

South Carolina Regional Transmission Planning Stakeholder Meeting

Teams

February 11, 2021

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
- Review Schedule for completing Transmission Planning Studies

Key Assumptions and Data for the Next Planning Cycle

DESC – Scott Parker

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

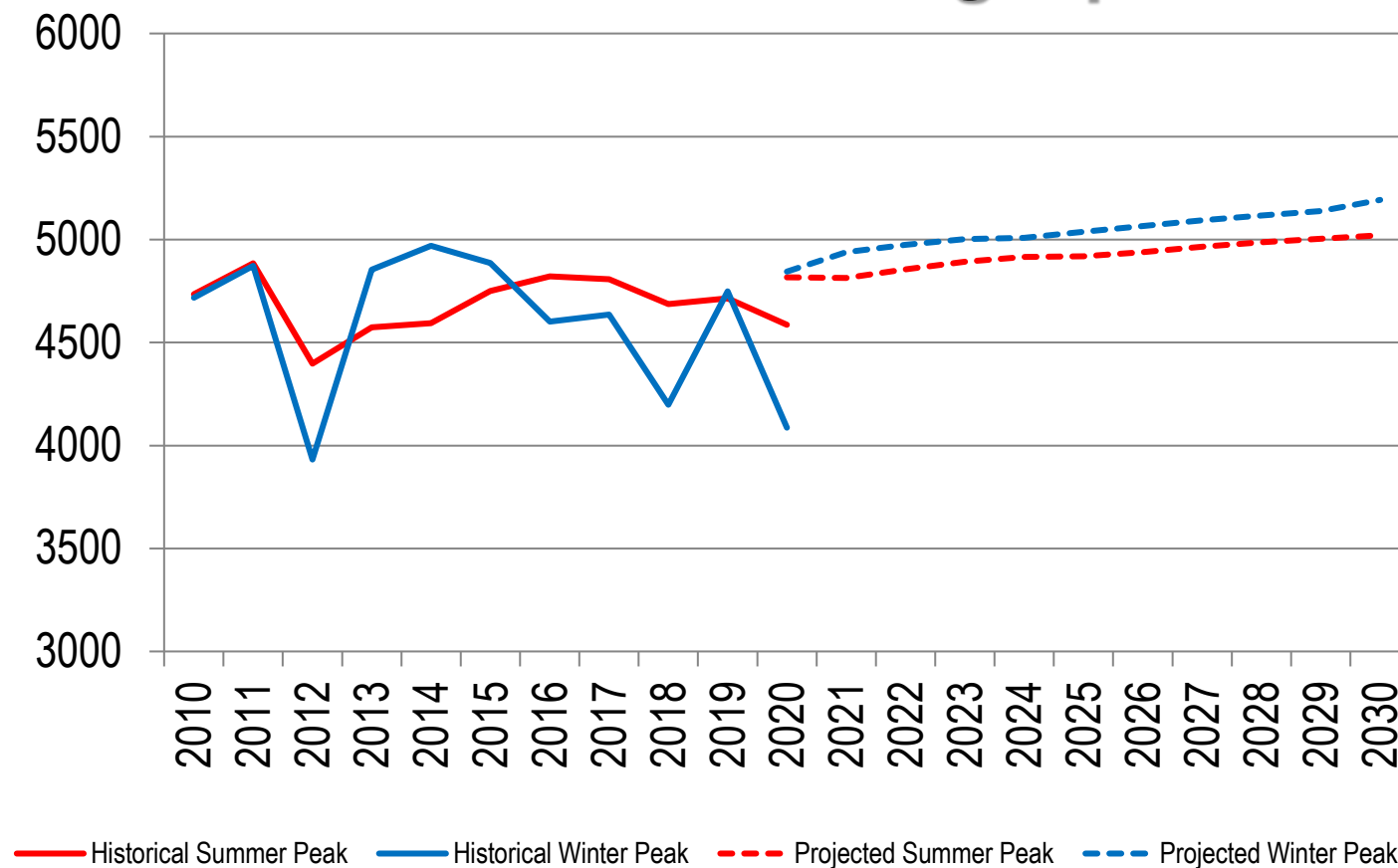
- Develop 10 year projected forecast based on:
 - 10 year historical load summer and winter loads
 - Load factors by customer class
 - Considers weather, personal income, population growth, economic conditions, load management, energy efficiency, etc
 - Applies regression analysis to historical data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

DESC 10 Year Load Forecast

	<u>Summer</u>		<u>Winter</u>
2021	4,814 MW	2021/2022	4,939 MW
2022	4,855 MW	2022/2023	4,975 MW
2023	4,893 MW	2023/2024	5,002 MW
2024	4,915 MW	2024/2025	5,008 MW
2025	4,918 MW	2025/2026	5,037 MW
2026	4,939 MW	2026/2027	5,065 MW
2027	4,965 MW	2027/2028	5,094 MW
2028	4,987 MW	2028/2029	5,117 MW
2029	5,003 MW	2029/2030	5,139 MW
2030	5,021 MW	2030/2031	5,193 MW

Load Forecast

Resource Planning Input



**Dominion
Energy®**



santee cooper

Load Forecast Process

Transmission Planning Input

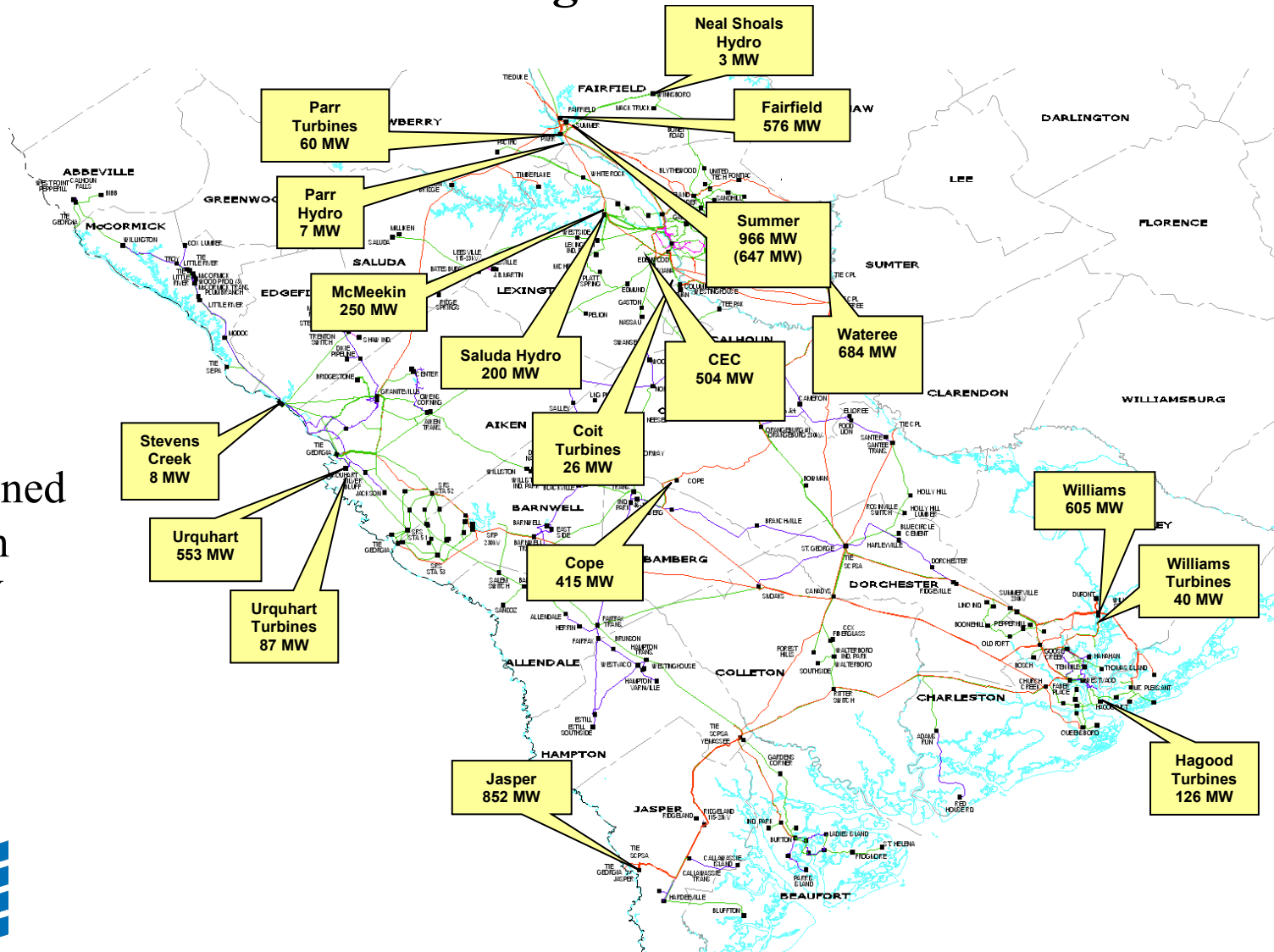
- Obtain summer and winter snapshot meter data from most recent seasons and adjust for load switching
- Develop 10 year projected forecast based on:
 - 10 year historical loading
 - Feedback from Distribution Planning, Local Managers, Large Industrial Group and Transmission Services Manager
- Wholesale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

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, modeled at contracted output

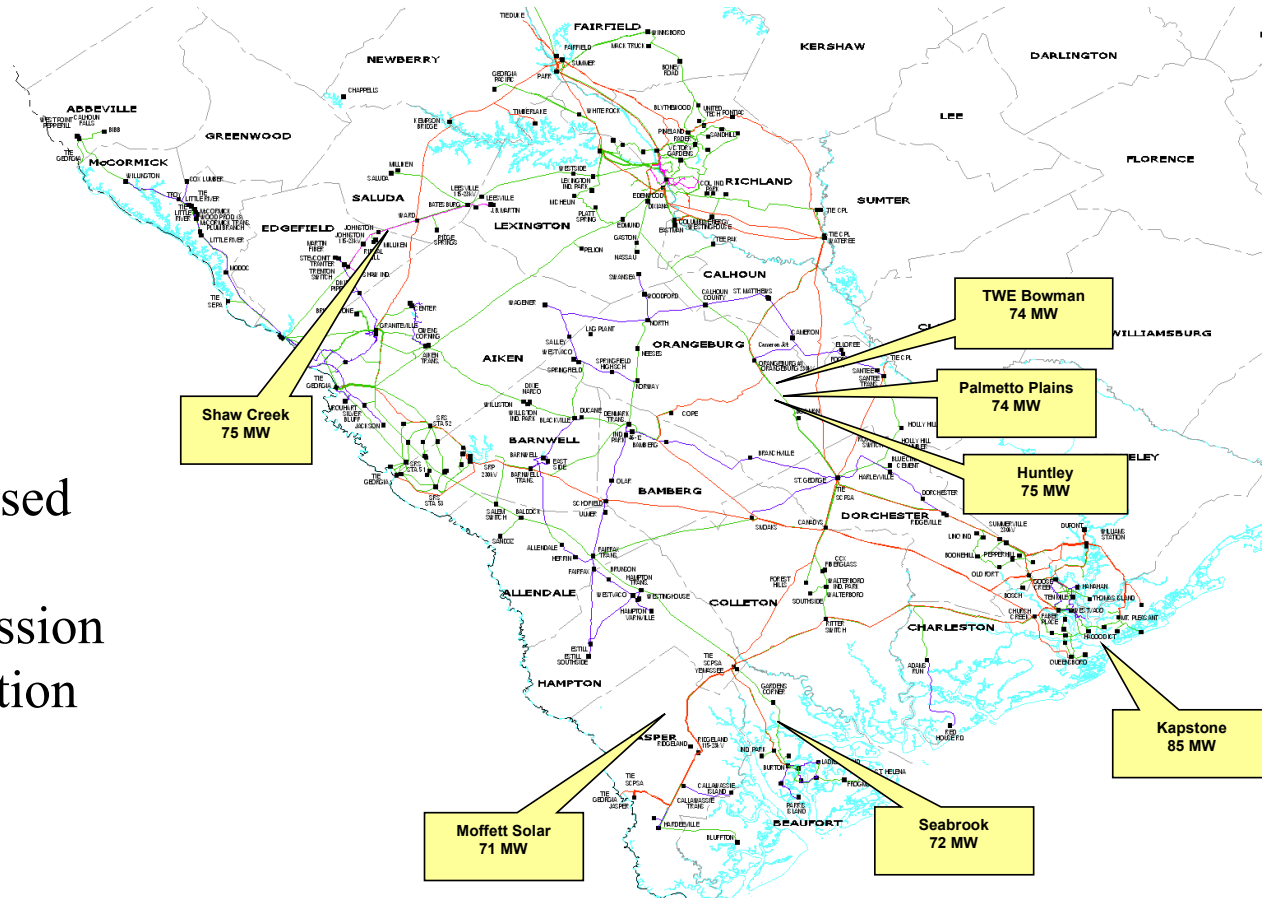
Existing Generation



DESC Owned
Generation
5,657 MW



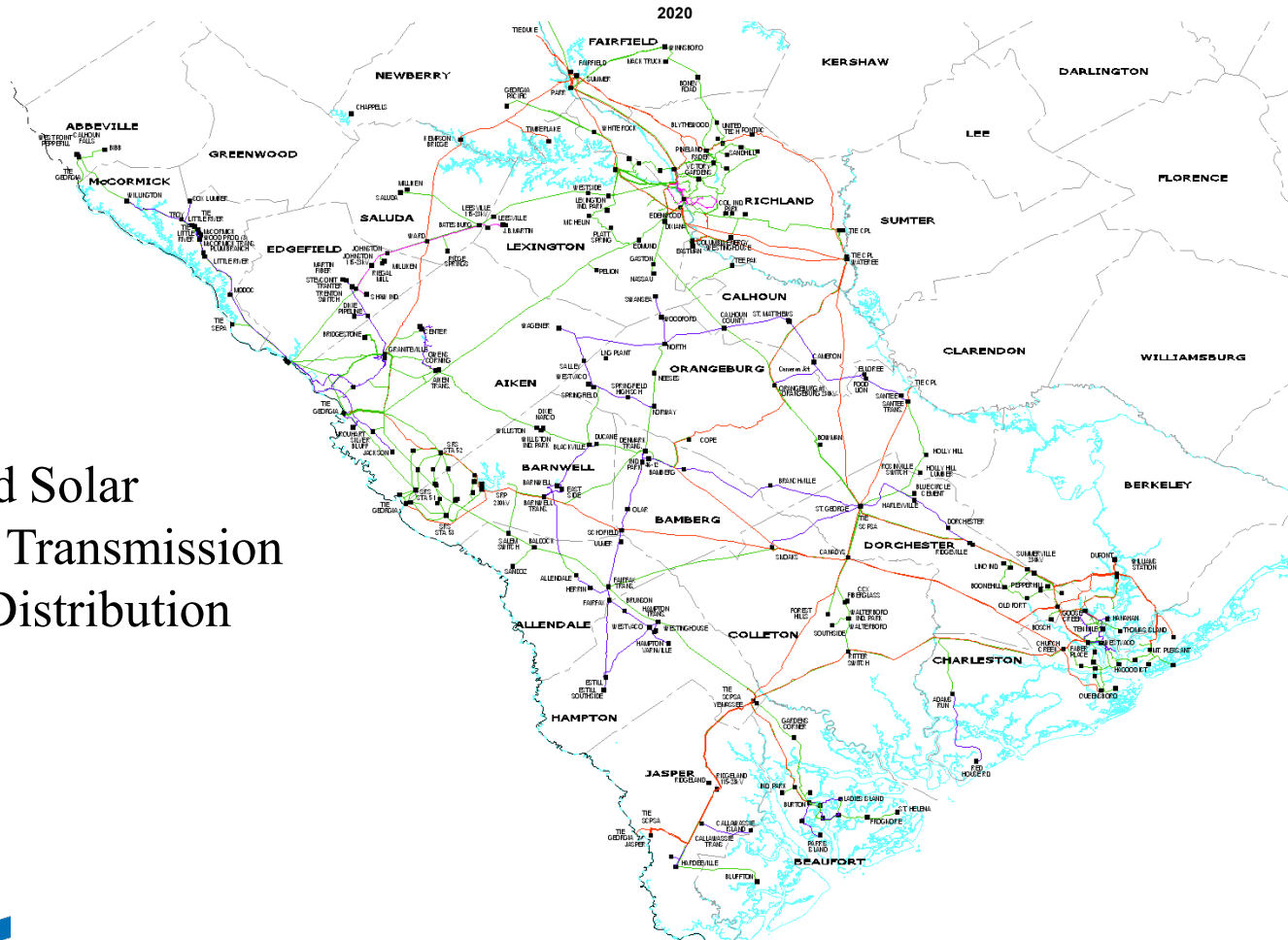
Merchant Generation



Additional Dispersed
Solar Generation
705 MW Transmission
181 MW Distribution

Future Generation Additions

Dispersed Solar
352 MW Transmission
12 MW Distribution



Generation Retirement Studies

SC PSC Order requiring DESC coal plant retirement studies

- **To be performed over the next three years**
 - Wateree units 1 & 2 (684 MW)
 - Williams (605 MW)
 - Cope (415 MW)

Modeling Assumptions and Data

Transmission Network

- Input from Transmission Plan
- Neighboring Transmission Systems Modeled

Modeling Assumptions and Data Planned Transmission Facilities

Dominion Energy South Carolina Planned Transmission Facilities

Planned Project	Tentative Completion Date
Church Creek – Faber Place 230kV & 115kV: Rebuild the Ashley River Crossing	May-21
Graniteville #2 – Toolebeck 115kV: Upgrade to 1272	May-21
Williams Street – Park Street 115kV: Construct	Jun-21
Saluda Hydro – Denny Terrace & Lake Murray – Harbison	Oct-21
Queensboro – Ft Johnson 115kV Tap	Dec-21
Bluffton – (SCPSA) Bluffton 115kV Tie Line Construct	Dec-21
Canadys 230kV: Add Back-to-Back Bus Tie Breakers	Dec-21
Canadys 230kV Sub: Reterminate Various Lines	Dec-21
Emory 230kV Distribution Sub: Construct	Dec-21
Graniteville #2 – South Augusta 230kV : Urq Jct – Toolbeck 230kV Fold In	Dec-21
Lex Westside – Gilbert 115kV Line	Dec-21
Batesburg – Ward 115kV Line	Dec-21
Trenton – Briggs Rd 115kV Line	Dec-21
Toolebeck Substation: Add three 230kV Terminals	Dec-21
Toolebeck – Aiken 230kV Tie: Construct	Dec-21
Cainhoy – Mt. Pleasant 115kV #1 and #2 (Horlbeck Creek Crossing)	Dec-21
Queensboro – Johns Island 115kV Tie: Rebuild River and Marsh Crossing	Dec-21
Edenwood Substation: Replace Switch House	Jun-22
Lake Murray – Gilbert 115kV Line	Dec-22
Burton – Yemassee 115kV #2 Line Rebuild as Double Circuit	Dec-22
Ward – Stevens Creek 115kV: Ward – Trenton Section Rebuild	Dec-22
Church Creek – Queensboro 115kV: Stono River Crossing	Dec-22
Denny Terrace – Crafts Farrow & Denny Terrace – Dentsville Line #1 115kV Rebuild	Dec-22
Wateree – Hopkins 230kV Line #2: Rebuild	Dec-22
Columbia Industrial Park – Kendrick 115kV & Columbia Industrial Park – Ft. Jackson #2 115kV: Rebuild	Dec-22
Stevens Creek – Ward – Lake Murray Line and Associated System Hardening Construct	Mar-23
Okatie – Bluffton 115kV: Rebuild	Dec-23
Denny Terrace Substation: Replace Switch House	Dec-23
Hopkins – Square D – Eastover 115kV: Rebuild	Dec-23
Burton – St Helena 115kV: Rebuild Burton – Frogmore Transmission Section and Frogmore Distribution – St Helena	Dec-23
VCS1 – Denny Terrace 230kV & VCS1 – Pineland 230kV: Rebuild Double Circuit Section and Single Circuit Sections	Dec-23
Wateree – Hopkins 230kV Line #1: Rebuild	Dec-23
Coit – Gills Creek 115kV Line: Construct	Dec-24
Union Pier 115–13.8kV Sub: Tap Construct	Dec-24
Cainhoy – Hamlin 115kV: Rebuild Line and Cainhoy – Hamlin 115kV #2: Construct New 115kV Line	Dec-24
Hopkins – CIP 230kV: Rebuild	Dec-24
Faber Place – Bayfront 115kV: Rebuild North Bridge Terrace to Bayfront Section	Dec-24
Wateree – Killian 230kV: Rebuild	Dec-25
Canadys – Ritter 115kV: Rebuild as 230/115kV Double Circuit	Jun-26
Lakeside 230–115kV Sub and the Jasper – Yemassee Fold In	Dec-26
Ritter – Yemassee 230kV and 115kV Transmission System Expansion	Jun-27
Clements Ferry 115–23kV Sub: Construct; Jack Primus–Cainhoy 115kV with Clements Ferry Tap Construct	Dec-27

