



We do the right thing.

Tank Closure: Regulatory Framework

July 27, 2010

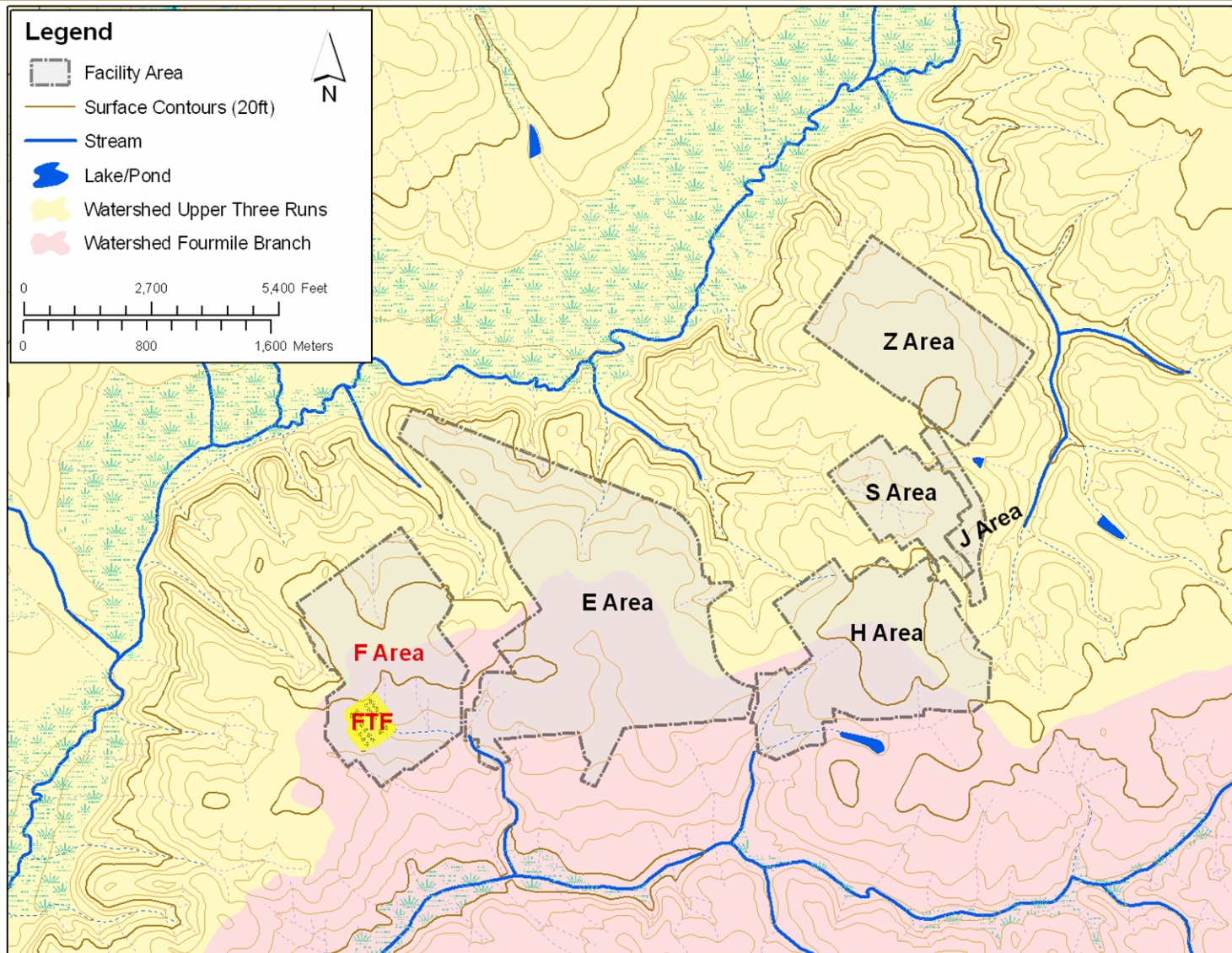
Virginia G. Dickert

Closure & Waste Disposal Authority

SRR-CWDA-2010-00092

Briefing to the Citizens Advisory Board

- **General description of F-Area Tank Farm**
- **Regulatory Framework and Documentation Required for Tank Closures**
- **Status of Documentation for Closure of next Two Tanks**



