



U.S. DEPARTMENT OF  
**ENERGY**

# H-Canyon 3009 DSA Upgrade Status

**Presentation to the SRS CAB  
Nuclear Materials Committee  
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DOE-SR**



**EM** *Environmental Management*  
safety ♦ performance ♦ cleanup ♦ closure

# Acronyms

- **AC – Administrative Control**
- **ARRA – America Reinvestment and Recovery Act**
- **DSA – Documented Safety Analysis**
- **DNFSB – Defense Nuclear Facilities Safety Board**
- **DOE – Department of Energy**
- **GAO – Government Accountability Office**
- **LCO – Limiting Condition for Operations**
- **NMED – Nuclear Materials Engineering Division**
- **PAC – Protective Action Criteria**
- **SNF – Spent Nuclear Fuel**
- **SRNS – Savannah River Nuclear Solutions**
- **SRS – Savannah River Site**
- **SSC – System, Structure, Component**
- **TRU – Transuranic Waste**
- **TSR – Technical Safety Review**
- **UC – Uncertainty Calculation**



# *Chronology*

- Submitted for DOE review/approval 3/09
  - **New hazard, criticality, and accident analyses**
  - **Significant rewrite of DSA**
  - **No significant changes to TSR**
  
- Formal DOE review comments transmitted 9/09
  
- Currently working to resolve and incorporate review comments



# *DOE Review Comments*

- No comments called into question the validity of the underlying hazard and accident analysis or control selection.
  
- Comments primarily focused on:
  - **Level of detail in Chapter 2, 4 & TSR Bases**
  - **Linkage between hazard analyses, DSA and TSRs**
  
- Series of meetings held between SRNS and DOE-SR personnel in January to understand and resolve general DOE concerns with DSA Chapters 4 & 5 and TSR
  - **Reached conceptual agreement on level of detail in Chapters 4 & 5 and TSR Bases**
  - **Examples:**
    - **failure mode for loss of process signal**
    - **method used to establish LCO values**



# *DOE Review Comment Resolution*

- Revising DSA and TSR Bases to provide additional detail, e.g.,
  - Better definition of system boundaries
  - Better definition of TSR surveillance functional test methodology
  - Improve SSC information flow between DSA Chapters 2, 4, 5 & TSR Bases
  
- Evaluating credited loops that do not fail on loss of process signal with respect to feasibility of following options:
  - Modify loop to effect failsafe capability
  - Backfit existing instrumentation that provides loss of signal notification
  - Identify/justify compensatory measure if modification/backfit not feasible
  
- Evaluating two options relative to establishing LCO values:
  - Explicitly adjust Safety Analysis Value (SAV) to account for Instrument Uncertainty (UC) with reference to UC calculations in TSR Bases
  - Adjust SAV using informed qualitative approach, add new TSR AC to require Set Point Control Program that would implement UC calculations, provide reference to UC calculations in DSA Chapter 4



# *Path Forward*

- 3009 DSA upgrade is critical path to resuming spent fuel processing.
- Schedule under review for various options:
  - Range from August 2010 to January 2011
- Established joint DOE/SRNS reviews to facilitate completion.
- SRNS has established a daily team meeting to focus strictly on 3009 work scopes and schedule execution.

