SERTP – 2nd Quarter Meeting

Preliminary Expansion Plan Meeting

June 25th, 2025

TVA

Chattanooga, TN

Process Information

- The SERTP process is a transmission planning process.
- Please contact the respective transmission provider for questions related to real-time operations or Open Access Transmission Tariff (OATT) transmission service.
- Contact Info:
  - SERTP Website Address: www.southeasternrtp.com
  - Email Inbox: southeasternrtp@southernco.com

Housekeeping

- This is a hybrid meeting.
  - **Virtual attendees**, please use the  function to ask questions.
  - **In-person attendees**, please raise your  to indicate you have a question, wait to be called on and use the  to ensure all participants can hear.
- All attendees, please state your name and company when asking and answering questions.
- We will take a 30-minute lunch break at 12:00 noon ET.

Announcements – FERC Order 1920

FERC Order 1920, Building for the Future Through Electric Regional Transmission Planning and Cost Allocation, was issued on May 13, 2024, and became effective on August 12, 2024.

The Order is long and complex. SERTP Sponsors are continuing to develop our compliance plan.

Stakeholder outreach is a part of the process, and Sponsors will continue to offer Order 1920 stakeholder sessions. However, today is an Order 1000 process meeting and SERTP Sponsors are not prepared to discuss Order 1920 compliance.

Announcements – Cost Estimate Update

- **Duke Energy, LGE-KU, TVA, and AECI have made cost estimate information available for all projects included in the SERTP Preliminary Expansion Plan.**
  - LGE-KU, TVA, and AECI cost estimate information is available by request and subject to a confidentiality agreement.
  - Duke Energy cost estimate information is publicly available through their local transmission planning process linked here: 2024_CTPC_Collaborative_Transmission_Plan_FINAL_Report_02-28-2025.pdf [carolinastpc.org]
  - Cost estimate information will be updated as needed for projects presented in the Final Expansion Plan in December.

See the SERTP 1st Quarter Meeting Presentation for planning grade cost estimate information availability for SERTP Sponsors located in the Southern Balancing Authority Area.

Announcements – Cost Estimate Update

SERTP Website

Confidential Non-CEII Information Certification

This process allows the requestor, once certified, to access the Confidential Non-CEII Secure Area of this web site and/or to receive confidential non-CEII information directly from the sponsors, depending upon the nature of the request and the information provided. If the requestor desires access to both CEII and confidential non-CEII information (or information that contains both types of information), certification from both processes is required. Steps to become certified for access to confidential non-CEII information are listed below.

1. Complete and submit the SERTP Confidential Non-CEII Information Request Form, which you may submit by fax to 205-257-6654, via electronic email to southeasternrtp@southernco.com, or by mail to:

   Southeastern Regional Transmission Planning
   600 North 18th Street/13N-8812
   P.O. Box 2641
   Birmingham, Alabama 35291-8821

2. Execute the SERTP Non-CEII Confidentiality Agreement(s), one for each entity that will access confidential non-CEII information distributed through the SERTP.
3. Each individual employee or consultant of an entity that will access confidential non-CEII information distributed through the SERTP must execute Exhibit 2 of the SERTP Non-CEII Confidentiality Agreement executed by his/her employer.
4. Once you are approved, you will receive a confirmation e-mail with a username and password through which you may access the Confidential Non-CEII Information section of the secure area via the login button below.

LOGIN

Back to Top >>

Announcements – Cost Estimate Update

SERTP Website

To request planning-grade cost estimate information:

1. Complete the SERTP Confidential Non-CEII Information Request Form located on the SERTP website
2. Execute the SERTP Non-CEII Confidentiality Agreement located on the SERTP website. Each **individual employee or consultant** of an entity that will access confidential non-CEII information distributed through the SERTP must execute Exhibit 2 of the SERTP Non-CEII Confidentiality Agreement executed by his/her employer.

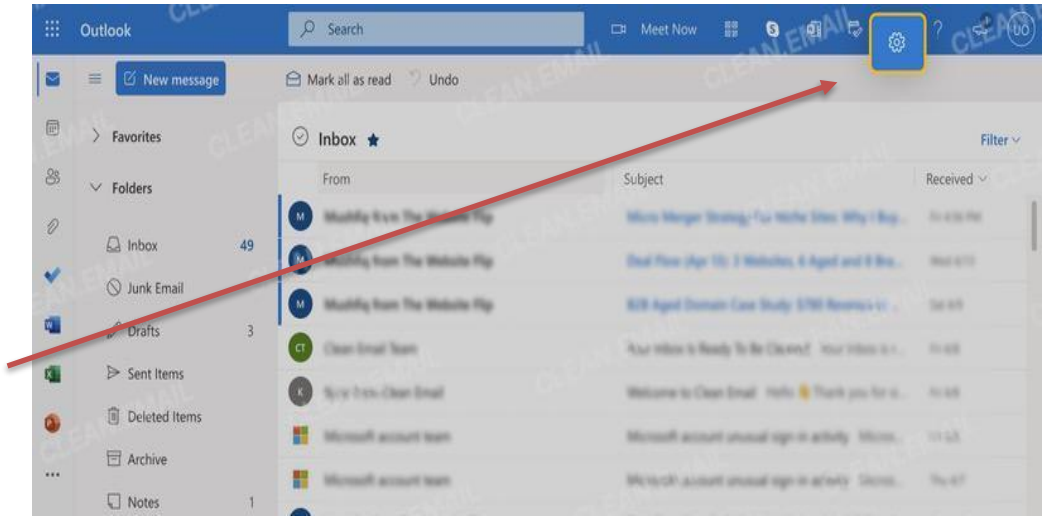
3. Provide both documents to the Southeasternrtp.com email account

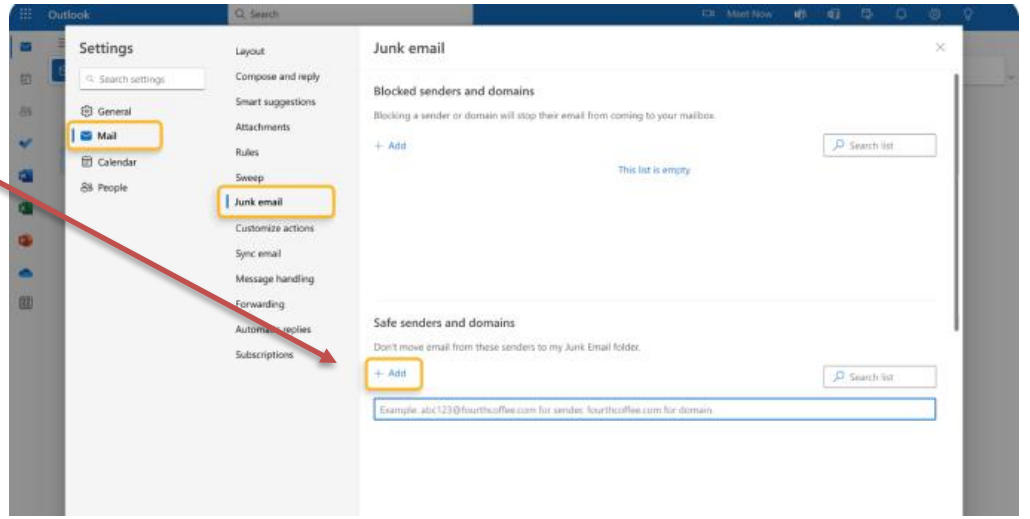
Once approved you will be invited to the SERTP Secure Non-CEII SharePoint site

Announcements – SERTP Email Update

How to Whitelist an Email in Outlook

1. Sign in to your Outlook inbox on the **web browser version**
   (Outlook Desktop App → File → Info → Account Settings → Access this account on the web).
2. Select the **gear icon** in the top right corner to access **Settings**.
3. On the left sidebar, click on **Mail**, then navigate to **Junk email**.
4. Click on **+Add** under **Safe senders and domains** to add a contact to the allowed list.
5. Enter the domain name or email address you wish to add to **Safe senders**. Make sure to include the @ character for domain names.





