

## **Santee Cooper IRP Stakeholder Process 2024-2026**

### **Coal Retirement Technical Meeting #4 – Meeting Summary**

Date: 4/30/2026

Time: 10:03 AM – 10:32 AM EDT

Location: Virtual Meeting via Zoom, Vanry Associates hosting

### **Topics and Presenters**

#### **Technical Session – Coal Retirement Study**

*Will Brown, Manager Resource Planning, Santee Cooper  
Bob Davis, Executive Consultant, nFront Consulting*

Will Brown opened the meeting by introducing Weijian Cong from Transmission Planning to review the Transmission analysis performed for the Coal Retirement Study. Weijian reminded everyone of the Cross retirement methodology, the process for establishing the portfolio scenarios to conduct the transmission studies. Weijian then reviewed the scenarios for Full Cross Retirement, Partial Cross Retirement (units 1&2) and the specific breakdowns of the resource mix. The group discussed the specifics of the scenarios and assumptions that went into the analysis. Weijian then reviewed the power flow and dynamic/stability analysis assessments that were completed and the results. Will explained that the retirement study will align with the 2026 Integrated Resource Plan (IRP) analysis and provides the opportunity to utilize the same assumptions, including the 2026 Load Forecast. Will then reviewed the portfolio evaluation approach, portfolio simulation, avoided Cross costs, and incurred Transmission upgrades. The slide deck presented at the meeting is attached for reference.

### **Meeting Action Items**

The following is a summary of action items, with status updates where applicable, agreed to at the close of the meeting.

<b>ACTION ITEMS</b>	<b>RESPONSIBLE PARTY</b>
Consider what cost and information can be shared at the next working group meeting related to the coal retirement analysis for the supporting transmission studies	Resource Planning
Resource Planning committed to discuss the avoided planned maintenance costs for retiring facilities with the Santee Cooper Generation group	Resource Planning



# Santee Cooper Resource Planning

Coal Retirement Technical Meeting #4  
April 30, 2026

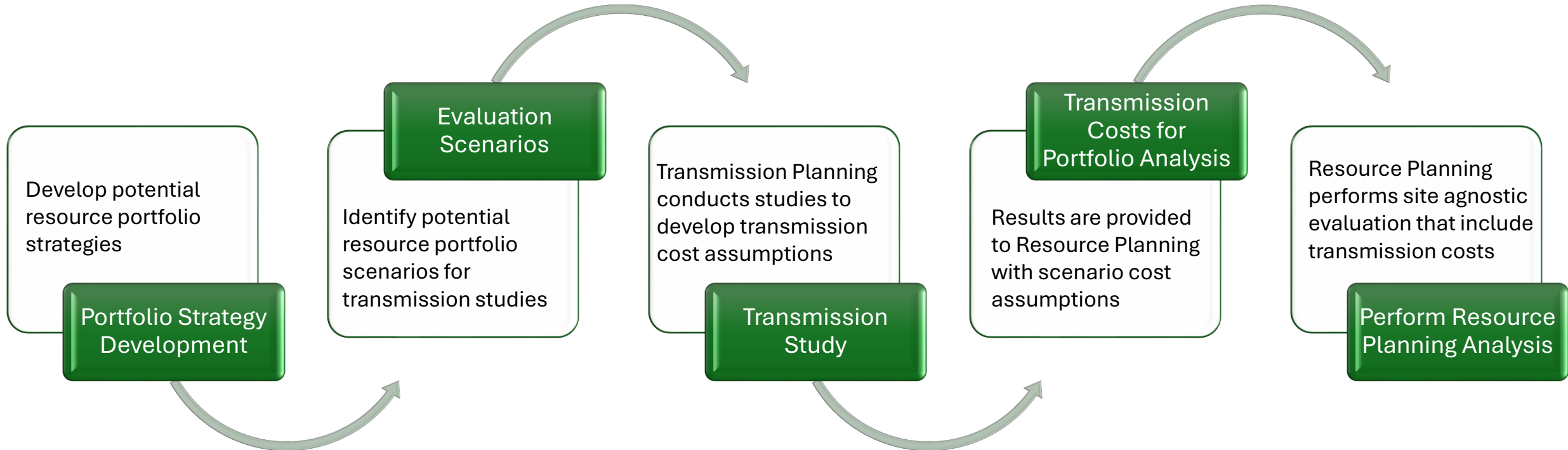


# Transmission Planning

Weijian Cong, Senior Manager Transmission Planning

# Cross Retirement Methodology

The methodology will utilize the typical process for establishing portfolio scenarios, requesting transmission studies, and resource planning



