

South Carolina Regional Transmission Planning

Stakeholder Meeting

Teams

March 5, 2025







Purpose and Goals for Today's Meeting

- Review and Discuss Key Assumptions and Data for the Next Planning Cycle
- Review and Discuss Major Transmission Expansion Plans
- Ad Hoc Study in the Savannah Area
- Review Schedule for completing Transmission
 Planning Studies







Key Assumptions and Data for the Next Planning Cycle

DESC – Alex Morrison







Modeling Assumptions and Data

Dispersed Substation Load Forecast

- . Summer/Winter Peak, Off-Peak and Seasonal Load Levels
- Resource Planning provides 10 Year system load forecasts
- Transmission Planning creates dispersed substation load forecasts







Load Forecast Process

Resource Planning Input

- Develop 10-year projected forecast based on:
 - 10-year historical load summer and winter loads
 - Load factors by customer class
 - Considers weather, personal income, population growth, economic conditions, load management, energy efficiency, etc
 - Applies regression analysis to historical data to develop models
 - Applies forecasted growth rates to develop future projections







Load Forecast









Load Forecast Process

Transmission Planning Input

- Obtain summer and winter snapshot meter data from most recent seasons and adjust for load switching
- Develop 10-year projected forecast based on:
 - 10-year historical loading
 - Feedback from Distribution Planning, Local Managers, Large Industrial Group and Transmission Services Manager
- Wholesale loads are modeled as provided by the customer
- Dispersed forecasted load points are integrated into corporate load forecast







Modeling Assumptions and Data

Generation

- · Annual generator ratings used
- Input from Generation Expansion Plan Reductions/Additions
- Input from Generation Maintenance Schedule
- · Generators dispatched economically
- Merchant Generators included







Existing Generation













Interconnection Transitional Cluster

- Total new generation remaining in cluster: 660 MW
- Facilities Studies completed
 - PV Only: 225 MW
 - Hybrid: 100 MW PV & BESS
 - BESS Only: 0 MW
 - Gas Uprates: 235 MW
- CEC and Bushy Park gas uprates entered commercial operation
- Parr gas uprate expected COD in 2025. Network upgrade required for uprate.







Interconnection DISIS 2023

- Total new generation remaining in cluster: 1,830 MW
- Phase 3 restudy completed
 - PV Only: 382 MW
 - Hybrid: 554 MW PV & BESS
 - BESS Only: 698 MW
 - Gas & Hydro Uprates: 196 MW







Interconnection DISIS 2024

- Total new generation remaining in cluster: 2,302 MW
- Phase 1 study in progress
 - PV Only: 714 MW
 - Hybrid: 575 MW PV & BESS
 - BESS Only: 0 MW
 - Gas: 1013 MW