If your organization does not allow this, please contact <u>your</u> organization's IT department and request to whitelist southeasternrtp@southernco.com

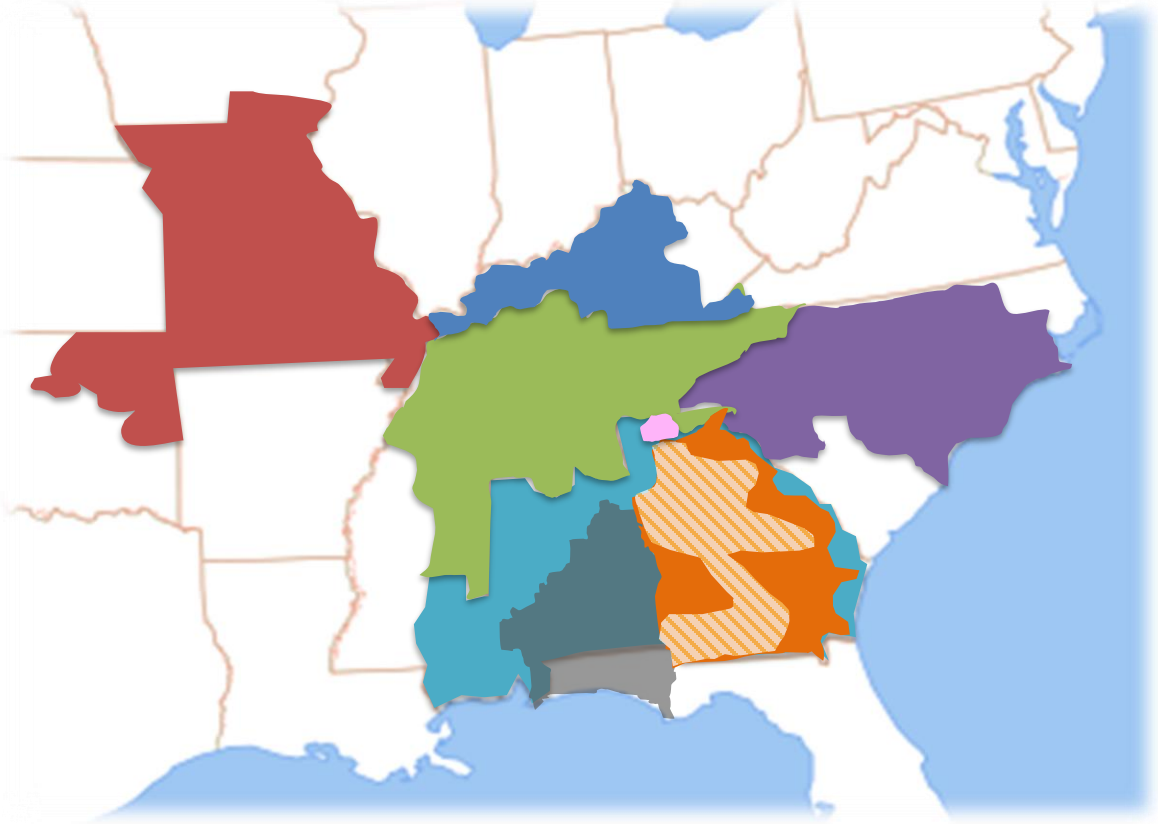
Agenda

- **Regional Expansion Plan Process**
  - Annual Process Overview
- **Preliminary 10 Year Transmission Expansion Plan**
  - Regional Model Assumptions
    - Load Forecast
    - Generation Assumptions
    - Transmission System Topology
- **Miscellaneous Updates**
- **Next Meeting Activities**

SERTP

Regional Transmission Expansion Plan Process

Southeastern Regional Transmission Planning (SERTP)



SERTP

- Associated Electric Cooperative Inc.
- Dalton Utilities
- Duke Energy
- Georgia Transmission
- LG&E KU
- MEAG Power
- PowerSouth Energy Cooperative
- Southern Company
- TVA

Southeastern Regional Transmission Planning (SERTP)

PRELIMINARY 10 YEAR TRANSMISSION EXPANSION PLANS :

AECI

Duke Carolinas

Duke Progress

LG&E/KU

SBAA

TVA

Southeastern Regional TRANSMISSION PLANNING

2025 SERTP

10-Year SERTP Process

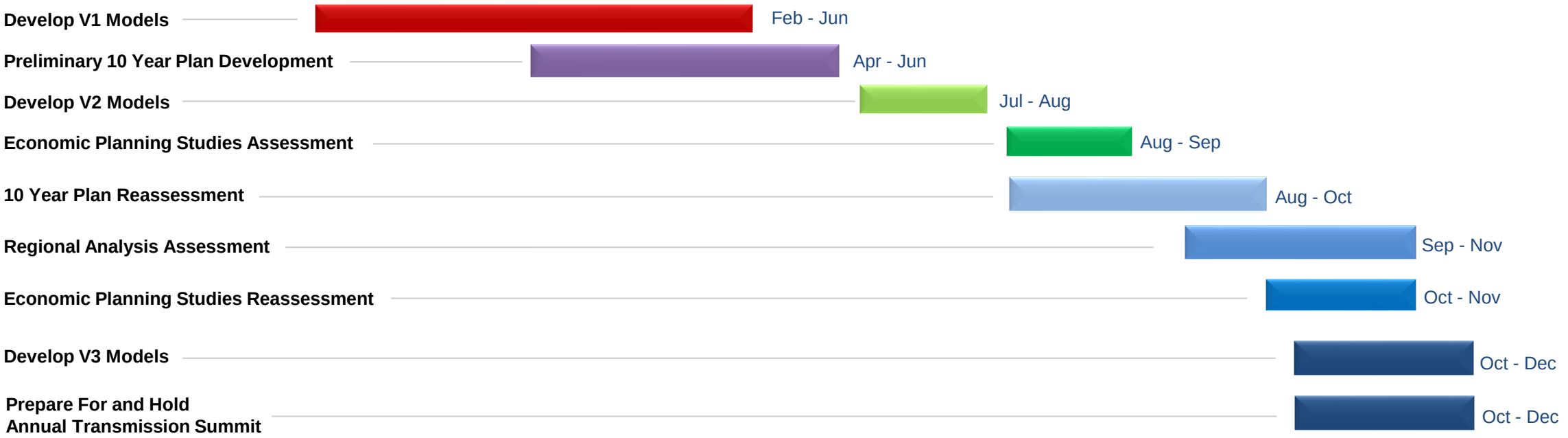
1st Quarter Meeting
("First RPSG Meeting and Interactive Training Session")
- RPSG and Interactive Training

2nd Quarter Meeting
("Preliminary Expansion Plan Meeting")
- Preliminary Expansion Plans

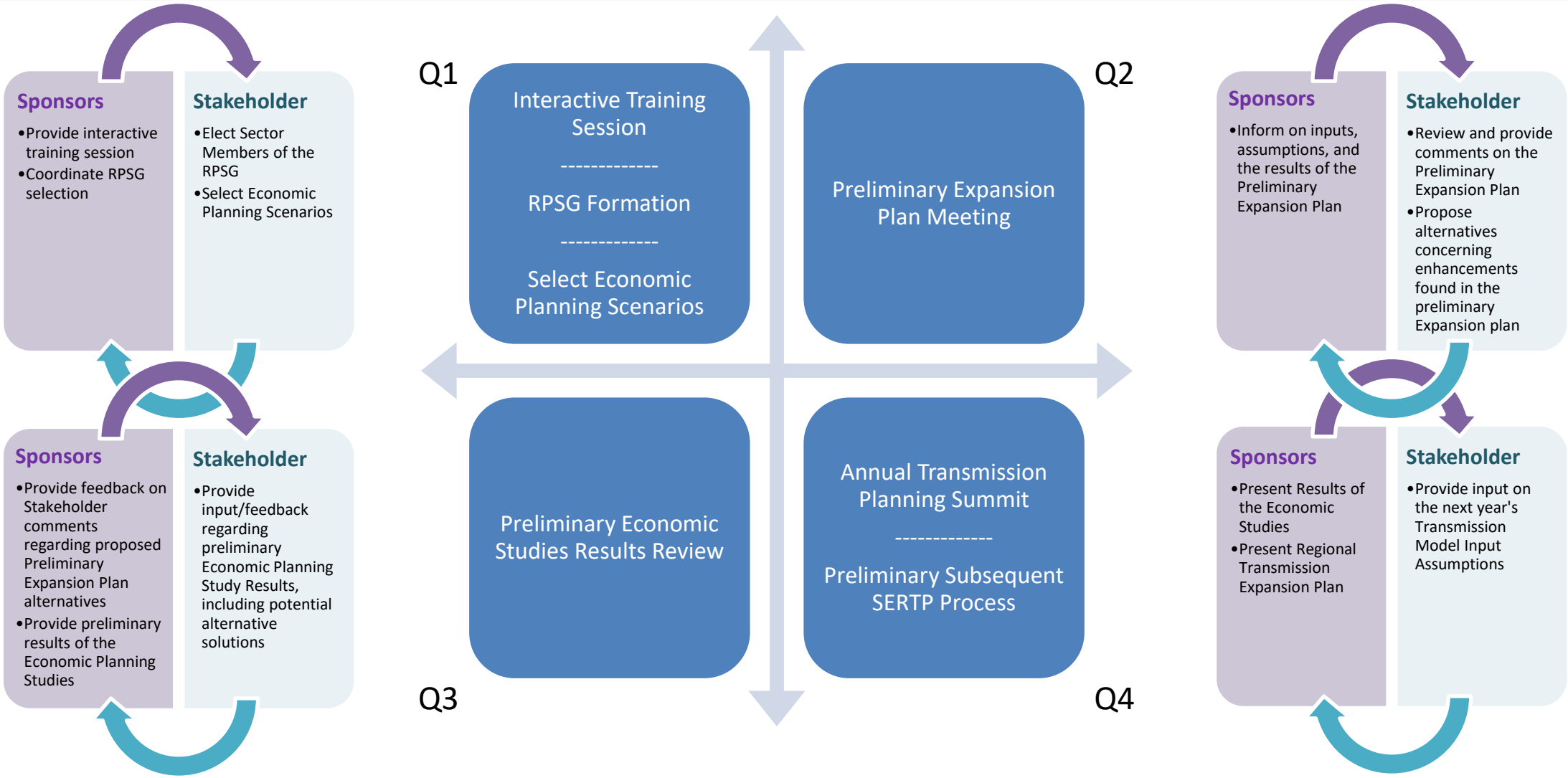
3rd Quarter Meeting
("Second RPSG Meeting")
- Preliminary Economic Studies

4th Quarter Meeting
("Annual Transmission Planning Summit and Assumptions Input Meeting")
- Annual Transmission Summit

*Subject to change; official meeting dates will be posted on the SERTP website.

