absence of any handling strategy to identify the “Risk Level.” Following team discussion and reaching consensus, likelihood and consequence values and their associated bases are documented on the Risk and Opportunity Assessment Form. Based on these values the “Risk” level is determined. This level represents a judgment as to the relative risk to the scope as a whole and is categorized as Low, Moderate or High. Appendix B includes the Likelihood and Consequence tables and the Risk Level Matrix for this PBS. The cost basis was a nominal \$400M per year.

Opportunity grading involves determining the likelihood of an occurrence and the benefit of implementation to identify the “Opportunity Level.” Following team discussion and reaching consensus, likelihood and benefit values and their associated bases are documented on the Risk and Opportunity Assessment Form. Based on these values the “Opportunity” level is determined. This level represents a judgment as to the relative opportunity to the scope as a whole and is categorized as Low, Moderate or High. See Appendix B for PBS specific Opportunity tables.

### **3.3 Documentation and Risk Monitoring**

The Risk Management Plan (RMP) documents the results of the risk and opportunity assessment, communicates the risk handling strategies developed for identified risks, and provides a plan for monitoring risks. The DOE Federal Project Director is responsible for directing risk and opportunity assessments, developing risk handling strategies, preparing the Risk Management Plan, and implementing risk management throughout the life of the project.

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## 4.0 RESULTS OF THE ANALYSIS

### 4.1 Assessment Results

The team reviewed risks from the previous PBS-11B and 11C. Risk databases were combined (See Appendix D for a cross reference to the 2005 PBS Risk Assessment Database Even IDs). The team also reviewed the Risk Category Table in Appendix A to identify any additional risks and opportunities. As new PBS-SR-0011 risks were identified, Risk/Opportunity Assessment Forms were generated.

A total of 40 risks were identified and documented in Risk/Opportunity Forms found in Appendix C. Using the *Likelihood* and *Consequence/Benefit* criteria defined in Appendix B, five of the risks were graded as *High*, 18 as *Moderate* and 17 were graded as *Low*. The statements of event for each of the five *High* risks are provided below:

1. Risk ID 003 – Additional Processing Needs Extend H-Canyon Operation Currently the H-Canyon anticipates processing through 2019. There is a risk that there will be additional materials from other Program Offices that will be required to be processed in H-Canyon. These additional materials will extend the Canyon processing life and require funds for continued operations.
2. Risk ID 028 -- F-Canyon Mission Change from Deactivation The Deactivation State of "Cold, Dark and Dry" has been revised to a partially restored F-Canyon Endstate. This partially restored Endstate should be completed within this contract. Currently there are new initiatives being considered that if implemented could prolong the use of the Canyon beyond this contract period and result in higher costs to "operate and maintain".
3. Risk ID 029 -- Tank Farm Waste Storage Limit Bound The planned H-Completion operations through 2013 are based on High Level Waste capability being available to disposition effluent waste streams. There is a risk that waste tank space availability may not be adequate for planned operations and result in limited or suspension of H-Completion operations.
4. Risk ID 031 -- Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase Per the PMP, Pu Vitrification/Pu Alternate Disposition will be operational by 2012. Due to the PBS-11B.5 Risk #13 "Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction)", causing a delay in completion of the project, which causes the operational phase to be delayed. This delay causes an additional year of K-Area Storage Operational costs and also a corresponding "slowdown" or extension of DWPF and LWD Operations.
5. Risk ID 033 -- Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations Per the PMP, Pu Vitrification/Pu Alternate Disposition will be operational by 2012. Due to the PBS-11B.5 Risk #15 "Project Funding Delay" causing a delay in project completion, the operational phase is also delayed. This delay causes an additional year of K-Area Storage Operational costs and also a corresponding "slowdown" or extension of DWPF and LWD Operations.

The 40 risks are associated with 6 of the Risk Categories defined in Appendix A. Table ES-1 notes the allocation of risks to the Risk Categories. Table 4.1-1 summarizes the number of risks per Risk Category.

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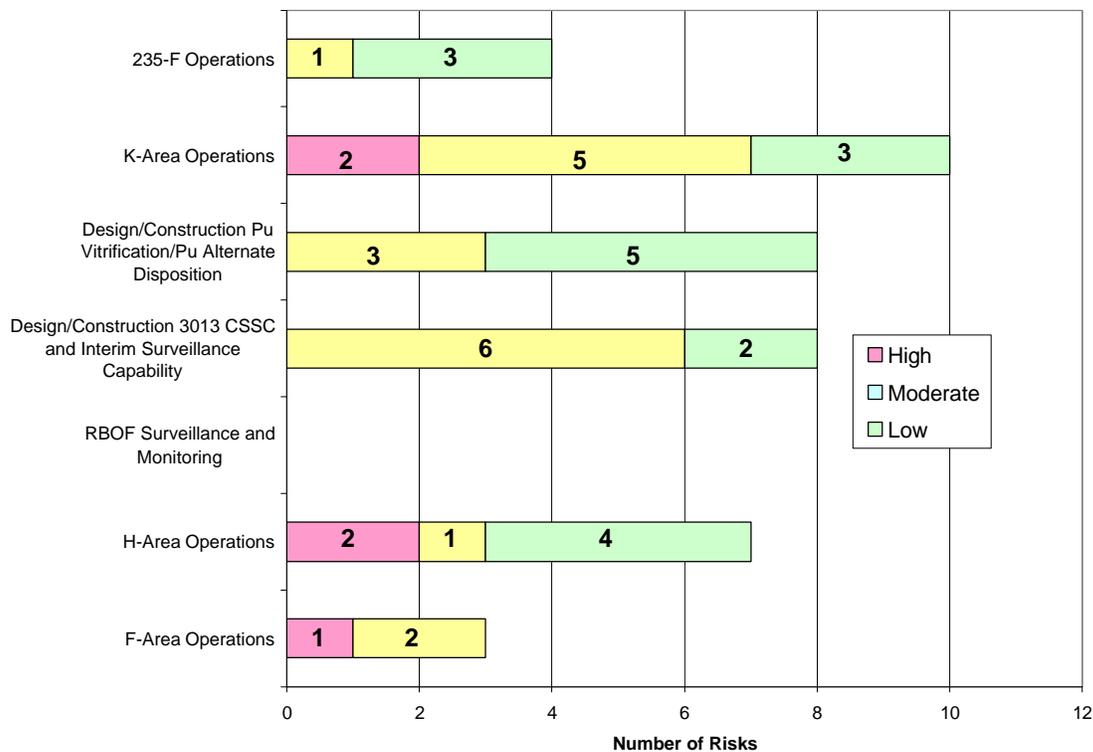
**Table 4.1-1 Allocation of PBS Risks to Risk Categories**

Risk Event	Total # of Risks
Design	11
Interfaces	5
Management	3
Regulatory and Environmental	3
Resources/Conditions	17
S&S	1

No PBS level opportunities were identified.

## 4.2 Analysis by Assessable Element

The analysis by assessable element presented in Figure 4.2-1 shows that the K-Area Operations has the greater number and severity of risks followed by Line Item Project Pu Vitrification/Pu Alternate Disposition Design Construction 3013 CSSC for Interim Surveillance and H-Area Operations.



**Figure 4.2-1 Distribution of Risks by Assessable Element**

## 4.3 Analysis of Handling Strategy Effectiveness

The Team recommended the handling strategy of “Accept” for 32 of the 40 risks following reasons identified in Table 4.3-1. One *High*, two *Moderate* and five *Low* risks had handling strategies of “Mitigate”. One of the *High* risks was reduced to *Moderate*. The two *Moderate* risks were reduced to *Low*. The overall PBS Risk Level is *Moderate*.

**Table 4.3-1 Handling Strategy Summary Table**

Accept Handling Strategy Basis	# of PBS Risks	PBS Risks	Handling Strategy Discussion
Source of the risk is not under the direct control of WSRC and DOE-SR	9	<u>High Risks</u> ID 003 ID 031 ID 033  <u>Moderate Risks</u> ID 007 ID 015 ID 016 ID 020  <u>Low Risks</u> ID 005 ID 009	<p>H-Canyon provides a unique capability in the complex to handle materials. The 1 <i>High</i> risk source (additional processing needs) will be driven by DOE-NNSA needs and are outside of DOE-SR and WSRC direct control. When material types, quantities, etc. are finalized, response actions will be developed. (ID 003)</p> <p>The source of 2 <i>High</i> and 2 <i>Moderate</i> risks (lack of project funding) is outside of DOE-SR and WSRC direct control. Project authorization and funding is not within DOE-SR and WSRC control. When funding issues are known, response actions will be developed. (ID 031, ID 033, ID 015 &amp; 020)</p> <p>The source of 1 <i>Moderate</i> risk (changing S&amp;S requirements) will be driven by external drivers to meet DBT in a Category II Facility. The decision to implement requirements will not be made at the DOE-SR and WSRC level. This risk is outside of DOE-SR and WSRC direct control. When the requirement decision is known, response actions will be developed. (ID 007)</p> <p>The source of 1 <i>Moderate</i> and 1 <i>Low</i> risk (feed materials) will be driven by additional feeds outside of DOE-SR and WSCR direct control. The Pu Vitrification/Pu Alternate Disposition will provide unique capabilities for the complex. When material types, quantities, etc. are finalized, response actions will be developed. (ID 034 &amp; ID 016)</p> <p>The source of 1 <i>Low</i> risk (Available External Interfaces) is dependent on continued TVA Uranium shipments and outside of DOE-SR and WSRC direct control. If this risk is realized, response actions will be developed. (ID 009)</p> <p>The source of 1 <i>Low</i> risk (Programmatic issues) will be driven by regulatory issues, requirements, etc., these are not within direct DOE-SR and WSCR control. When these decisions are made, response actions will be developed. (ID 005)</p>
Risk Reduction Actions already in place, no additional actions identified by this PBS	3	<u>Moderate Risks</u> ID 004  <u>Low Risks</u> 006	<p>For the s <i>Moderate</i> risks, plans are already in place and are actively performing monitoring and maintenance to ensure continued Canyon Operations, because no <u>new</u> actions/strategies were identified during this PBS Assessment the handling strategy was Accept. (ID 004)</p> <p>For the 1 <i>Low</i> risk, procedures are already in place to deal with new materials, because no <u>new</u> actions/strategies were identified during this PBS Assessment the handling strategy was Accept. (ID 006)</p>

Accept Handling Strategy Basis	# of PBS Risks	PBS Risks	Handling Strategy Discussion
Future Risk Issues have not matured at this time to develop and/or finalize a handling strategy	7	<u>High Risk</u> ID 028  <u>Moderate Risks</u> ID 010 ID 013 ID 018 ID 019 ID 022 ID 023 ID 025 ID 026 ID 027 ID 030 ID 035 ID 039 ID 041 ID 042 ID 043	For one <i>High</i> risk (ID 028) initiatives are in development.  <i>Moderate</i> risks ID 010, and 013 are associated with the future Pu Vitrification/Pu Alternate Disposition Project. Potential generic actions have been identified; because the project is not authorized no actions will be implemented at this time.  <i>Moderate</i> risks ID 018 019 , 26, 27, and 38 are associated with future 3013 CSSC work. Risk issues are not mature; no actions can be implemented at this time.  <i>Moderate</i> Risk ID 022, 023, 030 and 035 are associated with future KIS work. Risk issues are not mature; no actions can be implemented at this time.  <i>Moderate</i> risk ID 025 is associated with future changing F-Canyon S&M requirements. Risk issue is not mature; no actions can be implemented at this time.  <i>Moderate</i> risk ID 039 deals with costs relative to delays in FAMS D&D which is a maturing issue.  <i>Moderate</i> risk ID 041 has plans in development awaiting a letter of direction.  Plans are being developed for long term storage for <i>Moderate</i> risk ID 043.
Low risks with likelihood of "Very Unlikely"	2	<u>Low Risk</u> ID 024 ID 012	Risk is <i>Low</i> and risk occurrence is already as low as possible.

#### 4.4 Analysis of Cost and Schedule Impact

Because of the Accept handling strategies and Mitigation handling strategies the initial cost and schedule impacts were not appreciably reduced. The risk impacts are shown in Table ES-1.

#### 4.5 Risk Timing for Contingency Analysis

Risks were separated into near term (2007-2012), out-year (2013-2031) or lifecycle (2007-2031) for aid in sitewide contingency analysis. Results are shown below in Table 4.5-1.