Modeling Assumptions and Data

Transmission Network

- Input from Transmission Plan
- Neighboring Transmission Systems Modeled







Modeling Assumptions and Data Planned Transmission Facilities



2/27/2025

Dominion Energy South Carolina Planned Transmission Facilities

Planned Project	Tentative Completion Date
Burton-St Helena 115kV: Rebuild Burton-Frogmore Transmission Section	Apr-25
Okatie-Bluffton 115kV: Rebuild	Jun-25
Edenwood Sub: #1 & #2 230-115kV Autobanks, Replace with 336MVA	Jun-25
Goose Creek Reservoir: Rebuild Transmission Line Crossings	Oct-25
Church Creek - Ritter 230kV - Replace 25 Large Angles and Dead Ends	Dec-25
Coit – Gills Creek 115kV: Construct	Dec-25
Summerville 115 kV Loop Rebuild	Dec-25
Hopkins-CIP 230kV: Rebuild	Dec-25
Batesburg - Saluda County 115kV: Rebuild Line	Dec-25
Columbia Canal 115kV Rebuild	Dec-25
Scout 230 kV Sub and Fold-in Construct	Mar-26
Okatie 230–115kV Sub and the Jasper – Yemassee Fold In	May-26
Jasper – Okatie 230 kV #2: Construct	May-26
Riverport Tap: Construct Tap	May-26
Eastover – Sumter 115kV DEP Tie: Rebuild with 1272 ACSR	May-26
Summerville - Boonehill 115kV HWY78 Relocation	Jul-26
Urgubart – Toolebeck 115kV line: Rebuild 477 ACSR sections	Aug-26
Dawson 230 kV Sub and Fold-in: Construct and Rebuild	Oct-26
Cainhoy - Hamlin 115kV: Rebuild Line and Cainhoy – Hamlin 115 kV #2: Construct New 115 kV Line	Dec-26
Jackson 115-12 kV Sub and Tap Construct	Dec-26
Flat Bork 115-12kV Sub and Tan Construct	Dec-26
Saluda Hudro - Rush River 115kV #1 & #2 Rehuild	Dec-26
Harley(iii) 15KV Transmission Tan - Construct (1.4 miles)	Mar-27
Church Creak – Esher Diace – Charleston Transmission: Add 330kV Line	May-27
Yemassee – Bitter 230kV #1 & #2: Construct SPDC with B-1272	lun-27
Fairfay/Vemasce 115/V/ Lingrade for DESCS0 #1151 Interconnection	Sep-27
Grange hing #1 - Cameron 14 46V Line Rehuild	Dec-27
St George - Sumter 230kV Tie: Debuild Line from Santee Substation - Duke/Progress Energy Tie	Dec-27
Hooks Made 115/46 W Debuild	Dec-27
Burton-St Helena 115kV: Frogmore Distribution - St Helena	Dec-27
Wagener 115ky Tan, Construct Tan	Dec-27
VCS1-Denny Terrace 230kV & VCS1-Pineland 230kV: Rebuild Single Circuit Sections	Dec-27
Cameron Ict - Elloree 46 kV Rehuild	Dec-27
Union Pier 115-13 8 kV Sub: Tap	Dec-27
Atomic Road 115-12 kV Sub Construct	Dec-27
Coast Guard 115 IV Tan: Construct	Dec-27
Filores - Santes (Fity 46 kV: Pabuild	Dec-27
Linubart – Aiken PSA 46 kV: Rebuild	Dec-27
Millrace 115 kV Tan: Construct	Dec-27
Winnster Dro West 230-115 kV Sub and Fold-in: Construct	lan-28
Canader – Ditter 115 kV, Dabuild at 230/115 kV Double Circuit	Jun-28
Control of Study Dentaria Study Tarky Bolays Control Control Williams St Study Dentaria Study Dentaria Study Dentaria Study And Study House	Dec-28
Clements Ferry 15-23V/ Sub-Construct: Jark Primus-Calphov 115V/ with Clements Ferry Tan Construct	Dec-28
Williams Summariae 30kV/ Lineraeta SBCC R1272 ACSP	Dec-28
Faber Place-Bayfront 115kV: Rebuild North Bridge Terrace to Bayfront Section	Dec-28
Wateree-Villian 230kV: Rehuild	Dec-28
Cameron Ict - Cameron - St Matthews 46 kV Rehuild	Dec-28
Okatie – McIntosh 115kV Tie: Add Series Reactor	Dec-28
Church Creek - Dawcon 230 kV: Rebuild from Long Savannah to Dawcon	Dec-28
Long Savannah 115 kV Tan: Construct	Dec-28
Wateree-Honkins 230kV Line #1: Rebuild	Dec-29
VCS2-Ward 230kV: Rebuild Line	Dec-29







Modeling Assumptions and Data

System Interchange

- · Firm scheduled transfers included
- · Coordinated with Neighbors







Santee Cooper Transmission Planning Models Key Assumptions and Data

Emily Morgan







Major Model Components

- Load Demand Forecast
- Transmission Network
- Generation Resources
- Actual System Operations







Load Demand Forecast

- 10-year projected demand forecast
 - Wholesale customers load forecast (from Central)
 - Industrial and municipality customer contracts
 - Santee Cooper Distribution load forecast
 - Transmission Planning produces dispersed substation load based on power factors derived from most recent meter data
- System Peak and off-peak load conditions







Santee Cooper 10-Year Actual & Load Forecast



santee cooper



Transmission Network

Models include:

- Existing transmission system and committed projects
- Neighboring transmission system representations
- All facilities assumed to be available unless notified otherwise
- Normal operating status (in-service or out-of-service) of facilities is represented







Transmission Network

- Uniform rating methodology is applied to transmission facilities
- Base case models are updated annually prior to annual transmission assessment
- Study models may be updated as needed prior to any study
- Neighboring and Regional system network from the latest MMWG models are used







Committed Transmission Facilities

Project Title	In-service Date
Conway 230 kV Switching Station	12/1/2025
Marion-Conway 230 kV Line	12/1/2025
Upgrade Purrysburg 230-115 kV Transformer	12/1/2025
Carolina Forest 230-115 kV Substation: Add Transformer	12/1/2025
Conway - Perry Road 230 kV Line	12/1/2025
Install 2nd Wassamassaw xfmr at Wassamassaw	9/1/2026
Replace Bluffton-Purrysburg 230 kV limiting Elements	11/1/2026
Indian Field-Wassamassaw 230 kV Line	11/1/2026
Indian Field 230-115 kV Substation	12/1/2026
Upgrade Batesburg 230-115 kV transformer	12/1/2026
Varnville to Nixville tap 69 kV Rebuild to 115 kV	12/1/2026
Cross - Wassamassaw 230 kV #2 Line	6/1/2027
Purrysburg Station Improvements	6/1/2027
Varnville 230-115 kV substation	9/30/2028
Varnville - Indian Field 230 kV line	11/1/2028
Marion - Red Bluff 230 kV line	11/1/2028
Rebuild Kingstree-Hemingway 115 kV Line as a Double Circuit 230/115 kV Line	6/1/2029







Generation Resources

Existing/Committed Generation

Cross Units 1- 4	J.S. Rainey Combined Cycle PB1
Winyah Units 1-4 (retire end of 2030)	J.S. Rainey 2A, 2B CTs
Hilton Head Turbines 1-3	J.S. Rainey 3-5 CTs
Myrtle Beach Turbines 1-5	Spillway Hydro
Jefferies Hydro 1, 2, 3, 4, 6	St. Stephen Hydro 1-3
Allendale (Merchant)	V.C. Summer #1 (shared output with DESC)
Cherokee Combined Cycle	Dorchester (Merchant)
Centerfield Solar (Merchant)	Domtar (Merchant)
Allora Solar (Merchant)	Gunsight Solar (Merchant)
Lambert I and II Solar (Merchant ISD 2025)	Landrace Solar (Merchant)











Resources Assumptions and Data

- Generation data is verified with Generation Department
- Seasonal models account for unit maintenance outages, known at the time, based on planned maintenance schedules
- Confirmed firm transmission service reservations
- SEPA allocations and other contracted purchases
- Economic dispatch order is used for generator dispatch in base cases







Santee Cooper Planning Models Data and Assumptions

Questions?







Current DESC Transmission Expansion Plans

Alex Morrison







Disclaimer

- The projects described in these presentations represent the current transmission plans within the SCRTP footprint.
- The expansion plan is continuously reviewed and may change due to changes in key data and assumptions.
- This presentation does not represent a commitment to build.