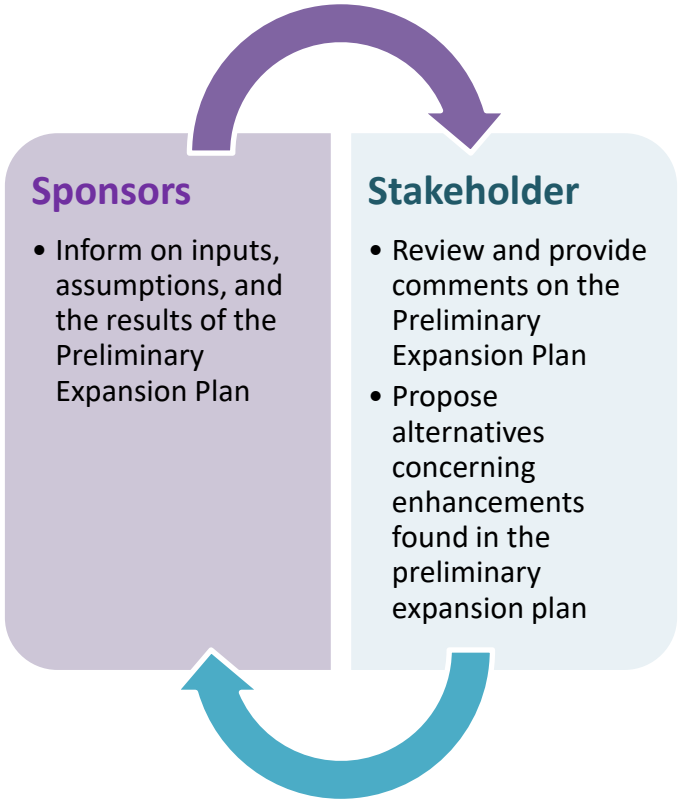


Quarterly Meeting Functions



Second Quarter Meeting Functions (Q2)