**Table 4.5-1 Risk Timing for Contingency Analysis**

<b>PBS Element</b>	<b>Risk Identifier and Risk Title</b>	<b>Time</b>	<b>Comments</b>
11B.2	ID-003-Additional Processing Needs Extend H-Canyon Operation	O	
11B.1	ID-025-Requirement Changes affecting Deactivation Endpoints and S&M	O	
11B.2	ID-004-Major Facility Failure resulting in loss of H-Canyon capability (physical or passive systems)	B	Through 2019
11B.2	ID-007-S&S Requirement Changes	N	
11B.2	ID-018-3013 CSSC Requirement Changes	N	
11B.4	ID-019-3013 CSSC Lack of Resources	N	
11B.4	ID-020-3013 CSSC Project Funding Delay	N	
11B.4	ID-022-KIS Extended Life	N	
11B.4	ID-023-KIS Surveillance Requirement Changes	N	
11B.5	ID-010-Pu Vit/Pu Alt Disposition Materials of Construction	N	
11B.5	ID-013-Pu Vit/Pu Alt Disposition Requirements changes	N	
11B.5	ID-015-Pu Vit/Pu Alt Disposition Funding Delay	N	
11B.5	ID-016-Pu Vit/Pu Alt Disposition Feed Material	N	
11B.2	ID-005-Programmatic Issues	B	
11B.2	ID-006-Process Performance	N	
11B.2	ID-009-Availability of External Interfaces	N	
11B.4	ID-024-H-Area Impact on KIS	N	
11B.5	ID-012-Pu Vit/Pu Alt Disposition Product Acceptability	N	
11B.4	ID-026	N	
11B.5	ID-027	N	
11B.1	ID-028	N	
11B.2	ID-029	B	Through 2019
11C.1	ID-031-Pu Vit/Pu Alt Disposition Requirement Change Impact to Operations Phase	O	

PBS Element	Risk Identifier and Risk Title	Time	Comments
11C.1	ID-033-Pu Vit/Pu Alt Disposition Funding Delay that impacts Operations Phase	O	
11C.1	ID-034-Additional Pu Vit/Pu Alt Disposition Feed Material that Impacts Operations	O	
11C.1	ID-038-Capability to respond to significant 3013 surveillance issues	B	
11C.1	ID-041-K-Area Fire Protection Upgrades	N	
11C.1	ID-030-KIS Delays Impacts FAMS	N	
11C.1	ID-039-Delay of FAMS D&D	N	
11C.1	ID-036-MC&A Requirements may dictate need for Cf shuffler	N	
11C.1	ID-037-Deinventory HEU from Assembly Area	N	
11C.1	ID-035-Complete K-Area Facility Mods to support storage of misc. Pu from FAMS	N	
11C.1	ID-040-Materials schedule for H-Area disposition requires alternate lag storage in K-Area	N	
11B.1	ID-043-F Canyon Not Funded for Loading, Shipment and Disposal of 25,000 depleted uranium oxide (DUO) drums.	N	Annual Cost
11C.1	ID-044- Em Pu Consolidation Impact of New Containers	N	
11B.4	ID-045-Potential Challenge to Storage Space for Interim Storage of NNSA Materials	B	Through 2019

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

In summary, the team identified 40 individual PBS level risks, 10 risks are associated with F-Canyon and H-Canyon and 16 risks are associated with the Nuclear Materials Line Item Projects. Of the remaining risks, 10 are associated with K-Area Operations, and 4 are associated with FAMS. Of the 5 *High* risks for PBS 11, two are associated with extending the H-Canyon Operations, one is associated with the intentional delay in completion of F-Area D&D. Although there are limited new risk reduction strategies identified during this assessment, this PBS Risk Assessment provides a:

1. Continuing joint forum for WSRC and DOE-SR to identify and understand potential cost and schedule impacts to the PBS lifecycle,
2. Documented WSRC and DOE-SR understanding of the PBS level risks and opportunities, and
3. Documented PBS level risks and opportunities communication tool to provide decision makers with the bases to understand the PBS level impacts.

As Risk Management is an ongoing process, the risk assessment elements of *Identification, Grading, Handling, Impact Determination, and Integration (risk status and reporting to closure)* should be conducted over the lifecycle of this PBS to: understand changes to PBS level risks, determine if there are risk reduction strategies that can be implemented and continue to have risk assessment status results serve as a communication tool for decision makers to Understand impacts by possible decisions.

## 6.0 REFERENCES

1. *DOE Order 413-3, Project Management for the Acquisition of Capital Assets.*
2. *DOE Manual 413-3.1, Project Management for the Acquisition of Capital Assets*
3. *SRM 410.1.1D, SR Project Management Manual*
4. *Systems Engineering Methodology Guidance Manual. WSRC Manual WSRC-IM-98-00033, Revision 12, Savannah River Site, Aiken, SC 29808 (11/07/05).*
5. *2006 Savannah River Site Environmental Management Program Project Execution Plan – Predecisional Draft*
6. *Y-RMP-G-00004, DOE-EM Project Baseline Summaries (PBSs) Risk and Opportunity Management Plan (PBS-SR-0011B – Nuclear Materials and Stabilization - 2012; PBS-SR-0011C – Nuclear Material Stabilization and Disposition – 2035; and PBS-SR-0012 and HQ-SNF-0012X – Spent Nuclear Fuels Stabilization and Disposition/Storage Operations Awaiting Geologic Repository) Revision 1*
7. *Y-RAR-K-00004, PBS-SR-0011C Nuclear Materials Stabilization and Disposition – 2035 Risk and Opportunity Analysis Report, Revision 0*

## 7.0 APPENDICES

Appendix A Typical Program Risk Categories

Appendix B Risk and Opportunity Grading Guidelines

Appendix C Risk and Opportunity Assessment Forms

Appendix D Risk Cross Reference

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## APPENDIX A TYPICAL PROGRAM RISK CATEGORIES

### Design

- Undefined, Incomplete, Unclear Functions or Requirements
- Complex Design Features
- Numerous or Unclear Assumptions or Bases
- Reliability
- Inspectability
- Maintainability
- Safety Class
- Availability
- Errors and Omissions in Design

### Regulatory & Environmental

- Environmental Impact Statement Req'd. (EIS)
- Additional Releases
- Undefined Disposal Methods
- Permitting
- State Inspections
- Order Compliance
- Regulatory Oversight

### Resource/Conditions

- Material/Equipment Availability
- Specialty Resources Required
- Existing Utilities Above and Underground
- Support Services Availability
- Geological Conditions
- Temporary Resources (Power, Lights, Water, etc.)
- Resources Not Available
- Construction Complexities
  - Transportation
  - Critical Lifts
  - Population Density
- Escorts
- Personnel Training & Qualifications
- Tools, Equipment Controls & Availability
- Experience with system/component (design, operations, maintenance)
- Work Force Logistics
- OPC Resources
  - Operations Support
  - Health Physics
  - Facility Support
  - Facility Maintenance Centralized Maintenance
  - Construction Support Post Modifications
- Training
- Research and Development Support
- Multiple Project/Facility Interface
- Facility Work Control Priorities
- Lockout Support

### Safeguards & Security

- Category I nuclear materials
- Classified process / information

### Technology

- New Technology
- Existing Technology Modified
- New Application of Existing Technology
- Unknown or Unclear Technology

### Procurement

- Procurement Strategy
- First-use Subcontractor/Vendor
- Vendor Support

### Construction Strategy

- Turnover/Start-up Strategy
- Direct Hire/Subcontract
- Construction/Maintenance Testing
- Design Change Package Issues

### Testing

- Construction
- Maintenance
- Operability
- Facility Startup
- System Startup (Subcontractor or PE&CD)

### Safety

- Criticality Potential
- Fire Watch
- Exposure Contamination Potential
- Authorization Basis Impact
- Hazardous Material Involved
- Emergency Preparedness
- Safeguards & Security
- Confinement Strategies

### Interfaces

- Multiple Agencies, Contractors
- Special Work Control/Work Authorization Procedures
- Operating SSCs Including Testing
- Multiple Customers
- Co-Occupancy
- Outage Requirements
- Multiple systems
- Radiological Conditions (Current and Future)
  - Contamination
  - Radiation
- Multiple Projects
- Proximity to Safety Class Systems

### Management

- Funding uncertainties
- Stakeholders Program Strategy Changes
- Errors and Omissions in Estimates
- Fast track/critical need
- Infrastructure influence

## APPENDIX B Risk and Opportunity Grading Guidelines

This appendix documents the risk and opportunity grading guidelines used by the Team to determine risk and opportunity levels (i.e. *High, Moderate* or *Low*). These are the criteria that were defined in revision 1 of the ROMP.

Tables B-1 and B-2 shown below and on the following page were used by the Team to define the likelihood and consequence of each risk identified in the assessment. These definitions were used to evaluate both the initial and residual risk levels. Risk levels (*High, Moderate, or Low*) were determined using the matrix shown in Figure B-1. Handling strategies for each of the risks were selected from the four strategies shown in Figure B-2.

From the risk likelihood and consequence values, the risk levels (*High, Moderate* or *Low*) are determined using the matrix shown in Figure B-1. Handling strategies for the risks were selected from the four strategies shown in Figure B-2.

**Table B-1 Risk Likelihood Criteria**

Likelihood of Occurrence (L)	Criteria
Non-Credible*	Determined (through formal probability calculations) to have a probability of occurrence of $\bullet 10^{-6}$ (or other non-credible probability defined for the activity)
Very Unlikely	<ul style="list-style-type: none"> <li>• Will not likely occur anytime in the life cycle of the facilities/PBS ; or</li> <li>• Estimated recurrence frequency <math>&lt; 1</math> (i.e., event not expected to recur); or</li> <li>• <math>0 &lt; \text{Likelihood of single event occurrence} &lt; 0.15</math>.</li> </ul>
Unlikely	<ul style="list-style-type: none"> <li>• Will not likely occur in the life cycle of the facility/PBS; or</li> <li>• 1 • Estimated recurrence frequency <math>&lt; 2</math> (i.e., event expected to recur but not more than once); or</li> <li>• 0.15 • Likelihood of single event occurrence <math>&lt; 0.45</math>.</li> </ul>
Likely	<ul style="list-style-type: none"> <li>• May occur sometime during the life cycle/PBS; or</li> <li>• 2 • Estimated recurrence frequency <math>&lt; 5</math> (i.e., event expected to recur from 2 to 4 times); or</li> <li>• 0.45 • Likelihood of single event occurrence <math>&lt; 0.75</math>.</li> </ul>
Very Likely	<ul style="list-style-type: none"> <li>• Will likely occur sometime during the life cycle/PBS; or</li> <li>• Estimated recurrence frequency <math>\bullet 5</math> (i.e., event expected to recur more than five times); or</li> <li>• 0.75 • Likelihood of single event occurrence <math>&lt; 1</math>.</li> </ul>

\*This category is normally reserved for the evaluation of residual risks associated with *Crisis* consequences

**Table B-1 Risk Consequences Criteria for PBS 11**

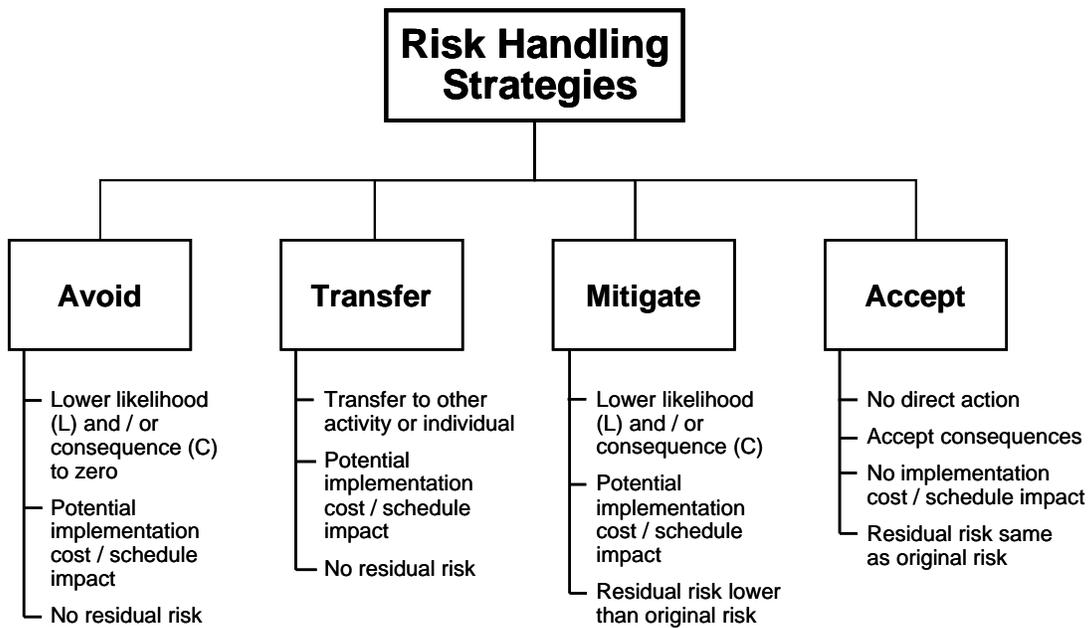
<b>Consequence of Occurrence (C)</b>	<b>Criteria for PBS-SR-0011</b>
Negligible	<ul style="list-style-type: none"> <li>• Minimal consequences; unimportant.</li> <li>• Some potential transfer of money (• \$100K), but budget estimates not exceeded.</li> <li>• Negligible impact on program; slight potential for schedule change (&lt; 3 months of lifecycle schedule); compensated by available schedule float.</li> </ul>
Marginal	<ul style="list-style-type: none"> <li>• Small reduction in modification/work task technical performance.</li> <li>• Moderate threat to facility mission, environment, or people; may require minor facility redesign or repair, minor environmental remediation, or first aid/minor medical intervention.</li> <li>• Cost estimates marginally exceed budget (&gt; \$100K, but • \$2M).</li> <li>• Minor slip in schedule (3-6 months of lifecycle schedule) with some potential adjustment to milestones required.</li> </ul>
Significant	<ul style="list-style-type: none"> <li>• Significant degradation in modification/project/contract technical performance.</li> <li>• Significant threat to facility mission, environment, or people; requires some facility redesign or repair, significant environmental remediation, or causes injuring requiring medical treatment</li> <li>• Cost estimates significantly exceed budget (5-10% of Annual PBS Budget).</li> <li>• Significant slip in schedule (6 months – 1 year of lifecycle schedule) with resulting milestones changes that may affect facility mission.</li> </ul>
Critical	<ul style="list-style-type: none"> <li>• Technical goals of work task cannot be achieved.</li> <li>• Serious threat to facility mission, environment, or people; possibly completing only portions of the mission or requiring major facility redesign or rebuilding; extensive environmental remediation, or intensive medical care for life-threatening injury.</li> <li>• Cost estimates seriously exceed budget (10%-20% of Annual PBS Budget)</li> <li>• Excessive schedule slip (1-2 years of lifecycle schedule) unacceptably affecting overall mission of facility/site/DOE objectives, etc.</li> </ul>
Crisis	<ul style="list-style-type: none"> <li>• Modification/Project cannot be completed</li> <li>• Catastrophic threat to facility mission, environment, or people; possibly causing loss of mission, long term environmental abandonment, and death.</li> </ul>

Note: First-of-a-Kind (FOAK) Risks will receive special attention because they are often associated with project failure. FOAK risks should receive a Critical or Crisis consequence estimate unless there is a compelling argument for lesser consequence.