- All scenarios assumed Winyah Retired and Joint Build Canadys
- Partial Cross Retirement by 1/2035 – Retired 2 units
  - No Cross retirement base case (for comparison)
  - Optimized
  - Allow Peaking, Relaxed Renewables
  - Nuclear & Peaking (add equivalent SMR generation at Cross)
- Full Cross Retirement by 1/2035 – Retired all 4 units
  - No Cross retirement base case (for comparison)
  - Optimized
  - Allow Peaking, Relaxed Renewables
  - Nuclear & Peaking (add equivalent SMR generation at Cross)

# Partial Cross Retirement Transmission Modeling



Type/Location	NGCC	CT	BESS	Solar	Wind	Nuclear	Coal
<b>No Cross Retirement</b>							
Winyah							-1150
MB		-65					
HH		-100					
Canadys (50% three 1x1 CC)	1020						
Hampton 7HA.02		447					
Hampton 7HA.02		447					
SW SC 7FA.05		256					
BESS (DISIS Queue)			300				
Solar (LGIA + DISIS Queue)				2407			
<b>Partial Cross Retirement - Optimized</b>							
Winyah							-1150
MB		-65					
HH		-100					
Cross							-1155
Canadys	1020						
Hampton 7HA.02		447					
Hampton 7HA.02		447					
Hampton 2x1 7HA	1360						
BESS (DISIS Queue)			250				
Solar (LGIA + DISIS Queue)				1957			
Wind (onshore-Eastern SC)					200		

Resource locations and quantities indicated are for study purposes only and do not commit Santee Cooper to specific projects.

# Partial Cross Retirement Transmission Modeling



Type/Location	NGCC	CT	BESS	Solar	Wind	Nuclear	Coal
<b>Partial Cross Retirement – Joint Build (Peaking, Relaxed)</b>							
Winyah							-1150
MB		-65					
HH		-100					
Cross							-1155
Canadys	(50% three 1x1 CC)	1020					
Hampton	7HA.02		447				
Hampton	7HA.02		447				
Hampton	7HA.02		447				
Hampton	7HA.02		447				
SW SC	LM6000		45				
BESS	(DISIS Queue)		500				
Solar	(LGIA + DISIS Queue)			2207			
Wind	(250 onshore/250 offshore)				500		

<b>Partial Cross Retirement - Joint Build (Nuclear &amp; Peaking)</b>							
Winyah							-1150
MB		-65					
HH		-100					
Cross							-2330
Canadys		1020					
Hampton	7HA.02		447				
Hampton	7HA.02		447				
SW SC	7HA.05		256				
BESS	(DISIS Queue)		300				
Solar	(LGIA + DISIS Queue)			1707			
SMR						1155	

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# Full Cross Retirement Transmission Modeling



	Type/Location	NGCC	CT	BESS	Solar	Wind	Nuclear	Coal
<b>No Cross Retirement – Joint Build</b>								
	Winyah							-1150
	MB		-65					
	HH		-100					
	Canadys (50% three 1x1 CC)	1020						
	Hampton 7HA.02		447					
	Hampton 7HA.02		447					
	SW SC 7FA.05		256					
	BESS (DISIS Queue)			300				
	Solar (LGIA + DISIS Queue)				2407			
<b>Full Cross Retirement - Optimized Joint Build</b>								
	Winyah							-1150
	MB		-65					
	HH		-100					
	Cross							-2330
	Canadys	1020						
	Hampton 7HA.02		447					
	Hampton 7HA.02		447					
	SX-SW 7HA.02		447					
	Hampton 2x1 7HA	1360						
	SX-SW 1x1 7HA	674						
	BESS (DISIS Queue)			300				
	Solar (LGIA + DISIS Queue)				2107			
	Wind (onshore-Eastern SC)					250		

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# Full Cross Retirement Transmission Modeling



Type/Location	NGCC	CT	BESS	Solar	Wind	Nuclear	Coal
<b>Full Cross Retirement – Joint Build (Peaking, Relaxed)</b>							
Winyah							-1150
MB		-65					
HH		-100					
Cross							-2330
Canadys	1020						
Hampton 7HA.02		447					
Hampton 7HA.02		447					
Hampton 7HA.02		447					
Hampton 7HA.02		447					
SX-SW (2) 7HA.05		536					
BESS SW SC			250				
BESS (DISIS Queue)			300				
BESS NE SC			250				
BESS Winyah			300				
BESS North SC			250				
Solar (LGIA + DISIS Queue)				3107			
Onshore							
Wind Eastern SC					250		
Offshore							
Wind					750		

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# Full Cross Retirement Transmission Modeling



Type/Location	NGCC	CT	BESS	Solar	Wind	Nuclear	Coal
<b>Full Cross Retirement - Joint Build (Nuclear &amp; Peaking)</b>							
Winyah							-1150
MB		-65					
HH		-100					
Cross							-2330
Canadys	1020						
Hampton 7HA.02		447					
Hampton 7HA.02		447					
SW SC 7HA.05		256					
BESS (DISIS Queue)			300				
Solar (LGIA + DISIS Queue)				1707			
Nuclear						2330	

Resource locations and quantities indicated are for study purposes only and do not commit Santee Cooper to specific projects.