Modeling Assumptions and Data

System Interchange

- Firm scheduled transfers included
- Coordinated with Neighbors

Santee Cooper Transmission Planning Models Key Assumptions and Data

Weijian Cong

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
 - Industrial and municipality customer contracts
 - Santee Cooper Distribution load forecast & grow rates
 - Transmission Planning produces dispersed substation load based on power factors derived from most recent meter data
- System Peak and off-peak load conditions

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

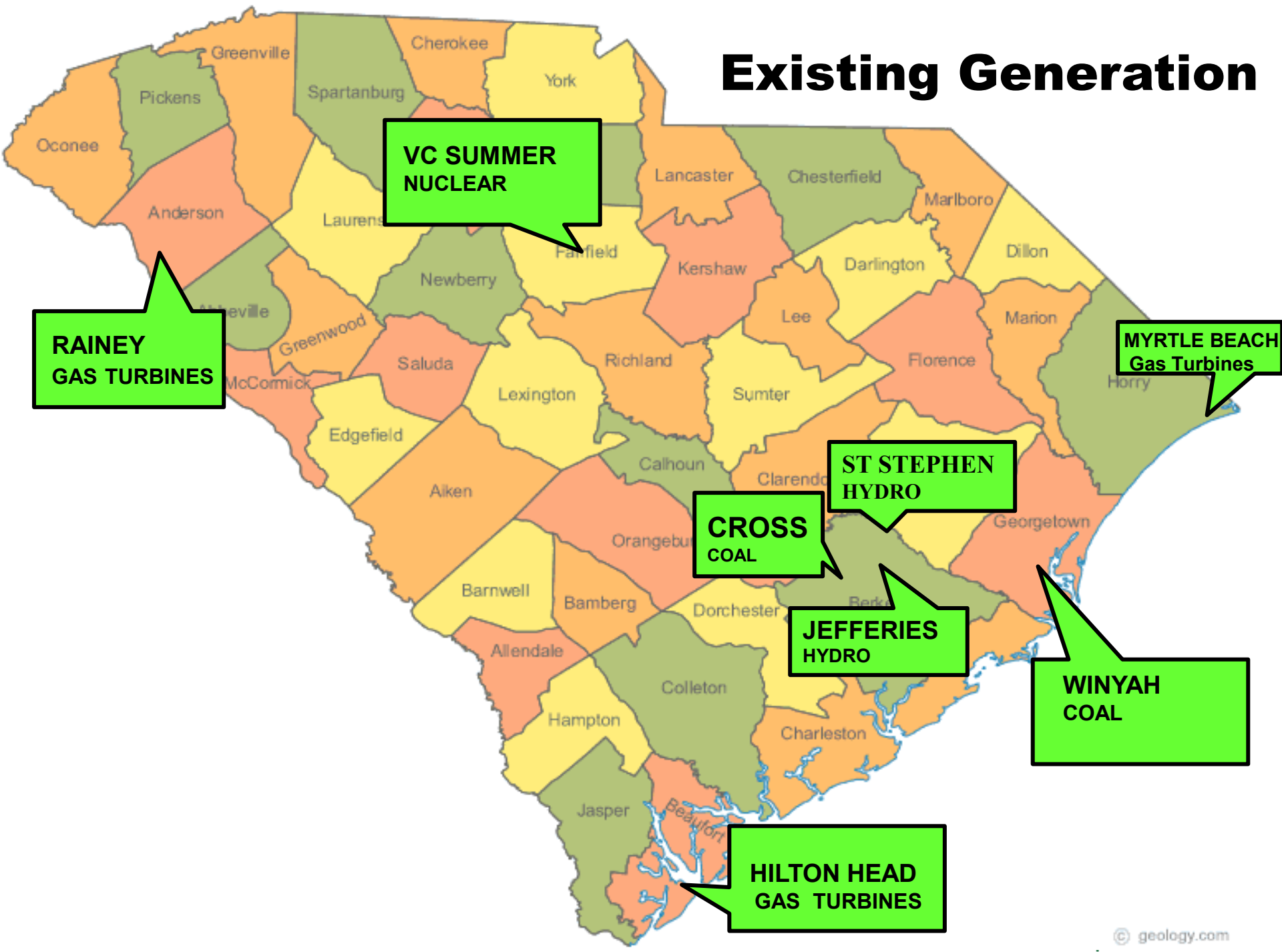
Carnes Crossroads Transformer #3	6/1/2021
Series Bus Tie Breakers at Hemingway 230-115 kV Substation	11/1/2021
Series Bus Tie Breakers at Purrysburg 230-115 kV Substation	12/1/2021
Horry Generating Station Interconnections	12/1/2021
Rebuild N. Charleston-Goose Creek 115 kV Line Section	12/1/2021
John's Island (SC)-Queensboro (DESC) 115 kV tie Line	12/31/2021
Aiken (SC)-Toolebeck(DESC) 230 kV tie Line	12/31/2021
Rebuild North Charleston-Goose Creek 115 kV Line Section	3/31/2022
Aiken 230-115 kV Transformer Addition	11/1/2022
Conway 230 kV Switching Station	9/1/2024
Marion-Conway 230 kV Line	91/2024

Generation Resources

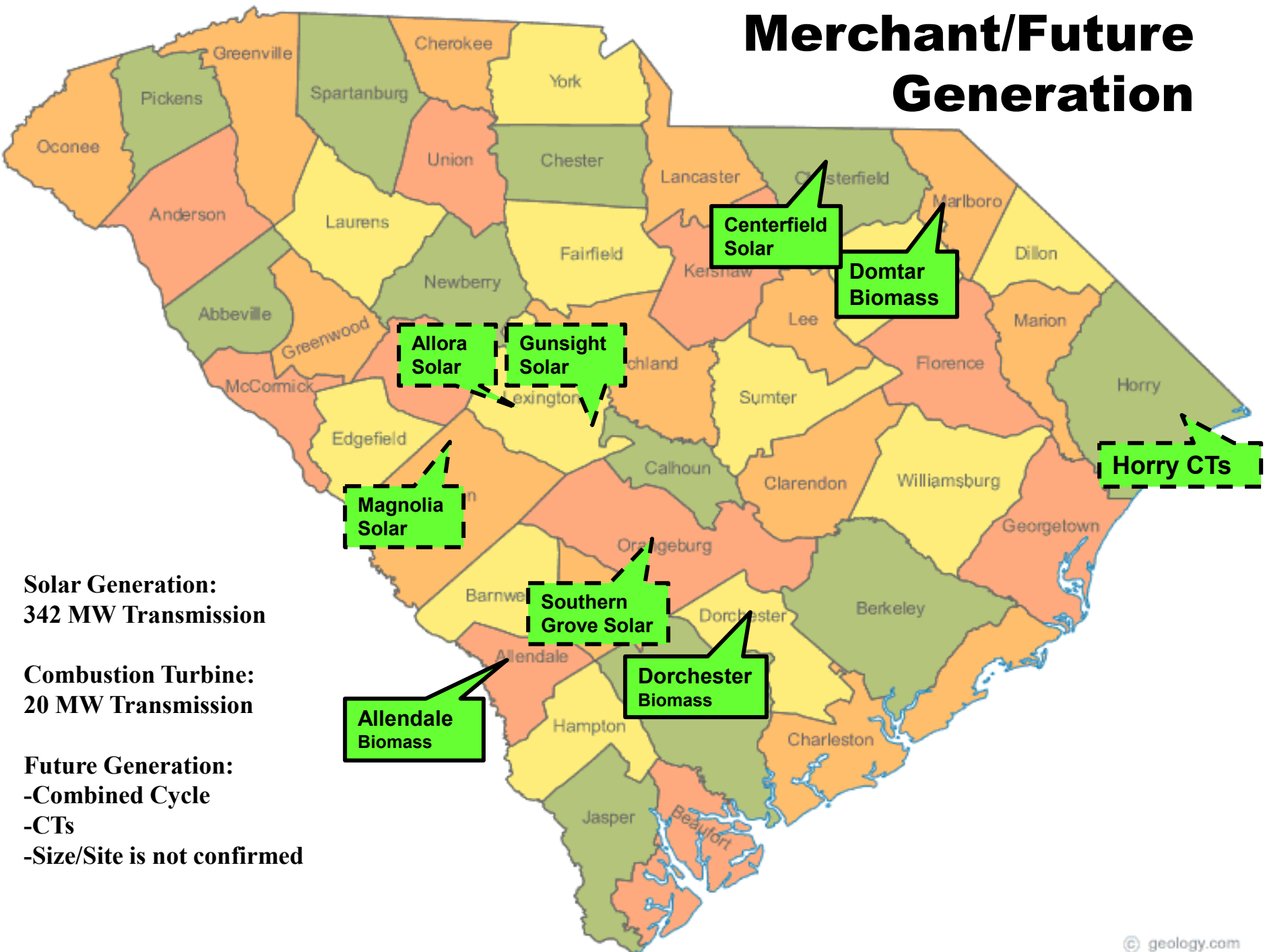
Existing/Committed Connected Generation

Cross Units 1- 4	J.S. Rainey Combined Cycle PB1
Winyah Units 1-4 (retire in 2027)	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
Dorchester (Merchant)	Domtar (Merchant)
Centerfield Solar (Merchant COD 1/2021)	Gunsight Solar (Merchant COD 2021)
Horry 1-4 CTs (ISD 2021)	Magnolia Solar (Merchant COD 2022)
Allora Solar (Merchant COD 2022)	Southern Grove Solar (Merchant COD 2022)

Existing Generation



Merchant/Future Generation



Solar Generation:
342 MW Transmission

Combustion Turbine:
20 MW Transmission

Future Generation:
-Combined Cycle
-CTs
-Size/Site is not confirmed

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

Edward Chapman

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.

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OATI webSmartOASIS TRANSFORMING THE BUSINESS OF ENERGY

Production Node Login

Dominion Energy

Welcome to the Dominion Energy South Carolina OASIS

SCE&G is now Dominion Energy South Carolina

For transaction purposes, we will continue to use the "SCEG" company code for transmission reservations and tags.

News and Announcements

Hourly and Daily PTP Service Discounted.

The offer price for Hourly and Daily PTP service has been discounted effective March 1st, 2019.

Informational Postings

Notice: This document was last updated January 06, 2020.

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DESC 2021 Planned Transmission Facilities

Church Creek-Faber Place 230kV & 115kV: Rebuild the Ashley River Crossing

Project Description

Rebuild the Ashley River Crossing from structure 310 to 314 on the 230kV and 115kV lines.

Project Need

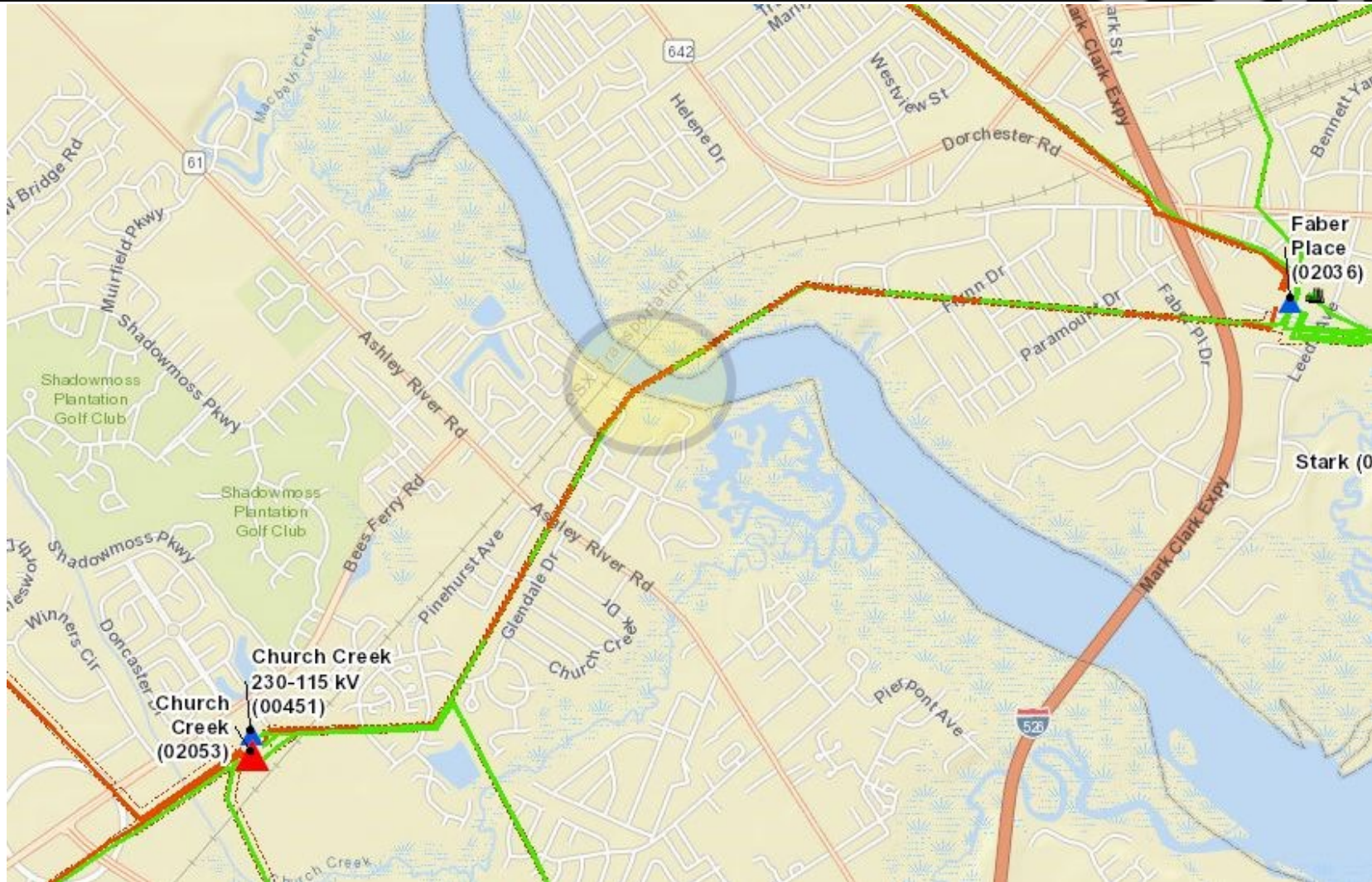
The existing river structures and the structures located in the marsh are deteriorating and in need of replacement. This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

May 2021



Graniteville #2 – Toolebeck 115kV: Upgrade to 1272

Project Description

Upgrade the 115kV line portions between Aiken Transmission and Toolebeck, and Graniteville #2 and Aiken #3 on the Graniteville #2 – Toolebeck 115kV line. The line will be single circuit with 1272 ACSR.

Project Need

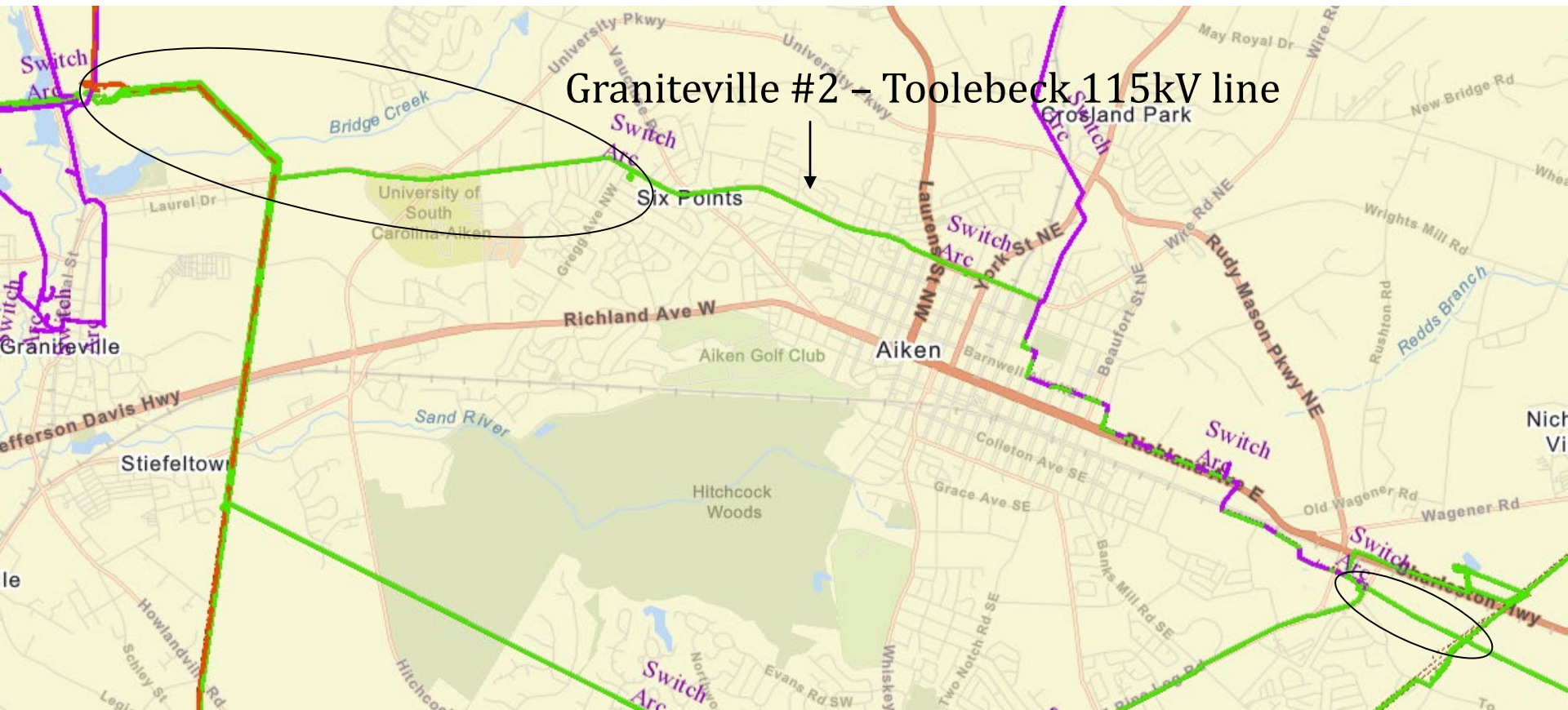
This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

May 2021



Williams Street – Park Street 115kV: Construct

Project Description

Design and install a 115kV line between Williams Street and Park Street substations.