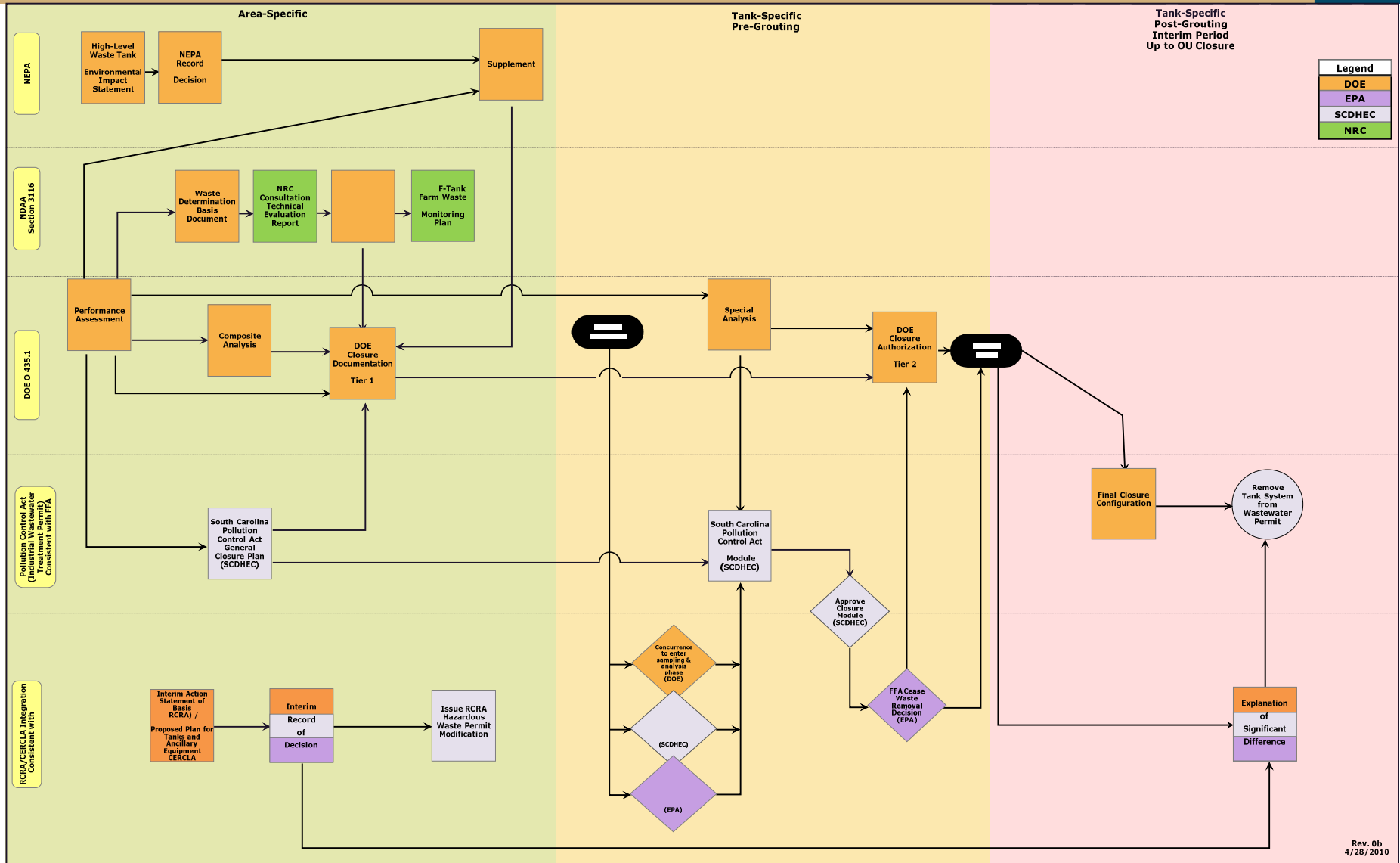
F-Tank Farm



F-Tank Farm at Closure



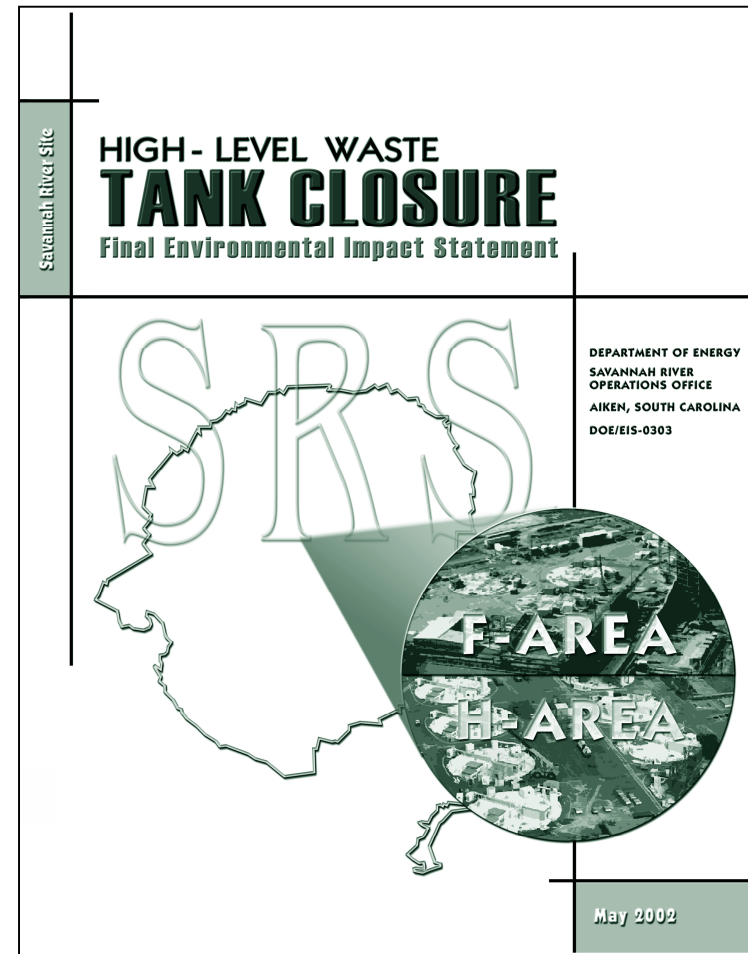
Regulatory Documentation Path



NEPA Requirements

National Environmental Policy Act (NEPA)

- Requires assessment of environmental impacts of Tank Closure alternatives and of residual material in tanks at closure
- Final Environmental Impact Statement issued May 2002
- DOE Record of Decision issued August 2002
- Supplement Analysis preparation complete; issuance pending approval of F-Tank Farm Performance Assessment



- Establishes a process through which the Secretary of Energy can determine that radioactive waste resulting from reprocessing of spent nuclear fuel is not “high-level radioactive waste”
- Applies to the residuals remaining in the SRS waste tanks at the time of stabilization (i.e., grouting)
- Requires consultation with the Nuclear Regulatory Commission (NRC)

- **Does not require permanent isolation in a deep geologic repository**
- **Had highly radioactive radionuclides removed to the maximum extent practical**
- **(A) Does not exceed concentration limits for Class C low-level waste and will be disposed of:**
 - In compliance with the performance objectives set out in Subpart C of 10 CFR 61
 - Pursuant to a State-approved closure plan or a State-approved permit
- **(B) Exceeds concentration limits for Class C low-level waste and will be disposed of:**
 - In compliance with the performance objectives set out in Subpart C of 10 CFR 61
 - Pursuant to a State-approved closure plan or a State-approved permit
 - Pursuant to plans developed by the Secretary in consultation with the NRC

NDAA §3116 Implementation

**Ronald W. Reagan
National Defense
Authorization Act
for Fiscal Year 2005
(NDAA)**

Section 3116 (a):

...Secretary of Energy in consultation with the Nuclear Regulatory Commission determines-

- 1) Does not require permanent isolation in a deep geologic repository
- 2) Has had highly radioactive radionuclides removed to the maximum extent practical
- 3) (A) Does not exceed concentration limits for Class C low-level waste and will be disposed of:
 - i) In compliance with the performance objectives set out in Subpart C of 10 CFR 61
 - (ii) Pursuant to a State-approved closure plan or a State-approved permit
- (B) Exceeds concentration limits for Class C low-level Waste ...

"Waste Determination"

Section 3116 (b):