DESC Planned Transmission Facilities



2/27/2025

Planned Project	Tentative Completion Date
Routes At Helen At Flat, Babylid Buston Processon Transmission Acadim	Completion Date
Burton-St Helena 115kV: Rebuild Burton-Frogmore Transmission Section	Apr-25
Okatie-Bluffton 115kv: Rebuild	Jun-25
Edenwood Sub: #1 & #2 230-115kV Autobanks, Replace with 336MVA	Jun-25
Goose Creek Reservoir: Rebuild Transmission Line Crossings	Oct-25
Church Creek - Ritter 230kV - Replace 25 Large Angles and Dead Ends	Dec-25
Colt – Gills Creek 115kV: Construct	Dec-25
Summerville 115 kV Loop Rebuild	Dec-25
HOPKINS-CIP 230KV: Rebuild Dekenburg: Caluda Carucha 11/2/04 Dahuild Ling	Dec-25
Batesburg - Saluda County 115kV: Rebuild Line	Dec-25
Columbia Canal 115kV Rebuild	Dec-25
Scout 230 kV Sub and Fold-In Construct	Mar-26
Okatle 250–115kV Sub and the Jasper – remassee rold in	May-26
Jasper – Okatle 250 kV #2: Construct	May-26
Riverport Tap: Construct Tap	May-26
Eastover – Sumter 115KV DEP TIE: Rebuild with 1272 ACSR	May-26
Summerville - Boonehill 115kV HWY78 Relocation	Jul-26
Urquhart – Toolebeck 115kV line: Rebuild 477 ACSR sections	Aug-26
Dawson 230 kV Sub and Fold-in: Construct and Rebuild	Oct-26
Cainhoy - Hamlin 115kV: Rebuild Line and Cainhoy – Hamlin 115 kV #2: Construct New 115 kV Line	Dec-26
Jackson 115-12 kV Sub and Tap Construct	Dec-26
Flat Rock 115-12kV Sub and Tap Construct	Dec-26
Saluda Hydro - Bush River 115kV #1 & #2 Rebuild	Dec-26
Harleyville 115KV Transmission Tap – Construct (1.4 miles)	Mar-27
Church Creek – Faber Place – Charleston Transmission: Add 230kV Line	May-27
Yemassee- Ritter 230kV #1 & #2: Construct SPDC with B-1272	Jun-27
Fairfax-Yemassee 115kV: Upgrade for DESCSQ #1151 Interconnection	Sep-27
Orangeburg #1 - Cameron Jct 46kV Line Rebuild	Dec-27
St George - Sumter 230kV Tie: Rebuild Line from Santee Substation - Duke/Progress Energy Tie	Dec-27
Hooks - Modoc 115/46 kV Rebuild	Dec-27
Burton-St Helena 115kV: Frogmore Distribution - St Helena	Dec-27
Wagener 115kV Tap: Construct Tap	Dec-27
VCS1-Denny Terrace 230kV & VCS1-Pineland 230kV: Rebuild Single Circuit Sections	Dec-27
Cameron Jct – Elloree 46 kV Rebuild	Dec-27
Union Pier 115-13.8 kV Sub: Tap	Dec-27
Atomic Road 115-12 kV Sub Construct	Dec-27
Coast Guard 115 kV Tap: Construct	Dec-27
Elloree – Santee City 46 kV: Rebuild	Dec-27
Urquhart – Aiken PSA 46 kV: Rebuild	Dec-27
Millrace 115 kV Tap: Construct	Dec-27
Winnsboro West 230-115 kV Sub and Fold-in: Construct	Jan-28
Canadys – Ritter 115kV: Rebuild as 230/115kV Double Circuit	Jun-28
Williams St Sub: Replace Sw House & Relays, AMW Sub: Replace Sw House, & McMeekin Sub: Add Sw House	Dec-28
Clements Ferry 115–23kV Sub: Construct; Jack Primus–Cainhoy 115kV with Clements Ferry Tap Construct	Dec-28
Williams-Summerville 230kV: Upgrade to SPDC B1272 ACSR	Dec-28
Faber Place-Bayfront 115kV: Rebuild North Bridge Terrace to Bayfront Section	Dec-28
Wateree-Killian 230kV: Rebuild	Dec-28
Cameron Jct – Cameron – St Matthews 46 kV Rebuild	Dec-28
Okatie – McIntosh 115kV Tie: Add Series Reactor	Dec-28
Church Creek – Dawson 230 kV: Rebuild from Long Savannah to Dawson	Dec-28
Long Savannah 115 kV Tap: Construct	Dec-28
Wateree-Hopkins 230kV Line #1: Rebuild	Dec-29
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DESC 2025 - 2029 Planned Transmission Facilities







Saluda Hydro - Bush River 115kV #1 and #2 Tie Lines Rebuild

Project Description

Rebuild the existing Saluda Hydro – Bush River #1 and #2 Tie Lines to SPDC 1272.

Project Need

This project is needed to improve system performance and to meet NERC TPL and internal DESC Planning Criteria for reliability.

Project Status

In Progress

Planned In-Service Date

December 2026










Okatie - McIntosh 115kV Tie: Add Series Reactor

Project Description

Construct Deerfield Switching Station and Install a 9% series reactor on the Okatie – McIntosh 115kV Tie Line.