Project Need

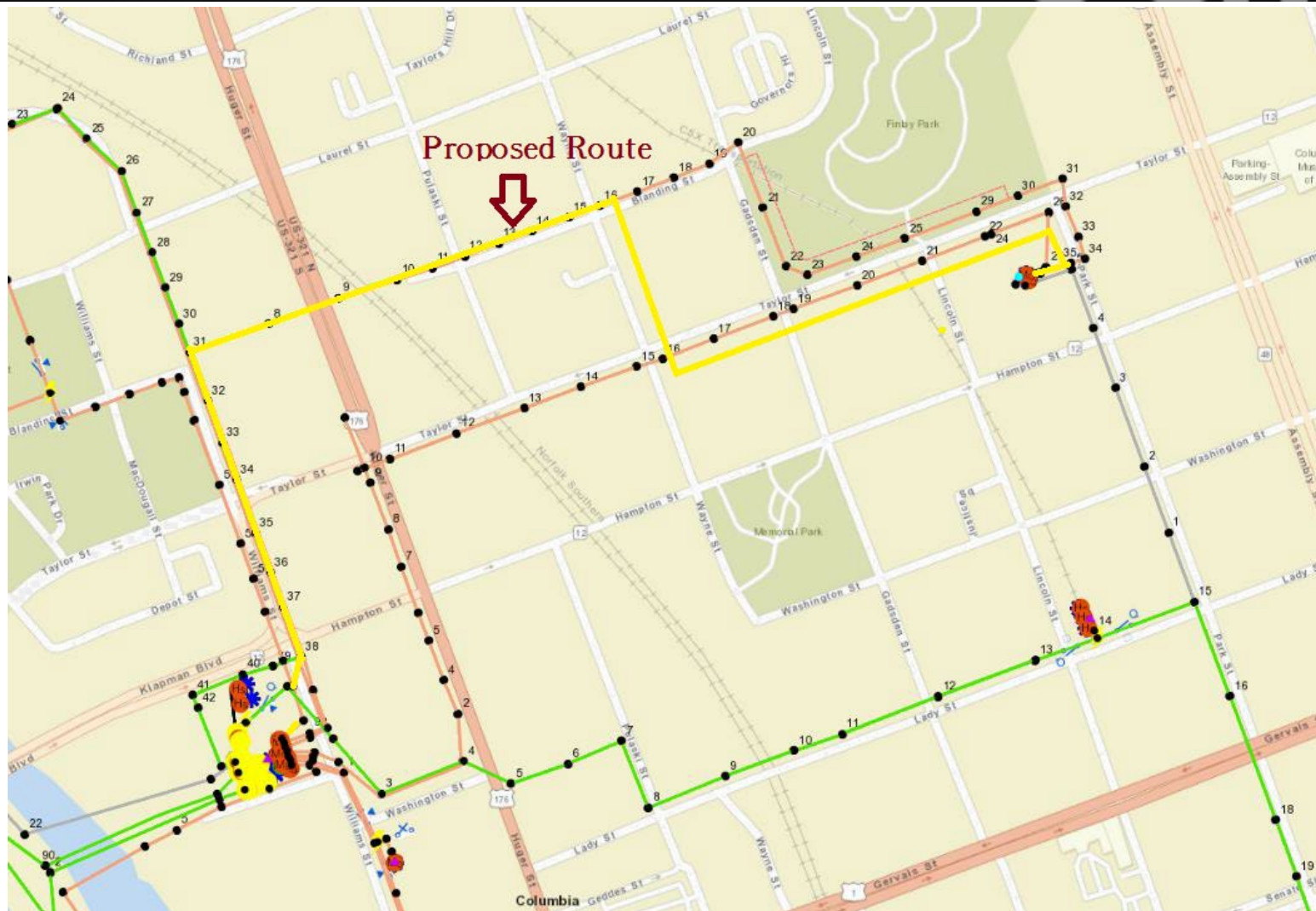
System load growth in the downtown Columbia area requires additional transmission capacity.

Project Status

In Progress

Planned In-Service Date

June 2021



Saluda Hydro – Denny Terrace 115kV: Broad River Rebuild and Lake Murray – Harbison 115kV: Re-terminate Saluda Hydro – Harbison and rebuild SPDC

Project Description

Re-terminate the Saluda Hydro – Harbison 115kV line to Lake Murray substation in preparation for the SPDC rebuild of the Lake Murray – Harbison 115kV which will add an additional line to create Saluda Hydro – Denny Terrace 115kV line.

Project Need

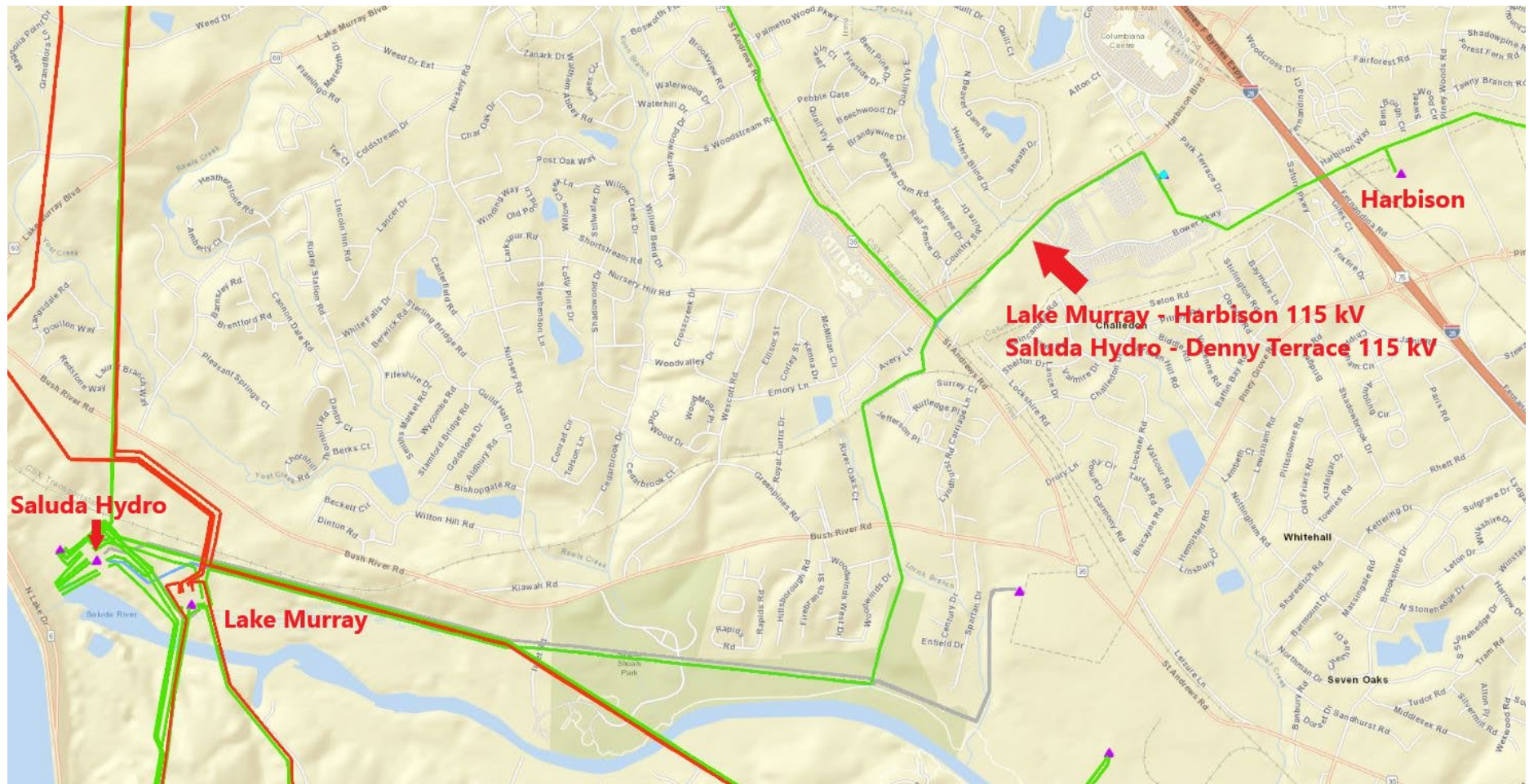
System growth in the Irmo, Harbison, Piney Woods Road, and Kingswood areas requires additional 115kV capacity and transmission path to increase reliability.

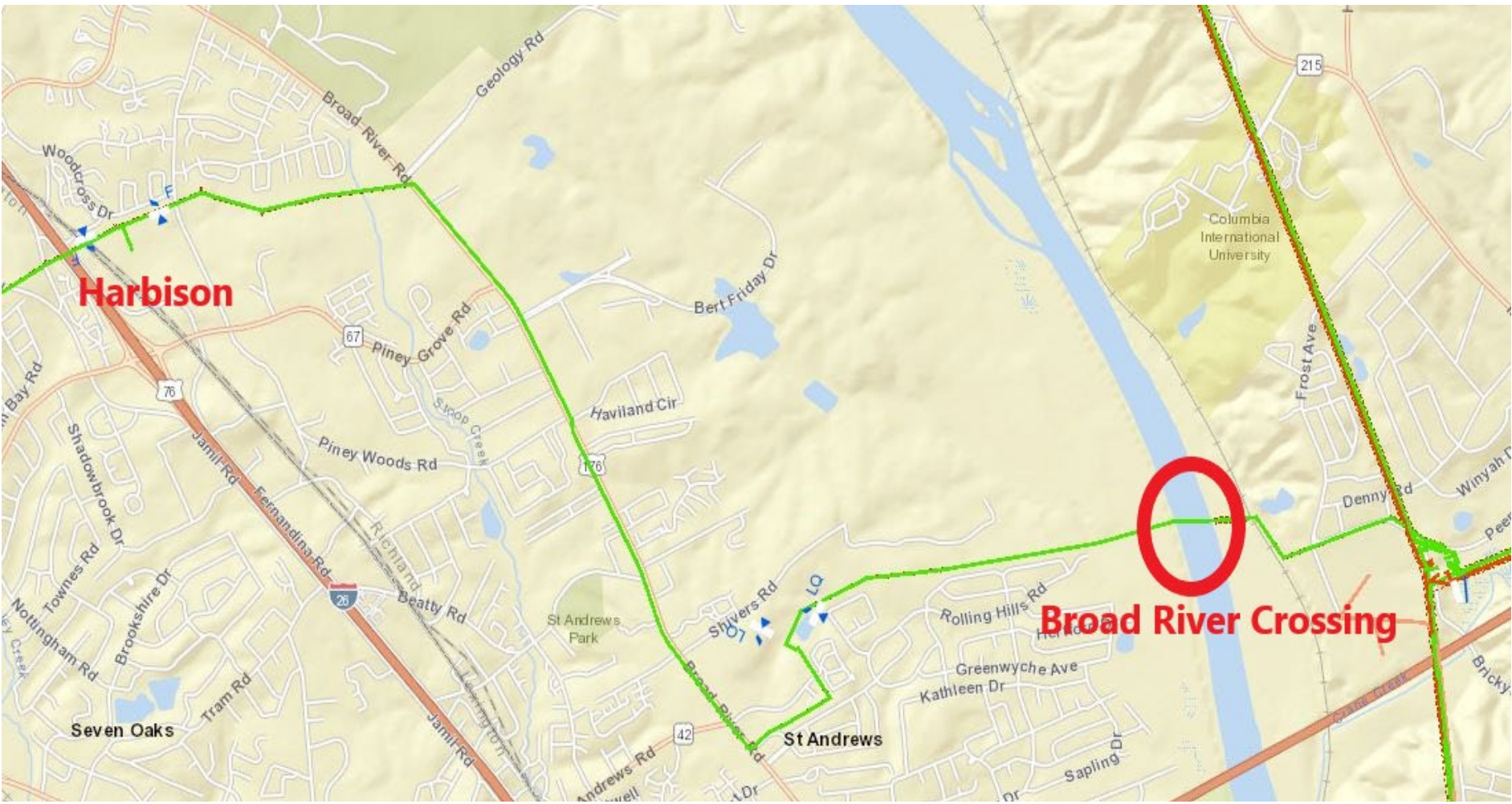
Project Status

In Progress

Planned In-Service Date

October 2021





Queensboro – Ft Johnson 115kV: Replace Poles

Project Description

Replace the Queensboro – Ft Johnson 115kV Line with Self Supporting Steel poles and new 795 ACSR conductor.

Project Need

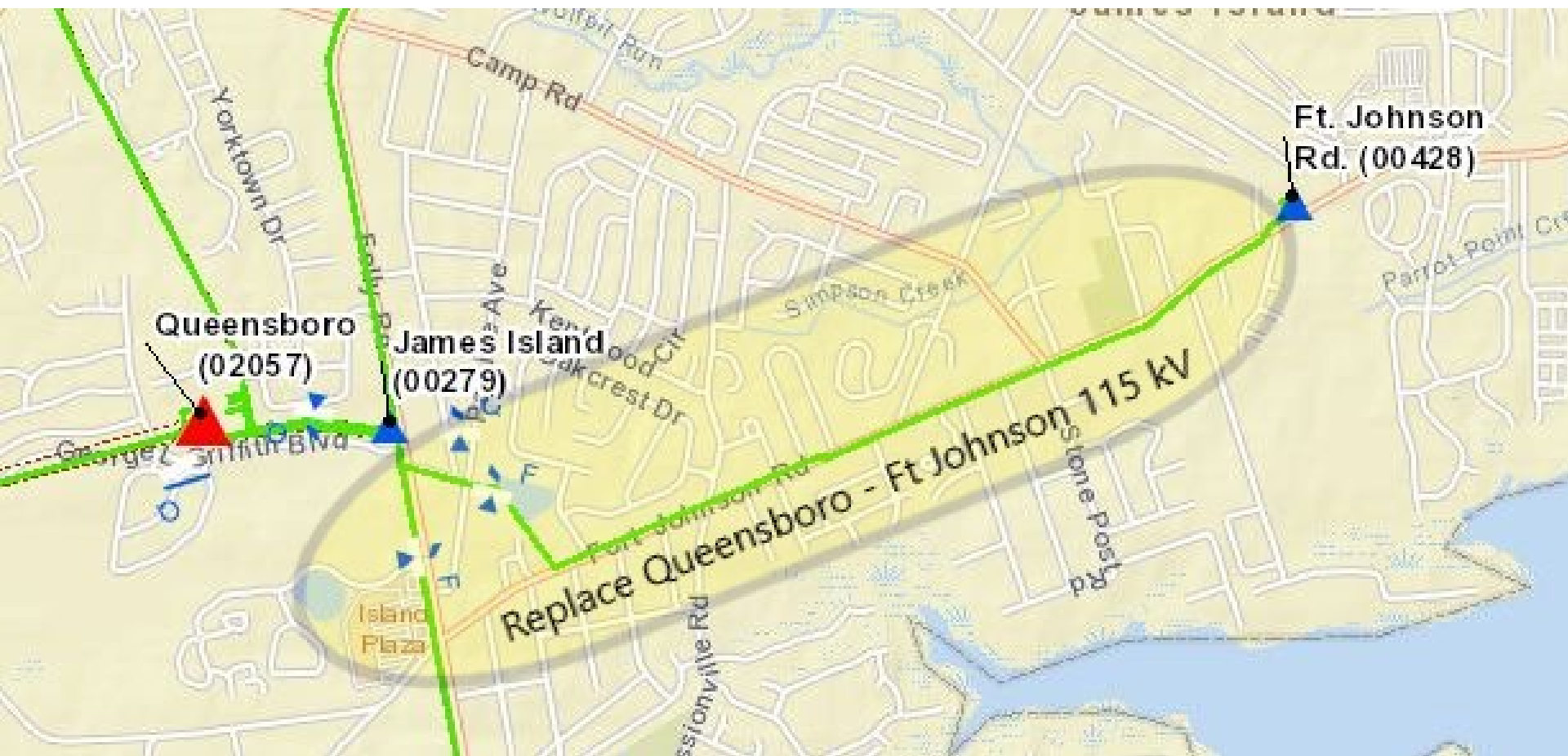
The structures and conductor have reached the end of their usable life. This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

December 2021



Bluffton – Santee 115kV Tie Line Construct

Project Description

Construct a new 115kV tie line from DESC Bluffton substation to SCPSA Bluffton substation. Total line length will be approximately 1.5 miles.

Project Need

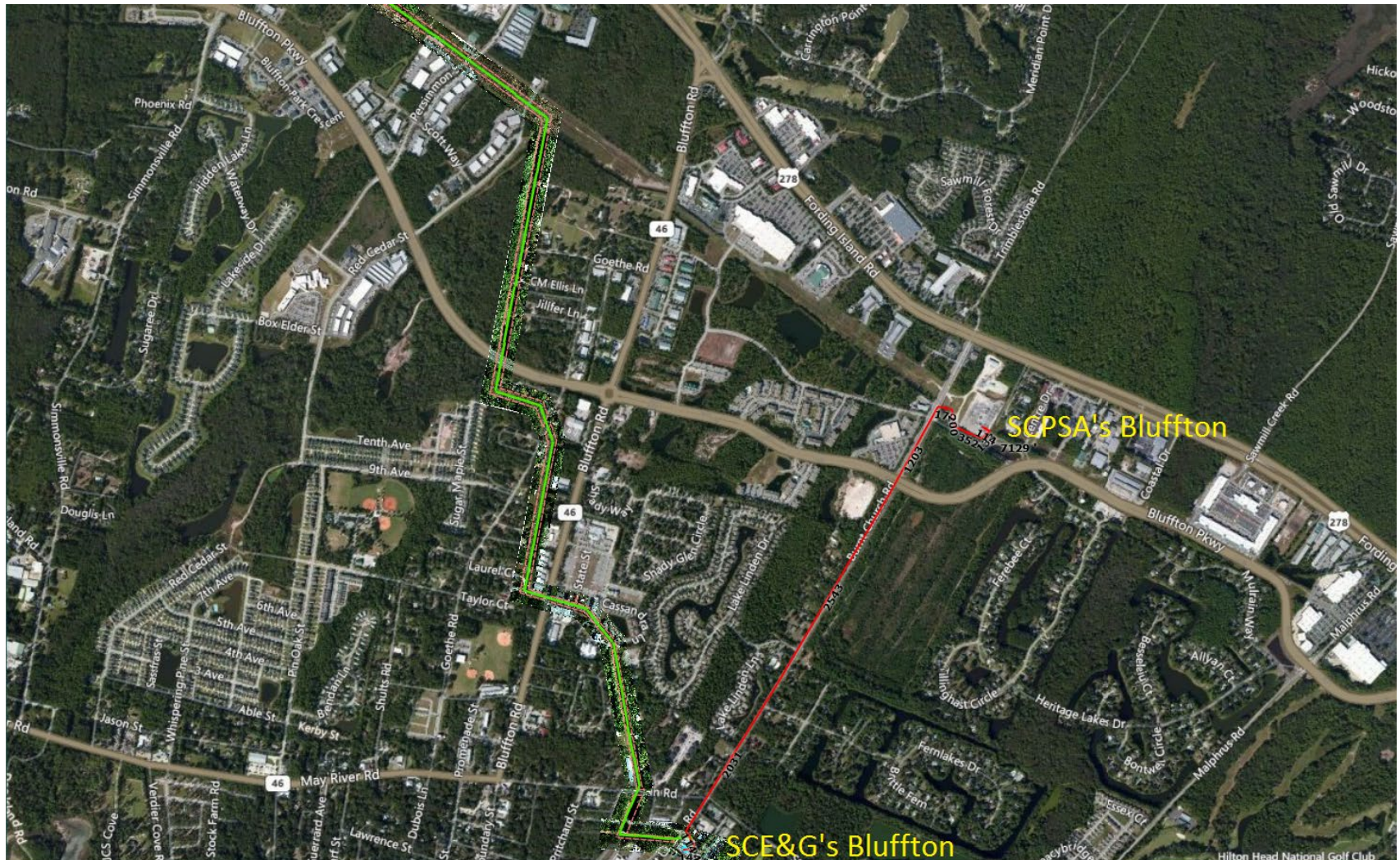
This line is needed to reduce outage durations for planned outages and emergency situations for DESC's Bluffton, Hardeeville and Pritchardville substations.

