U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Integrating Regulatory Drivers

Presentation for the Citizens Advisory Board
Facilities Disposition & Soil Remediation Sub Committee
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Acronyms

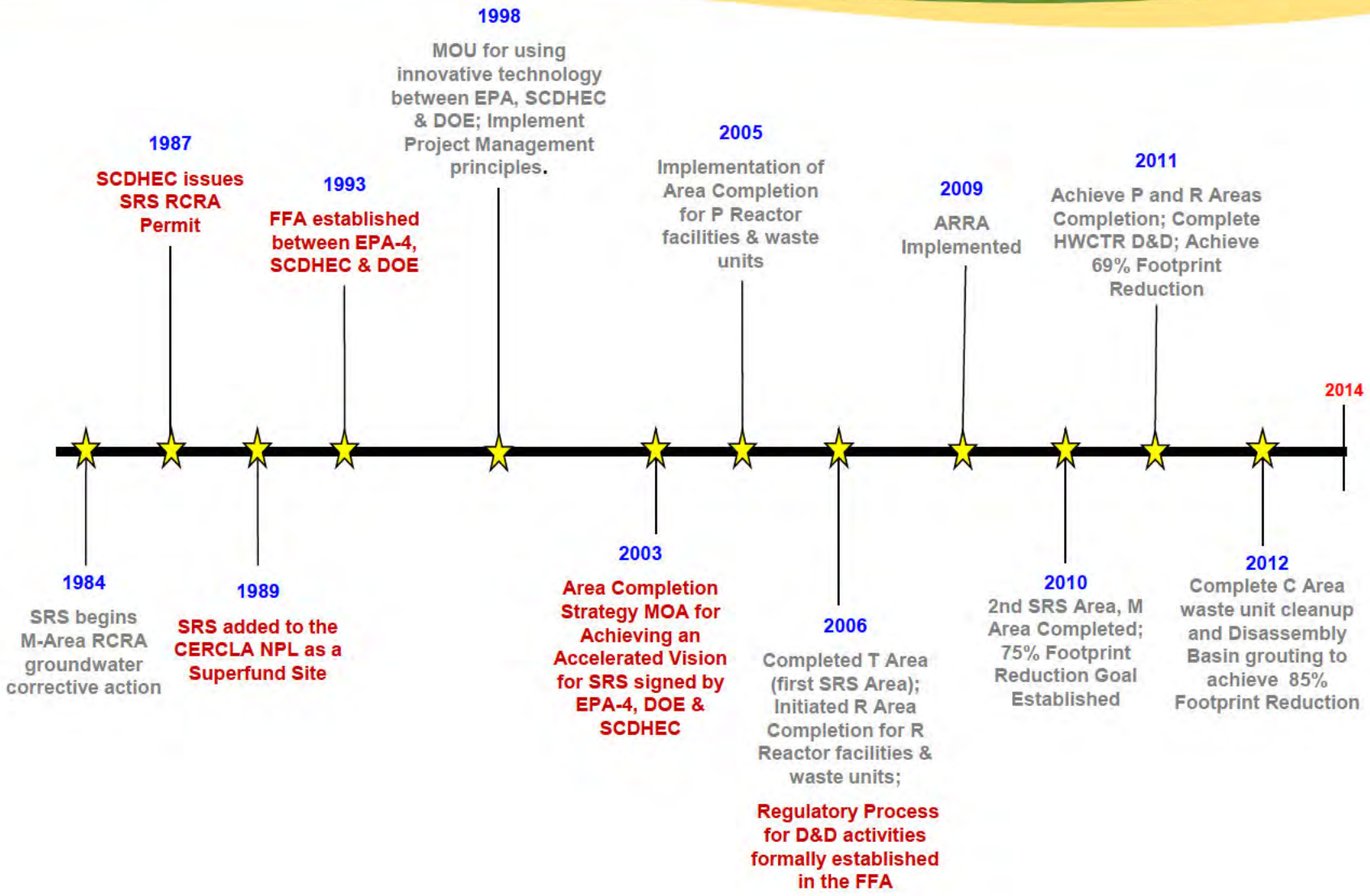
- **ARRA: American Recovery & Reinvestment Act**
- **CAP: Corrective Action Plan**
- **CAA: Clean Air Act of 1963** – Regulates ambient air quality and sets emission standards for hazardous air pollutants.
- **CWA: Clean Water Act of 1972** – Regulates water quality, wetlands, and wastewater discharges through the National Pollutant Discharge Elimination System (NPDES) permitting program.
- **CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980** (also known as the Superfund statute) – Provides for the cleanup of abandoned and uncontrolled waste sites and the response to releases of hazardous substances to the environment. SRS was added to the National Priorities List (NPL) in 1989.
- **D&D: Deactivation & Decommissioning**
- **DWPF: Defense Waste Processing Facility**
- **DOE & DOE-HQ: Department of Energy – Headquarters**
- **EPA: Environmental Protection Agency**
- **ETF: Effluent Treatment Facility**
- **FFA: Federal Facility Agreement** – A negotiated agreement between EPA, SCDHEC and DOE that is required by CERCLA and governs the cleanup of a federal facility. The FFA was effective in 1993.
- **FY: Fiscal Year**
- **GW: Groundwater**
- **HW/MW: Hazardous Waste / Mixed Waste**
- **HWMF: Hazardous Waste Management Facility**
- **HLW: High Level Waste**
- **MOA: Memorandum of Agreement**