<b>Likelihood (L)</b>	Very Likely	Low	Moderate	High	High	High
	Likely	Low	Moderate	Moderate	High	High
	Unlikely	Low	Low	Moderate	Moderate	High
	Very Unlikely	Low	Low	Low	Moderate	High
	* Non-Credible	Low				
		Negligible	Marginal	Significant	Critical	Crisis
		<b>Consequence (C)</b>				

\* Normally limited to assessing residual risks with Crisis consequences

**Figure B-1 Risk Level Matrix**



**Figure B-2 Risk Handling Strategies**

Tables B-3 and B-4 shown below were used by the Team to define the likelihood and benefit of each opportunity identified during the assessment. Opportunity levels (*High, Moderate* or *Low*) were identified using the matrix shown in Figure B-3. Handling strategies for the opportunities were selected from the four strategies shown in Figure B-4.

**Table B-3 Opportunity Likelihood Criteria**

<b>Likelihood of Realization (L)</b>	<b>Criteria</b>
Very Likely	• $0.75 \cdot \text{Likelihood of benefit realization} < 1$ .
Likely	• $0.45 \leq \text{Likelihood of benefit realization} < 0.75$ .
Unlikely	• $0.15 \leq \text{Likelihood of benefit realization} < 0.45$ .
Very Unlikely	• $0.15 > \text{Likelihood of benefit realization} > 0$ .

**Table B-4 Opportunity Benefits Criteria**

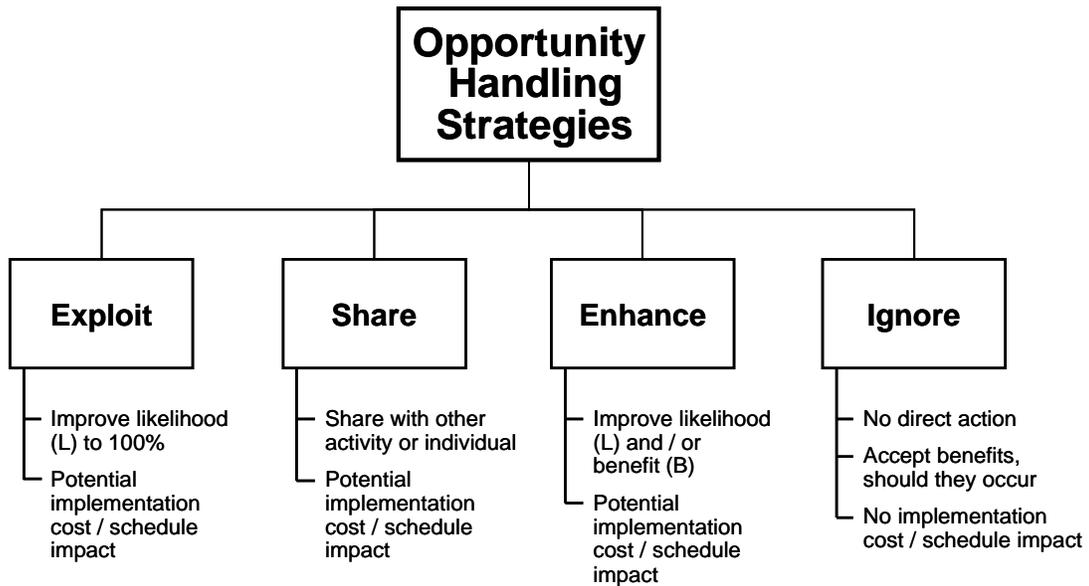
<b>Benefit of Implementation (B)</b>	<b>Criteria For PBS-SR-0011</b>
Negligible	<ul style="list-style-type: none"> <li>• Minimal benefit; unimportant.</li> <li>• Some potential transfer of money, but budget estimates not changed.</li> <li>• Negligible impact on program; slight potential for reduction in schedule.</li> </ul>
Marginal	<ul style="list-style-type: none"> <li>• Small improvement in technical performance.</li> <li>• Moderate improvement to the mission, environment, or people.</li> <li>• Cost estimates reduced by up to \$2.5M per year.</li> <li>• Minor reduction in schedule with some potential adjustment to level 1 milestones.</li> </ul>
Significant	<ul style="list-style-type: none"> <li>• Significant improvement in technical performance.</li> <li>• Significant improvement to the mission, environment, or people.</li> <li>• Cost estimates reduced between \$2.5M and \$5M.</li> <li>• Significant reduction in schedule with resulting level 1 milestone changes.</li> </ul>
Exceptional	<ul style="list-style-type: none"> <li>• Technical goals of the program improved.</li> <li>• Exceptional improvement to the mission, environment, or people.</li> <li>• Cost estimates reduced over \$5M.</li> <li>• Exceptional reduction in schedule with resulting level 1 milestone changes.</li> </ul>

\*Any one or more of the criteria in the four levels of benefits may apply to a single opportunity. The overall benefit level for the opportunity being evaluated must be based upon the highest level for which a criterion applies.

From the opportunity likelihood and consequence values, the opportunity level is determined as shown in Figure B-3.

<b>Likelihood (L)</b>	Very Likely	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>High</b>
	Likely	<b>Low</b>	<b>Moderate</b>	<b>Moderate</b>	<b>High</b>
	Unlikely	<b>Low</b>	<b>Low</b>	<b>Moderate</b>	<b>Moderate</b>
	Very Unlikely	<b>Low</b>	<b>Low</b>	<b>Low</b>	<b>Moderate</b>
		Negligible	Marginal	Significant	Exceptional
		<b>Benefit (B)</b>			

**Figure B-3 Opportunity Level Matrix**



**Figure B-4 Opportunity Handling Strategies**

### APPENDIX C Risk and Opportunity Assessment Forms

This Appendix provides a copy of all Risk/Opportunity Assessment Forms completed during the risk and opportunity assessment process. All of the information presented on these forms is contained in the PBS-SR-0011 Risk Assessment Database that was developed for this effort.

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 003		Revision: 00	Last Date Evaluated: 30-Aug-05						
Status: Active									
Event Title: Additional Processing Needs Extend H-Canyon Operation									
Type: <b>Risk</b> External		Category: Inter							
Assess. Element: 11B.2		Title: H-Area							
Responsible Org: -		Contact:	Date Identified: 30-Aug-05						
Statement of Event: Currently the H-Canyon anticipates processing through 2011. There is a risk that there will be additional materials from other Program Offices that will be required to be processed in H-Canyon. These additional materials will extend the Canyon processing life and require funds for continued operations.									
Likelihood:	Very Likely	Basis: A letter from HQ has been sent to NNSA site offices requesting a list of potential materials for processing. A Feasibility Study is currently being conducted to evaluate whether or not these materials could be processed through H-Canyon.							
Consequence / Benefit:	Crisis	Basis: Extend H-Canyon operations beyond planned shutdown date. Extend operation until other Program materials processing is complete. Extension duration depends on processing urgency and availability of alternate disposition paths.							
Most Significant Cost Impact (\$k): \$200,000		Most Significant Schedule Impact (M): 12							
Level:	<b>High</b>	Event Trigger: Program Decision and Notification to process additional material through H-Canyon.							
Handling Strategy:	Accept	Description: Canyon has the unique capability to possibly handle these materials until alternate capabilities or alternate methods are established.							
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.							
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.							
Other Handling Strategies:									
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.									
Residual Likelihood:	Very Likely	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Consequence:	Crisis	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Risk Level:	<b>High</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Best Case</u></td> <td style="text-align: center;"><u>Most Likely</u></td> <td style="text-align: center;"><u>Worst Case</u></td> </tr> <tr> <td style="text-align: center;">166667</td> <td style="text-align: center;">200000</td> <td style="text-align: center;">258333</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	166667	200000	258333
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
166667	200000			258333					
Residual Schedule Impact (M):									
Impacted Scope of Work: Canyon processing and deactivation.									
Evaluation Comments: External risk due to the fact that the decision to process additional material from other DOE programs is outside of DOE-SR control.									
Event Comments:									

<b>Risk / Opportunity Assessment Form</b>						
ID Number: 004		Revision: 00	Last Date Evaluated: 06-Jul-06	Status: Active		
Event Title: Major Interruption of Facility Operations resulting in shutdown or loss of processing capability						
Type: <b>Risk</b> Internal		Category: Res/Cond				
Assess. Element: 11B.2		Title: H-Area				
Responsible Org: -		Contact:	Date Identified: 30-Aug-05			
Statement of Event: H-Canyon Capability is based on Structures, Systems and Components (SSCs) being available and functioning coupled with disciplined conduct of operations until D&D. There is a risk that an operational event or loss of major SSCs could impact H-Canyon processing capability and possibly lead to a lengthy shutdown of processing until SSC is repaired or corrective actions implemented to resume continued H-Canyon operation. This would cause a schedule impact due to loss of processing and a cost impact for repair of SSCs.						
Likelihood:	Likely	Basis: : : Based on historical experience an operational event or loss of major SSCs can result in loss of operation for greater than 12 months.				
Consequence / Benefit:	Marginal	Basis: : : Processing schedule slip from 2 weeks to 12 months and \$5M cost impact due to repairs, i.e. canyon cranes, canyon structure				
Most Significant Cost Impact (\$K): \$5,000		Most Significant Schedule Impact (M): 2				
Level:	<b>Moderate</b>	Event Trigger: Failure of major SSC or operational event occurs				
Handling Strategy:	Accept	Description: Continue performance monitoring through the Management Evaluation and System Health programs. As issues emerge, actions are taken to correct root causes. Lessons learned are incorporated into training and procedures.				
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.				
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.				
Other Handling Strategies:						
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.						
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:				
Residual Cost Impact (\$K):	<u>Best Case</u> 4587				<u>Most Likely</u> 5000	<u>Worst Case</u> 5688
Residual Schedule Impact (M):						
Impacted Scope of Work: Canyon processing.						
Evaluation Comments:						
Event Comments:						

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 005		Revision: 00	Last Date Evaluated: 30-Aug-05		
Status: Active					
Event Title: Programmatic Issues					
Type: <b>Risk</b> External		Category: Reg & En			
Assess. Element: 11B.2	Title: H-Area				
Responsible Org: -		Contact:	Date Identified: 30-Aug-05		
Statement of Event: Programmatic means: Resource issues (labor and materials), new and changing programmatic requirements , other organization impacts. There is a risk that there will be Programmatic issues such as resource issues and/or changing programmatic requirements. The impact will be lack of funds for modifications, and schedule impact due to lack of labor and/or materials.					
Likelihood:	Unlikely	Basis: Based on changes to date.			
Consequence / Benefit:	Negligible	Basis: Modifications would not extend past one month. Not normally material issues			
Most Significant Cost Impact (\$k): \$500		Most Significant Schedule Impact (Ms): <1			
Level:	<b>Low</b>	Event Trigger: Change in requirements.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Negligible	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 481			<u>Most Likely</u> 500	<u>Worst Case</u> 529
Residual Schedule Impact (M):					
Impacted Scope of Work: Canyon processing.					
Evaluation Comments: External risk due to the fact that most regulatory policy changes are outside of DOE-SR control.					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 006		Revision: 00	Last Date Evaluated: 30-Aug-05						
Status: Active									
Event Title: Process Performance									
Type: <b>Risk</b> Internal		Category: Res/Cond							
Assess. Element: 11B.2		Title: H-Area							
Responsible Org: -		Contact:	Date Identified: 30-Aug-05						
Statement of Event: H-Canyon is processing material as planned via the flowsheet(s). There is risk that while processing materials, process chemistry and performance issues will develop and/or unexpected end products will be produced. This will cause a delay in continued processing until flowsheet issues are resolved.									
Likelihood:	Likely	Basis: Historically this has occurred. Currently experiencing Np moisture issues. In the future will be dealing with materials never dealt with before, this material may have not been characterized.							
Consequence / Benefit:	Negligible	Basis: Time is lost to understand problem and readjust flowsheet. This could take approximately one month and approximately \$100K to resolve flowsheet issues.							
Most Significant Cost Impact (\$K): \$100		Most Significant Schedule Impact (M): 1							
Level:	<b>Low</b>	Event Trigger: Production of out of specification product.							
Handling Strategy:	Accept	Description: The process can handle changes, but will not know extent of changes until characterization of material. Prior to input a material Feasibility Study is performed to verify acceptability to H-Canyon process.							
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.							
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.							
Other Handling Strategies:									
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.									
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Consequence:	Negligible	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>Best Case</u></td> <td style="text-align: center;"><u>Most Likely</u></td> <td style="text-align: center;"><u>Worst Case</u></td> </tr> <tr> <td style="text-align: center;">92</td> <td style="text-align: center;">100</td> <td style="text-align: center;">114</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	92	100	114
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
92	100			114					
Residual Schedule Impact (M):									
Impacted Scope of Work: Canyon processing.									
Evaluation Comments:									
Event Comments:									