Project Status

Planned

Planned In-Service Date

December 2021



Canadys 230kV: Add Back-Back Bus Tie Breakers and Canadys 230kV Sub: Reterminate Various Lines

Project Description

Upgrade the 230kV bus from single 1272 ACSR to bundled 1272 ACSR. Install back-to-back 230kV bus tie breakers and re-terminate existing lines into substation.

Project Need

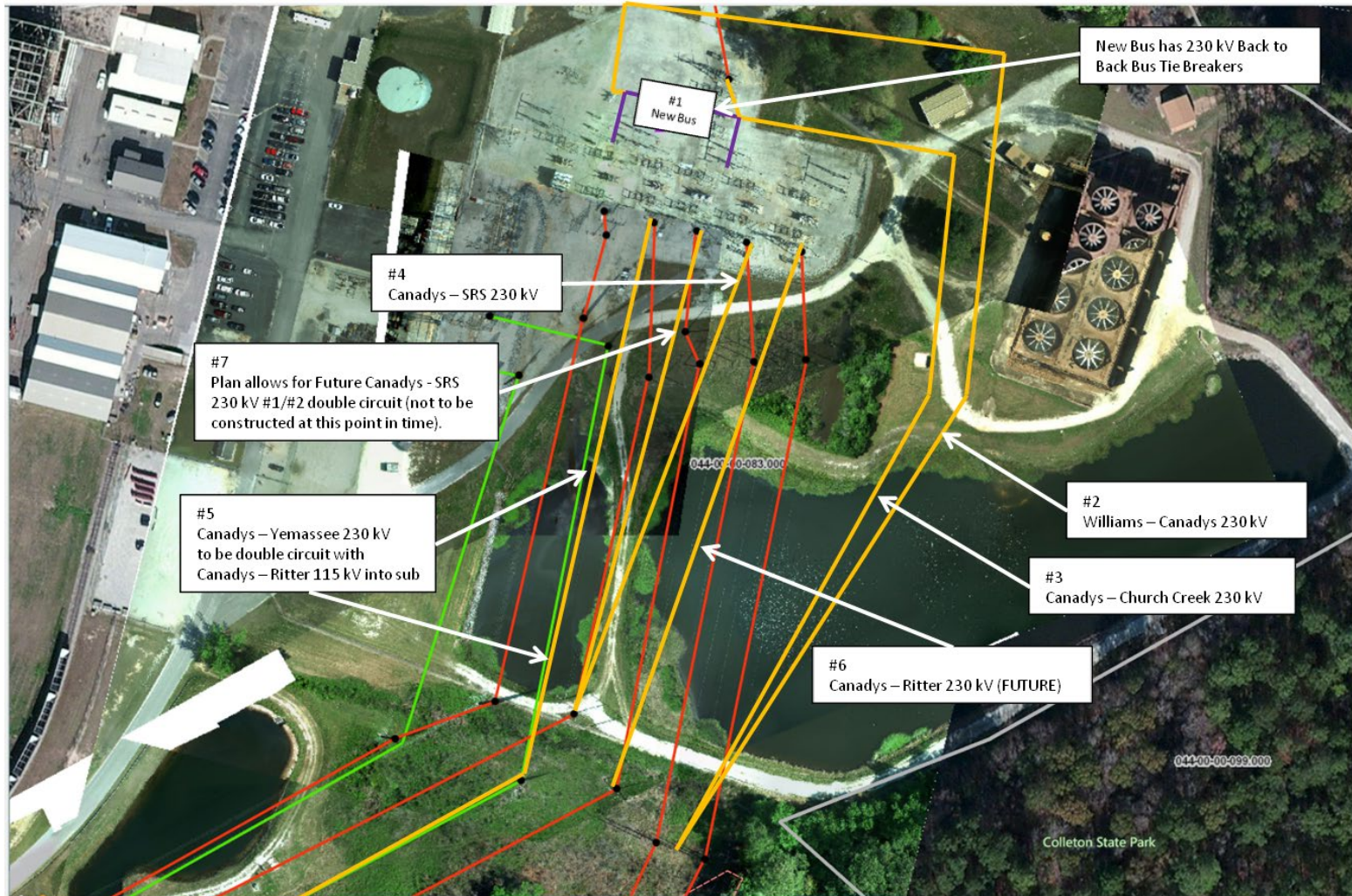
The 230kV bus upgrades are required for additional load growth in the southern portion of the DESC system, and back-to-back bus tie breakers are required for system reliability improvements.

Project Status

In Progress

Planned In-Service Date

December 2021



Emory 230kV Distribution Sub: Tap Construct

Project Description

Tap the VCS2 – Ward 230kV line for the Emory 230kV Distribution Substation.

Project Need

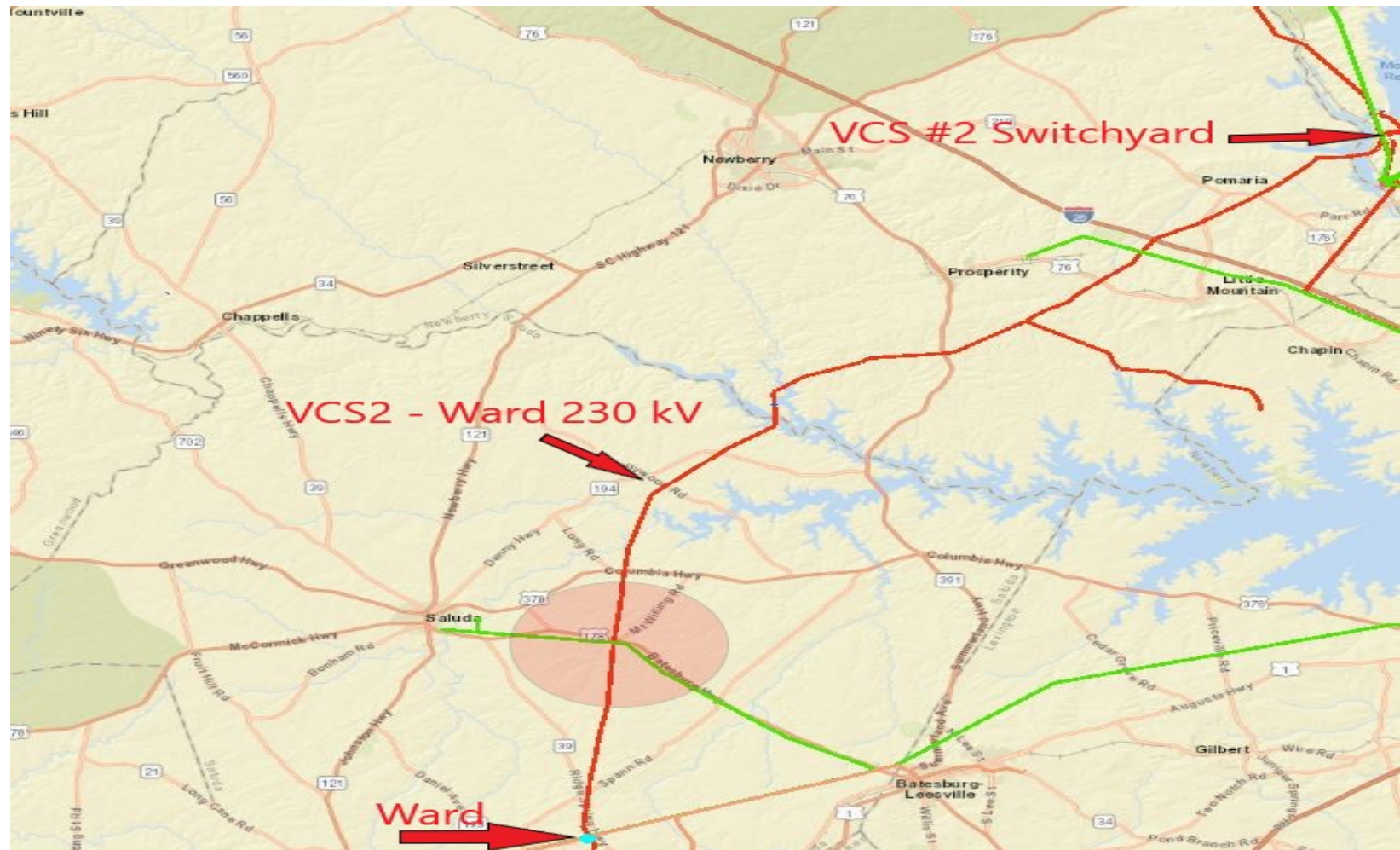
Load growth in the area requires additional distribution capacity.

Project Status

In Progress

Planned In-Service Date

December 2021



Toolebeck – Aiken 230kV Tie: Construct , Toolebeck Sub: Add Three 230kV Terminals, Urquhart Junction - Toolebeck 230kV Fold In

Project Description

Add three 230kV terminals at the Toolebeck substation, construct the Toolebeck – Aiken 230kV SCPSA Tie designed as SPDC to carry 230kV B1272 on both sides.

Project Need

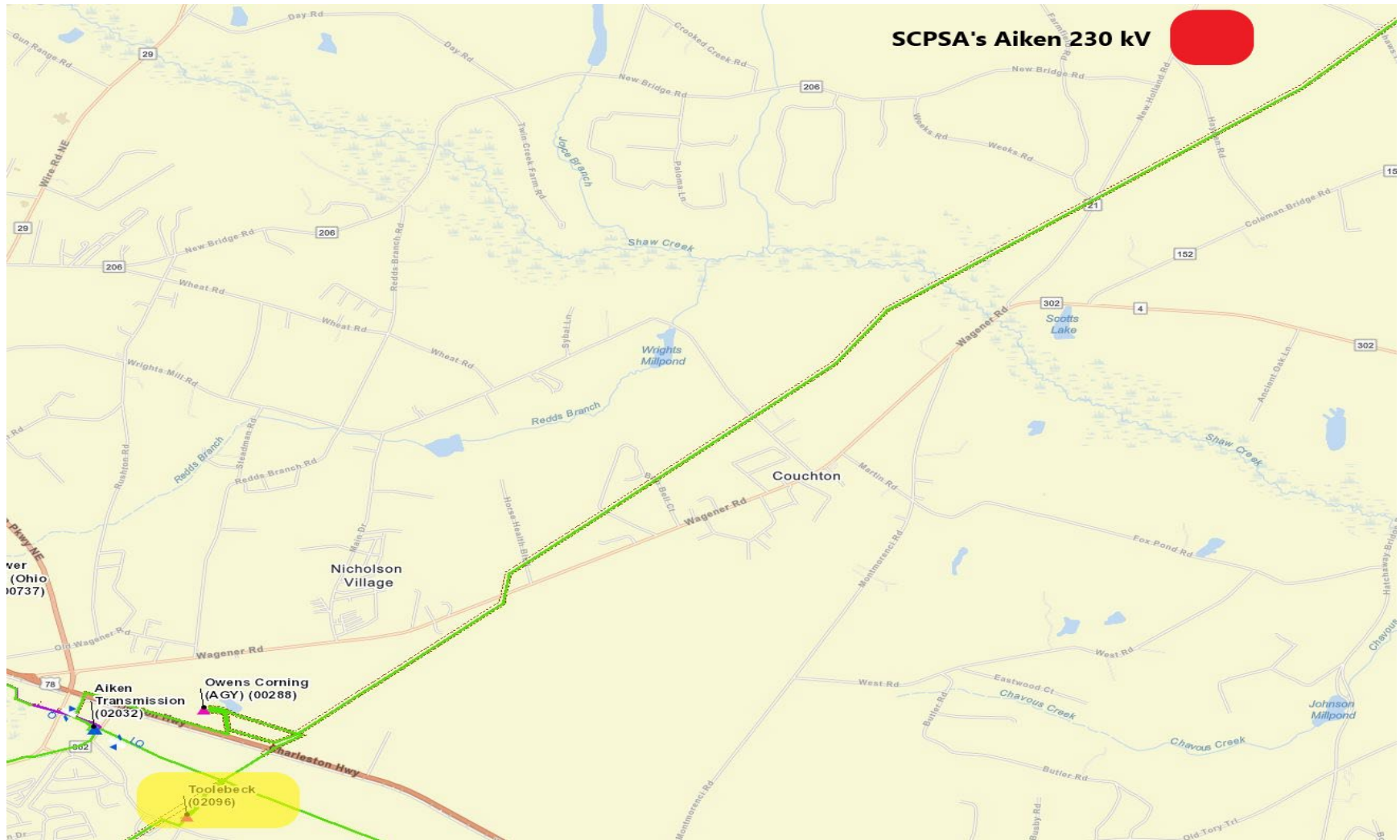
This project is required to meet NERC TPL standards and DESC's Internal Planning Criteria due to congestion in the Aiken area.

Project Status

In Progress

Planned In-Service Date

December 2021



Lake Murray – Gilbert 115kV Line and Lex Westside – Gilbert 115kV Line

(Stevens Creek-Ward-Lake Murray Line Projects)

Project Description

Rebuilding between Lexington Junction and Lexington Transmission including the addition of a third circuit. All three circuits will be designed for 1272 ACSR, Rebuilding between Lexington Transmission and Lexington Westside, line will be SPDC with 1272 ACSR on both sides. Rebuilding between Lexington Westside and Gilbert, line will be designed for SPDC 1272 ACSR but will only construct 1 circuit at this time.

Project Need

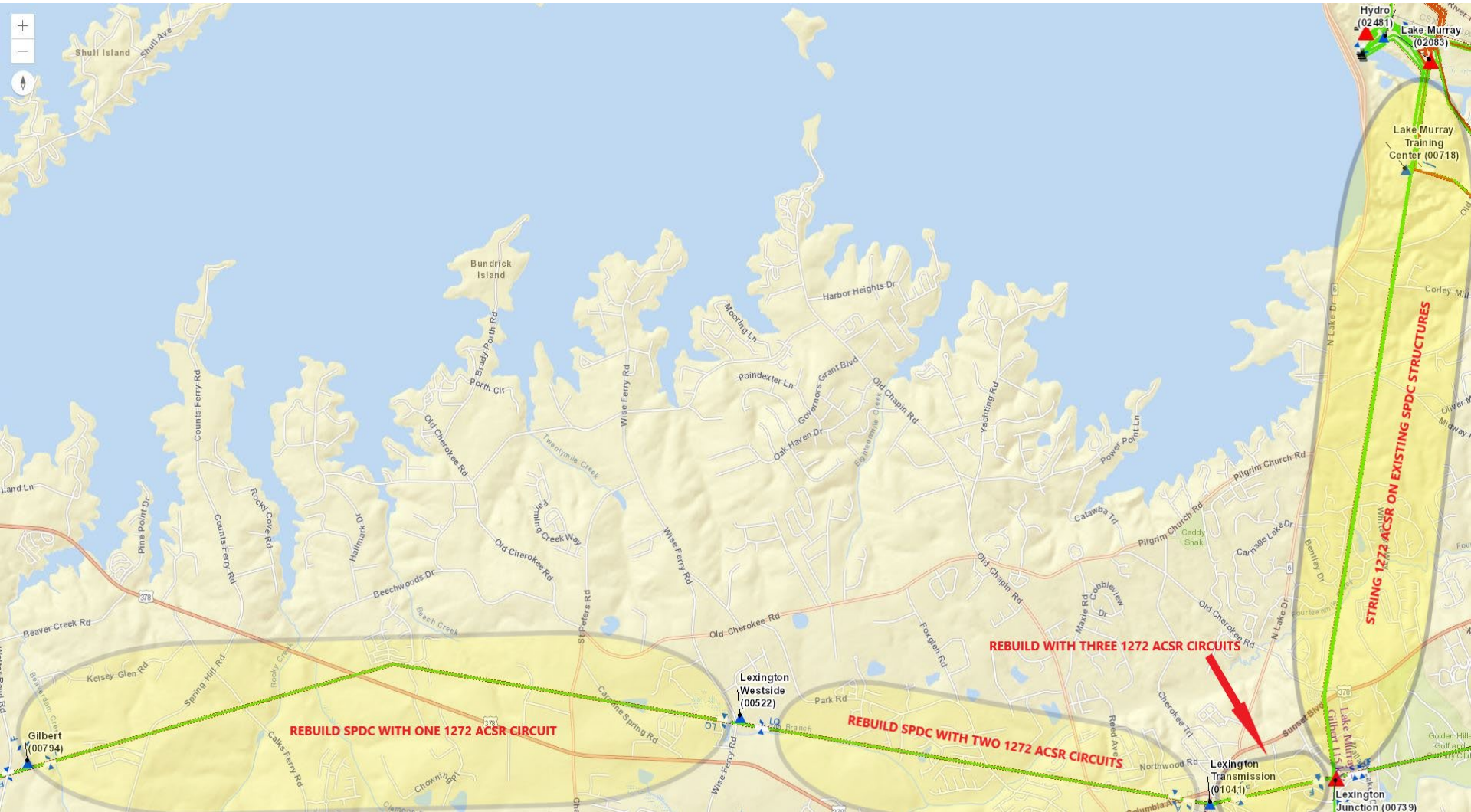
This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

December 2022/December 2021



Batesburg – Ward 115kV Line

(Stevens Creek-Ward-Lake Murray Line Projects)

Project Description

Rebuilding between Batesburg and Ward, line will be single circuit with 1272 ACSR.