Acronyms, continued

- **MWMF: Mixed Waste Management Facility**
- **NOD: Notice of Deficiency**
- **NPL: National Priorities List**
- **NPDES: National Pollutant Discharge Elimination System**
- **PCB: Polychlorinated Biphenyl** – an organic chemical pollutant formerly used for cooling or heat transfer
- **RCRA: Resource Conservation and Recovery Act of 1976** – Regulates the management of solid waste (including the treatment, storage, and disposal of hazardous waste), and promotes the reduction of hazardous waste land disposal and cleanup of abandoned waste sites.
- **ROD: Record of Decision**
- **S&G: Soils & Groundwater**
- **SDWA: Safe Drinking Water Act of 1974** – Protects water supplies and regulates drinking water quality limits associated with health risks and color, taste, and odor.
- **SWMU: Solid Waste Management Facility**
- **SCDHEC: South Carolina Department of Health and Environmental Control**
- **SRS: Savannah River Site**
- **T/S/D: Treatment, Storage, Disposal**
- **TSCA: Toxic Substances Control Act of 1976** – Regulates the management of asbestos and PCBs, and the manufacture, use, and disposal of chemical substances and mixtures manufactured, processed, and distributed in commerce.
- **USACE: US Army Corps of Engineers**

Groups involved in SRS Cleanup

Milestones


1984
SRS begins M-Area RCRA groundwater corrective action
1987
SCDHEC issues SRS RCRA Permit
1989
SRS added to the CERCLA NPL as a Superfund Site
1993
FFA established between EPA-4, SCDHEC & DOE
1998
MOU for using innovative technology between EPA, SCDHEC & DOE; Implement Project Management principles.
2003
Area Completion Strategy MOA for Achieving an Accelerated Vision for SRS signed by EPA-4, DOE & SCDHEC
2005
Implementation of Area Completion for P Reactor facilities & waste units
2006
Completed T Area (first SRS Area); Initiated R Area Completion for R Reactor facilities & waste units;
Regulatory Process for D&D activities formally established in the FFA
2009
ARRA Implemented
2010
2nd SRS Area, M Area Completed; 75% Footprint Reduction Goal Established
2011
Achieve P and R Areas Completion; Complete HWCTR D&D; Achieve 69% Footprint Reduction
2012
Complete C Area waste unit cleanup and Disassembly Basin grouting to achieve 85% Footprint Reduction
2014

Major Environmental Laws

CERCLA (1980)

EPA

Federal Facility Agreement

FFA contains process for addressing 515 inactive waste sites through the SRS Environmental Restoration Program

FFA Appendix H.1 lists those facilities that remain regulated under RCRA and will undergo RCRA corrective actions that will be evaluated for adequacy under CERCLA

FFA contains requirements for preventing environmental releases by removing HLW from old style tanks per schedule and closure of the tanks by 2022

RCRA (1976)

DHEC

PROMOTE PROTECT PROSPER

Permits

SCDHEC uses RCRA Part B permit to regulate hazardous waste T/S/D facilities:

- Storage: Permitted HW/MW storage facilities located in E-Area
- Disposal: Contaminated soil and GW units (e.g., F&H, A/M, MWMF, Met Lab, SLF)