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 007		Revision: 00	Last Date Evaluated: 30-Aug-05		
Status: Active					
Event Title: S&S Requirement Changes					
Type: <b>Risk</b> External		Category: S&S			
Assess. Element: 11B.2		Title: H-Area			
Responsible Org: -		Contact:	Date Identified: 30-Aug-05		
Statement of Event: Currently the H-Canyon facility is classified as a Category II Facility. There is a risk that H-Canyon will be required to implement new Design Basis Threat (DBT) requirements for a Category II Facility or the H-Canyon will become a CAT I facility.					
Likelihood:	Very Unlikely	Basis: It is very unlikely that the Facility will be upgraded a CAT I facility due to materials. To date no Cat II facilities have been required to meet new DBT requirements.			
Consequence / Benefit:	Marginal	Basis: Cost impact will be greater than \$10M to implement upgrades. The S&S impact would impact the processing capability schedule due to installing S&S projects. This would extend processing capability. The PBS Risk Assessment cost consequence range is \$10-\$50M.			
Most Significant Cost Impact (\$k): >\$10,000		Most Significant Schedule Impact (M): 12			
Level:	<b>Low</b>	Event Trigger: Notification to Implement S&S Requirements.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 10000			<u>Most Likely</u> 30000	<u>Worst Case</u> 50000
Residual Schedule Impact (M):					
Impacted Scope of Work: Canyon processing and deactivation.					
Evaluation Comments: External risk due to the fact that the DBT decision is outside of DOE-SR control.					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 009		Revision: 00	Last Date Evaluated: 30-Aug-05		
Status: Active					
Event Title: Availability of External Interfaces					
Type: <b>Risk</b> External		Category: Inter			
Assess. Element: 11B.2		Title: H-Area			
Responsible Org: -		Contact:	Date Identified: 30-Aug-05		
Statement of Event: Currently, Tennessee Valley Authority (TVA-Framatone) takes uranium product LEU and HEU through an inter-agency agreement. This provides a disposition path for the uranium product. There is a risk that TVA's need for uranium either slows down or stops continued H-Canyon production until a new disposition path is determined.					
Likelihood:	Very Unlikely	Basis: Recent inter-agency agreements have been stable for the past year. Recently negotiated a new extension. TVA has not provided any indications of future changes.			
Consequence / Benefit:	Marginal	Basis: H-Area would require a project (approximately \$1M) and time to build lag storage. The project would increase storage. H-Canyon would continue to process while develop additional storage.			
Most Significant Cost Impact (\$k): \$1,000		Most Significant Schedule Impact (M): N/A			
Level:	<b>Low</b>	Event Trigger: Customer says can not take uranium product.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 962			<u>Most Likely</u> 1000	<u>Worst Case</u> 1058
Residual Schedule Impact (M):					
Impacted Scope of Work: Canyon processing - Uranium Disposition					
Evaluation Comments: External risk due to the fact that TVA is outside of DOE-SR control.					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 010		Revision: 00	Last Date Evaluated: 30-Aug-05						
Status: Active									
Event Title: Pu Vitrification/Pu Alternate Disposition Materials of Construction									
Type: <b>Risk</b> Internal		Category: Res/Cond							
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition							
Responsible Org: -		Contact:	Date Identified: 30-Aug-05						
Statement of Event: Any technology chosen for Pu Vitrification/Pu Alternate Disposition will require materials of Construction, i.e. gloveboxes, stainless steel equipment, possibly special materials for the process, etc. There is a risk that these materials will not be available and impact the Pu Vitrification/Pu Alternate Disposition Design/Construction Schedule as well as incur increased costs for these material purchases.									
Likelihood:	Likely	Basis: Every project experiences a lack of material availability to some degree. The Pu Vitrification/Pu Alternate Disposition Design/Construction schedule will coincide with 2 other large projects, Pit Disassembly Conversion Facility (PDCF) and Mixed Oxide Fuel Fabrication Facility (MFFF) Design/Construction schedules. These projects will also have similar needs as Pu Vitrification/Pu Alternate Disposition, such as the need for gloveboxes and stainless steel equipment.							
Consequence / Benefit:	Marginal	Basis: The expected large quantities and special materials needed by Pu Vitrification/Pu Alternate Disposition will exceed the cost estimate and delay the schedule to the crisis level. There could be a schedule impact greater than 4 months if alternative materials or design alternatives are required. PBS Risk Assessment cost range is \$10M-\$20M.							
Most Significant Cost Impact (\$K): >\$10,000		Most Significant Schedule Impact (M): 4							
Level:	<b>Moderate</b>	Event Trigger: Material availability will be identified when vendor responses from request for quotes are received.							
Handling Strategy:	Accept	Description: There is already a strategy to start procurement as early as possible. Start long lead procurements prior to CD2. Start ordering 2 years early. Accept then mitigate by pursuing alternative material sources, i.e. recycle glovebox materials and SST materials.							
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.							
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.							
Other Handling Strategies:									
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.									
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Best Case</u></td> <td style="text-align: center;"><u>Most Likely</u></td> <td style="text-align: center;"><u>Worst Case</u></td> </tr> <tr> <td style="text-align: center;">10000</td> <td style="text-align: center;">15000</td> <td style="text-align: center;">20000</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	10000	15000	20000
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
10000	15000	20000							
Residual Schedule Impact (M):									
Impacted Scope of Work:									
Evaluation Comments:									
Event Comments:									

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 012		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition Product Acceptability					
Type: <b>Risk</b> Internal		Category: Reg & En			
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The Pu Vitrification/Pu Alternate Disposition product must be acceptable for the geologic repository. The Pu Vitrification/Pu Alternate Disposition will qualify the product to meet the geologic repository acceptance criteria. There is a risk that the Pu Vitrification/Pu Alternate Disposition product does not meet the acceptance criteria for final disposition, this will cause the product to be stored on site, and continued site operations (security, surveillance, and reprocessing, etc.) until the product is acceptable for geologic repository.					
Likelihood:	Very Unlikely	Basis: The Pu Vitrification/Pu Alternate Disposition will review many alternatives, there are many alternatives that can produce a product acceptable to the geologic repository. The importance of producing an acceptable geologic repository product will strongly influence the technology decision. Very unlikely chance of occurrence in the lifecycle of facility Project Baseline Summary (PBS) FY 2012. Any issues/problems identified can be addressed with technology changes.			
Consequence / Benefit:	Significant	Basis: If product is unacceptable, unacceptable product will be stored for 6 months while redesign to correct product issues. PBS Risk Assessment cost estimate range of \$10M-\$20M, to modify facility.			
Most Significant Cost Impact (\$K): >\$10,000		Most Significant Schedule Impact (M): 6			
Level:	<b>Low</b>	Event Trigger: Waste Form Acceptance from Geologic Repository.			
Handling Strategy:	Accept	Description: Accept, likelihood is already at lowest value.			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Significant	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 10000			<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):					
Impacted Scope of Work: Project process related design and installation activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 013		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) after CD-2					
Type: <b>Risk</b> Internal		Category: Design			
Assess. Element: 11B.5	Title: Pu Vitrification/Pu Alternate Disposition				
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: Pu Vitrification/Pu Alternate Disposition will be designed and constructed to a set of requirements, i.e. DOE, Regulatory, etc. There is a risk that this set of requirements will change after CD-2 and impacts due to redesign and rework affecting project cost and schedule are realized.					
Likelihood:	Likely	Basis: Based on experience, previous projects have experienced changes in requirements that have caused redesign and rework. It is likely at the Project Baseline Summary (PBS) level that project costs and schedule will be impacted.			
Consequence / Benefit:	Marginal	Basis: The consequences include 1) cost and schedule for the Pu Vitrification/Pu Alternate Disposition redesign and rework which will have cost impact >\$10M (PBS Risk Assessment cost estimate range of \$10M-\$20) and 4 months, 2) Cost of continued H-Canyon operation until Pu Vitrification/Pu Alternate Disposition capability exists (\$200M/year) PBS 11B Risk #1, and 3) Schedule impact to PBS-SR-0011C Risk #2 " Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase" which is the Operation of Pu Vitrification/Pu Alternate Disposition.  For impact to PBS-SR-0011C, See Risk Assessment for PBS-SR-11C.			
Most Significant Cost Impact (\$k): >\$10,000		Most Significant Schedule Impact (M): 4			
Level:	<b>Moderate</b>	Event Trigger: When large impact Requirement change happens during the design phase, or anytime prior to design complete, construction complete and startup phases.			
Handling Strategy:	Accept	Description: Accept at this time, the project has not been authorized and a set of requirements has not been identified for the project.			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 10000			<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (Wks):					
Impacted Scope of Work: Project activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 014		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition Inadequate Resources					
Type: <b>Risk</b> Internal		Category: Res/Cond			
Assess. Element: 11B.5	Title: Pu Vitrification/Pu Alternate Disposition				
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: Pu Vitrification/Pu Alternate Disposition will require funds, personnel resources, etc. There is a risk that there will not be enough resources. The impact to Pu Vitrification/Pu Alternate Disposition is a schedule delay until adequate resources are available. For example, if the Pu Vitrification/Pu Alternate Disposition is in K-Area, there may not be enough Human Reliability Program (HRP) qualified personnel (Operations/Design/Construction).					
Impact is delay in schedule to get enough resources. Stretch out project schedule.					
Likelihood:	Likely	Basis: Due to the anticipated size of the Pu Vitrification/Pu Alternate Disposition project, and the two other large projects (PDCF and MFFF) planned to occur at the same timeframe there will be competition for resources. Also with work force reduction downsizing organizations, it may be difficult to quickly obtain needed resources. Currently have experienced resource constraints.			
Consequence / Benefit:	Negligible	Basis: The lack of resources is not expected to have a large impact on the Pu Vitrification/Pu Alternate Disposition Project Design/Construction, the impact could be approximately 2 months. It is believed that resource needs can be worked out between the projects. The duration of the project schedule will allow the ability to obtain a qualified staff for the Design/Construction phases.  There is a schedule impact is to the Pu Disposition Operations phase, PBS-SR-0011C due to the lack of resources that would extend the PBS schedule. See Risk Assessment for PBS-SR-11C.			
Most Significant Cost Impact (\$K): N/A		Most Significant Schedule Impact (M): 2			
Level:	<b>Low</b>	Event Trigger: Need for resources and availability of resources will be identified in Project Resource Loaded Schedule identified at CD-2.			
Handling Strategy:	Mitigate	Description: Identify resource needs early, qualify people (security clearances, etc. ) ASAP to meet schedule needs.			
HS Implementation Cost (\$K):	N/A	Basis:			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk: Even with accelerated identification of personnel, the project is impacted by lack of personnel. HRP may need greater time to process personnel.					
Residual Likelihood:	Unlikely	Basis: With additional time should be able to obtain and process personnel.			
Residual Consequence:	Negligible	Basis: Consequence is as low as possible.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u>			<u>Most Likely</u>	<u>Worst Case</u>
Residual Schedule Impact (M):					
Impacted Scope of Work: Project activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>						
ID Number: 015		Revision: 00	Last Date Evaluated: 1-Mar-06	Status: Active		
Event Title: Pu Vitrification/Pu Alternate Disposition Funding Delay						
Type: <b>Risk</b> External		Category: Manage				
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition				
Responsible Org: -			Contact:	Date Identified: 31-Aug-05		
Statement of Event: The Pu Vitrification/Pu Alternate Disposition Design/Construction Schedule is based on a funding profile. There is a risk that the project will not be funded as planned and will impact the project schedule and increases costs.						
Likelihood:	Very Likely	Basis: Previous project funding delays have occurred and there is no project funding for FY07.				
Consequence / Benefit:	Marginal	Basis: The reduction or lack of continued funding will cause the project team to be demobilized until funding is restored. The Project schedule will be extended. PBS Risk Assessment cost consequence range is \$10-\$20M.  This Pu Vitrification/Pu Alternate Disposition schedule impact will extend K-Area operations. See Risk Assessment for PBS-SR-0011C, Risk #4 "Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations".				
Most Significant Cost Impact (\$K): >\$10,000			Most Significant Schedule Impact (Wks): 6			
Level:	<b>Moderate</b>	Event Trigger: When Pu Disposition Project is authorized and yearly funding profiles authorized.				
Handling Strategy:	Accept	Description: There are no handling actions Team can direct to prevent funding issues.				
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.				
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.				
Other Handling Strategies:						
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.						
Residual Likelihood:	Very Likely	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Consequence:	Significant	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:				
Residual Cost Impact (\$K):	<u>Best Case</u> 10000				<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):						
Impacted Scope of Work: Project activities.						
Evaluation Comments:						
Event Comments:						