Project Need

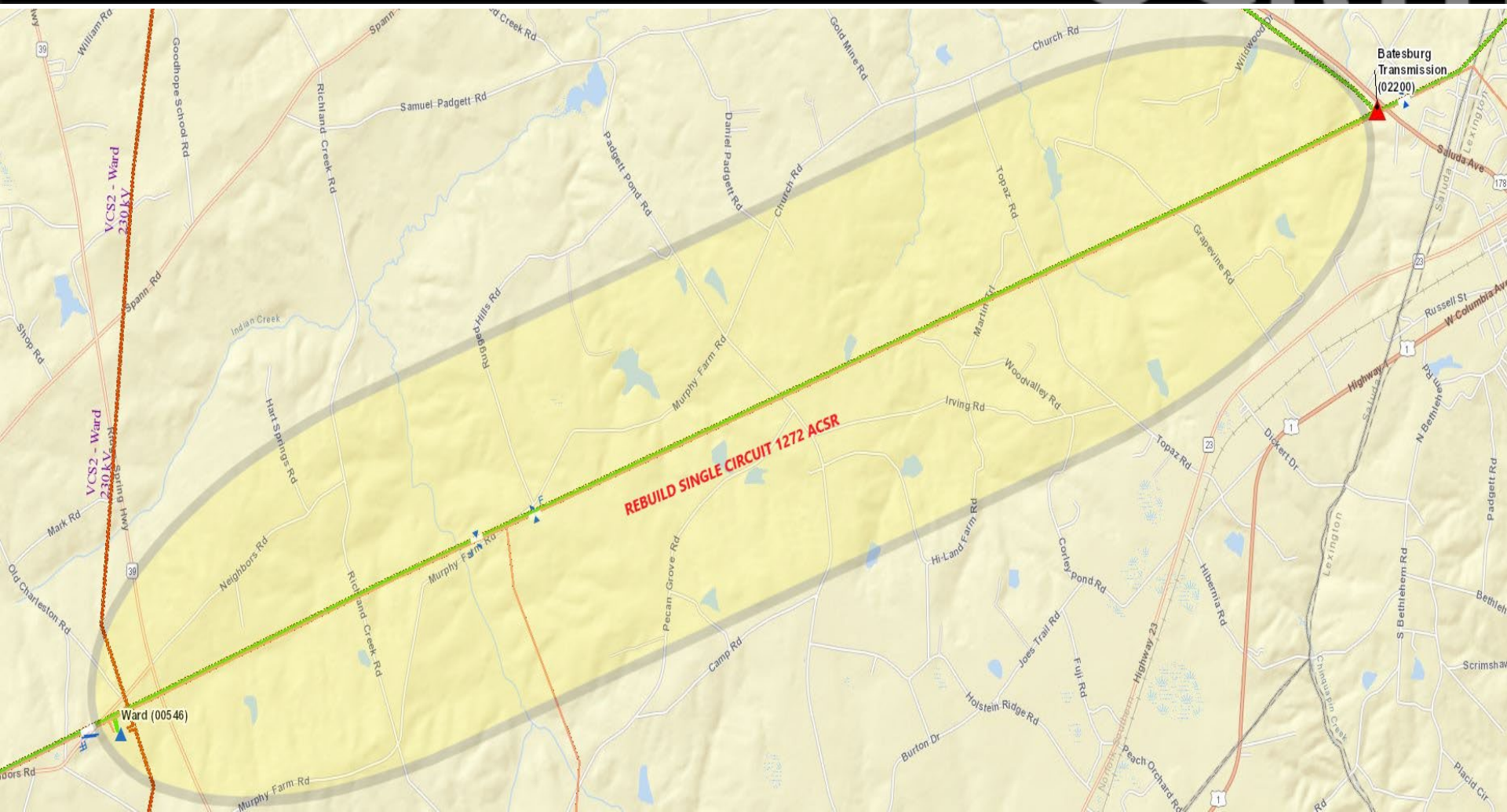
This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

December 2021



Trenton –Briggs Road Tap (Ward – Stevens Creek 115kV)

(Stevens Creek-Ward-Lake Murray Line Projects)

Project Description

Rebuilding between Trenton and the Briggs Rd Tap, line will be single circuit with 1272 ACSR.

Project Need

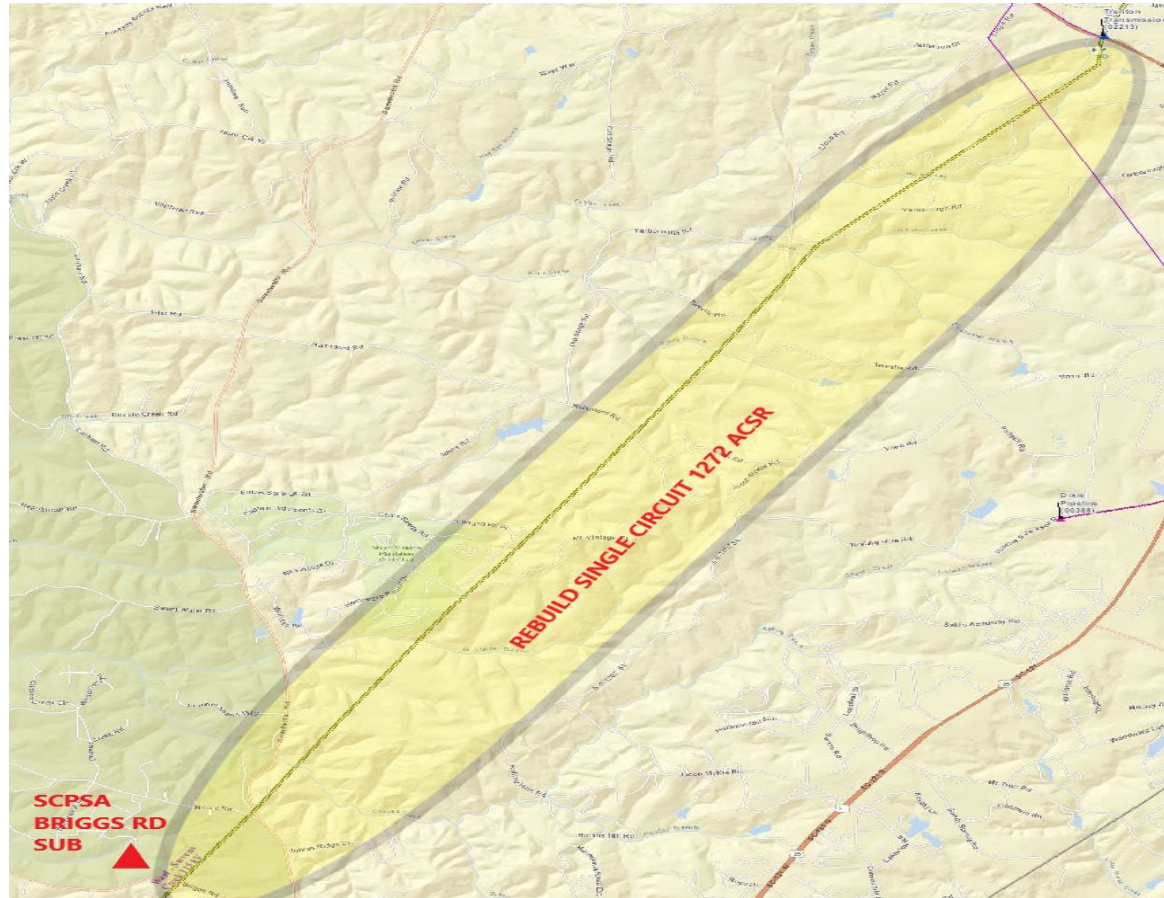
This project is required for system reliability and maintainability.

Project Status

In Progress

Planned In-Service Date

December 2021



Cainhoy – Mt. Pleasant 115kV #1 and #2 (Horlbeck Creek Crossing)

Project Description

Replace the wooden H-frame structures of the Horlbeck Creek crossing section of the Cainhoy – Mt. Pleasant 115kV #1 and #2 line with Self Supporting Steel Structures. In addition, the existing 795 ACSR conductor on line #1 will be replaced with 1272 ACSR.

Project Need

The structures are at the end of their useable life.

Project Status

In Progress

Planned In-Service Date

December 2021



Queensboro – Johns Island 115kV Tie: Rebuild River and Marsh Crossing

Project Description

Replace the structures of the Queensboro – Johns Island 115kV Tie from structures 67 to 80 with galvanized steel poles.

Project Need

The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2021

DESC 2022 - 2026 Planned Transmission Facilities

Burton-Yemassee 115kV #2 Line Rebuild SPDC B795 ACSR

Project Description

Burton-Yemassee 115kV Line #2: Rebuild 115kV SPDC using B795 ACSR (line length 21.24 miles).

Project Need

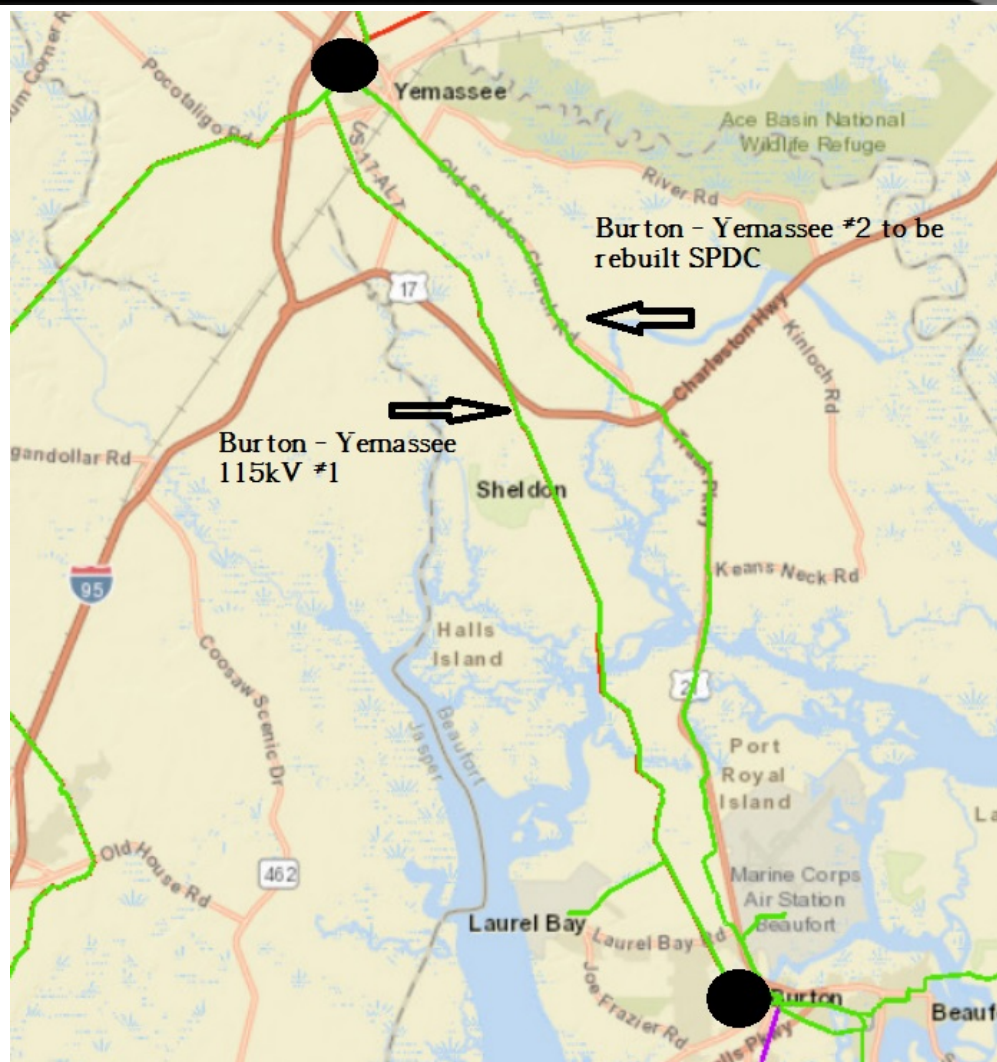
System load growth in the Burton area requires additional transmission capacity from the Yemassee 230/115kV substation and added transmission path to increase reliability.

Project Status

In Progress

Planned In-Service Date

December 2022



Church Creek – Queensboro 115kV: Stono River Crossing

Project Description

Replace the Church Creek – Queensboro 115kV line structures (Stono River Crossing) between poles 16-55.

Project Need

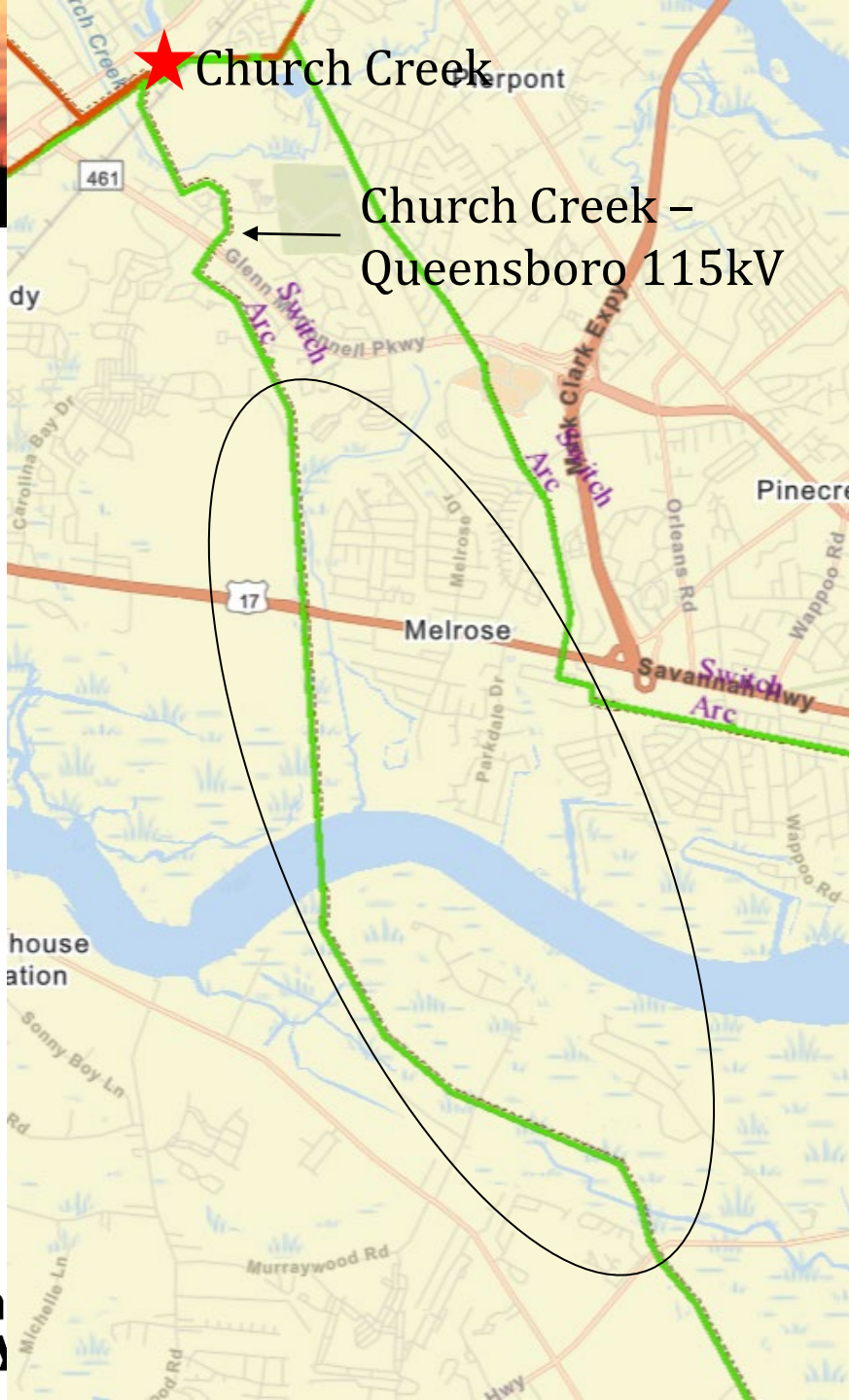
The Church Creek – Queensboro 115kV Line Stono River Crossing structures have reached the end of their usable life.

Project Status

Planned

Planned In-Service Date

December 2022



Denny Terrace – Crafts Farrow & Denny Terrace – Dentsville Line #1 115kV Rebuild

Project Description

Replace the old wooden double circuit structures on the Denny Terrace – Crafts Farrow 115kV and Denny Terrace – Dentsville 115kV Line #1 between Denny Terrace Substation and structure 59. In addition, the existing 477 ACSR and 795 ACSR conductor will be replaced and upgraded to 1272 ACSR.

Project Need

The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2022



Wateree – Hopkins 230kV Line #2: Rebuild

Project Description

Replace the Wateree – Hopkins 230kV #2 wood H-Frame structures with steel structures.

Project Need

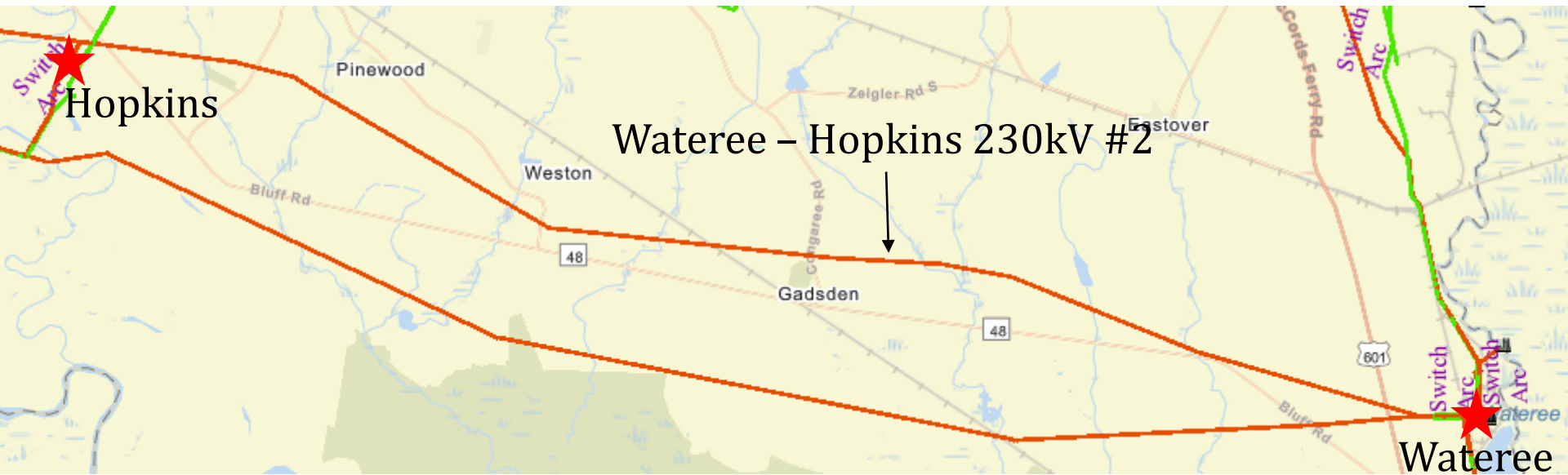
The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2022



Columbia Industrial Park – Kendrick 115kV & Columbia Industrial Park – Ft. Jackson #2 115kV Rebuild

Project Description

Upgrade the entire Columbia Industrial Park – Kendrick 115kV line to 1272 ACSR. Upgrade the Columbia Industrial Park – Ft. Jackson #2 115kV line from Switch 2859 to the Columbia Industrial Park sub to 1272 ACSR.