Project Need

This project is needed to improve system performance and to meet NERC TPL and internal DESC Planning Criteria for reliability.

Project Status

Planned

Planned In-Service Date December 2028















Long Savannah 115 kV Tap: Construct

Project Description

Rebuild Church Creek - Dawson 230kV line from Long Savannah to Church Creek. Include Long Savannah 115kV Tap SPDC with Church Creek - Dawson 230kV from Long Savannah to tap point with Church Creek - Ravenel (BEC) 115kV Line and SPSC from Tap Point to Church Creek. Long Savannah will be fed from Church Creek – Ravenel (BEC) 115 kV.

Project Need

Load Growth.

Project Status

Planned

Planned In-Service Date

December 2028













Church Creek - Dawson 230 kV: Rebuild from Long Savannah to Dawson

Project Description

The remaining section of Church Creek – Dawson 230 kV needs to be rebuilt with B1272 ACSR (approximately 13.5 additional miles). The 8.5 mile section of Dawson – Faber Place 230 kV that is adjacent to Church Creek – Dawson 230 kV will also be rebuilt with B1272 ACSR.

Project Need

This project is needed to improve system performance and to meet NERC TPL and internal DESC Planning Criteria for reliability.

Project Status

Planned

Planned In-Service Date

December 2028













Winnsboro West 230-115 kV Sub and Fold-in: Construct

Project Description

Construct new 230-115 kV substation and fold in the Parr – Winnsboro 115 kV #1 and VCS1 – Killian 230 kV lines into the new substation.

Project Need

This project is needed to uprate the Parr Gas Turbines GT1 and GT2 in accordance with the DESC Transitional Cluster System Impact Study.

Project Status

Planned

Planned In-Service Date

January 2028















Canadys-Ritter 115KV-Rebld SPDC 230/115KV 1272 (Approx 18 Miles)

Project Description

Rebuild Canadys-Ritter 115 kV line as SPDC with 1272 ACSR.

Project Need

This project is needed to improve system performance and to meet NERC TPL and internal DESC Planning Criteria for reliability.

Project Status

In Progress

Planned In-Service Date June 2028















Load growth Projects

- Scout 230kV Sub and Fold-in: Construct
- Dawson 230kV Sub and Fold-in: Construct and Rebuild
- Union Pier 115-13.8 kV Sub: Tap
- Harleyville 115KV Transmission Tap Construct (1.4 miles)
- Sherwood Tap: Construct Tap
- Wagener 115kV Tap: Construct Tap
- Coit Gills Creek 115kV: Construct
- Cainhoy 115kV Tap: Construct
- Jack Primus 115kV Tap: Construct
- Coast Guard 115kV Tap: Construct
- Long Savannah 115 kV Tap: Construct
- Millrace 115 kV Tap: Construct

Solar projects

- Catalina Solar 115kV Switching Station: Construct
- DESCSQ-1151 115kV Switching Station: Construct
 - Upgrade 336 ACSR portion of DESCSQ #1151 -Yemassee 115 kV line to 1272 ACSR.







Questions?







Santee Cooper Major Transmission Expansion Plans

Emily Morgan







Transmission Projects 2025-2029

Project Title	In-service Date
Conway 230 kV Switching Station	12/1/2025
Marion-Conway 230 kV Line	12/1/2025
Upgrade Purrysburg 230-115 kV Transformer	12/1/2025
Carolina Forest 230-115 kV Substation: Add Transformer	12/1/2025
Conway - Perry Road 230 kV Line	12/1/2025
Install 2nd Wassamassaw xfmr at Wassamassaw	9/1/2026
Replace Bluffton-Purrysburg 230 kV limiting Elements	11/1/2026
Indian Field-Wassamassaw 230 kV Line	11/1/2026
Indian Field 230-115 kV Substation	12/1/2026
Upgrade Batesburg 230-115 kV transformer	12/1/2026
Varnville to Nixville tap 69 kV Rebuild to 115 kV	12/1/2026
Cross - Wassamassaw 230 kV #2 Line	6/1/2027
Purrysburg Station Improvements	6/1/2027
Varnville 230-115 kV substation	9/30/2028
Varnville - Indian Field 230 kV line	11/1/2028
Marion - Red Bluff 230 kV line	11/1/2028
Rebuild Kingstree-Hemingway 115 kV Line as a Double Circuit 230/115 kV Line	6/1/2029