Integrated cleanup from CERCLA program

SCDHEC also uses permits to regulate--

- Solid waste landfills
- Underground storage tanks

DWPF/Tank Farms are permitted using option of RCRA deferral to CWA

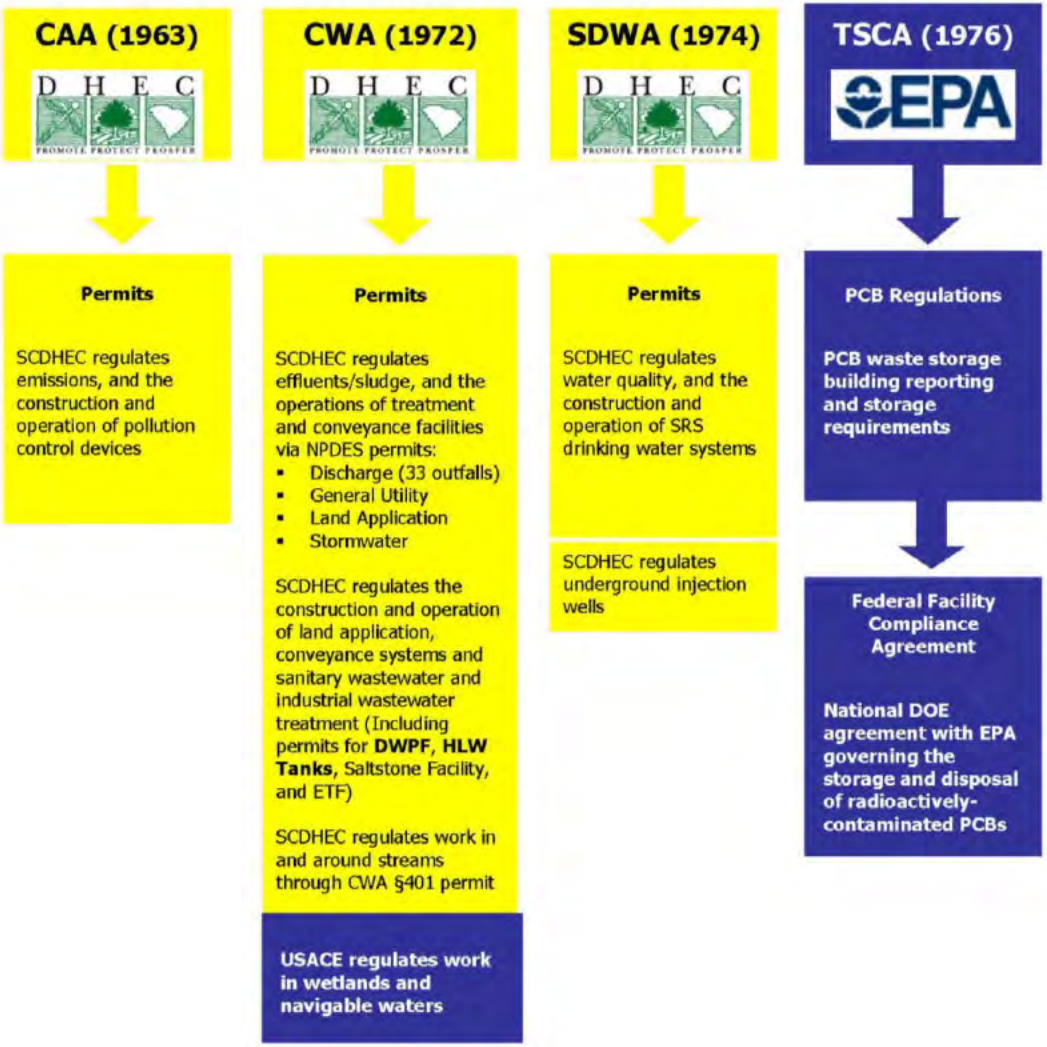
Site Treatment Plan

Federal Facility Compliance Act of 1992 amended RCRA to govern MW at DOE facilities