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 016		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition Feed Material					
Type: <b>Risk</b> External		Category: Res/Cond			
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The Pu feed material dictates the Pu Vitrification/Pu Alternate Disposition Project process requirements and throughput. The project will be designed to operate through 2019. There is a risk that due to the uncertainty of Pu feed, the Pu Disposition Project throughput may change or Operations may be extended to accommodate feed. The facility may also have to be modified to meet disposition requirements due to feed materials. Note: This risk is for project impacts only. See PBS-11C Risk #5 "Additional Pu Vitrification/Pu Alternate Disposition Feed Material that Impacts Operations" for Operation phase impacts.					
Likelihood:	Unlikely	Basis: The Pu Disposition feed is based on 13 metric Tons (MT) tons of Pu.			
Consequence / Benefit:	Marginal	Basis: The feed materials impact project cost and schedule with crisis consequences for project redesign. PBS Cost consequence range is \$10-\$20M.  This also affects PBS of Pu Vitrification/Pu Alternate Disposition facility operations, PBS-SR-0011C. See PBS-SR-0011C Risk Assessment, Risk #5 "Additional Pu Vitrification/Pu Alternate Disposition Feed Material that Impacts Operations"			
Most Significant Cost Impact (\$k): >\$10,000		Most Significant Schedule Impact (M): 4			
Level:	<b>Low</b>	Event Trigger: When notified by DOE of feed materials.			
Handling Strategy:	Accept	Description: Information regarding possible feed materials over the 13 MT is not known.			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 10000			<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):					
Impacted Scope of Work:					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 017		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition NEPA Action					
Type: <b>Risk</b> External		Category: Reg & En			
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The Pu Vitrification/Pu Alternate Disposition project will require NEPA actions to support the project scope and schedule. There is a risk that NEPA approval actions will not occur as planned and the project schedule will be delayed.					
Likelihood:	Unlikely	Basis: There are political sensitivities, i.e. state of South Carolina, associated with Pu disposition. There is expected to be support for the Pu Vitrification/Pu Alternate Disposition project because this disposition provides a path for Pu to leave SRS.			
Consequence / Benefit:	Negligible	Basis: There will be a project schedule impact of 2-4 months. The lack of approved NEPA limits project activities.			
Most Significant Cost Impact (\$k): N/A		Most Significant Schedule Impact (M): 4			
Level:	<b>Low</b>	Event Trigger: When complete NEPA approvals are not received by CD-2.			
Handling Strategy:	Mitigate	Description: Engage stakeholders early in the project to ensure timely NEPA approvals.			
HS Implementation Cost (\$K):	N/A	Basis: Will be part of Project funded activities.			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk: NEPA approval is delayed.					
Residual Likelihood:	Very Unlikely	Basis: Early involvement should provide schedule benefits.			
Residual Consequence:	Negligible	Basis: Consequence is as low as possible.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u>			<u>Most Likely</u>	<u>Worst Case</u>
Residual Schedule Impact (M):					
Impacted Scope of Work: Procurement and construction activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>						
ID Number: 018		Revision: 00	Last Date Evaluated: 1-Mar-06	Status: Active		
Event Title: 3013 CSSC Requirement Changes after CD-2						
Type: <b>Risk</b> Internal			Category: Design			
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC				
Responsible Org: -			Contact:	Date Identified: 31-Aug-05		
Statement of Event: The basis for the 3013 CSSC project is meeting identified requirements. There is a risk that there are changes in requirements that cause project redesign and rework. This impacts the project cost and schedule. Requirement changes could be related to ventilation requirements after fire, new seismic requirements, response mechanisms for site, throughput changes due to unusual finding from existing surveillance program, etc.						
Likelihood:	Likely	Basis: Historically requirement changes have been experienced during projects.				
Consequence / Benefit:	Marginal	Basis: Project cost and schedule impacts could greater than \$10M and 4 months to implement requirement changes. The PBS Risk Assessment cost consequence range is \$10-\$20M.				
Most Significant Cost Impact (\$k): >\$10,000			Most Significant Schedule Impact (M): 4			
Level:	<b>Moderate</b>	Event Trigger: When large impact Requirement change happens during the design phase, or anytime prior to design complete, construction complete and startup phases.				
Handling Strategy:	Accept	Description:				
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.				
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.				
Other Handling Strategies:						
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.						
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:				
Residual Cost Impact (\$K):	<u>Best Case</u> 10000				<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):						
Impacted Scope of Work: 3013 CSSC Project work.						
Evaluation Comments:						
Event Comments:						

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 019		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: 3013 CSSC Lack of Resources					
Type: <b>Risk</b> Internal		Category: Res/Cond			
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The 3013 CSSC project schedule will require resources, e.g. obtaining HRP qualified personnel. There will be concurrent Operations and another project installation at the same time. There will be Co-occupancy (space, security, utilities, etc.) issues with Operations and other projects. There is a risk that resources will not be available and workarounds will not be effective and will negatively impact the project schedule and cost.					
Likelihood:	Likely	Basis: Likely, there will be competition for resources. Also with work force reduction downsizing organizations, it may be difficult to quickly obtain needed resources. Currently have experienced resource constraints.			
Consequence / Benefit:	Marginal	Basis: Project impact is less than \$5M and 2 months at the PBS level.			
Most Significant Cost Impact (\$k): <\$5,000		Most Significant Schedule Impact (M): 2			
Level:	<b>Moderate</b>	Event Trigger: Need for resources and availability of resources will be identified in Project Resource Loaded Schedule identified at CD-2.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 40323			<u>Most Likely</u> 43952	<u>Worst Case</u> 50000
Residual Schedule Impact (M):					
Impacted Scope of Work:					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 020		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: 3013 CSSC Project Funding Delay					
Type: <b>Risk</b> External		Category: Manage			
Assess. Element: 11B.4		Title: KIS Ext. Life			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The 3013 CSSC Project Design/Construction Schedule is based on a funding profile. There is a risk the project will not be funded as planned and will impact the project schedule and increases costs.					
Likelihood:	Likely	Basis: Previous project funding delays have occurred.			
Consequence / Benefit:	Marginal	Basis: The reduction or lack of continued funding will cause the project team to be demobilized until funding is restored. The Project schedule will be extended. PBS Risk Assessment cost range \$10M-\$20M.  Delays in 3013 CSSC schedule impact will extend K-Area operations but will not impact the overall K-Area schedule.			
Most Significant Cost Impact (\$k): >\$10,000		Most Significant Schedule Impact (M): 6			
Level:	<b>Moderate</b>	Event Trigger: When 3013 CSSC Project is not authorized.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 10000			<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):					
Impacted Scope of Work:					
Evaluation Comments: External risk due to project funding not within DOE-SR control.					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 022		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: K-Area Interim Surveillance (KIS) Extended Life					
Type: <b>Risk</b> Internal		Category: Design			
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC and Interim Surveillance Capability			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The installation of K-Area Interim Surveillance is based on a limited life span to provide temporary interim surveillance capability. The planned KIS design life is not intended to provide long term surveillance, i.e. until 2012. There is a risk that KIS will be required to have a greater than planned operating life. This will cause changes in design life assumptions, impacting design and construction analyses and causing physical modifications, such as installation of additional equipment.					
Likelihood:	Likely	Basis: The length of additional KIS Operational life span is variable. Likely there will be a short life time extension, and will probably operate an additional 2 years because 3013 CSSC is delayed.			
Consequence / Benefit:	Marginal	Basis: If only delayed 1-2 years, there will not be any not major consequences to the design. The schedule delay will not affect any PBS schedule milestones. Project redesign and/or rework caused by life extension will cost less than \$4M. Delays in KIS will result in delays to the shutdown of FAMS and increases hotel lead. See Risk Assessment for PBS-SR-0011C, Risk #1 "KIS Delay impacts FAMS".			
Most Significant Cost Impact (\$k): \$4,000		Most Significant Schedule Impact (M): N/A			
Level:	<b>Moderate</b>	Event Trigger: CSSC baseline is extended.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 3670			<u>Most Likely</u> 4000	<u>Worst Case</u> 4550
Residual Schedule Impact (M):					
Impacted Scope of Work: KIS project work and FAMS.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 023		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: K-Area Interim Surveillance (KIS) Requirement Changes					
Type: <b>Risk</b> Internal		Category: Design			
Assess. Element: 11B.4	Title: Design/Construct Interim Surveillance Capability				
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: The basis for the KIS project is based on meeting requirements. There is a risk that there are changes in requirement that cause project redesign and rework. This impacts the project cost and schedule. Requirement changes could be related to ventilation requirements after fire, new seismic requirements, response mechanisms for site, throughput changes due to unusual finding from existing surveillance program, etc.					
Likelihood:	Likely	Basis: Historically requirement changes have been experienced during projects.			
Consequence / Benefit:	Marginal	Basis: Project cost impacts of \$2-5M, and schedule impact of 1-2 months to implement requirement changes.			
Most Significant Cost Impact (\$k): \$5,000		Most Significant Schedule Impact (M): 2			
Level:	<b>Moderate</b>	Event Trigger: When large impact Requirement change happens during the design phase, or anytime prior to design complete, construction complete and startup phases.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 4587			<u>Most Likely</u> 5000	<u>Worst Case</u> 5688
Residual Schedule Impact (M):					
Impacted Scope of Work: KIS Project activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 024		Revision: 00	Last Date Evaluated: 31-Aug-05		
Status: Active					
Event Title: H-Area impact on K-Area Interim Surveillance (KIS)					
Type: <b>Risk</b> Internal		Category: Inter			
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC and Interim Surveillance Capability			
Responsible Org: -		Contact:	Date Identified: 31-Aug-05		
Statement of Event: H-Area will receive and process materials. There is a risk that H-area cannot receive Pu materials from K-area. The inability to send materials to H-Area will cause KIS to install additional storage to hold Pu materials.					
Likelihood:	Very Unlikely	Basis: The plan is to send materials to H-Area.			
Consequence / Benefit:	Marginal	Basis: Build storage space, cost impact under \$5M. If H-Area is unable to receive and process material, the 910B Fan Room can accommodate a significant amount of material. 9975s will need to be purchased to store material until the CSSC Project can stabilize and repackage.			
Most Significant Cost Impact (\$k): \$5,000		Most Significant Schedule Impact (M): N/A			
Level:	<b>Low</b>	Event Trigger: H-Area unable to receive materials.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 4808			<u>Most Likely</u> 5000	<u>Worst Case</u> 5688
Residual Schedule Impact (M):					
Impacted Scope of Work: K-Area.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>				
ID Number: 025		Revision: 00	Last Date Evaluated: 28-Feb-06	Status: Active
Event Title: Requirement Changes affecting Deactivation Endpoints and Surveillance and Monitoring (S&M)				
Type: <b>Risk</b> Internal			Category: Design	
Assess. Element: 11B.1		Title: F-Area		
Responsible Org: -			Contact:	Date Identified: 31-Aug-05
Statement of Event: The Deactivation Endpoints and Surveillance and Monitoring are based on meeting requirements. There is a risk that during Deactivation and S&M there will be changes in requirements, i.e. ventilation, seismic, environmental, regulatory, response mechanisms, etc. These changes cause physical upgrades, modifications, and resource needs that were not planned.				
Likelihood:	Likely	Basis: Based on history, F-Area has already experienced a request to increase the functional class of the ventilation system from GS to SS.		
Consequence / Benefit:	Marginal	Basis: The implementation of new requirements, e.g. new seismic spectra criteria would require structural upgrades as well as facility improvements to support structural upgrades. Current Deactivation activities are removing the capability to implement upgrades, i.e. access. Staffing reductions would be adversely impacted, approximately 17 people are currently planned to support S&M, new requirement implementation would require restaffing to a higher number of personnel. The PBS Risk Assessment cost consequence range is \$10-\$20M.		
Most Significant Cost Impact (\$k): >\$10,000			Most Significant Schedule Impact (M): 12	
Level:	<b>Moderate</b>	Event Trigger: When notified to implement new requirements.		
Handling Strategy:	Accept	Description: The handling strategy is to Accept then Avoid by accelerating the D&D schedule in lieu of implementing upgrades, i.e. seismic upgrades. Per the D&D schedule no funding is available until 2012. The acceleration would require the identification of funds.		
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.		
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.		
Other Handling Strategies:				
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.				
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:		
Residual Cost Impact (\$K):	<u>Best Case</u> 10000	<u>Most Likely</u> 15000	<u>Worst Case</u> 20000	
Residual Schedule Impact (M):				
Impacted Scope of Work: F-Area S&M activities.				
Evaluation Comments:				
Event Comments:				