Project Need

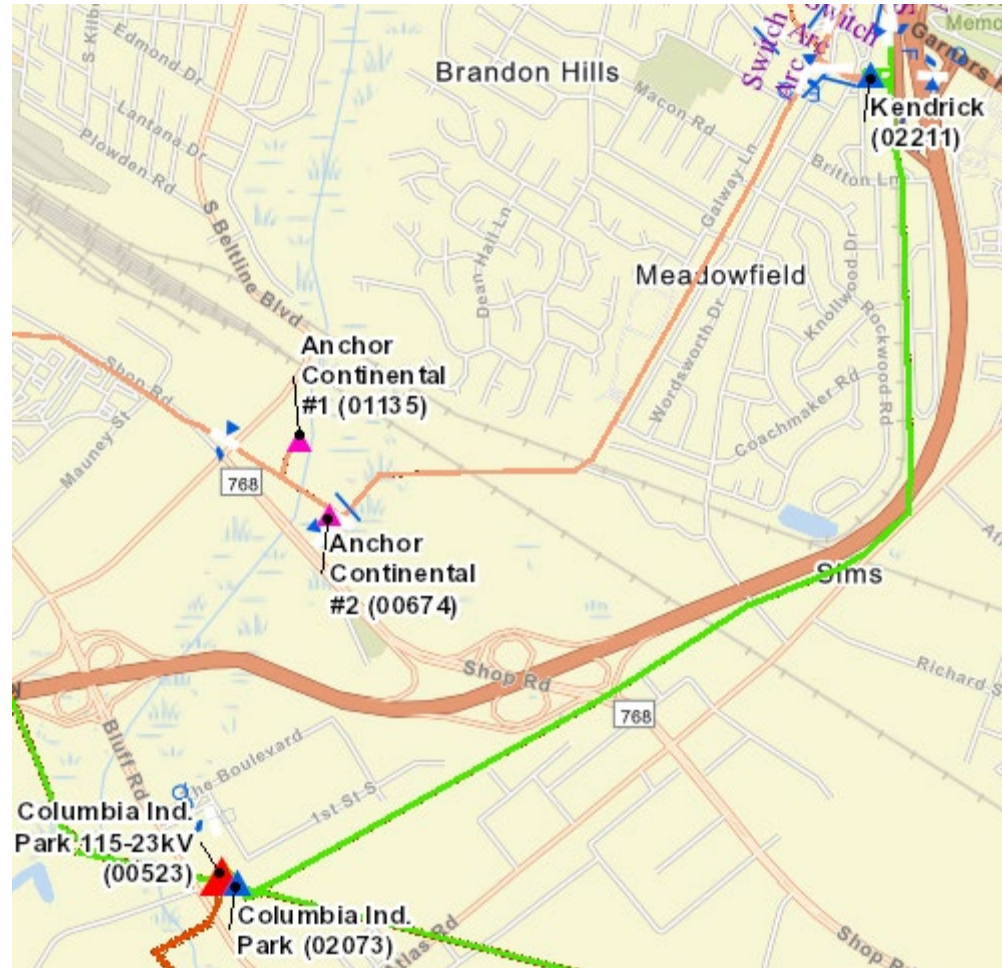
Load growth in the area requires additional transmission capacity.

Project Status

Planned

Planned In-Service Date

December 2022



Okatie – Bluffton 115kV: Rebuild

Project Description

Replace the Okatie – Bluffton 115kV Line.

Project Need

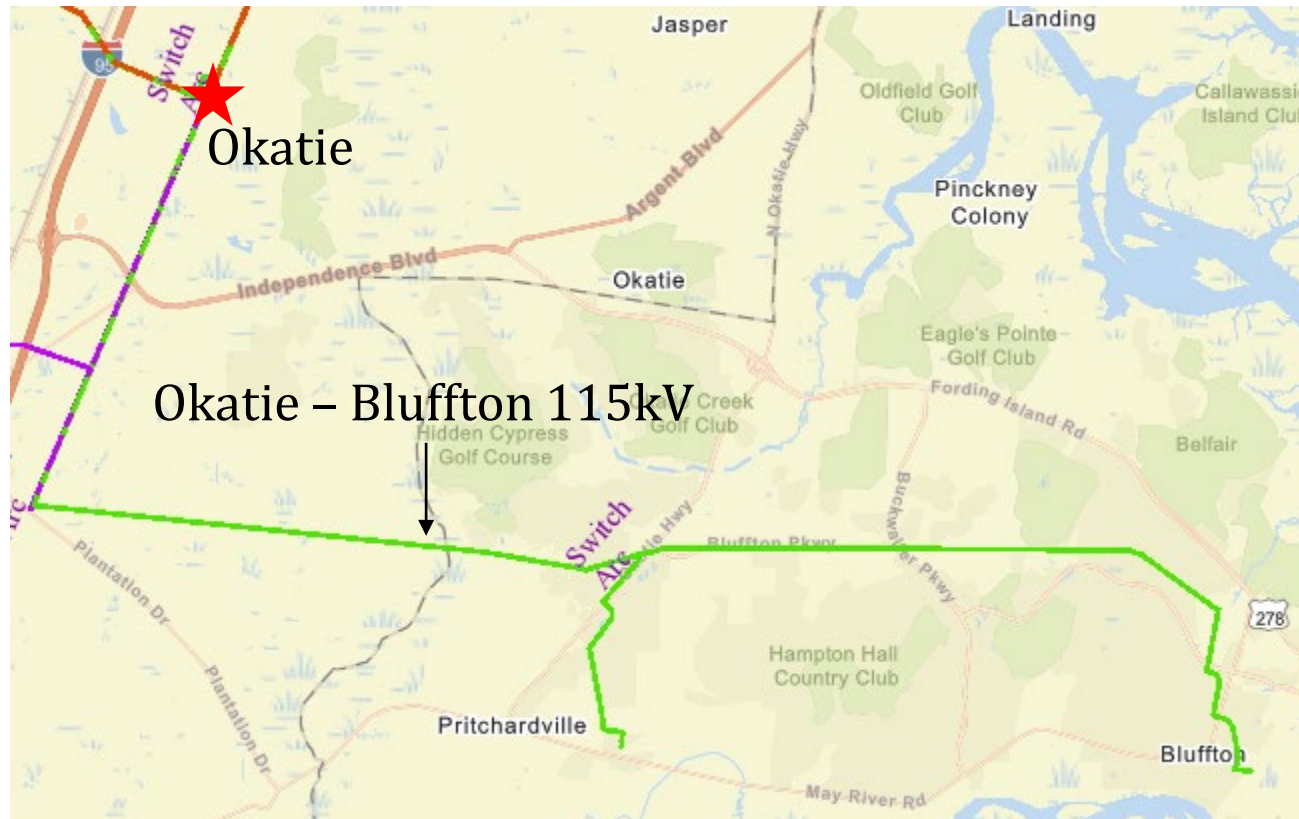
The existing structures and 795 ACSR conductor on the 18.65 mile long line have reached the end of useable life. In addition to changing out the wooden structures with Self Supporting Steel Poles, the conductor will be replaced and upgraded with 1272 ACSR conductor.

Project Status

Planned

Planned In-Service Date

December 2023



Denny Terrace Substation: Replace Switch House

Project Description

Replace the Switch House at the Denny Terrace Substation.

Project Need

The Denny Terrace switch house is scheduled for several upgrades that the existing house layout does not easily accommodate.

Project Status

Planned

Planned In-Service Date

December 2023

Hopkins – Square D – Eastover 115kV: Rebuild

Project Description

Replace the Hopkins – Square D – Eastover 115kV structures and line.

Project Need

The existing wooden structures and 477 ACSR conductor on the 20.5 mile-long Hopkins – Square D – Eastover 115kV Line have reached the end of useable life. In addition to changing out the wooden structures with Self Supporting Steel Poles, the conductor will be replaced with 1272 ACSR conductor.

Project Status

Planned

Planned In-Service Date

December 2023



Burton – St Helena 115kV: Rebuild Burton – Frogmore Transmission Section and Frogmore Distribution – St. Helena

Project Description

Replace the structures on the Burton to Frogmore Transmission and Frogmore Distribution to St Helena sections of 115kV line with Galvanized Steel Monopoles.

Project Need

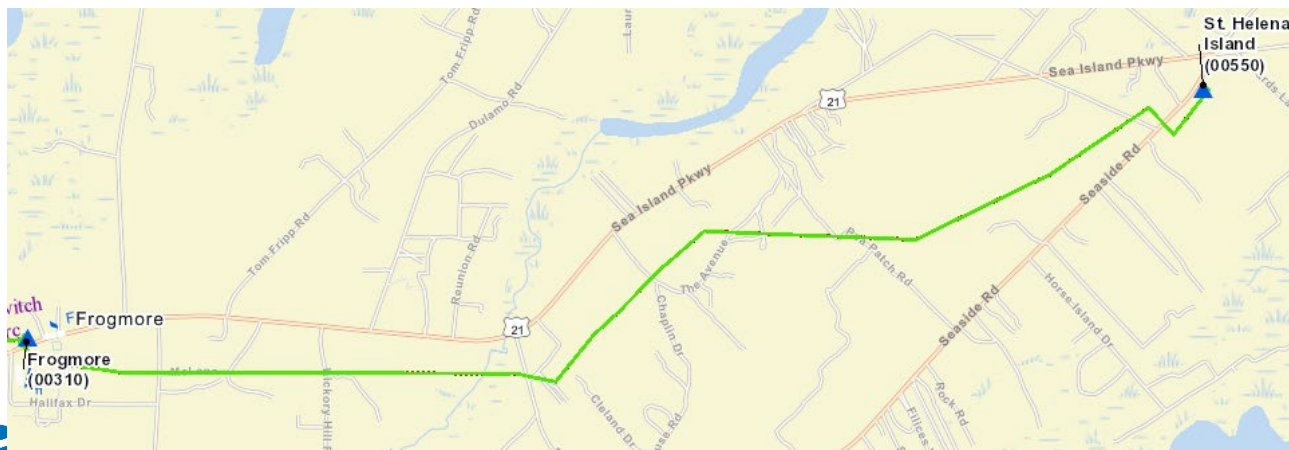
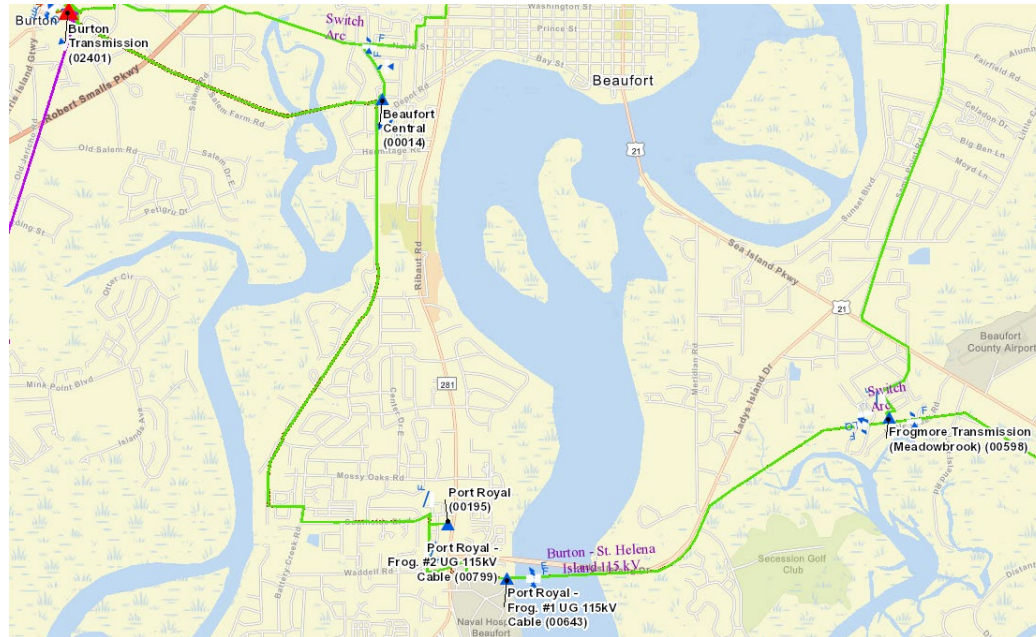
The existing structures have reached the end of their useable life. In addition, the conductor on the Burton – Frogmore Transmission section will be replaced with 1272 ACSR as it has also reached its end of life.

Project Status

Planned

Planned In-Service Date

December 2023



VCS1 – Denny Terrace 230kV & VCS1 – Pineland 230kV: Rebuild Double Circuit Section and Single Circuit Sections

Project Description

Rebuild the structures and conductor on the VCS1 – Denny Terrace 230kV line and the VCS1 – Pineland 230kV line.

Project Need

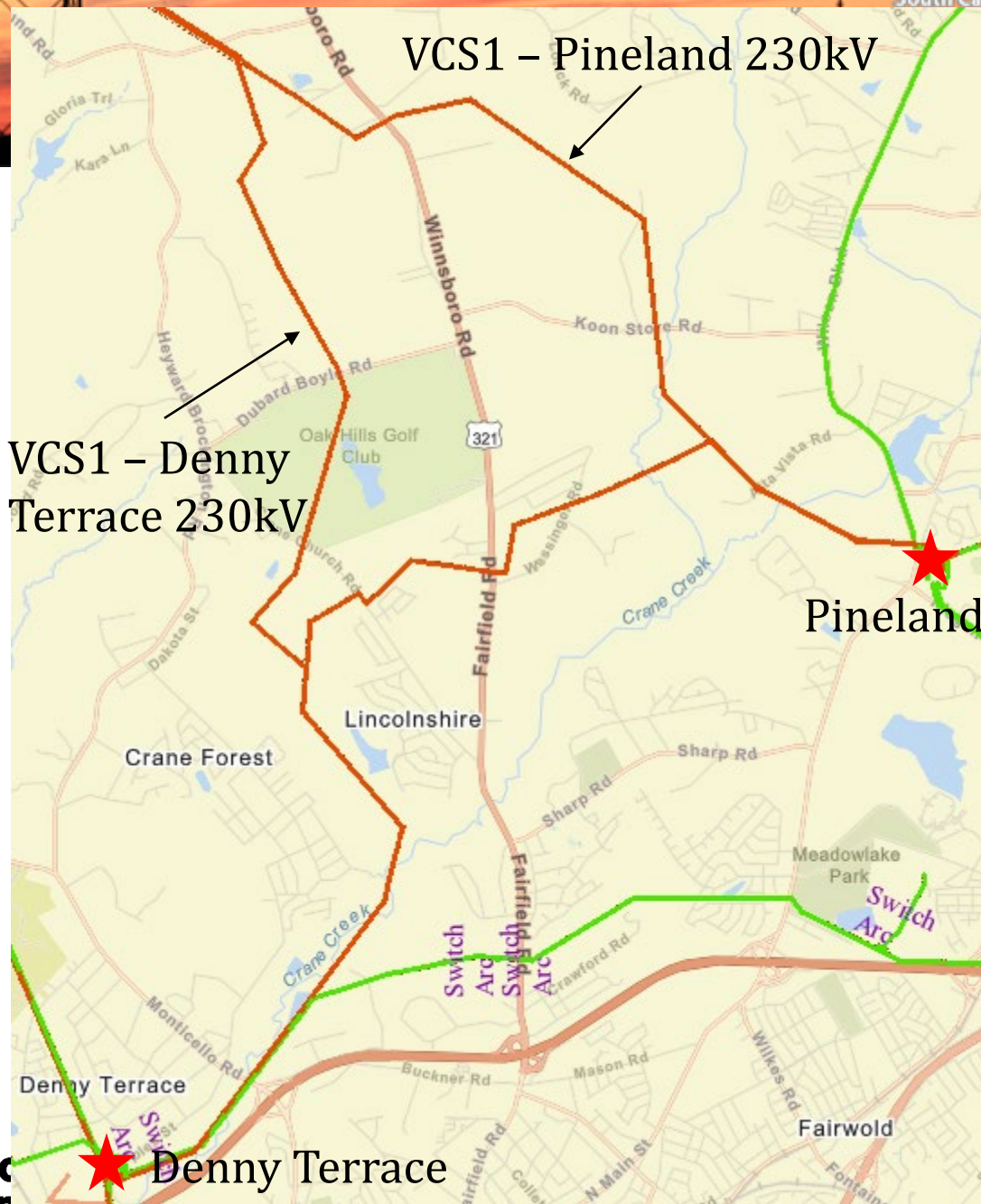
The wooden H-Frame structures for both lines as well as the conductors have reached the end of their life. The structures will be replaced with Self Supporting Steel Poles and the conductor will be replaced with 1272 ACSR.

Project Status

Planned

Planned In-Service Date

December 2023



Duke
Energy



Denny Terrace



santee cooper

Wateree – Hopkins 230kV Line #1: Rebuild

Project Description

Replace the Wateree – Hopkins 230kV #1 wood H-Frame structures with steel structures.

Project Need

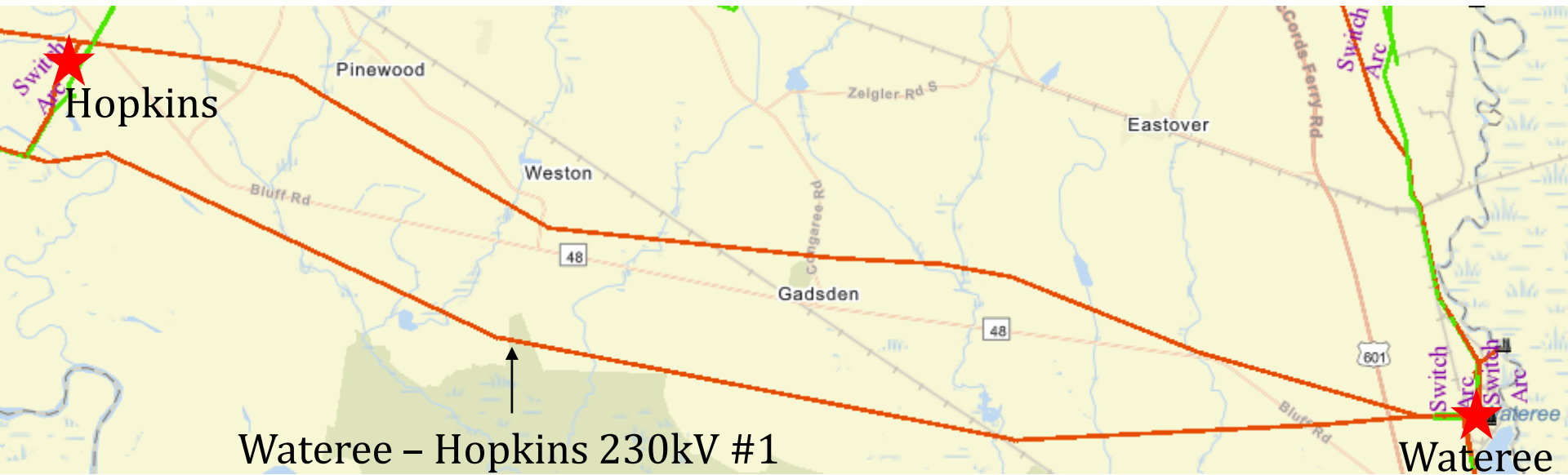
The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2023



Coit – Gills Creek 115kV Line: Construct

Project Description

Construct a new 115kV tie line from Coit substation to the Gills Creek substation.