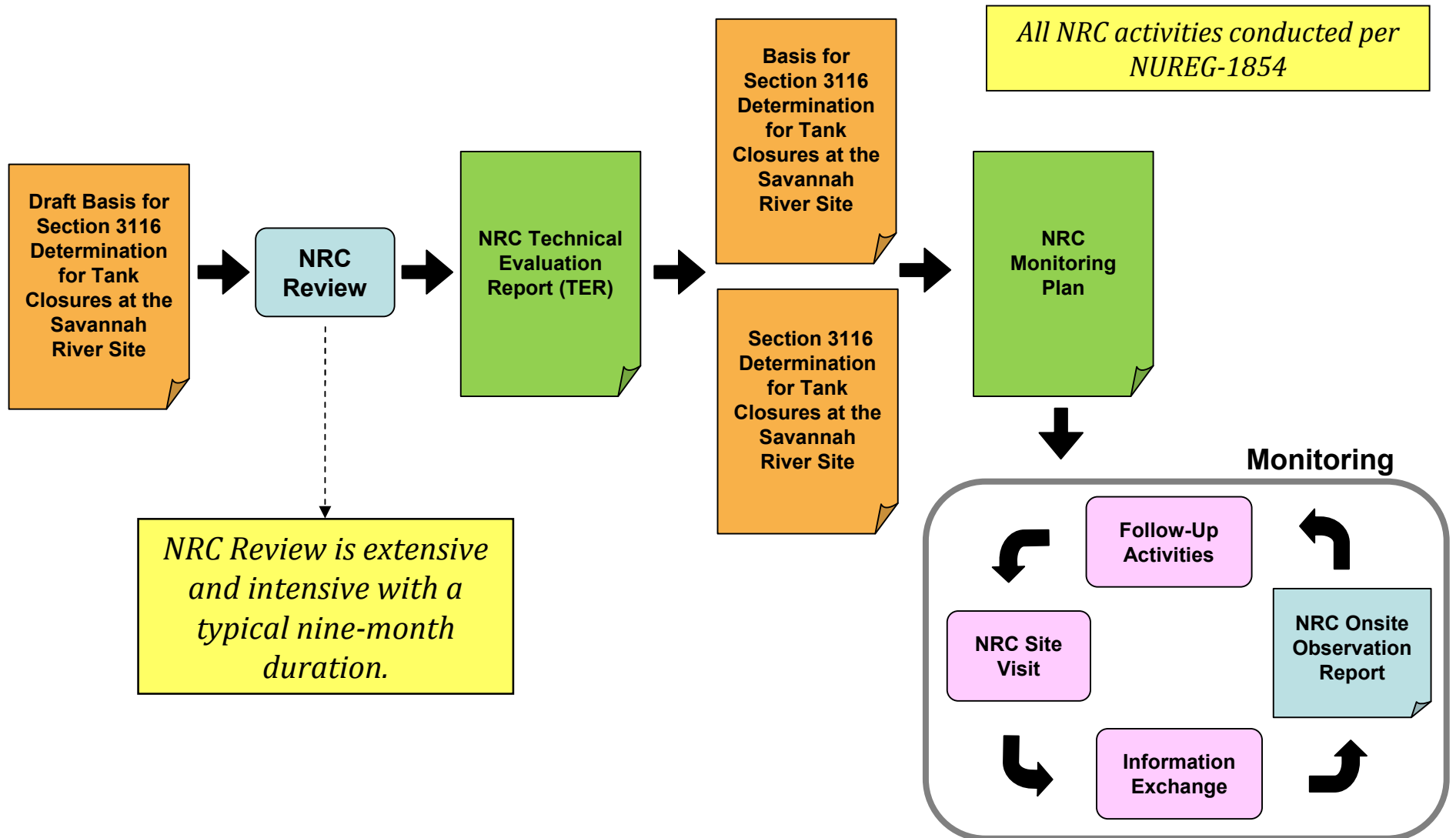
Monitoring by Nuclear Regulatory Commission

- 1) The Commission shall, in coordination with Covered State, monitor disposal actions.....
- 2) If the Commission considers any disposal actions...to be not in compliance...inform DOE, the Covered State, and following congressional committees...

