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NRC Consultative Technical Evaluation Report for H Area Tank Farm Savannah River Site pursuant to Ronald W. Reagan National Defense Authorization Act of 2005

Presentation to

Savannah River Site Citizens Advisory Board

Waste Management Committee

June 10, 2014

by

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Background

- NRC's Role per NDAA

  - **Consultation as part of DOE WD**
  - Originally proposed on an individual tank basis
  - Consultation would have been on-going through 2020
  - Now on an aggregate tank farm basis
  - Current H Tank Farm (HTF) consultation will likely be the last

  - **NRC Monitoring will commence following WD**
  - In accordance with a combined FTF and HTF Monitoring Plan
  - Coordination with SCDHEC

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Consultation Chronology

- February 2013 -- DOE transmits draft basis and related performance assessment for HTF closure to NRC for review
- July 2013 – NRC transmits requests for additional information (RAIs) to DOE (many RAIs similar to those for FTF)
- November 2013, January 2014 – DOE responses to RAIs and follow up questions
- January 2014 until Now – NRC working on finalizing TER
- No changes in technical content
- Completing internal agency approval process

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Overview of TER

- Addresses three criteria specified in NDAA
  - whether or not repository disposal is required
  - removal of highly radioactive radionuclides to the maximum extent practical
  - ability to meet performance objectives specified in 10 CFR Part 61
- Findings and recommendations very similar to those in FTF TER
- Major differences
  - some HTF tanks are below ground water table
  - some HTF tanks have waste in annuli
  - some contamination has left primary containment (tank 16H)
- Findings and recommendations will become basis for NRC monitoring
- Anticipate TER public availability in June 2014

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Criterion 1

- Whether disposal in a geologic repository is required
- DOE posits in draft basis document that geologic disposal is not required
- NRC agrees there are no unique safety and security aspects of HTF that would require repository disposal if other criteria are met

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Criterion 2

- Removal of highly radioactive radionuclides to the maximum extent practical

- Key Review Results

  - DOE's approach to developing projected tank inventories is generally conservative
  - DOE's approach to developing final inventories after tank cleaning is reasonable
  - NRC believes some improvement in quantifying uncertainty is warranted
  - DOE should continue to evaluate efficiency of various tank cleaning technologies
  - DOE's process for identifying HRRs is reasonable

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Criterion 3

- Waste classification and ability to meet performance objectives
- Waste Classification-Class C or GTCC
- Performance Objectives

  - Protection of the general population from releases of radioactivity
  - Inadvertent intruder protection
  - Protection of workers and the public during operations
  - Long-term stability

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Criterion 3- continued

- Key Review Results

  - DOE's waste classification methodology is generally consistent with NRC guidance
  - DOE has reasonable exposure scenarios re: protection of the public
  - NRC notes uncertainty regarding projected releases and limited technical support for key barriers
  - DOE has reasonable exposure scenarios re: intruder protection; compliance tied to resolution of technical issues related to long-term protection of the public
  - DOE can demonstrate continued protection during operations
  - DOE should conduct additional analysis to demonstrate long-term stability

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Closing Thoughts

- Review results and recommendations are based on extensive NRC staff review of material provided by DOE as well as clarifying discussions in person and by phone

- NRC staff believes that it is important to resolve Criterion 2 concerns as soon as possible because Criterion 2 is not part of Monitoring per NDAA

- As with FTF, the NRC TER for HTF draws no specific conclusions regarding DOE's ability to meet the performance objectives

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QUESTIONS

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