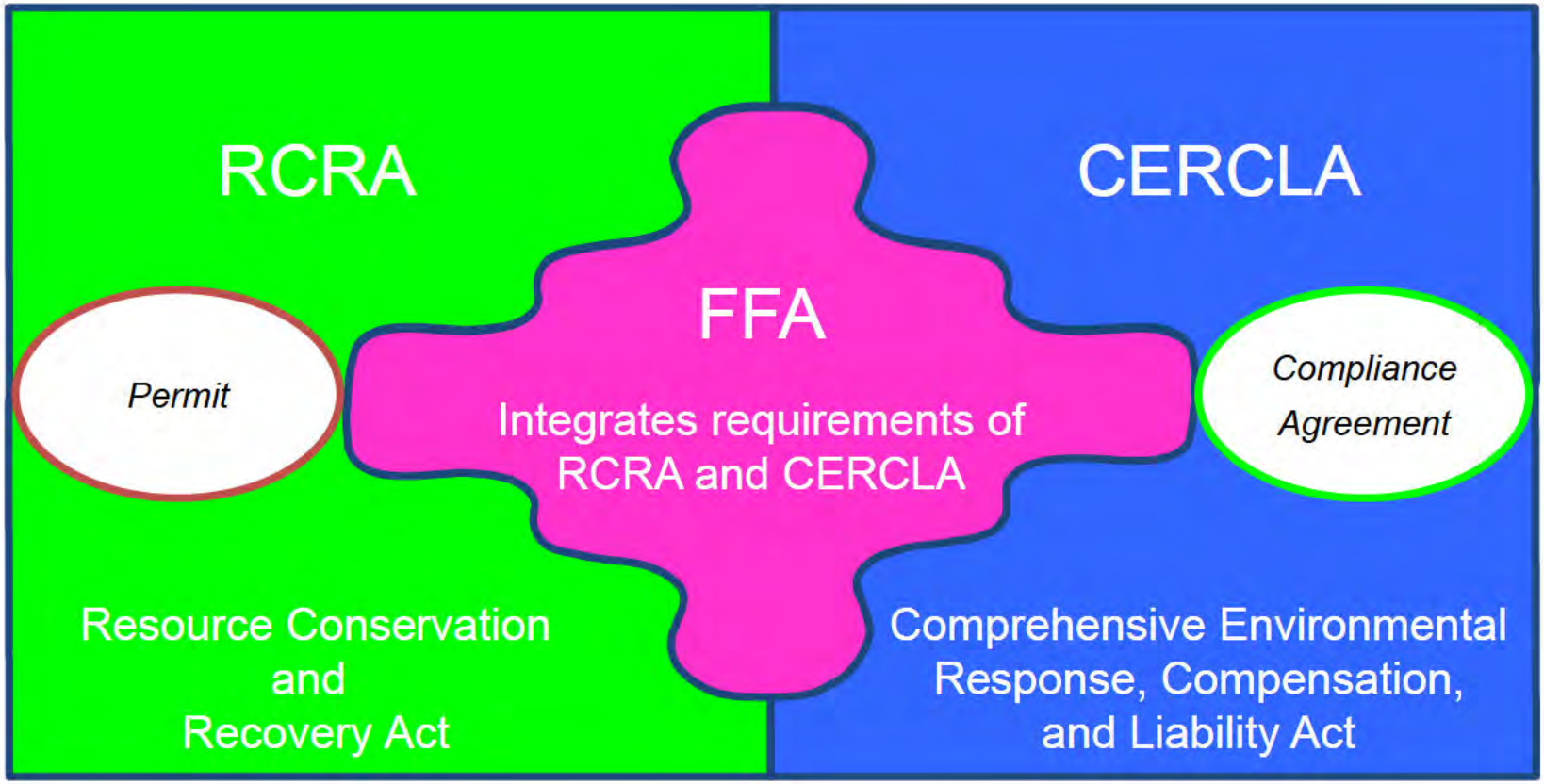
STP contains list of MW streams, SRS treatment plans, and requires--

- Removal and treatment (vitrification) of HLW inventory by 2028
- Treatment of the other MW streams

Major Environmental Laws (continued)



Cleanup Program Drivers



Resource Conservation and Recovery Act (RCRA)

- **Regulates the management of both hazardous and** non-hazardous waste
  - Provides corrective actions for releases of hazardous waste or hazardous constituents (chemicals, not radionuclides)
- **Authority to administer RCRA delegated to SCDHEC by EPA**
- **SCDHEC issued SRS RCRA Permit and addresses:**
  - Post closure care and maintenance of closed RCRA hazardous waste management facilities (e.g. A/M/Metallurgical Laboratory, F-Area Seepage Basin, H-Area Seepage Basin, Mixed Waste Management Facility and Sanitary Landfill HWMFs)
  - RCRA Solid Waste Management Units (SWMUs) (e.g. waste units)
    - Addressed through FFA Process
    - RCRA permit inclusive of all remedial decisions reached for SWMUs

RCRA Permit Renewal Process

- **Permit Renewal Application/Major Modification to Existing Permit**
  - Corrective Action Plan (CAP)
- **Reviewed by SCDHEC**
  - No set time tables for review
- **SCDHEC determines it is complete or issues NOD**
- **SCDHEC issues draft permit after application is complete**
- **45 day public comment period**
  - www.scdhec.gov/environment/admin/htm/eqpubnot.htm
- **Final permit issued**