Conway 230 kV Switching Station and Marion-Conway 230 kV Line

Project Description

Fold the Hemingway-Red Bluff 230 kV Line into the new Conway 230 kV Switching Station. Construct a 230 kV line approximately 34 miles in length from the Marion 230-115-69kV Substation to the Conway 230 kV Switching Station. Rebuild the existing Marion-Conway 115 kV Line for 230/115 kV double-circuit using bundled 1272 ACSR for the 230 kV line and single 795 ACSR for the 115 kV line.

Project Need

Studies indicate thermal loading and voltage violations under contingency conditions in the Horry-Georgetown area that are mitigated by the additional support that the Marion-Conway 230 kV Line provides. The new Conway Switching Station will also enable additional 230 kV network expansion in the area.

Project Status

In Progress

Planned In-Service Date

December 2025





Conway 230 kV Switching Station Marion-Conway 230 kV line

South Carolina Regional Transmission Planning









Conway - Perry Road 230 kV Line

Project Description

Construct a new 230 kV line between the Conway 230 kV Switching Station and the Perry Road 230-115 kV Substation using bundled 1272 ACSR conductor.

Project Need

The Conway – Perry Rd 230 kV Line will alleviate thermal loading exceedances under contingency conditions shown in planning assessments. To provide the necessary loading relief and voltage support to its transmission system, this new 230kV Line will upgrade existing infrastructure, improving reliability and meet the NERC Transmission Planning Reliability Standard. It will also provide additional network support to Horry County, a highly concentrated load area of the Santee Cooper system that includes Myrtle Beach that continues to see significant load growth.

Project Status

In Progress

Planned In-Service Date December 2025





Conway – Perry Road 230 kV line





Cross - Wassamassaw 230 kV #2 Line

Project Description

Construct a second 230 kV transmission line, approximately 18.3 miles in length, from the Cross 230 kV Switchyard to the Wassamassaw 230-115 kV Substation along existing transmission right-of-way and using pre-existing double-circuit structures where possible

Project Need

Adding a second Cross – Wassamassaw 230 kV line will mitigate thermal loading exceedances under contingency conditions. These exceedances violates planning criteria and does not meet NERC transmission planning reliability standard.

Project Status

Planned

Planned In-Service Date





Cross – Wassamassaw 230 kV #2 line









Indian Field 230-115 kV Substation

Project Description

Fold in the existing Harleyville – St. George 115 kV line into the new Indian Field 230-115 kV substation. The existing Byrds Tap 115 kV line will be terminated on the 115 kV bus #1 at the new Indian Field 230-115kV substation. A new 115 kV transmission line will be built as a 230/115 kV double circuit line for future 230 kV projects from St. George 115 kV Switching Station to the new Indian Field 230-115kV substation.

Project Need

The new Indian Field substation will support the Southern Area load growth and enable additional 230 kV network expansion in the area.

Project Status

Planned

Planned In-Service Date December 2026





Indian Field 230-115 kV Substation









Indian Field - Wassamassaw 230 kV Line

Project Description

Construct a 230 kV transmission line from the proposed Indian Field 230-115 kV Substation to the Wassamassaw 230-115 kV Substation. Design and construct with bundled 1272 ACSR conductor rated for 2,400 Ampere continuous operation at 230kV.

Project Need

This 230 kV line and the proposed Indian Field 230-115 kV substation together provides support for the load growth in the Southern area. In addition, with the proposed Indian Field – Varnville 230 kV line, this project establishes an additional network path required to support economic power transfer from the Southern interface toward the load center.

Project Status

Planned

Planned In-Service Date November 2026





Indian Field – Wassamassaw 230 kV Line





Rebuild Kingstree - Hemingway 115 kV Line as a Double Circuit 230/115 kV Line

Project Description

Construct a second 230 kV line, approximately 22 miles, from the Kingstree 230 kV Switching Station to the Hemingway 230-115 kV Substation by rebuilding the existing Kingstree – Hemingway 115 kV line for double circuit 230/115 kV construction.