Preliminary Expansion Plan Meeting

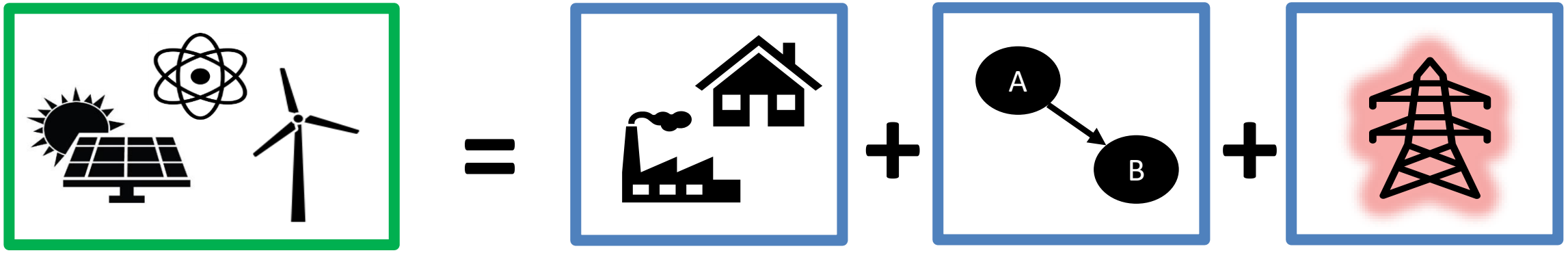


Typ. held annually in June as an in-person/hybrid meeting

SERTP

Regional Model Assumptions

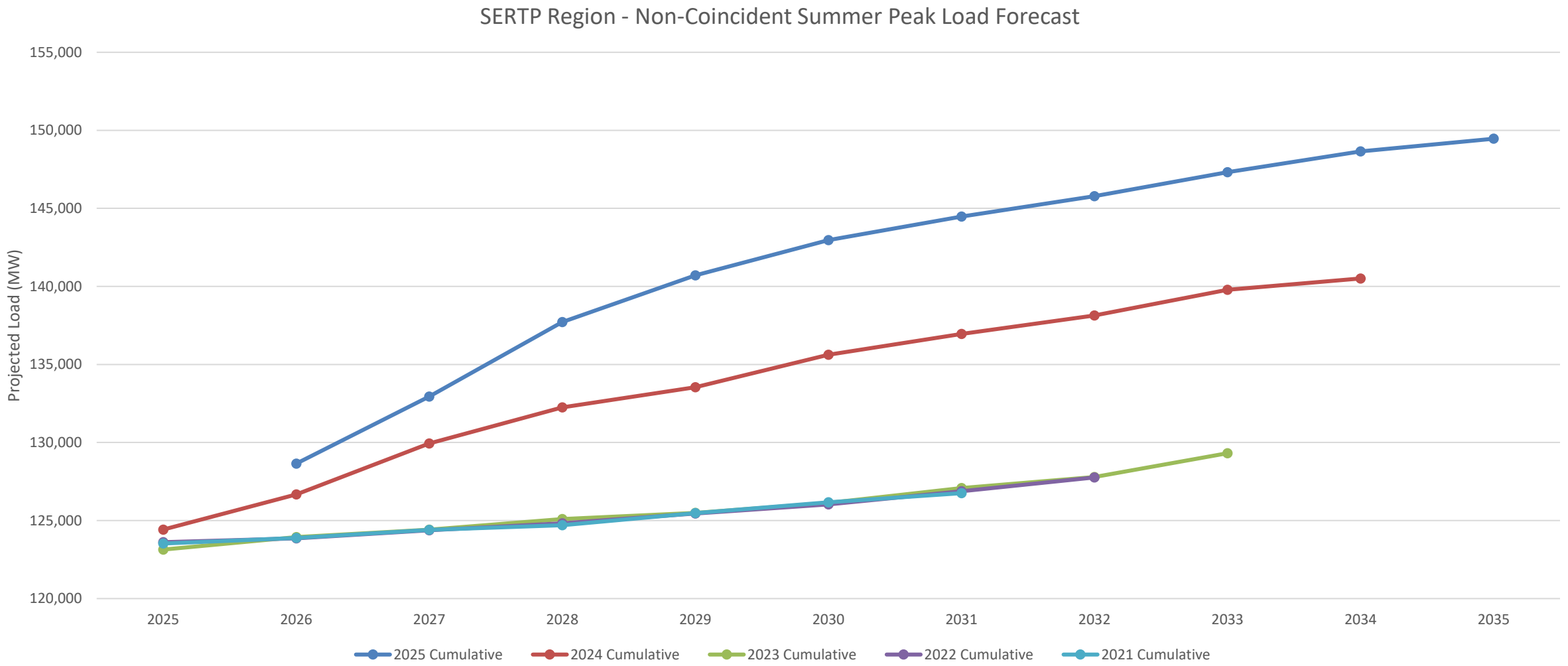
Regional Model Assumptions



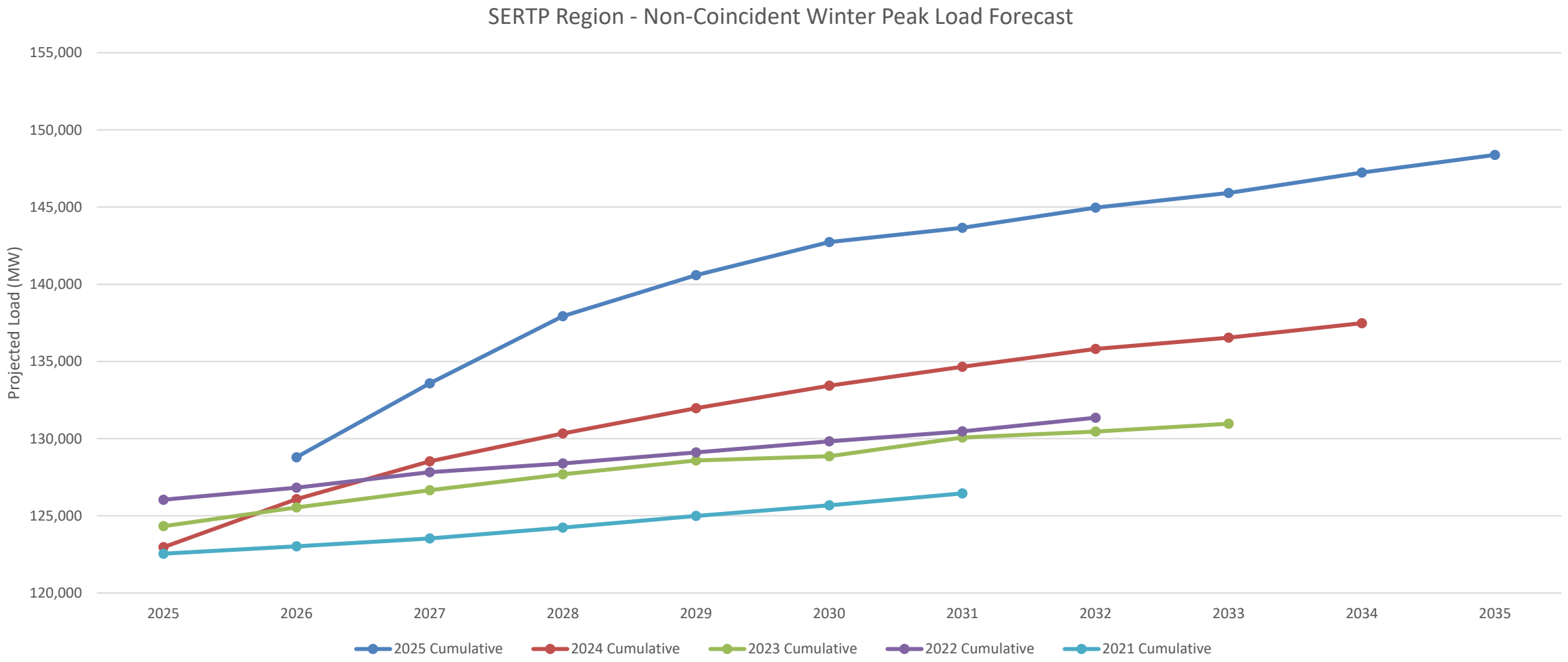
Generation = Load + Interchange + Losses

- Projected load for each year and season
- Area Interchange of long-term firm commitments across the interface
- Losses produced in serving that load
  - Transmission Lines & Transformers
    - 10 Year Transmission Expansion Plan
- Generation needed to balance all the above

SERTP Cumulative Summer Peak Load Forecast



SERTP Cumulative Winter Peak Load Forecast



SERTP

Preliminary Transmission Expansion Plans

Southeastern Regional Transmission Planning (SERTP)

PRELIMINARY 10 YEAR TRANSMISSION EXPANSION PLANS:

AECI

Duke Energy Carolinas

Duke Energy Progress

LG&E/KU

Southern Balancing Authority Area

TVA

Preliminary Transmission Expansion Plan

The projects described in this presentation represent the preliminary ten (10) year transmission expansion plan. The transmission expansion plan is periodically reviewed and may be revised due to changes in assumptions. This presentation does not represent a commitment to build for projects listed in the future.

Criteria For Projects in Presentation

- **For the full list of projects, the 2025 SERTP Preliminary Expansion Plan Report is posted on the SERTP website**
  - 2025 SERTP Preliminary Expansion Plan Report (Non-CEII)
- **Criteria for projects included in today's presentation:**
  - Tie lines: All projects
  - 300 kV and above: All projects
  - 161 kV – 300 kV: New BES stations and transmission line projects ~20 miles or longer

Regional Transmission Expansion Plan – Alternative Transmission Technology

Advanced Transmission Technology	100 kV – 200 kV	200 kV – 300 kV	300 kV – 500 kV	Total
Advance Conductor (mi.)	1294	841	-	2135
Static Compensator	1	-	-	1
Power Flow Control Device	-	1	-	1

AECI Balancing Authority Area

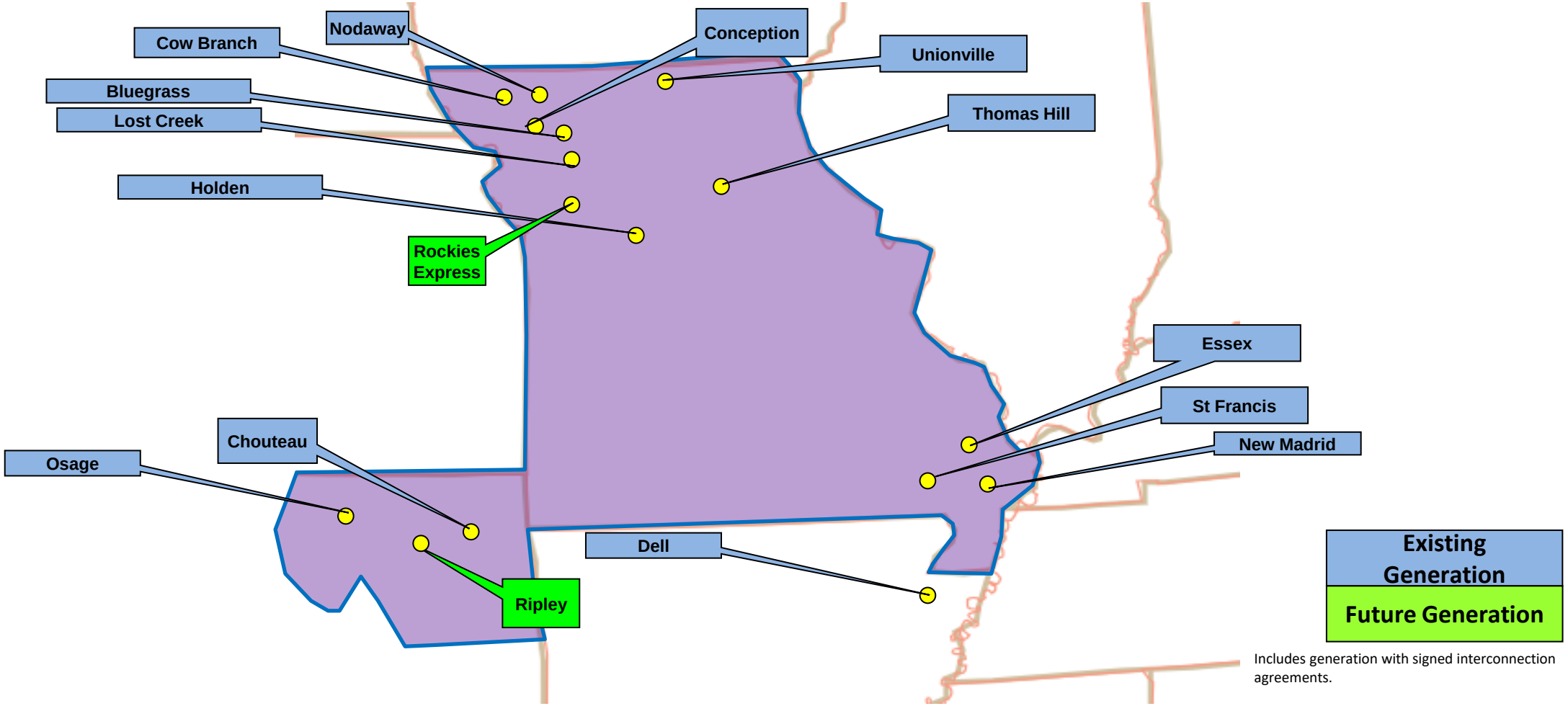
AECI Balancing Authority Area

2025 Generation Assumptions

AECI Balancing Authority Area

AECI – Generation Assumptions

The following diagram depicts the location of generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2025 SERTP Process.



Includes generation with signed interconnection agreements.