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- **Protects human health and the environment from releases or threatened releases of hazardous substances (radionuclides and chemicals)**
- **Requires a Federal Facility Agreement (FFA) for federal facilities listed on NPL**
- **Cleanup actions contained within CERCLA Records of Decision (RODs)**
  - Document signed by EPA, DOE and SCDHEC documenting cleanup decisions
  - Legally-binding documents

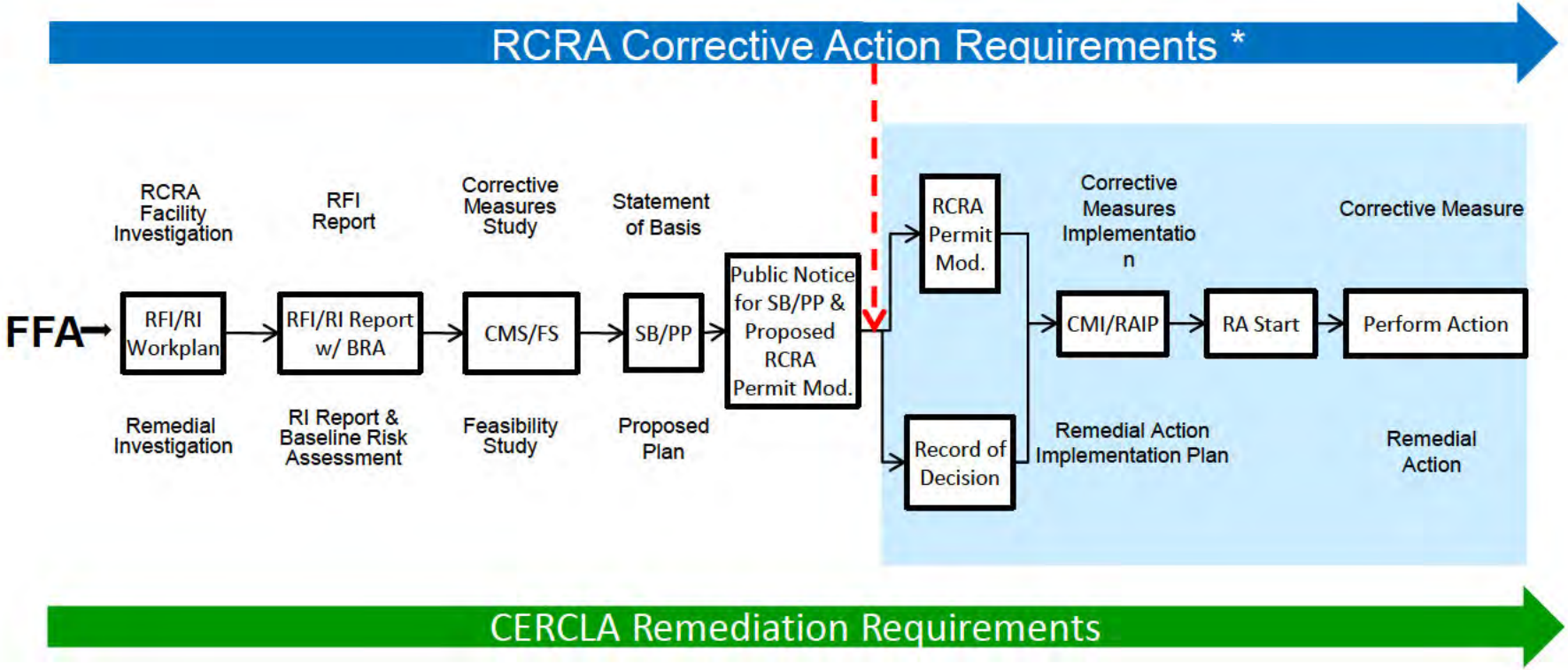
Federal Facility Agreement Scope

- **A tri-party agreement was executed in 1993 between EPA, SCDHEC, and DOE**
  - Directs the characterization and remediation of 515 units (e.g., basins, pits, piles where waste has been placed) and any new releases
  - *Integrates RCRA and CERCLA cleanup requirements*
  - Includes cleanup milestone schedules for waste units through Fiscal Year 2042 (FY42) (formerly FY31)
  - Includes waste removal and closure milestones for 23 old style high level waste tanks (6 already closed)

FFA Key Sections

- RCRA / CERCLA integration
- High Level Radioactive Waste (HLW) Tank Systems
- Administrative Record
- Decommissioning Facilities
- Area Operable Units
- Public Participation
- Funding
- Dispute Resolution

