Department of Energy - Savannah River Site
Common Infrastructure Challenges

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Purpose and Basic Definitions

- **Purpose:** Provide an overview of how DOE-SR manages and maintains Savannah River Site’s Common Infrastructure

- **Basic Definitions:**
  - **Infrastructure:** Natural or manmade physical structures and supporting equipment that is necessary to accomplish a defined mission or specific purpose
  - **Common Infrastructure:** Infrastructure that supports one or more missions, tenants, or DOE organizations
Mission Specific (Program) Infrastructure:  
Dedicated to a specific DOE mission or task

Common Infrastructure:

**Basic Common Infrastructure:**  
Maintenance of Site common infrastructure  
(examples: common use facilities, administrative facilities, roads, parking areas, and bridges .... )

**Utilities:**  
Common Infrastructure that provides utility commodities in support of more than one Site tenant  
(examples: electrical distribution, domestic water, steam, sanitary waste ....)

**Service Centers:**  
Common Infrastructure that enables a critical service in supports of more than one Site tenant  
(examples: IT services, radios, telephones ....)
SRS Common Infrastructure Snapshot – Critical Systems

- **64 Miles High Voltage Transmission Lines**
- **9 Substations**
- **2 High Hazard DAMS** (7 Small DAMS)
- **2 Chilled Water Plants**
- **3 Service Water Systems**
- **119 MILES PAVED ROADS**
- **180 Miles Electric Distribution**
- **310 sq miles of land area** Larger than the DC Beltway
- **2 Million Gallons/day Domestic Water Plants**
- **1500 Fire Hydrants**
- **58 Miles** Sanitary Waste
- **33 Miles RR Track**
- **5 Biomass Steam Plants**
- **3 Locomotives**
- **58 Miles**

- **44 Common Facilities**
  - Shops
  - EOC/SRSOC
  - Admin

- **1 River Water System**
  - **30,000 gpm Max**
  - **7500 gpm Normal**

- **Distance from Washington to Philadelphia**
Savannah River is in dire need of recapitalization.

Savannah River Site Common Infrastructure Challenge

Age of SRS Infrastructure

- 18% > 50 Years
- 27% 30-50 Years
- 43% 15-30 Years
- 12% < 15 Years
Savannah River Site Common Infrastructure Identification and Prioritization Tools

- Condition Assessment Information System and Facility Information Management System (FIMS)
- SRS Real Property Five-Year Plan
- SRS: System Health Reports and Dashboard
- SRS: Master Infrastructure List (MIL)
  - Unfunded Project Priority List
  - Integrated Program and Common
  - Increased use for funding decisions
The 5-Year Common Infrastructure Improvement Plan

The Fiscal Year Common Infrastructure Improvement Plan (upcoming FY)

The Fiscal Year Infrastructure Improvement Plan Execution Output (current FY)

SRS COMMON INFRASTRUCTURE ANNUAL PLANNING CYCLE

Due December

Due September

Due September
The budgeting and funding mechanism to resource specific DOE-SRS programs that are contained within the DOE-Environmental Management Work Breakdown Structure (PBS 14 – Liquid Waste Disposition, PBS 30 – Soil and Water Remediation, ...).

Utilities and Services

DOE-SR Establishes Set Rates for consumption or use

Common Infrastructure

Utilities (Pool) (commodity and infrastructure)

Services (Pool) (service and infrastructure)
Savannah River Site Common Infrastructure Strategies

- **Common Infrastructure Right-Sizing**
  - River Water Valve House Right Sizing Example, Section 1

- **Innovative Solutions** –
  - SCE&G – High Voltage Transmission Recapitalization
  - Energy Saving Performance Contracts
  - Partnerships (SRSCRO)

- **Invest Efficiency Savings**
  - High Voltage Insulator Replacement
  - Road F Repaving
  - Sustainable (Cool) Roof Replacement over Admin Facility
Savannah River Site Common Infrastructure Progress

Common Infrastructure System Health Reports

February 2013

July 2018

SNAPSHOTS
Common Infrastructure Planning and Budgeting

Maintaining the Delicate Balance ...

- Short Term Needs
- Mission Tasks
- Requirements
- Long Term Viability
- Affordability
- Support Necessities

Risks
Unknowns
Savannah River Site Common Infrastructure Immediate Challenges

- **Common Administrative Facilities** – Maintenance of safe, comfortable, and environmentally controllable facilities and workspaces
  - Maintenance and Replacement of roofs
  - Maintenance, balancing, and replacement of HVAC systems
  - General Building conditions: functionality, health, and aesthetics (interiors and exteriors)
  - Replacement of aging fire alarm and suppression systems

- **Maintenance of Transportation Network**
  - Re-pavement of failing roadway surfaces
  - Parking area maintenance

- **Electrical Distribution System**
  - Maintenance
  - Modernization

- **Energy (and maintenance) Efficiencies**
  - Lighting conversions to LED
  - Modernization of HVAC systems
  - Right Sizing utilities to meet current and future missions

- **Integrated Maintenance Management System** (Work Control, Work Packages, Procurements, Financials, Preventive Maintenance, Scheduling, Metrics)
Consistent Resourcing ($)

- Realistic Planning
- Disciplined Execution
- Innovative Management
- Skilled Workforce

Safe, Efficient, and Durable Common Infrastructure that enables SRS to meet current and future mission needs