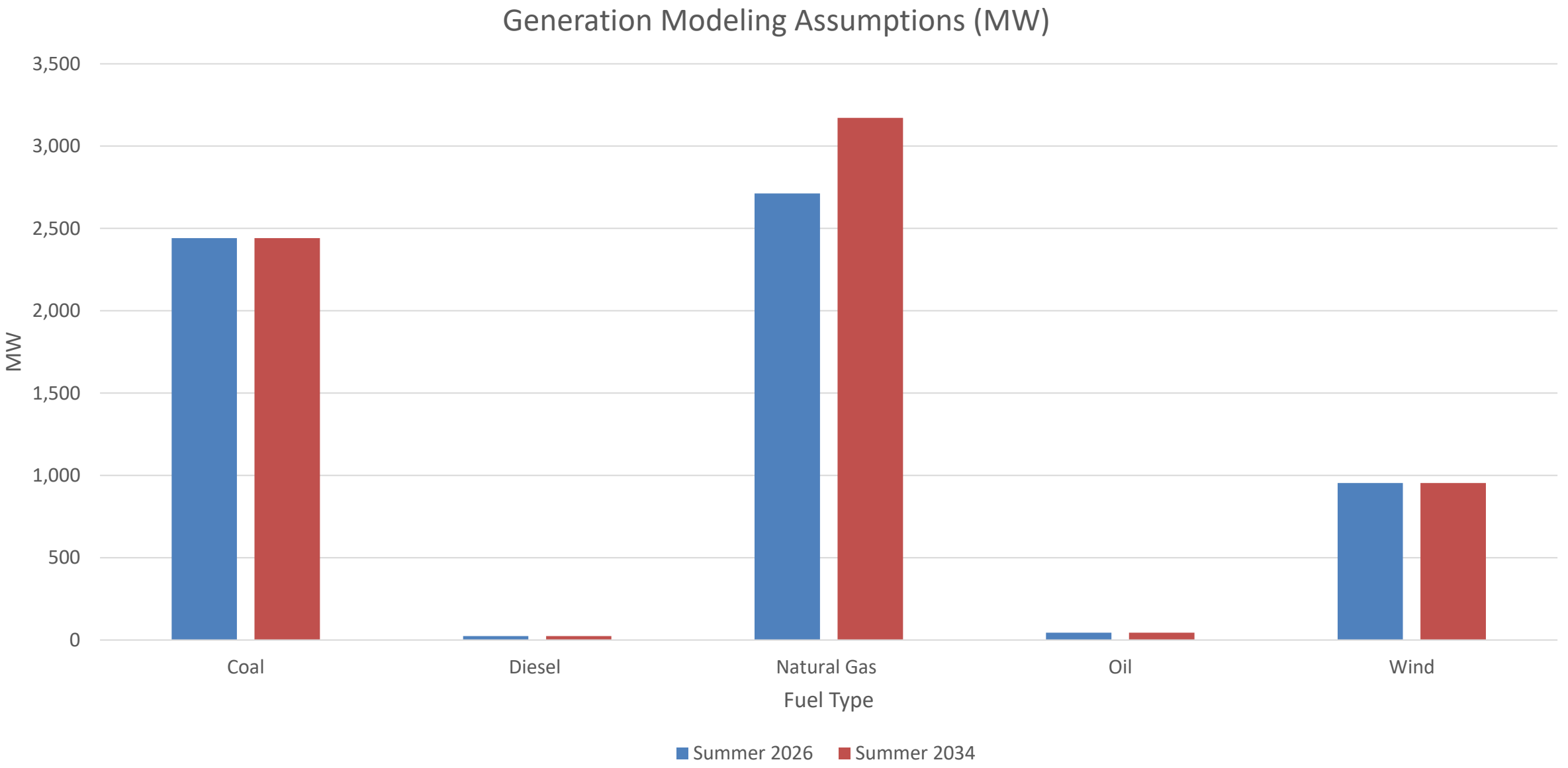
AECI – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Rockies Express 161 kV	Natural Gas	0	460	460	460	460	460	460	460	460	460
Ripley 161 kV	Natural Gas	0	460	460	460	460	460	460	460	460	460

Southeastern Regional
TRANSMISSION PLANNING

AECI Generation Summary



AECI Balancing Authority Area

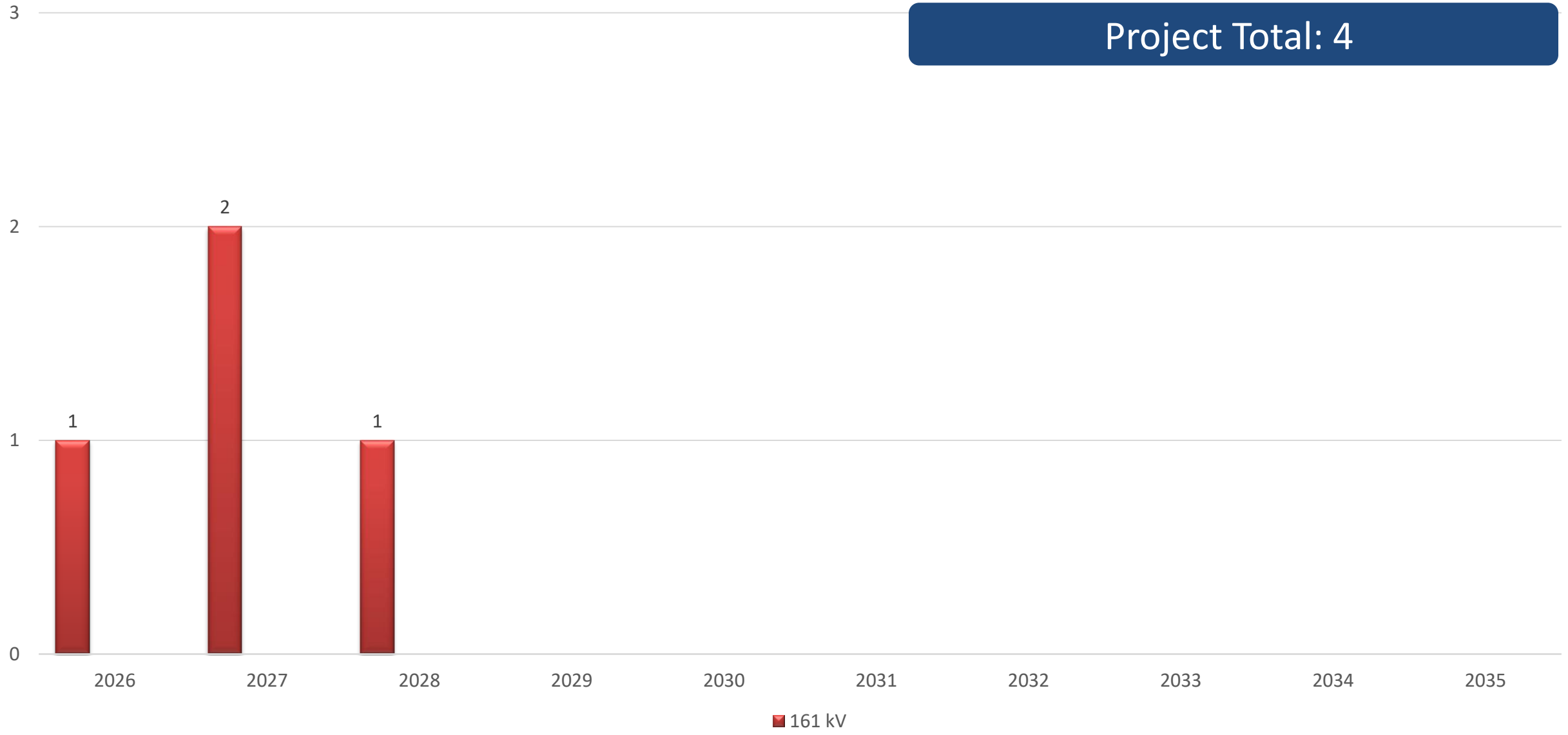
AECI Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