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 026		Revision: 00	Last Date Evaluated: 24-Feb-06		
Status: Active					
Event Title: 3013 CSSC Requirement Changes prior to CD-2					
Type: <b>Risk</b> Internal Technical		Category: Design			
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC and Interim Surveillance Capability			
Responsible Org: -		Contact:	Date Identified: 24-Feb-06		
Statement of Event: The basis for the 3013 CSSC project is meeting identified requirements. There is a risk that there are changes in requirements prior to CD-2 that cause project redesign and rework. This impacts the project cost and schedule. Requirement changes could be related to ventilation requirements after fire, new seismic requirements, response mechanisms for site, throughput changes due to unusual finding from existing surveillance program, etc.					
Likelihood:	Likely	Basis: Historically requirement changes have been experienced during projects.			
Consequence / Benefit:	Negligible	Basis: Project changes would be minor resulting in cost increases up to \$.5M.			
Most Significant Cost Impact (\$k): \$100		Most Significant Schedule Impact (M):			
Level:	<b>Low</b>	Event Trigger: When a change is identified.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Negligible	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 92			<u>Most Likely</u> 100	<u>Worst Case</u> 114
Residual Schedule Impact (Wks):					
Impacted Scope of Work: 3013 CSSC Project work.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 027		Revision: 00	Last Date Evaluated: 28-Feb-06		
Status: Active					
Event Title: Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) prior to CD-2					
Type: <b>Risk</b> Internal Technical		Category: Design			
Assess. Element: 11B.5		Title: Pu Vitrification/Pu Alternate Disposition			
Responsible Org: -		Contact:	Date Identified: 28-Feb-06		
Statement of Event: Pu Vitrification/Pu Alternate Disposition will be designed and constructed to a set of requirements, i.e. DOE, Regulatory, etc. There is a risk that this set of requirements will change prior to CD-2 and impacts due to redesign and rework affecting project cost and schedule are realized.					
Likelihood:	Likely	Basis: Based on experience, previous projects have experienced changes in requirements that have caused redesign and rework. It is likely at the Project Baseline Summary (PBS) level that project costs and schedule will be impacted.			
Consequence / Benefit:	Negligible	Basis: The consequences include 1)cost and schedule for the Pu Vitrification/Pu Alternate Disposition redesign and rework which will have cost impact <\$.5M and schedule impact of less than 3 months.			
Most Significant Cost Impact (\$k): \$500		Most Significant Schedule Impact (M): <3			
Level:	<b>Low</b>	Event Trigger: Requirement change impacts design.			
Handling Strategy:	Accept	Description: Accept at this time, the project has not been authorized and a set of requirements has not been identified for the project.			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Negligible	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 455			<u>Most Likely</u> 473	<u>Worst Case</u> 500
Residual Schedule Impact (M):					
Impacted Scope of Work: Project activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>			
ID Number: 028		Revision: 00	Last Date Evaluated: 28-Feb-06
Status: Active			
Event Title: F-Canyon Mission Change from Deactivation			
Type: <b>Risk</b> External Technical		Category: Res/Cond	
Assess. Element: 11B.1		Title: F-Area	
Responsible Org: -		Contact:	Date Identified: 28-Feb-06
Statement of Event: The Deactivation State of "Cold, Dark and Dry" has been revised to a partially restored F-Canyon Endstate. This partially restored Endstate should be completed within this contract. Currently there are new initiatives being considered that if implemented could prolong the use of the Canyon beyond this contract period and result in higher costs to "operate and maintain".			
Likelihood:	Likely	Basis: F-Canyon provides a unique capability that may be required for dispositioning identified materials.	
Consequence / Benefit:	Crisis	Basis: the initiatives have not been fully developed. This consequence is based on full Canyon operations per year which are approximately \$100M and a schedule greater than 1 year.	
Most Significant Cost Impact (\$k): >\$100,000		Most Significant Schedule Impact (M): >12	
Level:	<b>High</b>	Event Trigger: Decision is made to implement initiatives.	
Handling Strategy:	Accept	Description: Accept at this time, initiatives are still being developed.	
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.	
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.	
Other Handling Strategies:			
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.			
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Consequence:	Crisis	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Risk Level:	<b>High</b>	Residual Impact Basis:	
Residual Cost Impact (\$K):	<u>Best Case</u> 83333	<u>Most Likely</u> 100000	<u>Worst Case</u> 125000
Residual Schedule Impact (M):			
Impacted Scope of Work: F-Canyon			
Evaluation Comments:			
Event Comments:			

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 029		Revision: 00	Last Date Evaluated: 28-Feb-06		
Status: Active					
Event Title: Tank Farm Waste Storage Limit Bound					
Type: <b>Risk</b> External Technical		Category: Inter			
Assess. Element: 11B.2		Title: H-Area			
Responsible Org: -		Contact:	Date Identified: 28-Feb-06		
Statement of Event: The planned H-Completion operations through 2019 are based on High Level Waste capability being available to disposition effluent waste streams. There is a risk that waste tank space availability may not be adequate for planned operations and result in limited or suspension of H-Completion operations.					
Likelihood:	Very Likely	Basis: Risk Assessment Report for PBS-SR-0014C Radioactive Liquid Tank Waste Stabilization and Disposition, Y-RAR-G-00016 and High Level Waste Tank Farm Vulnerability Assessment Report, G-ESR-G-00043 document risks concerning tank space management due to the tank farms inability to operate evaporators to volume reduce the influent streams. The operation of evaporators is impacted due to the lack of evaporator concentrate receipt space resulting from the formation of "saltcake" during evaporator operations (i.e. all evaporator concentrate receipt tanks are filled "saltcake" or fully concentrated supernate). The planned construction and operation of the Salt Waste Processing Facility to process and dispose of salt solution will address this space issue in the long term. In the near term Risk Handling Strategies (RHS) for these risks provide interim alternatives to ensure adequate tank space is available to continue High Level Waste processing until startup of Salt Waste Processing Facility in 2011. Any significant delays in RHS implementation could result in restrictions to waste generators thus limiting H-Completion operations.			
Consequence / Benefit:	Critical	Basis: If unable to disposition effluent waste streams for planned operations, then mitigating actions may result in reduces or suspended H-Completion operations until High Level Waste Tank storage capacity is restored.			
Most Significant Cost Impact (\$k): \$100,000		Most Significant Schedule Impact (M): 6			
Level:	<b>High</b>	Event Trigger: Actual implementation of alternative to process salt waste strategy is delayed beyond the critical schedule milestones and schedule improvements can not be realized to achieve tank space objectives. High Level Waste operations are impacted such that H-Completion operations are also impacted.			
Handling Strategy:	Mitigate	Description: Investigate processing strategies that minimize effluent waste generation from H-Completion operations. Monitor RHS implementation status of alternative to process salt waste through senior management reviews and adjust H-Completion operations planning accordingly.			
HS Implementation Cost (\$K):	N/A	Basis: Incremental cost to H-Completion.			
HS Implementation Schedule (Wks):	N/A	Basis: Incremental planning schedule impact.			
Other Handling Strategies:					
Statement of Residual Risk: The RHS are not successful and current and new H-Completion missions are delayed.					
Residual Likelihood:	Unlikely	Basis: The maturity and alignment of engineering and technical scopes with interim salt waste processing objectives and goals are closely monitored through appropriate project management controls and tools are in place to ensure overall effectiveness of interim salt processing alternatives. Senior management involvement and oversight is achieved through project reviews.			
Residual Consequence:	Critical	Basis: The production throughput rates are limited due to Tank Farm restrictions then H-Completion processing schedules will be affected.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	Best Case 80645			Most Likely 87903	Worst Case 100000
Residual Schedule Impact (Wks):					
Impacted Scope of Work: Planned H-Completion missions at time of event.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>			
ID Number: 030		Revision: 00	Last Date Evaluated: 31-Aug-05
Status: Active			
Event Title: KIS Delay impacts FAMS			
Type: <b>Risk</b> Internal		Category: Inter	
Assess. Element: 11C.2		Title: FAMS Operation	
Responsible Org: -		Contact:	Date Identified: 7-Sep-05
Statement of Event: The current plan is for the operation of K-Area Interim Surveillance capability to be available in November 2006 to allow the shutdown of FAMS Limited Extent Surveillance (LES). There is a risk that KIS operational capability will be delayed and that FAMS must continue to operate as a Category II facility to perform LES operations.			
Likelihood:	Unlikely	Basis: Currently, the KIS project baseline and project schedule shows meeting the 11/06 capability milestone. High work priority has been given to this project in the facility.	
Consequence / Benefit:	Marginal	Basis: The KIS capability is not available and FAMS LES remains operational until KIS capability is available. The cost of FAMS yearly operations is \$17M. The worst case would cause FAMS to be operational for an additional year. The cost impact is at the PBS level. The schedule impact does not impact the PBS schedule.  Another consequence of continued FAMS Operation, the implementation of DSA modifications. This risk is covered in Risk PBS-11C #10 "Delay FAMS D&D"	
Most Significant Cost Impact (\$k): \$17,000		Most Significant Schedule Impact (M): N/A	
Level:	<b>Moderate</b>	Event Trigger: KIS operational date is not met.	
Handling Strategy:	Accept	Description: Currently, the KIS project is working. This work has the highest project work priority in K-Area.	
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept handling strategy.	
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept handling strategy.	
Other Handling Strategies:			
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.			
Residual Likelihood:	Unlikely	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:	
Residual Cost Impact (\$K):	<u>Best Case</u> 14167	<u>Most Likely</u> 17000	<u>Worst Case</u> 21958
Residual Schedule Impact (M):			
Impacted Scope of Work: FAMS D&D Schedule.			
Evaluation Comments:			
Event Comments:			

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 031		Revision: 01	Last Date Evaluated: 1-Mar-06						
Status: Active									
Event Title: Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase									
Type: <b>Risk</b> External		Category: Design							
Assess. Element: 11C.1		Title: K-Area Operation							
Responsible Org: -		Contact:	Date Identified: 7-Sep-05						
Statement of Event: Per the PMP, Pu Vitrification/Pu Alternate Disposition will be operational by 2013. Due to the PBS-11B.5 Risk #13 "Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction)", causing a delay in completion of the project, which causes the operational phase to be delayed. This delay causes an additional year of K-Area Storage Operational costs and also a corresponding "slowdown" or extension of DWPF and LWD Operations.									
Likelihood:	Likely	Basis: This probability is based on the Project delay and Operation delay being equal.							
Consequence / Benefit:	Critical	Basis: The delay in Operations will result in an additional year of K-Area Storage Operations, \$140M. The impact is at the PBS cost level only. The DWPF and LWD Operations costs are not included in the cost consequence.							
Most Significant Cost Impact (\$K): \$140,000		Most Significant Schedule Impact (M): 12							
Level:	<b>High</b>	Event Trigger: Annual budget identifies Pu Vitrification/Pu Alternate Disposition Project and Operations.							
Handling Strategy:	Accept	Description: Proceed as currently planning to fund the project. Fund continued storage in K-Area beyond planned basis if necessary.							
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.							
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.							
Other Handling Strategies:									
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.									
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Consequence:	Critical	Basis: Same as initial evaluation for Accept handling strategy.							
Residual Risk Level:	<b>High</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1"> <tr> <td><u>Best Case</u></td> <td><u>Most Likely</u></td> <td><u>Worst Case</u></td> </tr> <tr> <td>116667</td> <td>140000</td> <td>180833</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	116667	140000	180833
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
116667	140000			180833					
Residual Schedule Impact (M):									
Impacted Scope of Work: K-Area Operations									
Evaluation Comments:									
Event Comments:									

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 032		Revision: 00	Last Date Evaluated: 7-Sep-05		
Status: Active					
Event Title: Pu Vitrification/ Pu Alternate Disposition Inadequate Resources - Operations Phase					
Type: <b>Risk</b> Internal		Category: Res/Cond			
Assess. Element: 11C.1	Title: K-Area Operation				
Responsible Org: -		Contact:	Date Identified: 7-Sep-05		
Statement of Event: The operational phase of Pu Vitrification/Pu Alternate Disposition will require qualified Operations, Maintenance and support personnel. There is a risk that due to HRP, radiation exposure, physical process work demands, etc. that there will not be enough personnel to support the required throughput.					
Likelihood:	Very Unlikely	Basis: The Pu Vitrification/Pu Alternate Disposition is not scheduled to be operational until 2012. There is enough time (approximately 5 years) to obtain the required personnel to meet the process needs.			
Consequence / Benefit:	Marginal	Basis: Due to the lack of personnel, throughput is not achievable for a year or an additional year is required before Pu Vitrification/Pu Alternate Disposition is operational. The PBS consequence is a schedule impact.			
Most Significant Cost Impact (\$K): N/A		Most Significant Schedule Impact (M): 12			
Level:	<b>Low</b>	Event Trigger: Annual budget. Changes in HRP requirements that requires a longer qualification time.			
Handling Strategy:	Mitigate	Description: Accelerate Operations staffing. Allow 2 years prior to need to hire and train staff. Hire 6 months earlier than current plan to allow for clearance, etc.			
HS Implementation Cost (\$K):	Not calculated	Basis: Did not determine additional funds during PBS assessment.			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk: Even with accelerated hiring and training, Operations staffing is not adequate to support throughput rates. HRP changes requirements and requires a greater amount of time to process personnel.					
Residual Likelihood:	Very Unlikely	Basis: Enough time to obtain personnel.			
Residual Consequence:	Significant	Basis: Due to the lack of personnel, throughput is not achievable for a few months or a few months is required before Pu Vitrification/Pu Alternate Disposition is operational. The schedule consequence is less, the number of staff vacancies are less due to the accelerated hiring and training.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u>			<u>Most Likely</u>	<u>Worst Case</u>
Residual Schedule Impact (M)					
Impacted Scope of Work: K-Area Operations.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>				
ID Number: 033		Revision: 01	Last Date Evaluated: 1-Mar-06	Status: Active
Event Title: Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations				
Type: <b>Risk</b> External		Category: Manage		
Assess. Element: 11C.1		Title: K-Area Operation		
Responsible Org: -		Contact:	Date Identified: 7-Sep-05	
Statement of Event: Per the PMP, Pu Vitrification/Pu Alternate Disposition will be operational by 2013. Due to the PBS-11B.5 Risk #15 "Project Funding Delay" causing a delay in project completion, the operational phase is also delayed. This delay causes an additional year of K-Area Storage Operational costs and also a corresponding "slowdown" or extension of DWPF and LWD Operations.				
Likelihood:	Likely	Basis: This probability is based on the Project delay and Operation delay being equal		
Consequence / Benefit:	Critical	Basis: The delay in Operations will result in an additional year of K-Area Storage Operations, \$140M. The impact is at the PBS cost level only. The DWPF and LWD Operations costs are not included in the cost consequence.		
Most Significant Cost Impact (\$k): \$140,000		Most Significant Schedule Impact (M): 12		
Level:	<b>High</b>	Event Trigger: Annual budget identifies Pu Vitrification/Pu Alternate Disposition Project and Operations.		
Handling Strategy:	Accept	Description: Currently are actively pursuing project funding. If funding delayed, then response would be to increase throughput by adding equipment, and/or adding staff either by additional people or increasing the number of shifts.  Secondary handling strategies are to investigate the possibility of DWPF slowing down operations to integrate with Pu Vitrification/Pu Alternate Disposition throughput or to ship directly to WPT at Hanford.		
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept handling strategy.		
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept handling strategy.		
Other Handling Strategies:				
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.				
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Consequence:	Critical	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Risk Level:	<b>High</b>	Residual Impact Basis:		
Residual Cost Impact (\$K):	<u>Best Case</u> 116667	<u>Most Likely</u> 140000	<u>Worst Case</u> 180833	
Residual Schedule Impact (M):				
Impacted Scope of Work: K-Area Operations.				
Evaluation Comments:				
Event Comments:				