Project Need

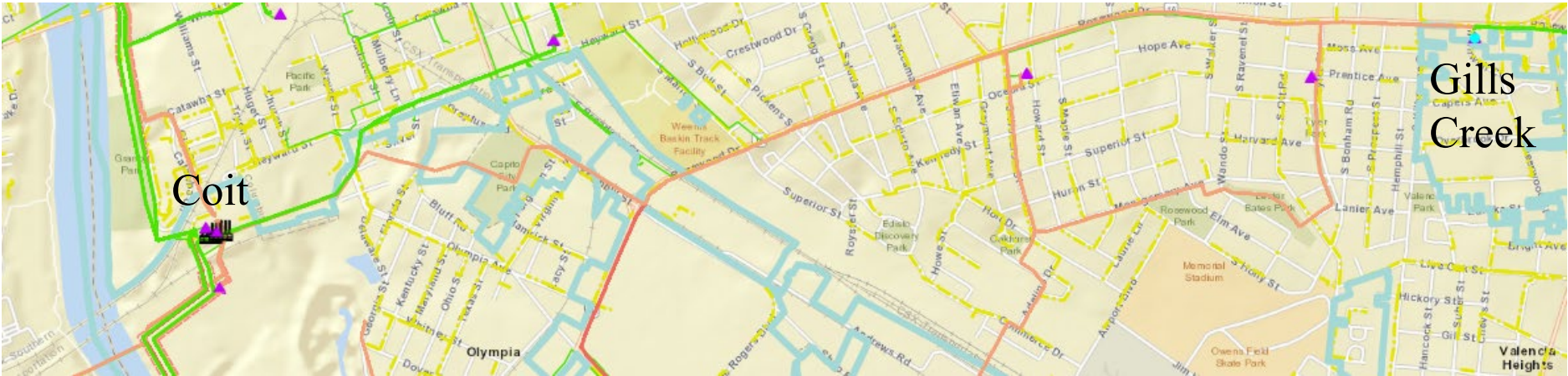
System growth in the Eastern Columbia and Garners Ferry areas requires additional 115kV capacity and transmission path to increase reliability.

Project Status

Planned

Planned In-Service Date

December 2024



Union Pier 115 – 13.8kV Sub : Tap Construct

Project Description

Construct a 115-13.8kv substation approximately 0.7 mile South of Charlotte Street Substation near Bay Street.

Project Need

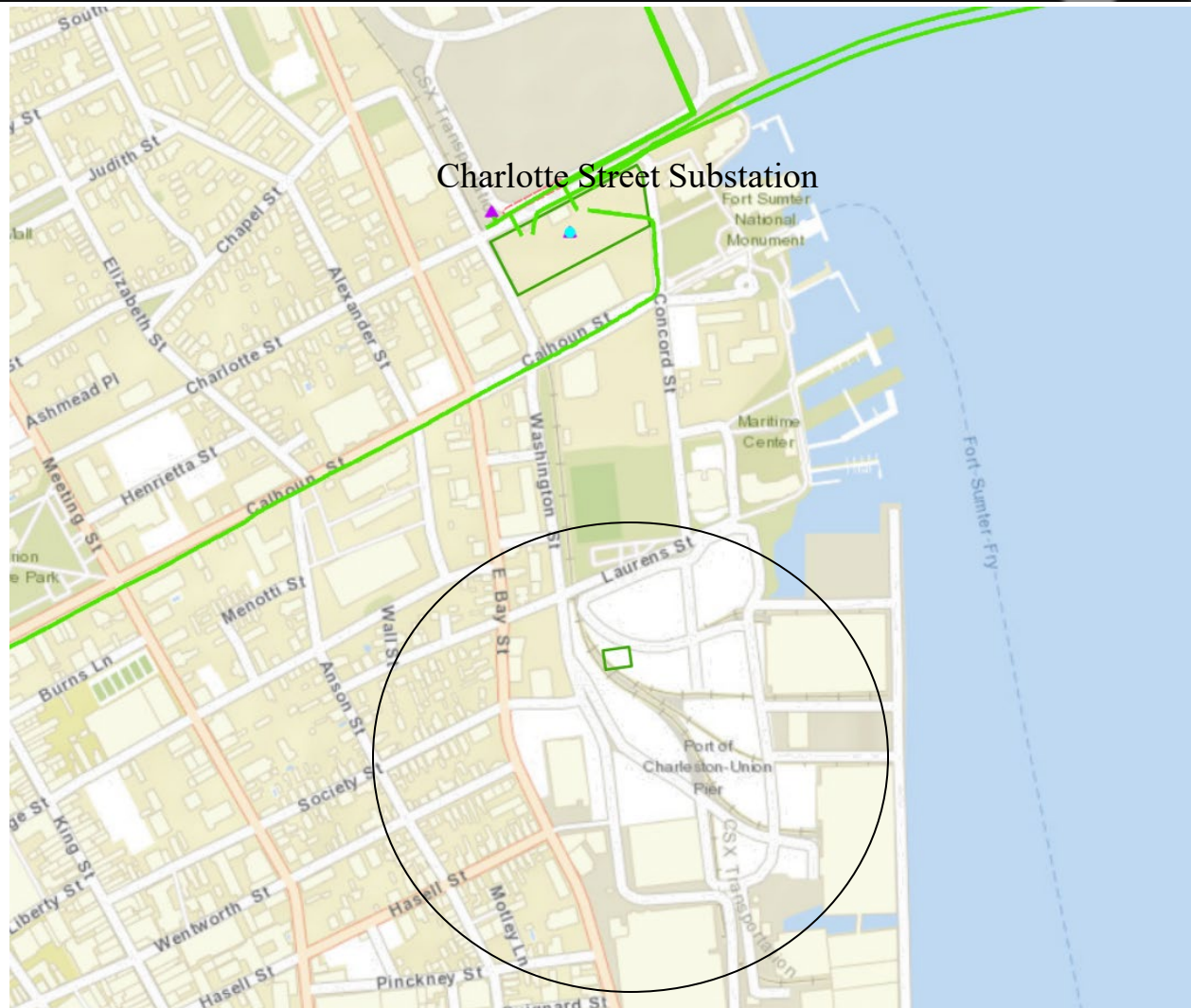
Load growth in the Charleston area requires additional transmission capacity.

Project Status

Planned

Planned In-Service Date

December 2024



Cainhoy – Hamlin 115kV: Rebuild Line and Cainhoy – Hamlin 115kV #2: Construct new 115kV Line

Project Description

Rebuild the existing Cainhoy – Hamlin 115kV line with bundled 795 ACSR conductor and steel poles.
Build an additional Cainhoy – Hamlin line to the same specifications and in the same right of way.

Project Need

This project is required for system reliability and maintainability.

Project Status

Planned

Planned In-Service Date

December 2024



Hopkins – CIP 230kV: Rebuild

Project Description

Replace the Hopkins - CIP 230kV wooden H-Frame structures 134-170 with steel structures.

Project Need

The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2024

Faber Place – Bayfront 115kV: Rebuild North Bridge Terrace to Bayfront Section

Project Description

Replace the Faber Place - Bayfront 115kV wooden T-1 structures with Self Supporting Steel Structures.

Project Need

The structures are at the end of their useable life. The existing 477 ACSR conductor on the line has also reached its end of life, and will be replaced with 1272 ACSR.

Project Status

Planned

Planned In-Service Date

December 2024



Wateree – Killian 230kV: Rebuild

Project Description

Replace the Wateree – Killian 230kV wooden H-Frame structures with steel structures.

Project Need

The structures are at the end of their useable life.

Project Status

Planned

Planned In-Service Date

December 2025

Lakeside 230-115kV Sub and the Jasper – Yemassee Fold In

Project Description

Expand the Okatie transmission switching station by adding two 230kV line terminals and a 230-115kV autotransformer creating the Lakeside 230-115kV substation, and fold in the Jasper – Yemassee 230kV #1 line.

Project Need

This project is required for system reliability and maintainability.

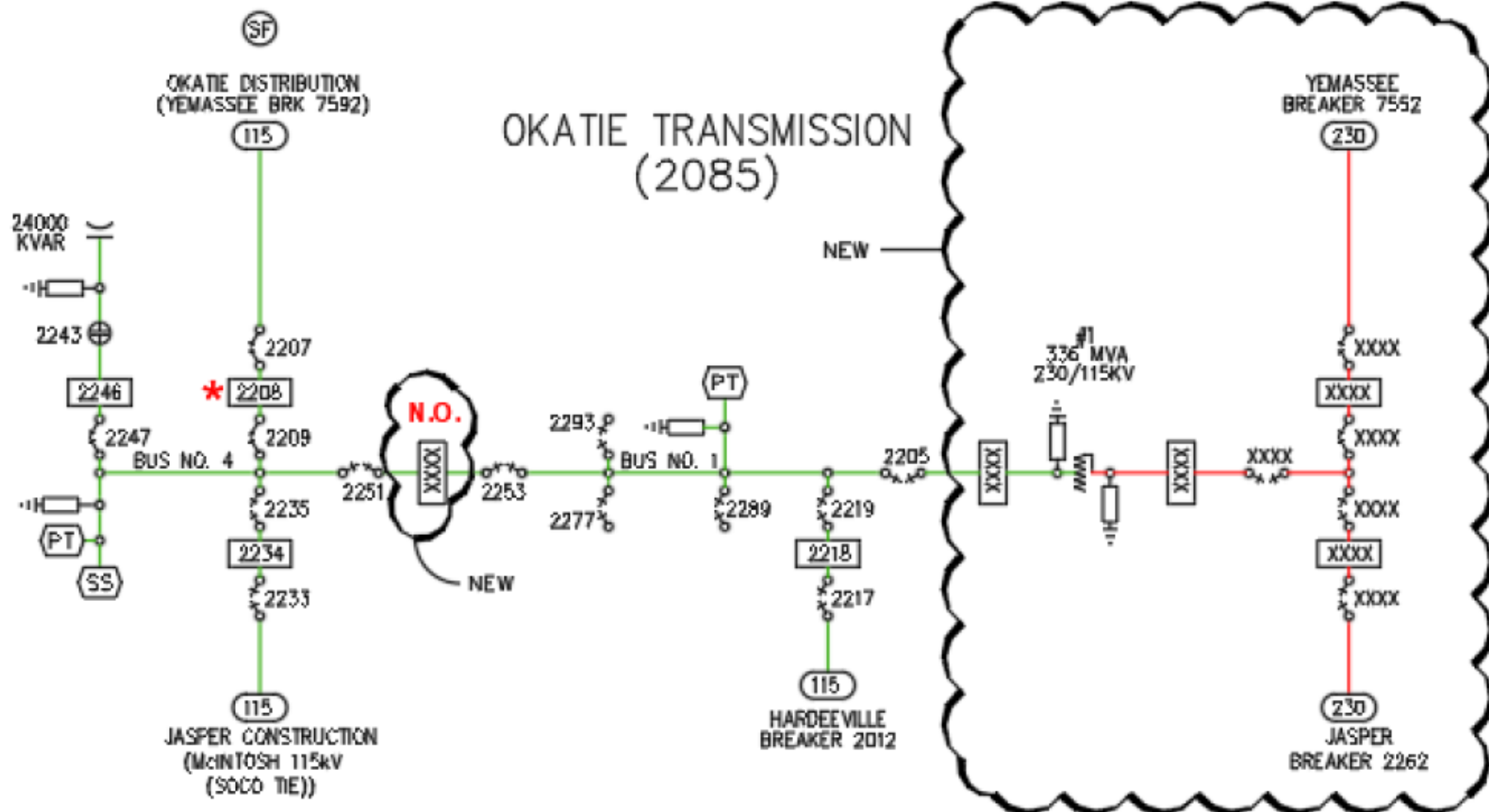
Project Status

Planned

Planned In-Service Date

December 2026

OKATIE TRANSMISSION (2085)



Ritter – Yemassee 230kV and 115kV Transmission System Expansion

Project Description

Construct Ritter – Yemassee 230kV #1 and #2 SPDC with B1272 ACSR on both sides, and convert the existing Ritter – Yemassee 230kV to 115kV operation, re-terminating it to new 115kV terminals at Ritter and Yemassee.

Project Need

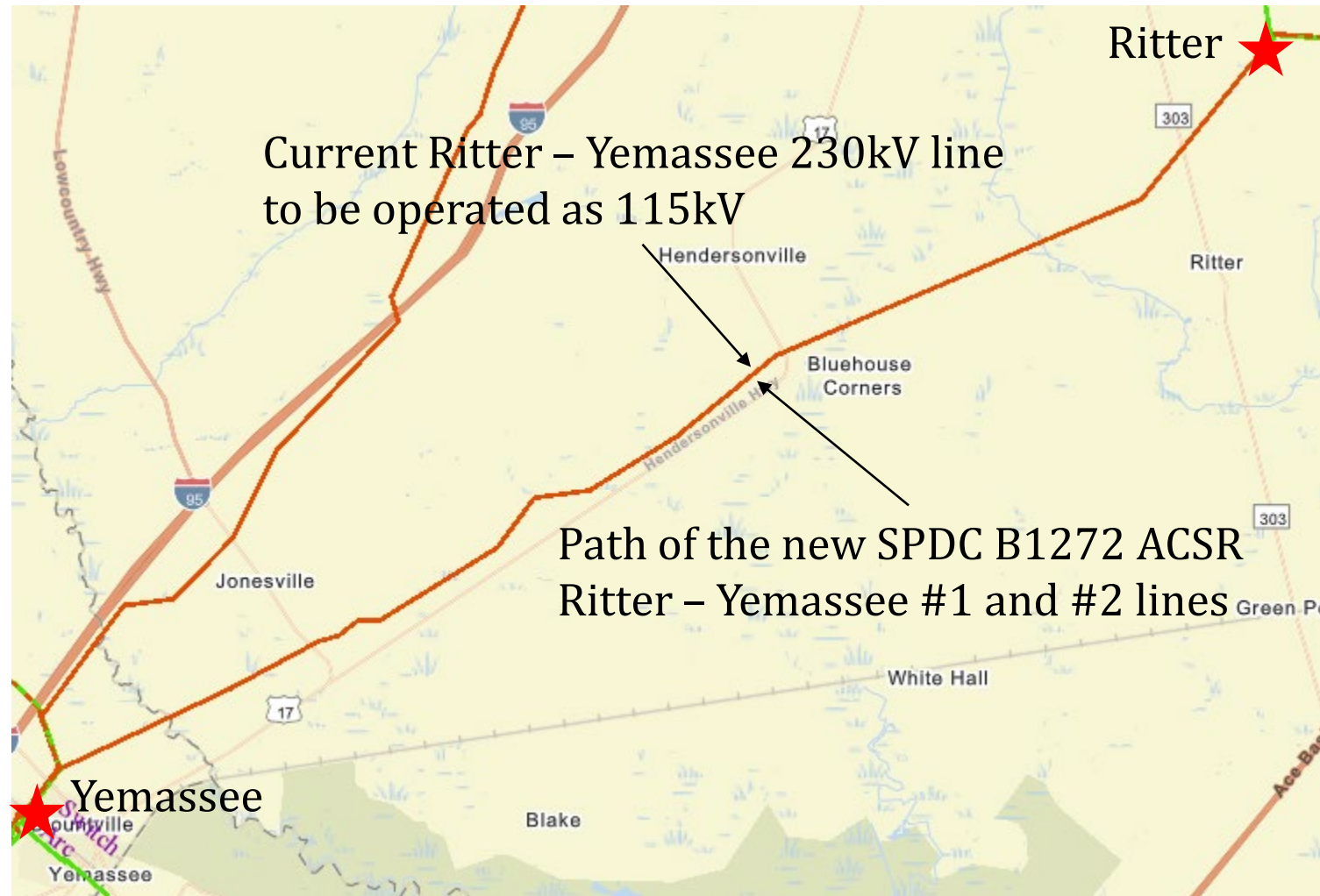
This project is needed to enhance system reliability, improve power flow, and mitigate potential overloads in the Yemassee, SC area by adding additional 230kV and 115kV paths for electrical power to flow out of the Yemassee substation.

Project Status

Planned

Planned In-Service Date

June 2027



Questions?

Santee Cooper Major Transmission Expansion Plans

Weijian Cong

Transmission Planned Projects 2021 - 2025

Carnes Crossroads Transformer #3	6/1/2021
Series Bus Tie Breakers at Hemingway 230-115 kV substation	11/1/2021
Purrysburg Add Redundant Bus Diff. Relays and Add Series Bus Tie Breakers	12/1/2021
Horry Generating Station Interconnections	12/1/2021
Rebuild N. Charleston-Goose Creek 115 kV Line Section	12/1/2021
John's Island (SC)-Queensboro (DESC) 115 kV tie Line	12/31/2021
Aiken 230 kV Tie Line with DESC	12/31/2021
Rebuild North Charleston-Goose Creek 115 kV Line Section	3/31/2022
Aiken 230-115 kV Transformer Addition	11/1/2022
Conway 230 kV Switching Station	9/1/2024
Marion-Conway 230 kV Line	91/2024

Carnes 230-115 kV substation: Add Transformer #3

Project Description

At the Carnes Crossroads 230-115 kV Substation, install a third 230-115 kV transformer rated for 150/200/250//280 MVA. Add redundant bus differential relaying for both the 230 kV and 115 kV buses.

Project Need

Load growth in the Berkeley County area will require the installation of an additional transformer at Carnes 230-115 kV substation to mitigate transformer loading under contingency conditions and to maintain transmission reliability in this area.

Project Status

In Progress

Planned In-Service Date

June 2021

Series Bus Tie Breakers at Hemingway 230-115 kV substation

Project Description

Reconfigure the Hemingway 230-115 kV Substation as required to install a second 230 kV Bus Tie Breaker in series with the existing 230 kV Bus Tie Breaker. Install redundant bus differential protection relays.

Project Need

The intent of this project is to mitigate thermal loading on facilities in the area under contingency conditions by eliminating a specific contingency that would result in loss of all 230 kV support at the Hemingway 230-115 kV substation.