AECI Project Summary

Project Total: 4

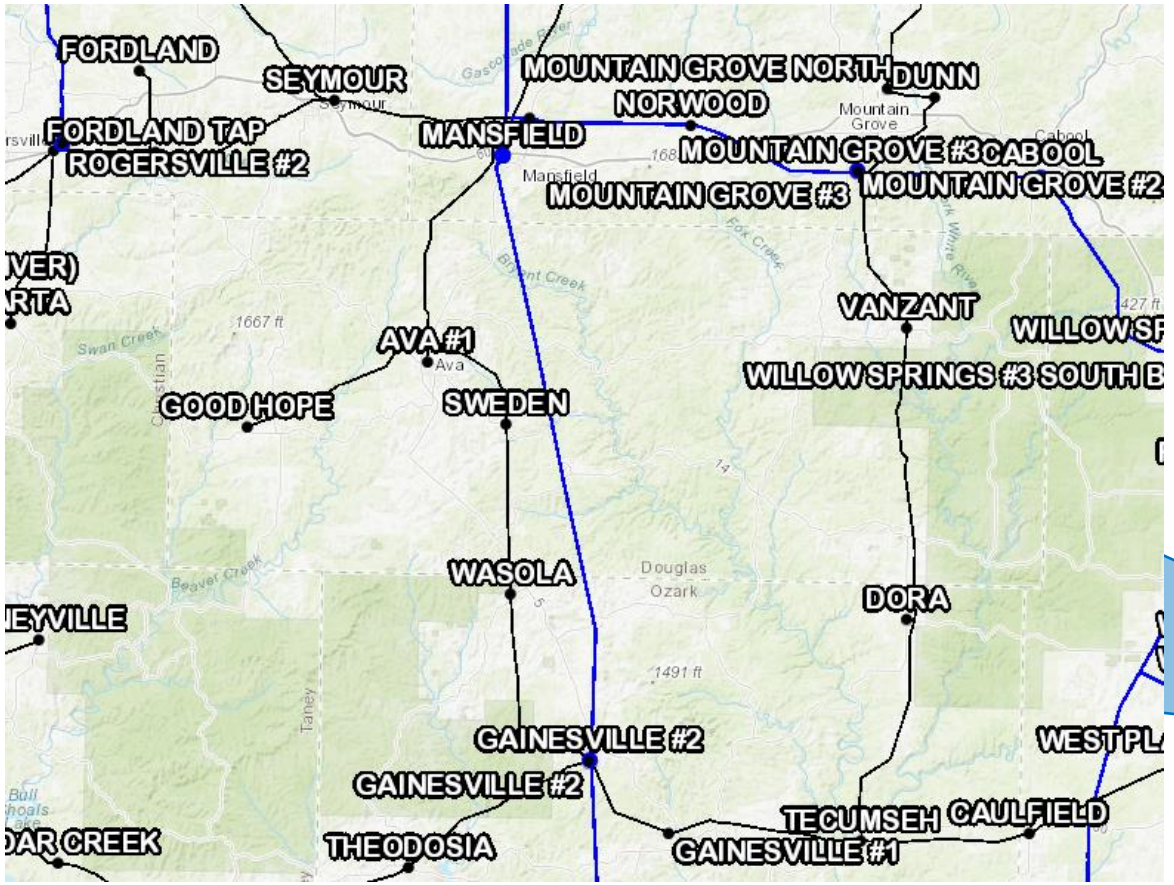


AECI Balancing Authority Area

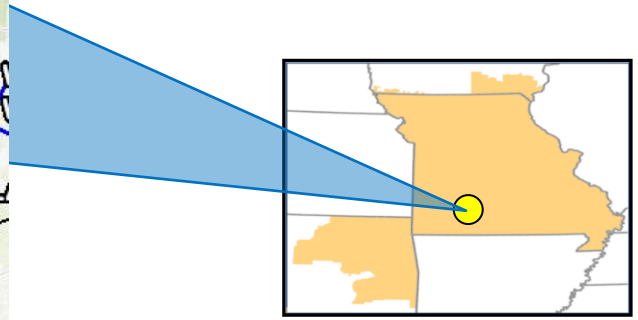
AECI – 1

- **2027**

MANSFIELD – GAINESVILLE #2 –BULL SHOALS 161 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Rebuild the 56-mile-long Mansfield - Gainesville #2 – Bull Shoals 161 kV line segment with 795 ACSR rated at 100°C.
- **SUPPORTING STATEMENT:**
  - The Mansfield – Gainesville – Bull Shoals 161 kV transmission segment overloads under contingency.

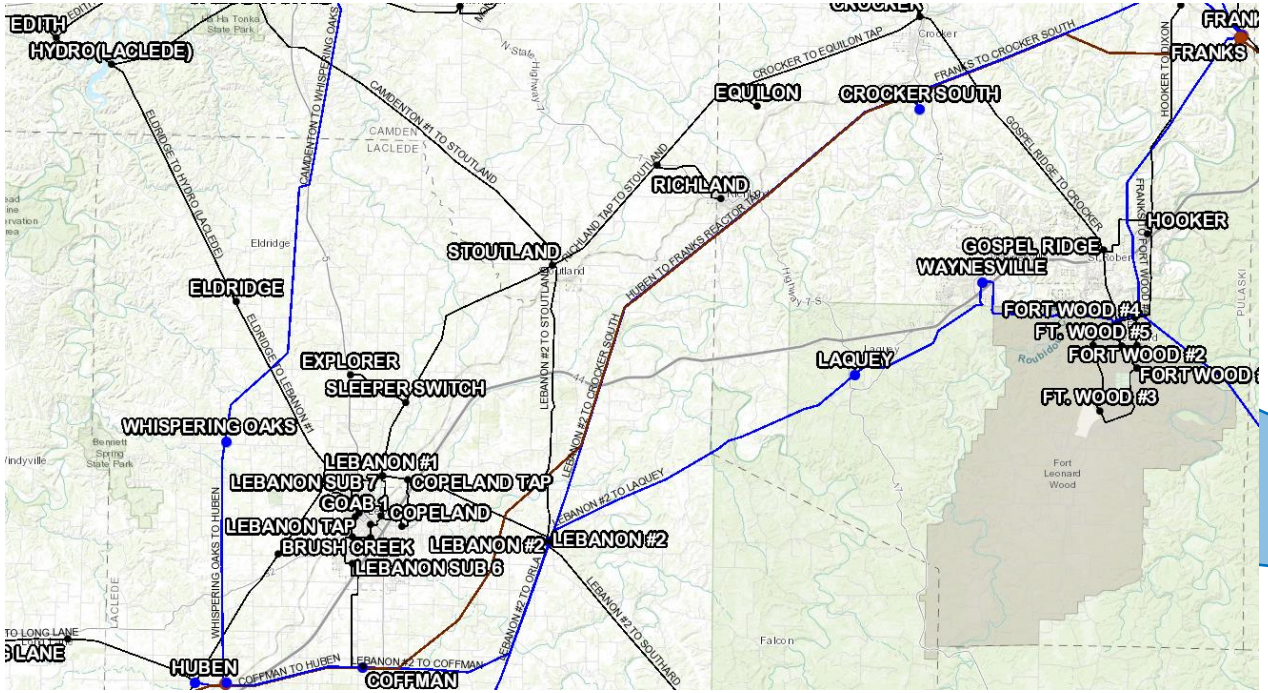


AECI Balancing Authority Area

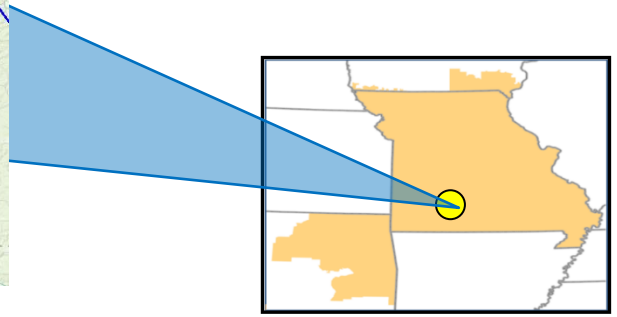
AECI – 2

- **2026**

LEBANON – CROCKER SOUTH 161 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Rebuild the 24.48-mile-long Crocker South – Lebanon 161 kV line with 795 ACSR rated at 100°C.
- **SUPPORTING STATEMENT:**
  - The Crocker South – Lebanon 161 kV Transmission Line overloads under contingency.



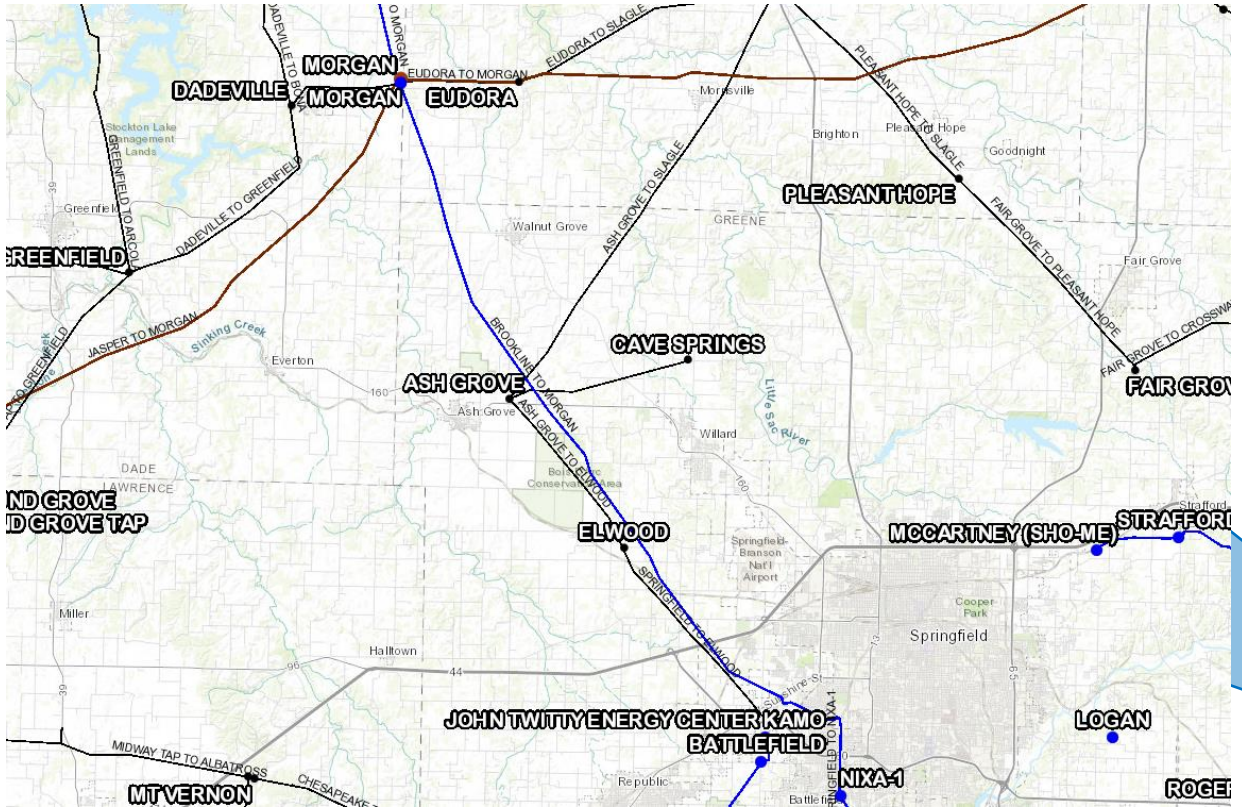
Southeastern Regional TRANSMISSION PLANNING