RCRA / CERCLA Integration



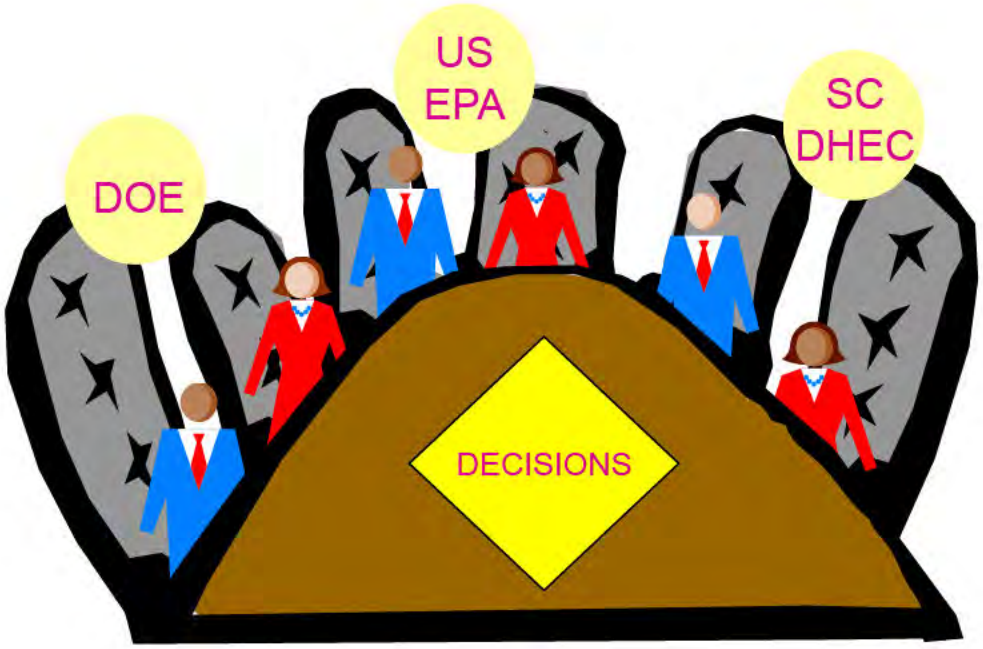
*** SCDHEC has the right to invoke its authority to require corrective action in accordance with the South Carolina Hazardous Waste Management Act if the FFA dispute process has been exhausted. (FFA Section XLIV.D)**

SRS Environmental Permits

Type of Permit	Number of Permits
Air	7
USACE—Section 10, Rivers & Harbors Act of 1899	1
USACE Nationwide Permit	4
USACE—404 Permit (Dredge and Fill)	1
Asbestos Demolition/Abatement	27
Domestic Water	222
Industrial Wastewater	77
NPDES Discharge	3
NPDES No Discharge	1
NPDES General Utility Water Permit	1
Stormwater Discharge	1
Construction Stormwater Grading Permit	8
RCRA Hazardous Waste	1
RCRA Solid Waste	4
RCRA Underground Storage Tank	7
Sanitary Wastewater	121
SC Department of Natural Resources Scientific Collecting Permit	1
SCDHEC 401	2
SCDHEC Navigable Waters	1
Underground Injection Control	28
Total	518

Core Team Process

SRS is held up as the model in the DOE Complex for implementing a cleanup program with decisions that are technically risk-driven, cost effective and achieve incremental progress



Process Outcome

After decisions are made, these decisions are documented and parties work diligently to uphold.

Area Completion Approach

- **In 2005, began implementing Area Completion Approach**
- **A systematic approach to completing cleanup work integrating Deactivation & Decommissioning (D&D) and Soils and Groundwater (S&G) scope**
- **Historical process:**
  - Did not focus on any single area
  - Evaluated individual waste units (some located in remote areas) with much paperwork and higher costs
  - Did not address D&D facilities
- **Today's process:**
  - Addresses groupings of waste units and facilities in 15 geographic areas
  - Integrates facilities / waste unit cleanup
  - Area End States determined up front with the regulators
  - Economies of scale in sampling, remediation and documentation (one set of documents for each of the 15 areas)

Summary

- **EPA, SCDHEC and DOE work collaboratively to develop and implement sound remediation approaches**
- **FFA allows for effective integration of complex regulatory laws without duplicative effort and paperwork**
- **SRS cleanup program ensures protectiveness of off-site communities**
  - Groundwater
  - Operating facilities

QUESTIONS??