NRC Onsite Observations

NRC Technical Reviews

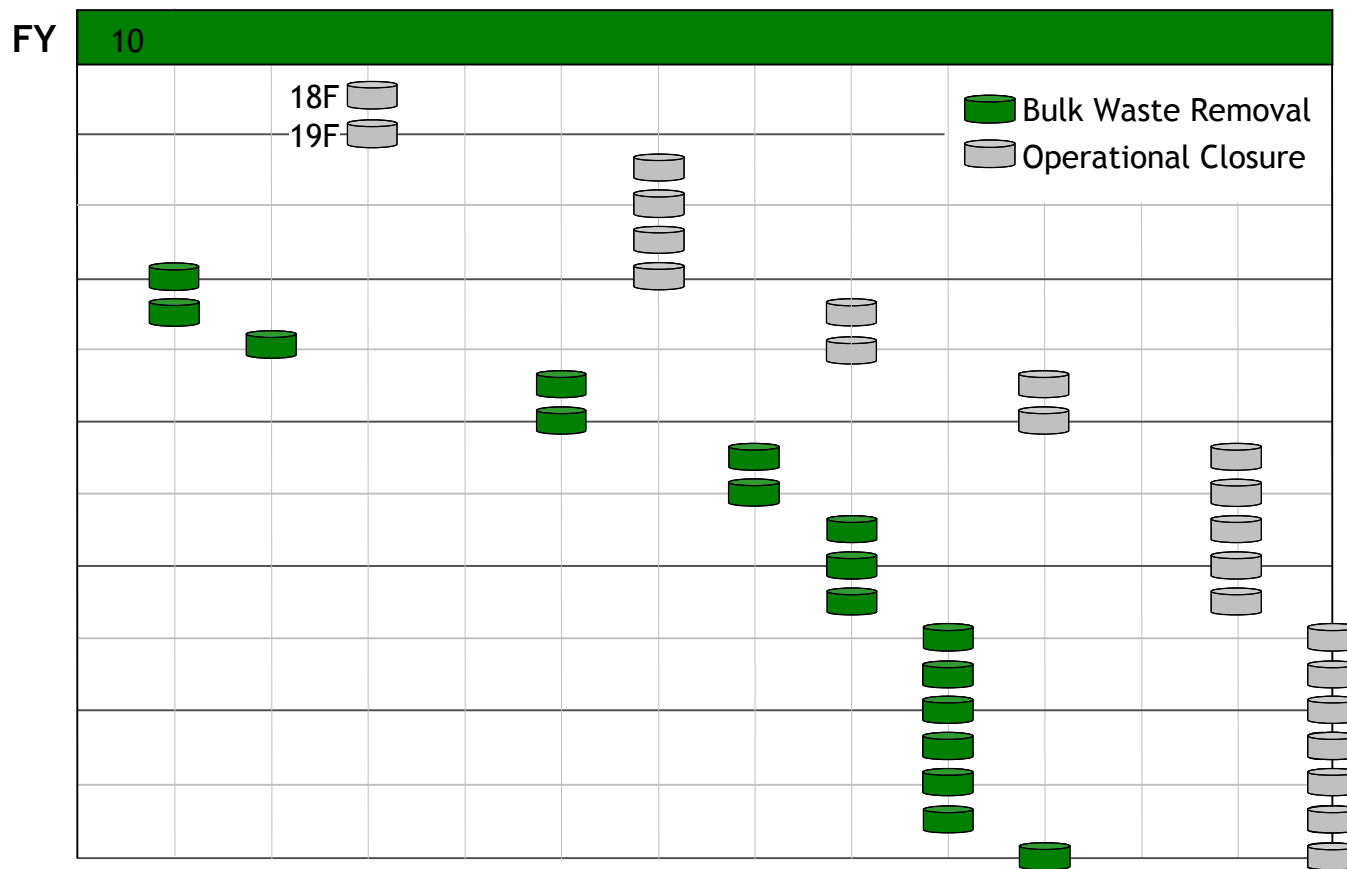
NDAA §3116 Documents



- DOE Order 435.1-1, DOE Manual 435.1-1, and associated Implementation Guide define requirements for management and closure of DOE's radioactive waste facilities
- Composite Analysis: assesses combined impact of multiple facilities within SRS
- Tier 1: Defines parameters, approach, and plans for FTF closure activities
- Special Analysis: Verifies closure activity satisfies performance objectives using final residual characterization data
- Tier 2: Demonstrates Tier 1 and State criteria have been met and authorizes grouting

- Federal Facility Agreement (FFA) Section IX addresses *High-Level Radioactive Waste Tank System(s)*
 - Provides for the removal of “**all**” residuals from system or requires DOE to demonstrate that such removal is not “**practicable**”
 - Establishes the completion schedule for the following operational closure activities for all non-compliant tanks:
 - Bulk waste removal on a tank-by-tank basis
 - Operational closure on a tank-by-tank basis
 - Submittal of performance assessments for each tank farm
 - Requires agreement among DOE, SCDHEC, and EPA to cease waste removal activities in each tank

Bulk Waste Removal and Operational Closure Commitments



- General Closure Plan:
 - Identifies Federal and State requirements and method for compliance
 - Describes methodology for determining impacts of each closure action such that closure of all FTF systems remains compliant
 - Describes specific documentation to detail closure activities and the review/approval process to obtain closure authorization
- Closure Module
 - Provides tank system-specific closure information
 - Demonstrates compliance with FFA and SC Pollution Control Act requirements

- Single performance assessment (PA) serves as backbone for demonstrating compliance with all performance objectives
- PA = a key risk assessment tool used to inform closure and disposal decisions
 - Models fate and transport of materials over long periods of time to determine potential consequences
 - Utilizes informed assumptions
 - Provides most likely consequences of planned actions
- Provides best estimation of what the dose consequences will be, both chemical and radiological, over time
- Reflects uncertainty and identifies key parameters for which the model has the greatest sensitivity (importance)

- Interim Record of Decision: Defines monitoring and maintenance requirements for the interim period between tank grouting and area closure
- Explanation of Significant Difference: Applies those interim requirements to each tank system when grouting is complete

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