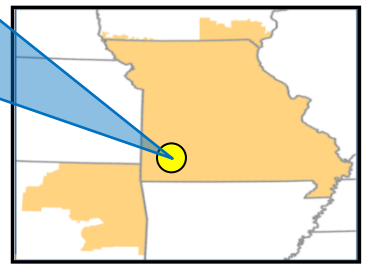
AECI Balancing Authority Area

AECI – 3

- **2028**

MORGAN – BROOKLINE 161 KV TRANSMISSION LINE





- **DESCRIPTION:**
  - Rebuild the 26.49-mile-long Morgan-Brookline 161 kV line with 795 ACSR rated at 100C.
- **SUPPORTING STATEMENT:**
  - The Morgan - Brookline 161 kV transmission line section overloads under contingency.

DEC Balancing Authority Area

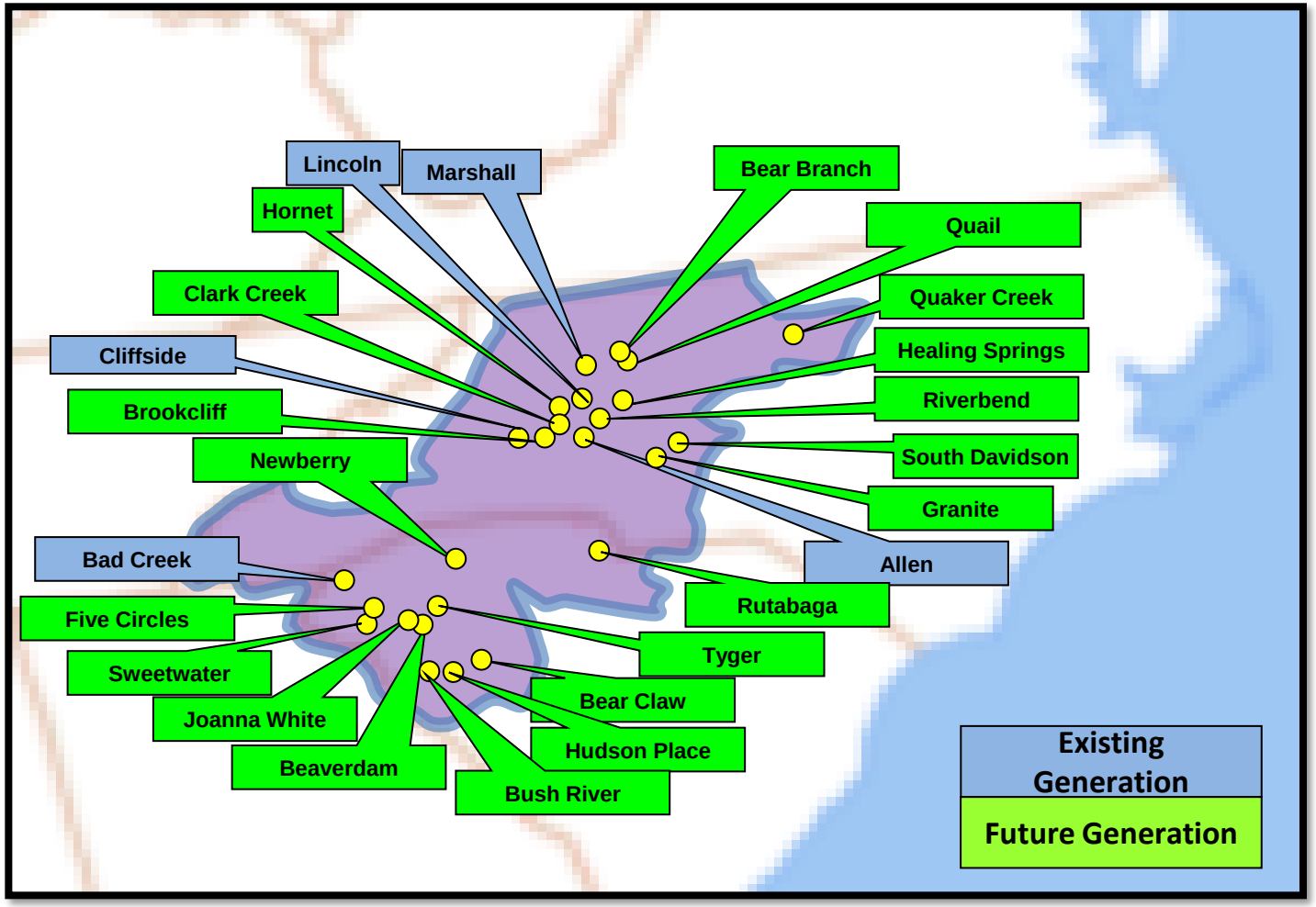
DUKE ENERGY CAROLINAS Balancing Authority Area

2025 Generation Assumptions

DEC Balancing Authority Area

DUKE ENERGY CAROLINAS – Generation Assumptions

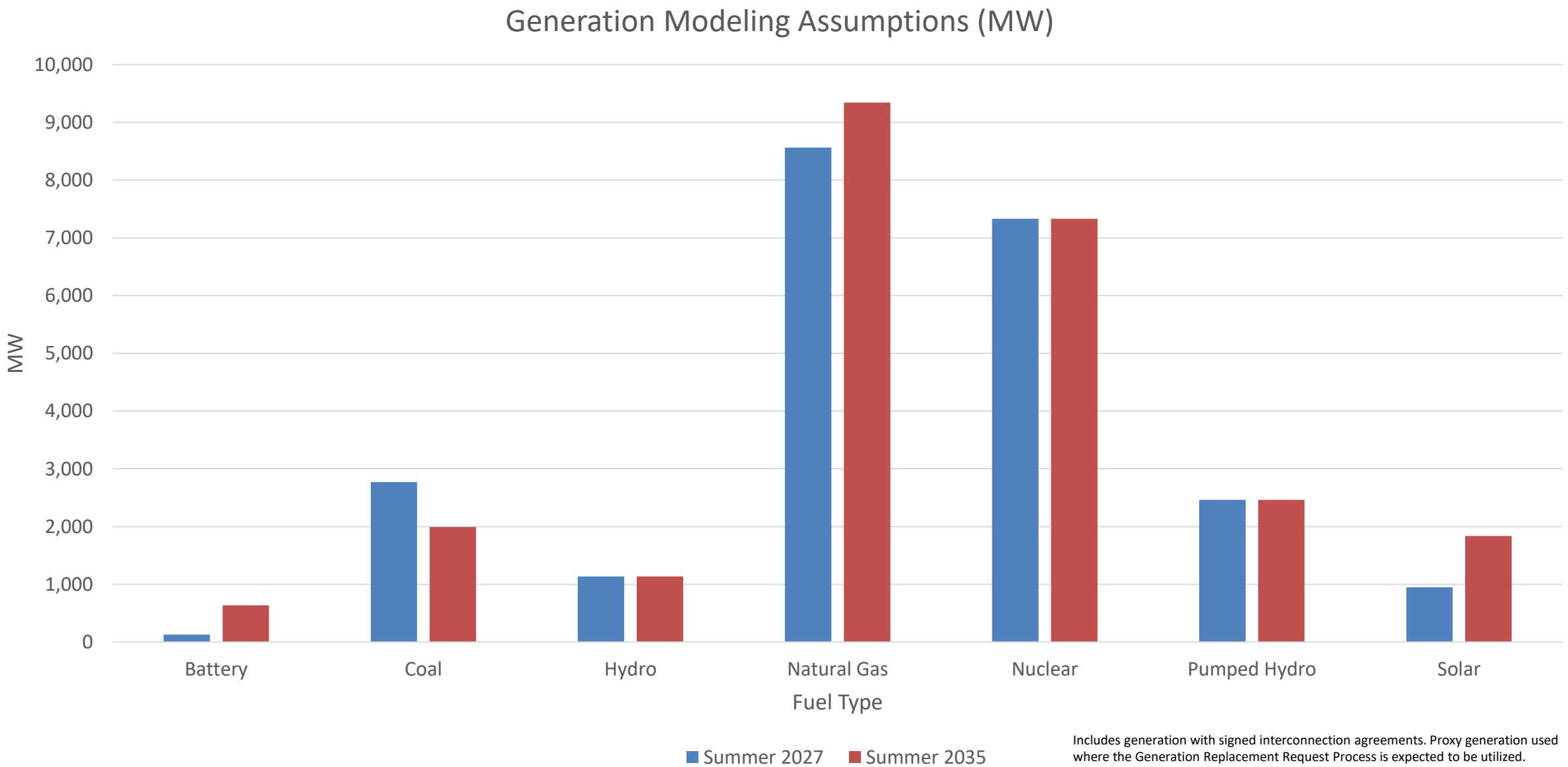
The following diagram depicts the location of generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process.