<b>Risk / Opportunity Assessment Form</b>						
ID Number: 034		Revision: 01	Last Date Evaluated: 1-Mar-06	Status: Active		
Event Title: Additional Pu Vitrification/Pu Alternate Disposition Feed Material that Impacts Operations						
Type: <b>Risk</b> External		Category: Res/Cond				
Assess. Element: 11C.1		Title: K-Area Operation				
Responsible Org: -		Contact:	Date Identified: 7-Sep-05			
Statement of Event: The Pu feed material dictates the Pu Vitrification/Pu Alternate Disposition Project process requirements and throughput. The project will be designed to operate through 2019. There is a risk that additional Pu feed will be identified during Pu Vitrification/Pu Alternate Disposition Operations phase will cause the throughput to change and operations may be extended to accommodate feed and also a corresponding "slowdown" or extension of DWPF and LWD Operations. The facility may also have to be modified to meet disposition requirements due to feed materials.						
Likelihood:	Very Unlikely	Basis: Disposition plans exist for other complex material.				
Consequence / Benefit:	Critical	Basis: New materials extends operation by 1 year. Approximate operations costs/year is \$140M. The DWPF and LWD Operations costs are not included in the cost consequence.				
Most Significant Cost Impact (\$K): \$140,000		Most Significant Schedule Impact (M): 12				
Level:	<b>High</b>	Event Trigger: When notified by DOE of feed materials.				
Handling Strategy:	Accept	Description:				
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.				
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.				
Other Handling Strategies:						
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.						
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Consequence:	Critical	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Risk Level:	<b>High</b>	Residual Impact Basis:				
Residual Cost Impact (\$K):	<u>Best Case</u> 116667				<u>Most Likely</u> 140000	<u>Worst Case</u> 180833
Residual Schedule Impact (M):						
Impacted Scope of Work: K-Area Operations.						
Evaluation Comments:						
Event Comments:						

<b>Risk / Opportunity Assessment Form</b>				
ID Number: 035		Revision: 00		Last Date Evaluated: 7-Sep-05
Status: Active				
Event Title: Complete K-Area Facility mods to support storage of misc Pu from FAMS				
Type: <b>Risk</b> Internal			Category: Res/Cond	
Assess. Element: 11C.2		Title: FAMS Operation		
Responsible Org: -			Contact:	Date Identified: 7-Sep-05
Statement of Event: The current plan is to complete K-Area modifications in time for disposition of FAMS inventory. There is a risk that modifications will be not ready in time to support deinventory. This will cause modifications for an alternate storage location in K-Area.				
Likelihood:	Unlikely	Basis: The modifications to prepare the planned storage location have started, work is fully staffed, and has been funded. This is priority work. The FONSI resulting from EA must be issued in 12/2005 followed by 6 to 9 months of scheduled work from EA approval.		
Consequence / Benefit:	Marginal	Basis: K-Area facility modifications and security upgrades to store in alternate location (i.e., Final Storage). Security upgrades would include motion detectors.		
Most Significant Cost Impact (\$K): \$1,000			Most Significant Schedule Impact (M): N/A	
Level:	<b>Low</b>	Event Trigger: Delay in planned modifications. EA is not approved and work cannot continue. Schedule integration issues (construction in tight quarters) identified that impact schedule.		
Handling Strategy:	Accept	Description: Other options are currently being evaluated for alternative storage. Future mitigation would be based on alternatives. Final Storage is a possible alternative, requires the same EA but requires less modifications.		
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept handling strategy.		
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept handling strategy.		
Other Handling Strategies:				
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.				
Residual Likelihood:	Unlikely	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.		
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:		
Residual Cost Impact (\$K):	<u>Best Case</u> 917	<u>Most Likely</u> 1000	<u>Worst Case</u> 1422	
Residual Schedule Impact (M):				
Impacted Scope of Work: K-Area Operations.				
Evaluation Comments:				
Event Comments:				

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 036		Revision: 00	Last Date Evaluated: 7-Sep-05		
Status: Active					
Event Title: MC&A requirements may dictate need for Cf shuffler					
Type: <b>Risk</b> External		Category: Design			
Assess. Element: 11C.1	Title: K-Area Operation				
Responsible Org: -		Contact:	Date Identified: 7-Sep-05		
Statement of Event: Currently there are no MC&A requirements requiring a Cf shuffler. There is a risk that a Cf shuffler will be required. A Cf shuffler would require approximately \$5-7M for installation. Additional Operations costs would also be incurred.					
Likelihood:	Unlikely	Basis: Equipment being installed on the 3013 CSSC Project will be able to measure Uranium.			
Consequence / Benefit:	Marginal	Basis: \$5-7M for installation, operations and building modifications for Cf shuffler.			
Most Significant Cost Impact (\$k): \$7,000		Most Significant Schedule Impact (M): N/A			
Level:	<b>Moderate</b>	Event Trigger: MC&A requirements change.			
Handling Strategy:	Mitigate	Description: Utilize equipment installed in CSSC project and obtain MC&A variance to allow delayed verification.			
HS Implementation Cost (\$K):	\$20	Basis: For developing and obtaining variance approval.			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk: MC&A variance to allow delayed verification is not approved.					
Residual Likelihood:	Very Unlikely	Basis: 3013 CSSC equipment provides the MC&A measure, controls could be put in place to support delayed verification.			
Residual Consequence:	Marginal	Basis: Consequence remains Crisis for Cf installation, operations and building modifications \$5-7M.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 6422			<u>Most Likely</u> 7000	<u>Worst Case</u> 9954
Residual Schedule Impact (M):					
Impacted Scope of Work: MC&A activities.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 037		Revision: 00	Last Date Evaluated: 7-Sep-05		
Status: Active					
Event Title: Deinventory HEU from Assembly Area					
Type: <b>Risk</b> Internal		Category: Res/Cond			
Assess. Element: 11C.1		Title: K-Area Operation			
Responsible Org: -		Contact:	Date Identified: 7-Sep-05		
Statement of Event: The current plan is to deinventory all HEU from Assembly Area by 9/30/06. The risk is that there is a delay in deinventory and facility modifications are needed.					
Likelihood:	Likely	Basis: Based on past performance on ingots shipping schedule.			
Consequence / Benefit:	Marginal	Basis: Impact will require facility modifications for approximately \$1M. There will be a 1-2 year delay on shipping ingots and may require repackaging. Only the cost impact is at the PBS level.  Delay in 11B project scope (CSSC) can only be avoided by additional mods for alternate storage- it uses 3013 footprint.			
Most Significant Cost Impact (\$K): \$1,000		Most Significant Schedule Impact (M): N/A			
Level:	<b>Low</b>	Event Trigger: Schedule projects that all HEU will not be removed from Assembly Area by 9/30/06.			
Handling Strategy:	Mitigate	Description: Currently DOE is working to increase the priority of SSTs to accelerate shipments. This activity is already funded.			
HS Implementation Cost (\$K):		Basis: Activity is already funded.			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk: Even with SST support, receiving facility cannot take the shipments and the schedule is not achieved.					
Residual Likelihood:	Very Unlikely	Basis: No indications to date of receiving facility issues.			
Residual Consequence:	Marginal	Basis: No delay or small negligible schedule delay.			
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 917			<u>Most Likely</u> 1000	<u>Worst Case</u> 1422
Residual Schedule Impact (M):					
Impacted Scope of Work: Material movements from Assembly Area.					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>						
ID Number: 038		Revision: 00		Last Date Evaluated: 7-Sep-05		
Status: Active						
Event Title: Capability to respond to significant 3013 surveillance issues						
Type: <b>Risk</b> Internal			Category: Res/Cond			
Assess. Element: 11C.1		Title: K-Area Operation				
Responsible Org: -			Contact:	Date Identified: 7-Sep-05		
Statement of Event: The 3013s have been packaged to the DOE-STD-3013. This standard should provide safe interim storage without the need for repackaging. There is a risk that during the 3013 surveillance, and anomaly with extent of condition impact may require significant unplanned restabilization and repackaging. This additional repackaging effort would impact the yearly funding profile.						
Likelihood:	Very Unlikely	Basis: The 3013s have been packaged to the DOE-STD-3013. The DOE-STD-3013 provides a high level of confidence in the packaged materials and no issues are anticipated.				
Consequence / Benefit:	Marginal	Basis: If issues are identified, additional surveillance may be required to determine the extent of the condition, this could lead to a large number of the inventory requiring repackaging. The consequence of repackaging several hundred versus the very limited number currently anticipated. This repackaging will require restabilization of the materials and packaging. The yearly funding profile would have to be increased to allow these activities. For this PBS assessment, the consequence range is \$10M-\$20M.				
Most Significant Cost Impact (\$k): >\$10,000			Most Significant Schedule Impact (M): N/A			
Level:	<b>Low</b>	Event Trigger: Numerous surveillance issues are identified.				
Handling Strategy:	Accept	Description:				
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.				
HS Implementation Schedule (Wks):		Basis: N/A for Accept Handling Strategy.				
Other Handling Strategies:						
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.						
Residual Likelihood:	Very Unlikely	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.				
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:				
Residual Cost Impact (\$K):	<u>Best Case</u> 10000				<u>Most Likely</u> 15000	<u>Worst Case</u> 20000
Residual Schedule Impact (M):						
Impacted Scope of Work: Restabilization and repackaging Operations activities.						
Evaluation Comments:						
Event Comments:						

<b>Risk / Opportunity Assessment Form</b>			
ID Number: 039		Revision: 00	Last Date Evaluated: 7-Sep-05
Status: Active			
Event Title: Delay of FAMS Facility D&D			
Type: <b>Risk</b> Internal		Category: Design	
Assess. Element: 11C.2		Title: FAMS Operation	
Responsible Org: -		Contact:	Date Identified: 7-Sep-05
Statement of Event: Currently FAMS D&D is to start in 2006. There is a risk that D&D does not occur per the schedule plan and D&D is delayed for an extended time, requiring DSA upgrades (e.g. fire protection, seismic) to be implemented.			
Likelihood:	Unlikely	Basis: The current D&D schedule supports D&D in 2006. Site priority and funding is available to support this schedule.	
Consequence / Benefit:	Marginal	Basis: Approximately \$19M worth of FAMS upgrades have been identified (\$7M - fire protection, \$12M-seismic).	
Most Significant Cost Impact (\$k): \$19,000		Most Significant Schedule Impact (M): N/A	
Level:	<b>Low</b>	Event Trigger: Unavailability of funding and/or other site priorities to support 2006 D&D.	
Handling Strategy:	Accept	Description: Continue with current site priority and expedite facility deinventory.	
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept handling strategy.	
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept handling strategy.	
Other Handling Strategies:			
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.			
Residual Likelihood:	Unlikely	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.	
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:	
Residual Cost Impact (\$K):	<u>Best Case</u> 15833	<u>Most Likely</u> 19000	<u>Worst Case</u> 24542
Residual Schedule Impact (M):			
Impacted Scope of Work: FAMS D&D Schedule.			
Evaluation Comments:			
Event Comments:			

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 040		Revision: 00	Last Date Evaluated: 7-Sep-05						
Status: Active									
Event Title: Materials scheduled for H-Area disposition require alternate lag storage in K-Area									
Type: <b>Risk</b> Internal		Category: Res/Cond							
Assess. Element: 11C.2		Title: FAMS Operation							
Responsible Org: -		Contact:	Date Identified: 7-Sep-05						
Statement of Event: Currently, materials are shipped to H-Area for processing from FAMS. There is a risk that H-Area cannot take the material and K-Area must take the materials and provide interim storage. Additional repackaging in FAMS would also be required. When H-Area is available to receive and process, the materials would be sent from K-Area to H. Impact is schedule delay and additional handling.									
Likelihood:	Likely	Basis: Processing delays have been experienced.							
Consequence / Benefit:	Negligible	Basis: Increase PBS cost with new MOU, shipping procedures and labor to perform repackaging and shipments.							
Most Significant Cost Impact (\$k): \$100		Most Significant Schedule Impact (M): N/A							
Level:	<b>Low</b>	Event Trigger: H-Area processing schedule not met.							
Handling Strategy:	Mitigate	Description: Currently plans and funding are available to provide K-Area storage for materials. EA, DSA, design; currently designing in capability (i.e. 910B fan rooms modification)							
HS Implementation Cost (\$K):		Basis: Currently funded.							
HS Implementation Schedule (Wks):	N/A	Basis:							
Other Handling Strategies:									
Statement of Residual Risk: Storage and potential surveillance requirements are imposed.									
Residual Likelihood:	Very Unlikely	Basis: No different storage method, would be temporary storage.							
Residual Consequence:	Negligible	Basis: Add limited detection less than \$50k.							
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Best Case</u></td> <td style="text-align: center;"><u>Most Likely</u></td> <td style="text-align: center;"><u>Worst Case</u></td> </tr> <tr> <td style="text-align: center;">96</td> <td style="text-align: center;">100</td> <td style="text-align: center;">106</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	96	100	106
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
96	100	106							
Residual Schedule Impact (M):									
Impacted Scope of Work: K-Area.									
Evaluation Comments:									
Event Comments:									