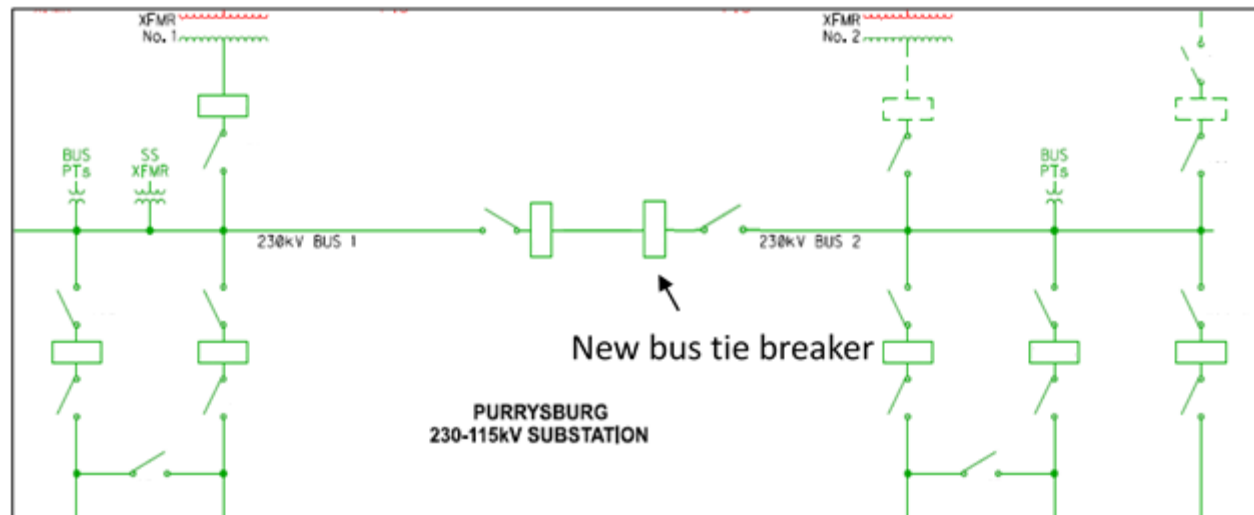
Project Status

In Progress

Planned In-Service Date

November 2021

Series Bus Tie Breakers at Hemingway 230-115 kV substation 6/2021



Add Redundant Bus Diff. Relays and Bus Tie breaker at Purrysburg 230-115kV Substation

Project Description

Install a second 230 kV Bus Tie Breaker in series with the existing 230 kV Bus Tie Breaker. Install redundant bus differential protection relays.

Project Need

The intent of this project is to mitigate thermal loading on facilities in the southern area of the Santee Cooper transmission system and neighboring facilities under contingency conditions by eliminating a specific contingency that would result in loss of all 230 kV support at the Purrysburg 230 kV switching station.

Project Status

In Progress

Planned In-Service Date

December 2021

John's Island (SC)-Queensboro (DESC) 115 kV Line

Project Description

Construct a new 115 kV transmission line using 1272 ACSR conductor, approximately 6 miles in length, from the Johns Island 230-115 kV Substation to a mutually agreed upon location on Johns Island. Construct a new 115 kV line terminal at Johns Island 230-115 kV Substation.

Project Need

This new interconnection will provide an additional transmission source to Johns Island, which will mitigate contingency conditions that could result in significant load loss, thus increasing transmission reliability to the Johns Island area.

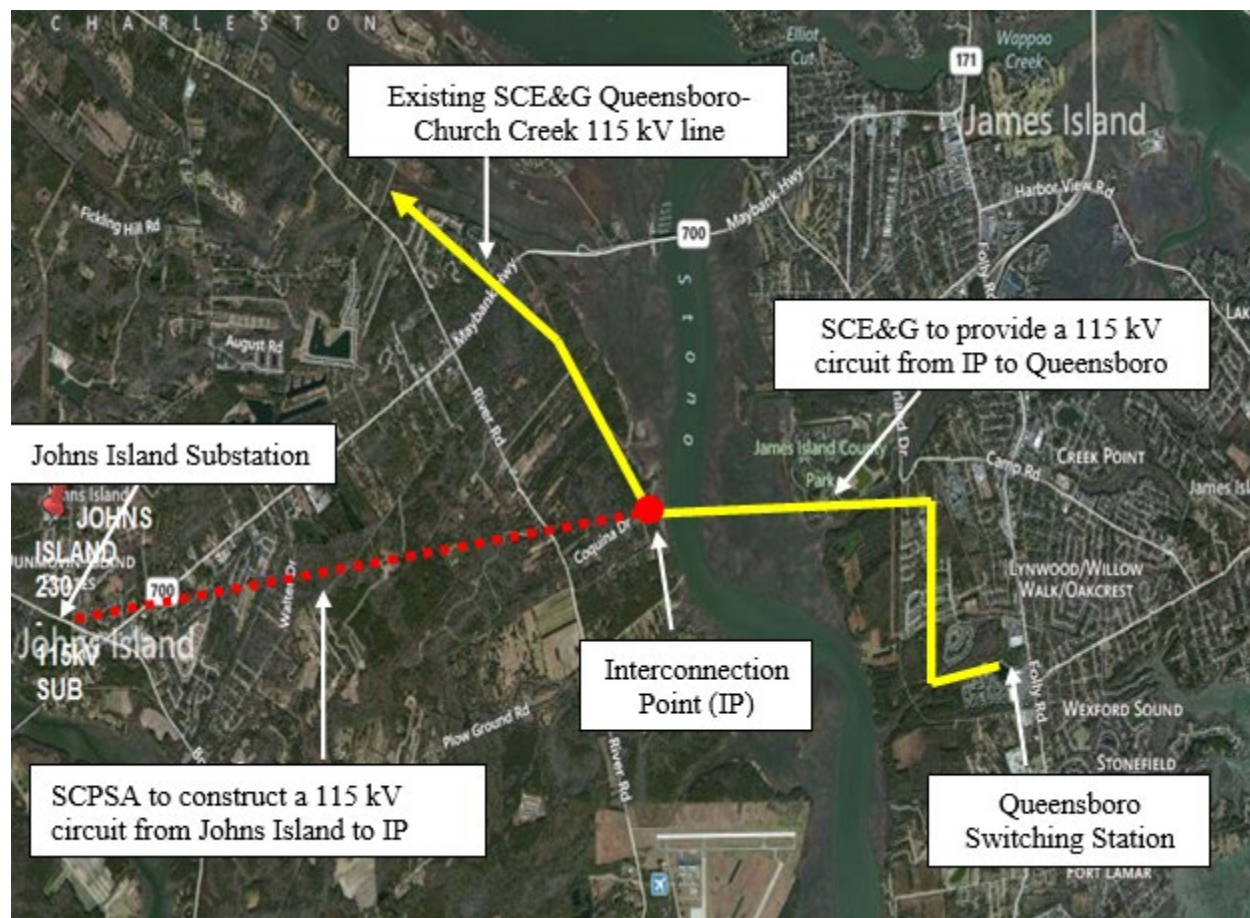
Project Status

In Progress

Planned In-Service Date

December 2021

John's Island (SC)-Queensboro (DESC) 115 kV Line



Aiken 230-115 kV Transformer Addition

Project Description

At the Aiken 230-115 kV Substation, extend the 115 kV bus and install a 115 kV bus tie breaker and a second 230-115 kV transformer rated for 90/120/150//180 MVA .

Project Need

Studies indicate thermal loading issues on the Aiken 230-115kV transformer under contingency conditions. The addition of a second 230-115 kV transformer at the Aiken 230-115 kV Substation is expected to alleviate these thermal loading concerns.

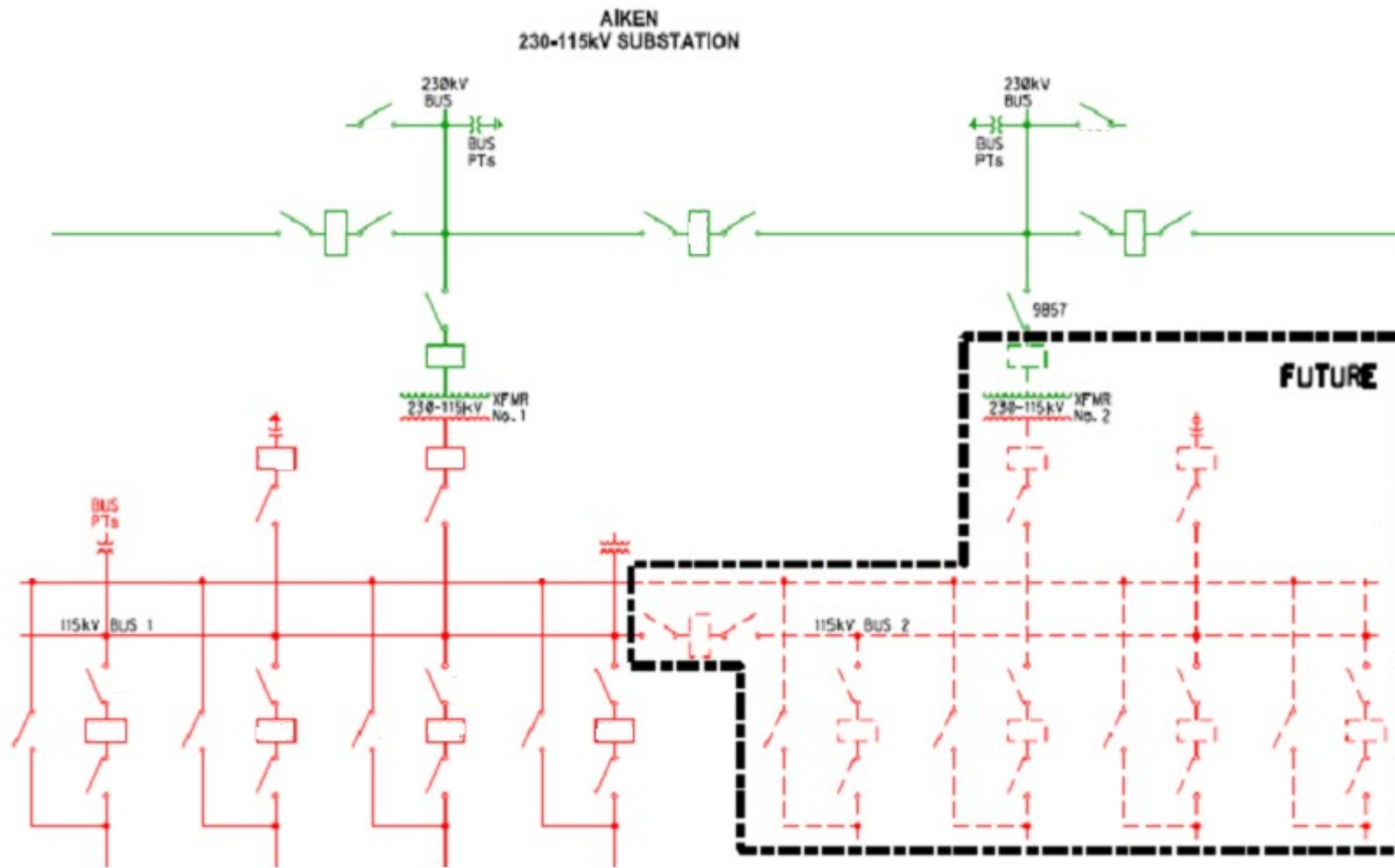
Project Status

Planned

Planned In-Service Date

November 2022

Aiken 230-115 kV Transformer Addition 11/2022



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 new 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 issues on several facilities in the Myrtle Beach area under contingency conditions 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

Planned

Planned In-Service Date

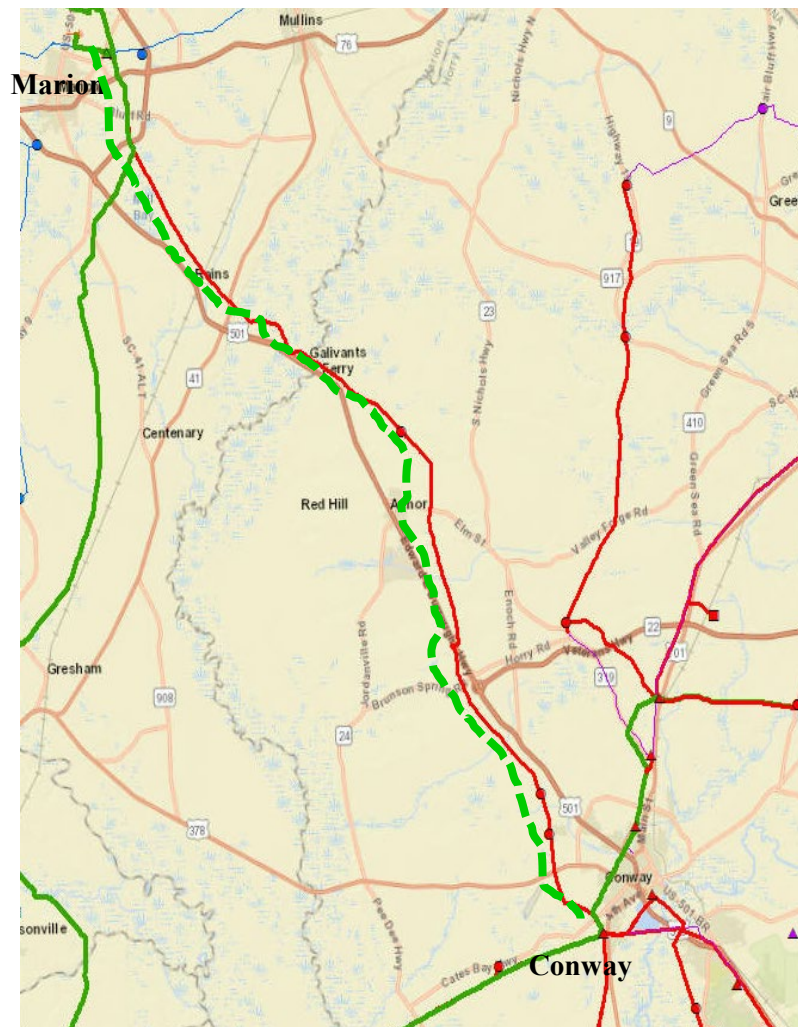
September 2024

Conway 230 kV Switching Station

Marion-Conway 230 kV line

South Carolina Regional Transmission Planning

SC RTP

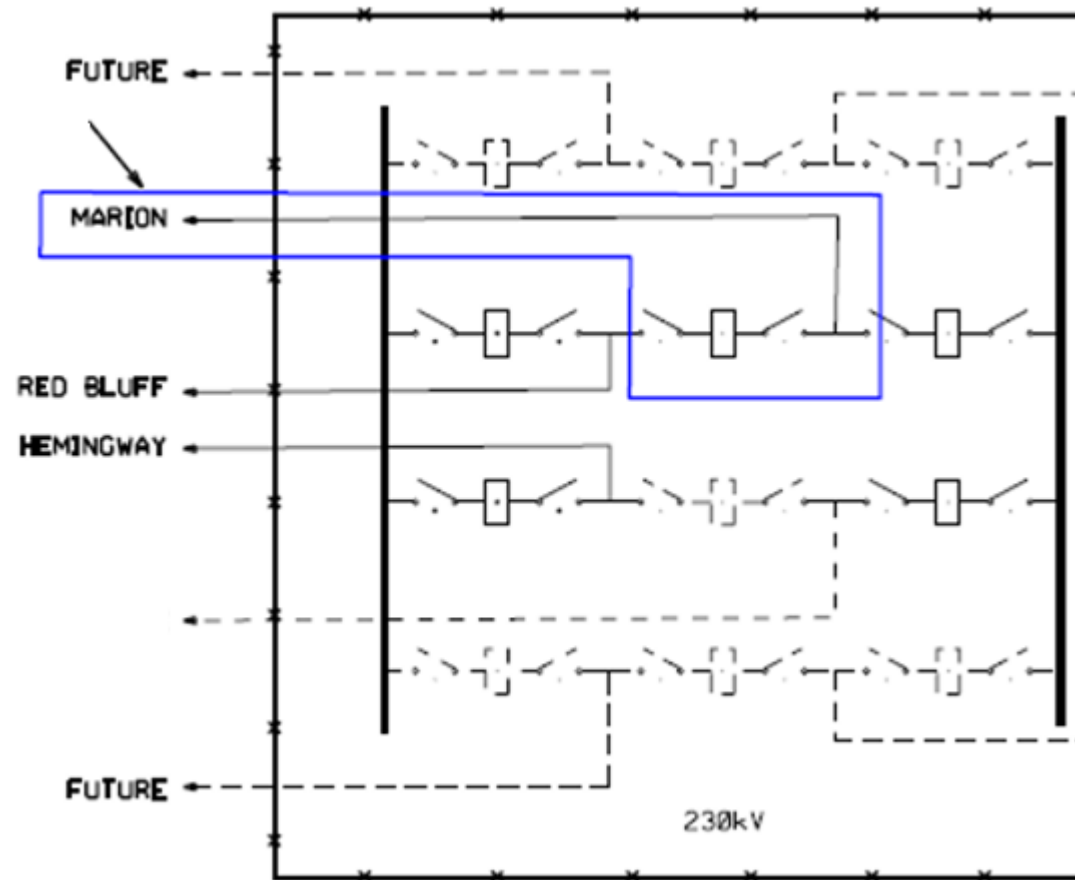


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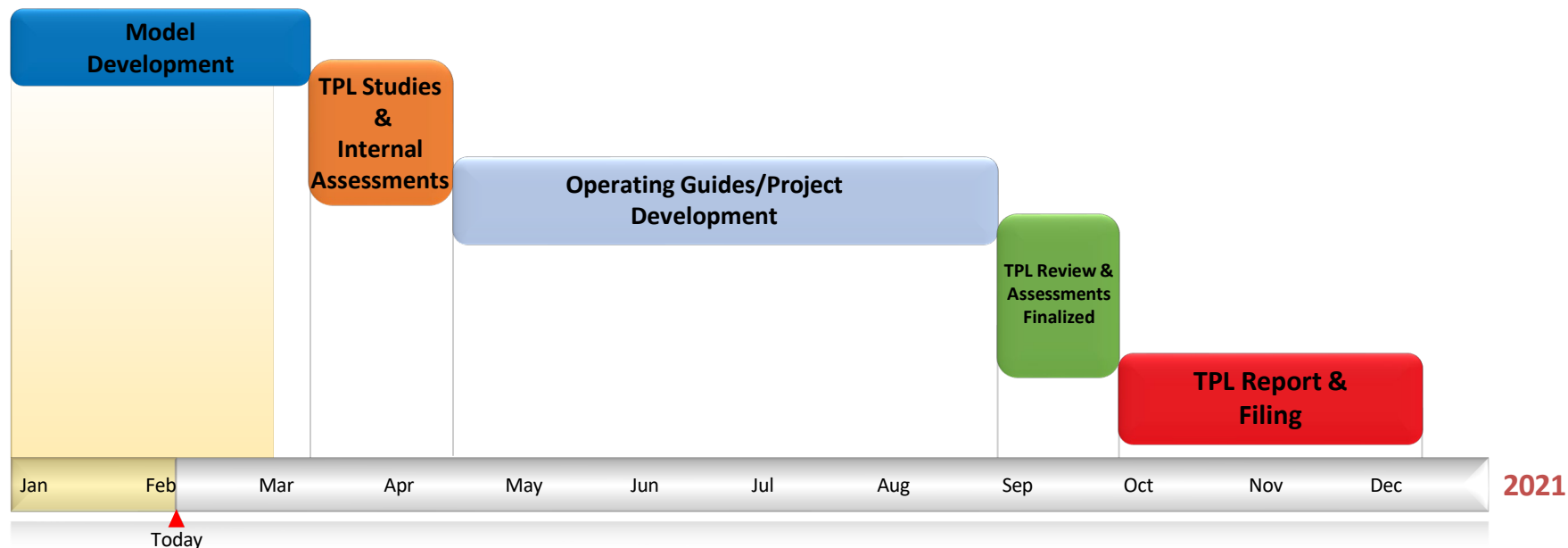
Conway 230 kV Switching Station



Santee Cooper Transmission Expansion Plans

Questions?

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

February 11, 2021