- **Power Flow Analysis**
  - Partial and Full Cross Retirement Scenario 1-3
  - Internal TPL-001 models (based on 2024 MMWG models)
  - 2035 summer and 2035 winter peak
  - Select TPL-001 contingency analysis
- **Dynamic/Stability Analysis**
  - Partial and Full Cross Retirement Scenario 3
  - Internal TPL-001 models
  - 2035 summer peak
  - Select TPL-001 contingency analysis

# Transmission Analysis Results

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- Transmission projects are required to mitigate system constraints and reliability concerns as a result of retiring Cross for Scenario 2 and 3
- Transmission cost when retiring Cross is similar to past IRPs
- No significant incremental cost savings from partially retiring Cross to fully retiring Cross



# Coal Retirement Analysis

Will Brown, Manager Resource Planning

Bob Davis, Executive Consultant, nFront Consulting

# Coal Retirement Analysis

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- Analyze retirement of Cross Generating Station through scenarios
  - Evaluate full retirement (all 4 units) and partial retirement (Units 1&2)
  - Evaluate retirement of both full and partial units in 2035, 2040, 2045, and 2050
  - This approach will yield a cost curve across the scenarios and retirement years that will indicate the value of continuing to operate or retire Cross
- Assume Winyah retired by year end 2034
- Utilize 2026 IRP assumptions
- Results will help inform the 2026 IRP base portfolios

# Cross Retirement Portfolios

## Portfolio Evaluation Approach

- Evaluate Cross retirement by simulating distinct retirement cases
  - Full Cross retirement (Units 1-4)
  - Partial Cross retirement (Units 1&2)
  - Specific retirement dates over the IRP study period

Retirement Date	Full Cross	Partial Cross
Jan 2035	X	X
Jan 2040	X	X
Jan 2045	X	X
Jan 2050	X	X

- Optimize resource expansion portfolios for each retirement case
- NPV portfolio costs reported for each case
  - Comprehensive results distinguishing costs and benefits by scale and timing of Cross retirement
  - More information than an endogenous portfolio simulation, which would return a single portfolio result (limited insight on the value of scope and timing of retirement)

## Portfolio Simulation

- 2026 IRP Reference Case assumptions
- All resource options modeled as available to meet capacity need
  - Thermal (NGCC, NGCT, aeroderivative, RICE)
  - Nuclear (SMR, may include AP1000)
  - Solar PV, Wind (onshore and offshore)
  - Energy storage (may include LDES)
- Avoided Cross capital and fixed operating costs developed for each retirement case
- Incurred cost of transmission upgrades developed for each retirement case

# Avoided Costs of Cross Retirements and Incurred Costs of Transmission Upgrades



## Avoided Cross Costs

- Cross capital and fixed O&M costs that can be avoided following resource retirement
  - Normal operating and maintenance costs
    - Salaries (regular, overtime, benefits, overheads)
    - Fixed non-outage costs
    - Planned maintenance outage costs
  - General plant capital expenses
  - Fixed O&M for ZLD (2035+)
- Cost that may be avoided if Cross is retired by 2035
  - Capital costs for ZLD (COD by 2035)
- Certain capital costs are sunk and cannot be avoided
  - 2020 Rule ELG capital costs
  - Ash pond closure

## Incurred Transmission Upgrades

- Cost of system upgrades derived from transmission studies performed to investigate Cross retirement
  - Base Case without Cross retired is established as a default configuration (approximately zero cost)
  - Costs of system upgrades when Cross retired are compared to the Base Case
  - Full and partial Cross retirement cases are considered
  - Results for alternative build plans are considered
- Incremental cost calculations
  - Incremental cost of system upgrades relative to Base Case
  - Incremental costs for Cross retirement reduced for upgrades needed for new resources (derived from DISIS studies)
- Preliminary observations
  - Incremental cost of upgrades are similar for partial and full retirement cases
  - Incremental costs of upgrades are not significantly different for conventional and renewable portfolios