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 041		Revision: 01	Last Date Evaluated: 1-Mar-06		Status: Active
Event Title: K-Area Fire Protection Upgrades					
Type: <b>Risk</b> Internal			Category: Design		
Assess. Element: 11C.1		Title: K-Area Operation			
Responsible Org: -			Contact:	Date Identified: 7-Sep-05	
Statement of Event: Currently, the phased implementation of fire protection modifications are not in the K-Area Operation scope and are not funded. There is a risk that DOE will require an upgraded fire protection and suppression system. This will require funding of this work from within the current budget, the scope of this work is expected to increase over the next five years.					
Likelihood:	Very Likely	Basis: DOE letter to implement upgrades is imminent.			
Consequence / Benefit:	Marginal	Basis: Currently \$10M is projected. The scope for the FY07-09 Fire Protection Projects include ... fire upgrades (includes; actuator tower cable removal for combustible materials, fire protection-suppression/detection/notification)			
Most Significant Cost Impact (\$k): \$10,000			Most Significant Schedule Impact (M): N/A		
Level:	<b>Moderate</b>	Event Trigger: Receipt of DOE letter of direction.			
Handling Strategy:	Accept	Description: Are currently developing a plan to implement pending DOE letter of direction.			
HS Implementation Cost (\$K):		Basis:			
HS Implementation Schedule (Wks):		Basis:			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Very Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 6451	<u>Most Likely</u> 7741	<u>Worst Case</u> 10000		
Residual Schedule Impact (M):					
Impacted Scope of Work:					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 042		Revision: 00	Last Date Evaluated: 28-Feb-06		
Status: Active					
Event Title: H-Completion Schedule impacts on K-Area Material Receipts					
Type: <b>Risk</b> External Programmatic		Category: Res/Cond			
Assess. Element: 11C.1		Title: K-Area Operation			
Responsible Org: -		Contact:	Date Identified: 28-Feb-06		
Statement of Event: K-area provides Category I storage for materials prior to H-Area processing. NNSA materials are planned to be received into K-area in the FY07-011 timeframe for processing through H-Area. If the H-Area processing schedule is delayed or reduced due to Tank Farm Waste Storage Limits, K-area will be required to provide additional storage to accommodate these materials or the schedule for NNSA shipments will be extended causing the NNSA facilities extend their operations. This risk is the K-Area Operations risk due to the PBS 11C Risk #29 "Waste Farm Waste Storage Limit Bound" on H-Completion Operations. This risk only addresses the K-Area Operations risk.					
Likelihood:	Likely	Basis: K-Area Category I storage capacity is limited. Materials must be removed (processed) to provide storage space for additional receipts.			
Consequence / Benefit:	Marginal	Basis: K-Area would require additional vaults to be built. The consequence only identifies K-Area impacts, impacts for continued NNSA facility operations are not included.			
Most Significant Cost Impact (\$k): \$4,000		Most Significant Schedule Impact (M):			
Level:	<b>Moderate</b>	Event Trigger: H-Operations are reduced and this impacts K-area's ability to remove materials and K-area Category Storage is not available to for new receipts.			
Handling Strategy:	Accept	Description:			
HS Implementation Cost (\$K):	N/A	Basis: N/A for Accept Handling Strategy.			
HS Implementation Schedule (Wks):	N/A	Basis: N/A for Accept Handling Strategy.			
Other Handling Strategies:					
Statement of Residual Risk: Same as initial evaluation for Accept handling strategy.					
Residual Likelihood:	Likely	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Consequence:	Marginal	Basis: Same as initial evaluation for Accept handling strategy.			
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:			
Residual Cost Impact (\$K):	<u>Best Case</u> 3225			<u>Most Likely</u> 3516	<u>Worst Case</u> 4000
Residual Schedule Impact (M):					
Impacted Scope of Work: K-Area Operations					
Evaluation Comments:					
Event Comments:					

<b>Risk / Opportunity Assessment Form</b>					
ID Number: 043		Revision: 00		Last Date Evaluated: 28-Jun-06	
Status: Active					
Event Title: F Canyon Not Funded for Loading, Shipment and Disposal of 25,000 depleted uranium oxide (DUO) drums.					
Type: <b>Risk</b>		Category: Res/Cond			
Assess. Element: 11B.1		Title: F-Area			
Responsible Org: -			Contact:	Date Identified: 28-Jun-06	
Statement of Event: Approximately 25,000 depleted uranium oxide (DUO) drums are stored on Site. Approximately \$10M is required for transportation and disposal of drums offsite. With nine months lead time to establish the transportation and disposal contracts and 20 full time people, all drums could be shipped within one year assuming 5 shipments a week could be supported by Envirocare. Failure to fund shipment/disposal requires prolonged maintenance of storage buildings of approximately \$10,000 per year and results in storage of drums on site and the potential of overpacking if drums deteriorate.					
Likelihood:	Likely	Basis: With tighter budgets each year the possibility likely exists that \$10M and 20 people for 1 year will not be available to support this effort			
Consequence / Benefit:	Significant	Basis:			
Most Significant Cost Impact (\$k): \$10,000 per year			Most Significant Schedule Impact (M):		
Level:	<b>Moderate</b>	Event Trigger:			
Handling Strategy:	Accept	Description: : Revise strategy to store the DUO drums long term on Site in maintained storage buildings with quarterly inspections for drum integrity and in-leakage of water.			
HS Implementation Cost (\$K):	N/A	Basis:			
HS Implementation Schedule (Wks):	N/A	Basis:			
Other Handling Strategies:					
Statement of Residual Risk:					
Residual Likelihood:	Likely	Basis:			
Residual Consequence:	Significant	Basis:			
Residual Risk Level:			Residual Impact Basis:		
Residual Cost Impact (\$K):	<u>Best Case</u> 8064	<u>Most Likely</u> 8790			<u>Worst Case</u> 10000
Residual Schedule Impact (M):					
Impacted Scope of Work:					
Evaluation Comments:					
Event Comments: Note: The residual risk is an ANNUAL cost and needs to be modeled appropriately					

<b>Risk / Opportunity Assessment Form</b>			
ID Number: 044		Revision: 00	Last Date Evaluated: 29-Jun-06
Status: Active			
Event Title: EM Pu Consolidation Impact of New Containers			
Type: <b>Risk</b> External Technical		Category: Res/Cond	
Assess. Element: 11C.1		Title: K-Area Operation	
Responsible Org: -		Contact:	Date Identified: 29-Jun-06
Statement of Event: New Containers may be employed to consolidate Excess Pu from the DOE Complex. If a new drum is used, new DSA and surveillance program costs could increase the PBS costs			
Likelihood:	Likely	Basis: Basis: Only a limited number of drums currently exist in the complex for this effort and new more space efficient containers are being certified currently.	
Consequence / Benefit:	Marginal	Basis: DSA impacts are a one time estimate of \$1M and surveillance program costs could exceed \$1M each year through the life cycle of the PBS	
Most Significant Cost Impact (\$k): \$15,000		Most Significant Schedule Impact (M): N/A	
Level:	<b>Moderate</b>	Event Trigger: DOE decision to utilize a new container design	
Handling Strategy:	Accept	Description: Await decision and funding if needed for new container impacts.	
HS Implementation Cost (\$K):	\$3M	Basis: To develop the DSA for storage and initiate the surveillance program will cost ~\$3M.	
HS Implementation Schedule (Wks):	52	Basis: DSA and surveillance program development will take approximately a year and be completed during use of existing inventory of current containers	
Other Handling Strategies: None			
Statement of Residual Risk: Same as event since accept			
Residual Likelihood:	Likely	Basis:	
Residual Consequence:	Significant	Basis:	
Residual Risk Level:	<b>Moderate</b>	Residual Impact Basis:	
Residual Cost Impact (\$K):	<u>Best Case</u> 8064	<u>Most Likely</u> 8790	<u>Worst Case</u> 10000
Residual Schedule Impact (M4):			
Impacted Scope of Work:			
Evaluation Comments:			
Event Comments:			

<b>Risk / Opportunity Assessment Form</b>									
ID Number: 045		Revision: 00	Last Date Evaluated: 29-Jun-06						
Status: Active									
Event Title: Potential Challenge to Storage Space for Interim Storage of NNSA Materials									
Type: <b>Risk</b> Internal Technical		Category: Res/Cond							
Assess. Element: 11B.4		Title: Design/Construct 3013 CSSC and Interim Surveillance Capability							
Responsible Org: -		Contact:	Date Identified: 29-Jun-06						
Statement of Event: Currently the 910B SNM Storage Vault is being established to store onsite materials associated with FAMS deinventory and 3013 Surveillance. It is likely that this vault will also be needed for interim storage of SNM from the NNSA complex which will be dispositioned in the H Area Complex. Because the vault is limited to ~250 storage positions, additional vault space modifications may be needed to meet NNSA shipment expectations.									
Likelihood:	Likely	Basis: It is likely that NNSA will want to deinventory orphan materials faster than the H processing rate.							
Consequence / Benefit:	Marginal	Basis: Impact to the PBS could exceed \$3M based on comparison to the recent 910B Vault project cost							
Most Significant Cost Impact (\$k): 10,000		Most Significant Schedule Impact (M): N/A							
Level:	<b>Moderate</b>	Event Trigger: NNSA desired Shipping rate not met							
Handling Strategy:	Mitigate	Description: Add project cost to enlarge vault space to accommodate additional NNSA materials,							
HS Implementation Cost (\$K):	\$5,000	Basis: Based on the 910B project cost and assumed escalation, \$5M is used to reflect a similar project.							
HS Implementation Schedule (Wks):	N/A	Basis: In the interim during project development, NNSA can ship on a rate commensurate with the H processing rate and use items which have alternate storage capability in the KAMS vault.							
Other Handling Strategies: Commercial shipments of NNSA material direct to H-Area is an alternative to OST shipments to optimize the H-Canyon processing and minimize 910 Fan Room Storage impacts.									
Statement of Residual Risk: If H processing outpaces NNSA shipments, H processing plan could be threatened.									
Residual Likelihood:	Unlikely	Basis: OST Shipments should be able to keep up with processing rates.							
Residual Consequence:	Marginal	Basis: H Complex alternate material processing would be required to ensure productivity is maintained.							
Residual Risk Level:	<b>Low</b>	Residual Impact Basis:							
Residual Cost Impact (\$K):	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>Best Case</u></td> <td style="text-align: center;"><u>Most Likely</u></td> <td style="text-align: center;"><u>Worst Case</u></td> </tr> <tr> <td style="text-align: center;">806</td> <td style="text-align: center;">879</td> <td style="text-align: center;">1000</td> </tr> </table>			<u>Best Case</u>	<u>Most Likely</u>	<u>Worst Case</u>	806	879	1000
<u>Best Case</u>	<u>Most Likely</u>			<u>Worst Case</u>					
806	879	1000							
Residual Schedule Impact (M):									
Impacted Scope of Work:									
Evaluation Comments:									
Event Comments:									

### APPENDIX D Risk Cross Reference

Old PBS	Old ID	Event ID	EventTitle
11B	003	003	Additional Processing Needs Extend H-Canyon Operation
11B	004	004	Major Interruption of Facility Operations resulting in shutdown or loss of processing capability
11B	005	005	Programmatic Issues
11B	006	006	Process Performance
11B	007	007	S&S Requirement Changes
11B	009	009	Availability of External Interfaces
11B	010	010	Pu Vitrification/Pu Alternate Disposition Materials of Construction
11B	012	012	Pu Vitrification/Pu Alternate Disposition Product Acceptability
11B	013	013	Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) after CD-2
11B	014	014	Pu Vitrification/Pu Alternate Disposition Inadequate Resources
11B	015	015	Pu Vitrification/Pu Alternate Disposition Funding Delay
11B	016	016	Pu Vitrification/Pu Alternate Disposition Feed Material
11B	017	017	Pu Vitrification/Pu Alternate Disposition NEPA Action
11B	018	018	3013 CSSC Requirement Changes after CD-2
11B	019	019	3013 CSSC Lack of Resources
11B	020	020	3013 CSSC Project Funding Delay
11B	022	022	K-Area Interim Surveillance (KIS) Extended Life
11B	023	023	K-Area Interim Surveillance (KIS) Requirement Changes
11B	New	024	H-Area impact on K-Area Interim Surveillance (KIS)
11B	New	025	Requirement Changes affecting Deactivation Endpoints and Surveillance and Monitoring (S&M)
11B	New	026	3013 CSSC Requirement Changes prior to CD-2
11B	New	027	Pu Vitrification/Pu Alternate Disposition Requirement Changes (Design/Construction) prior to CD-2
11B	New	028	F-Canyon Mission Change from Deactivation
11B	New	029	Tank Farm Waste Storage Limit Bound
11C	001	030	KIS Delay impacts 235-F
11C	002	031	Pu Vitrification/Pu Alternate Disposition Requirement Change impact to Operations Phase
11C	003	032	Pu Vitrification/ Pu Alternate Disposition Inadequate Resources - Operations Phase
11C	004	033	Pu Vitrification/Pu Alternate Disposition Funding Delay that impacts K-Area Operations
11C	005	034	Additional Pu Vitrification/Pu Alternate Disposition Feed Material that Impacts Operations
11C	006	035	Complete K-Area Facility mods to support storage of misc Pu from 235-F
11C	007	036	MC&A requirements may dictate need for Cf shuffler
11C	008	037	Deinventory HEU from Assembly Area
11C	009	038	Capability to respond to significant 3013 surveillance issues
11C	010	039	Delay of 235-F Facility D&D
11C	011	040	Materials scheduled for H-Area disposition require alternate lag storage in K-Area
11C	012	041	K-Area Fire Protection Upgrades
11C	013	042	H-Completion Schedule impacts on K-Area Material Receipts
11B	New	043	F Canyon Not Funded for Loading, Shipment and Disposal of 25,000 depleted uranium oxide (DUO) drums.
11C	New	044	Em Pu Consolidation Impact of New Containers
11B	New	045	Potential Challenge to Storage Space for Interim Storage of NNSA Materials