Project Need

This additional 230 kV line from Kingstree to Hemingway will help provide thermal loading relief and voltage support for the eastern area. This line also creates an additional path to the eastern area.

Project Status

Planned

Planned In-Service Date June 2029





Kingstree - Hemingway 230/115 kV line









Varnville 230-115 kV Substation

Project Description

Construct a new Varnville 230-115 kV substation on existing Santee Cooper transmission property and property acquired adjacent to the existing Varnville 230-115-69 kV Substation.

Project Need

Planning studies indicate the need to construct a new Varnville 230-115 kV substation to facilitate additional 230 kV transmission lines to support future transmission network expansion plans. The existing Varnville substation has space limitations and cannot accommodate additional 230 kV line terminals, transformation, and long-term plans to convert the 69 kV delivery points in the area to 115 kV service.

Project Status

Planned

Planned In-Service Date September 2028





Varnville 230-115 kV Substation







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South Carolina Regional Transmission Planning



Varnville - Indian Field 230 kV Line

Project Description

Construct a 230 kV transmission line (approximately 38 miles) from the Varnville 230-115 kV Substation to the proposed Indian Field 230-115 kV Substation. Rebuild the existing Bells Crossroads – Varnville 115 kV Line for 230/115 kV doublecircuit on the existing right-of-way. Rebuild the St. George – Bells Crossroads (via Smoaks) 115 kV Line #2 for 230/115 kV double-circuit on the existing right-of-way until the 230 kV line reaches just outside of St George 115 kV Switching Station.

Project Need

Planning studies indicate this project and Indian Field-Wassamassaw 230 kV line project is necessary to add an additional path for bulk power transmission from Southern region to Eastern region. Existing Southern path via Yemassee and Mateeba is a contingency constraint seen in the near-term and long-term planning studies.

Project Status

Planned

Planned In-Service Date November 2028





Varnville – Indian Field 230 kV Line









Marion - Red Bluff 230 kV Line

Project Description

Construct a new 230 kV transmission line from the Marion 230-115/230-69/115-69 kV Substation to the Red Bluff 230-115 kV Substation with bundled 1272 ACSR conductor rated for 2400 Ampere minimum continuous operation at 230 kV. Existing right-of-way will be used where possible, but new right-of-way will need to be obtained.

Project Need

Planning assessments have identified thermal loading and voltage violations under contingency conditions in the eastern region of the transmission system that are mitigated by the addition of a Marion – Red Bluff 230 kV Line. These thermal loading exceedances do not meet the transmission system planning performance requirements under NERC Reliability Standard or the planning criteria.

In addition, Santee Cooper's plans to retire Winyah Generating Station requires additional thermal and voltage support in this area to mitigate potential wide spread low voltage conditions under contingency conditions, which could pose serious risk to the reliability in the area and result in the need to curtail large amounts of load. This 230 kV line will also provide an additional source for a highly concentrated load area of the Santee Cooper system that continues to see significant load growth.

Project Status Planned Planned In-Service Date November 2028





Marion – Red Bluff 230 kV line









Santee Cooper Transmission Expansion Plans

Questions?







Ad Hoc Coordinated Study

Weijian Cong





Ad Hoc Study between SCRTP & Southern Company



DESC, Santee Cooper and Southern Company coordinated a transmission study to evaluate:

- Efficient and cost-effective transmission solutions to increase interregional transfer capability, generating resource changes in both Georgia and South Carolina
- Transmission Planning effort will continue to consider these projects in the transmission plans



New 230kV Line New 500kV Line





Reliability Transmission Planning Studies Timeline








Next SCRTP Meeting

- Stakeholders will select up to 5 Economic Transmission
 Planning Studies
- Request Form will be posted on SCRTP website
- Review and discuss Multi-Party Assessment Studies
- SCRTP Email Distribution List will be notified
- Register online







South Carolina Regional Transmission Planning

Stakeholder Meeting

Teams

March 5, 2025





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