Includes generation with signed interconnection agreements. Proxy generation used where the Generation Replacement Request Process is expected to be utilized.

Southeastern Regional TRANSMISSION PLANNING

DEC Generation Summary



Includes generation with signed interconnection agreements. Proxy generation used where the Generation Replacement Request Process is expected to be utilized.

DEC Balancing Authority Area

DEC – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cliffside 5	Coal	574	574	574	574	574	0	--	--	--	--
Cliffside 5 Proxy[1]	Proxy Generation	--	--	--	--	--	574	574	574	574	574
Lincoln 17	Natural Gas	402	402	402	402	402	402	402	402	402	402
Marshall 1	Coal	388	388	388	0	--	--	--	--	--	--
Marshall 1 Replacement	Natural Gas	--	--	--	388	388	388	388	388	388	388
Marshall 2	Coal	392	392	392	0	--	--	--	--	--	--
Marshall 2 Replacement	Natural Gas	--	--	--	392	392	392	392	392	392	392
Marshall 3	Coal	705	705	705	705	705	705	0	--	--	--
Marshall 3 Proxy[1]	Proxy Generation	--	--	--	--	--	--	705	705	705	705
Marshall 4	Coal	711	711	711	711	711	711	0	--	--	--
Marshall 4 Proxy[1]	Proxy Generation	--	--	--	--	--	--	711	711	711	711
Allen 1 BESS	Storage	50	50	50	50	50	50	50	50	50	50
Allen 2 BESS (GRR)[2]	Storage	--	--	167	167	167	167	167	167	167	167
Riverbend BESS	Storage	--	--	115	115	115	115	115	115	115	115
Granite BESS	Storage	--	--	--	--	197	197	197	197	197	197
Tyger	Solar + Storage	--	74.99	74.99	74.99	74.99	74.99	74.99	74.99	74.99	74.99
Clark Creek	Solar + Storage	--	--	40	40	40	40	40	40	40	40

1. Generators left in model in expectation of replacement generation through the Generation Replacement Request process.
2. Replacement for retired Allen unit 1 Coal Fired Unit

Includes generation with signed interconnection agreements. Proxy generation used where the Generation Replacement Request Process is expected to be utilized.

DEC Balancing Authority Area

DEC – Generation Assumptions Continued

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bear Branch	Solar	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Beaverdam	Solar	42	42	42	42	42	42	42	42	42	42
Hornet	Solar	73	73	73	73	73	73	73	73	73	73
Newberry	Solar	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5
Quail	Solar	30	30	30	30	30	30	30	30	30	30
Brookcliff	Solar	--	50	50	50	50	50	50	50	50	50
Healing Springs	Solar	--	55	55	55	55	55	55	55	55	55
South Davidson	Solar	--	80	80	80	80	80	80	80	80	80
Quaker Creek	Solar	--	35	35	35	35	35	35	35	35	35
Sweetwater	Solar	--	34	34	34	34	34	34	34	34	34
Joanna White	Solar	--	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
Rutabaga	Solar	--	--	69.75	69.75	69.75	69.75	69.75	69.75	69.75	69.75
Bear Claw	Solar	--	--	28.25	28.25	28.25	28.25	28.25	28.25	28.25	28.25
Bush River	Solar	--	--	--	--	--	45	45	45	45	45
Hudson Place	Solar	--	--	--	--	--	70.7	70.7	70.7	70.7	70.7
Five Circles	Solar	--	--	--	--	--	74.9	74.9	74.9	74.9	74.9

Includes generation with signed interconnection agreements. Proxy generation used where the Generation Replacement Request Process is expected to be utilized.

DEC Balancing Authority Area

DEC – Generation Assumptions (Point-to-Point)

The following table depicts generation assumptions based upon expected long-term firm point-to-point commitments for the SERTP 2025 Planning Process. The years shown represent Summer Peak conditions.

SITE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cleveland	196	196	196	196	196	196	196	196	196	196
Broad River	925	925	925	925	925	925	925	925	925	925
Catawba	407	407	407	407	407	407	407	407	407	407
Rowan	523	526	520	330	180	180	180	180	180	180
Kings Mountain	92	92	92	92	92	92	92	92	92	92
Cherokee	98	98	98	98	98	98	98	98	98	98

DEC Balancing Authority Area

DUKE ENERGY CAROLINAS Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

DEC Balancing Authority Area

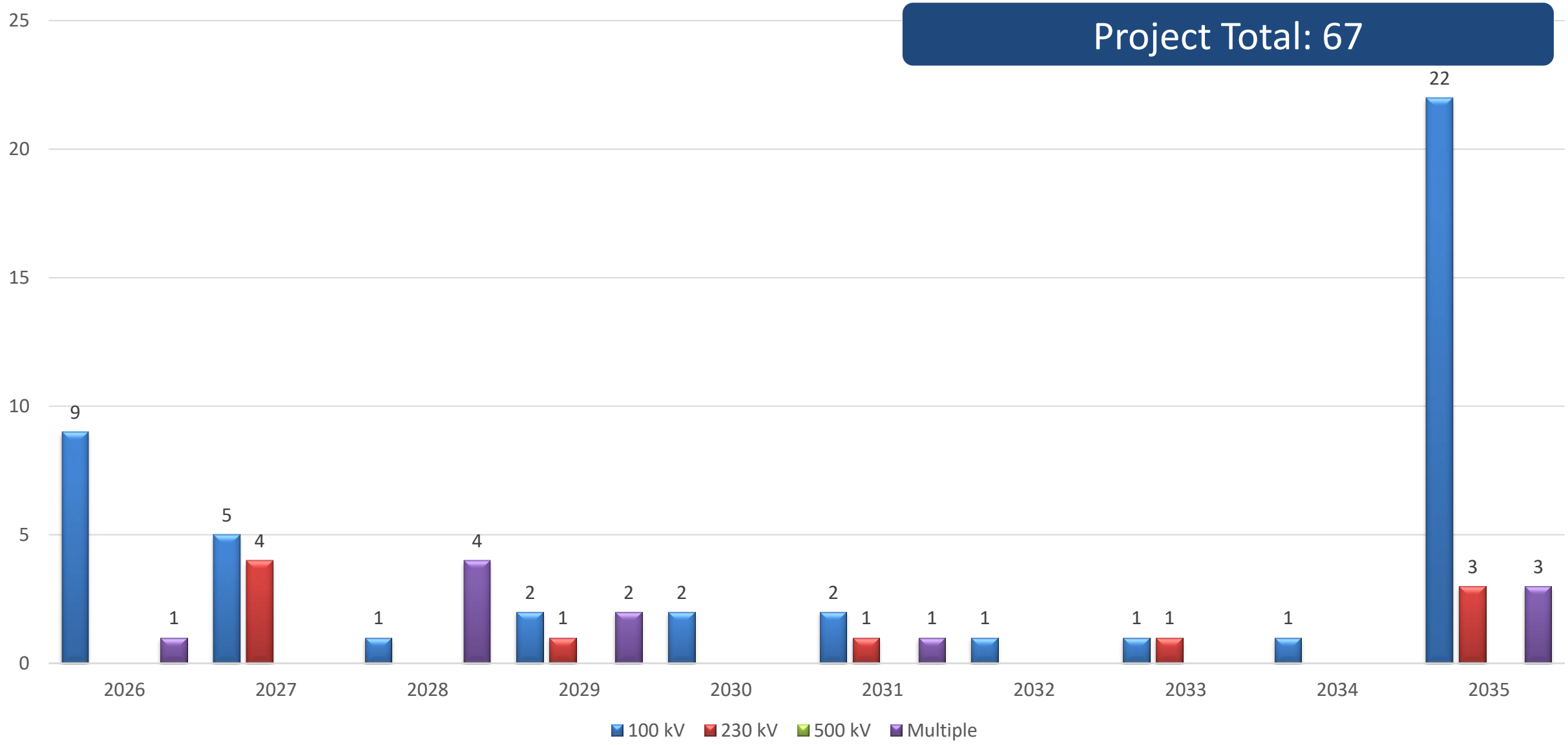
DEC Projects and descriptions in the SERTP Preliminary Report and presented here are based on the 2024 CTPC Collaborative Transmission Plan Report published on the CTPC Website published in February 2025 (linked below).

2024_CTPC_Collaborative_Transmission_Plan_FINAL_Report_02-28-2025.pdf [carolinastpc.org]

Southeastern Regional TRANSMISSION PLANNING

DEC Project Summary

Project Total: 67

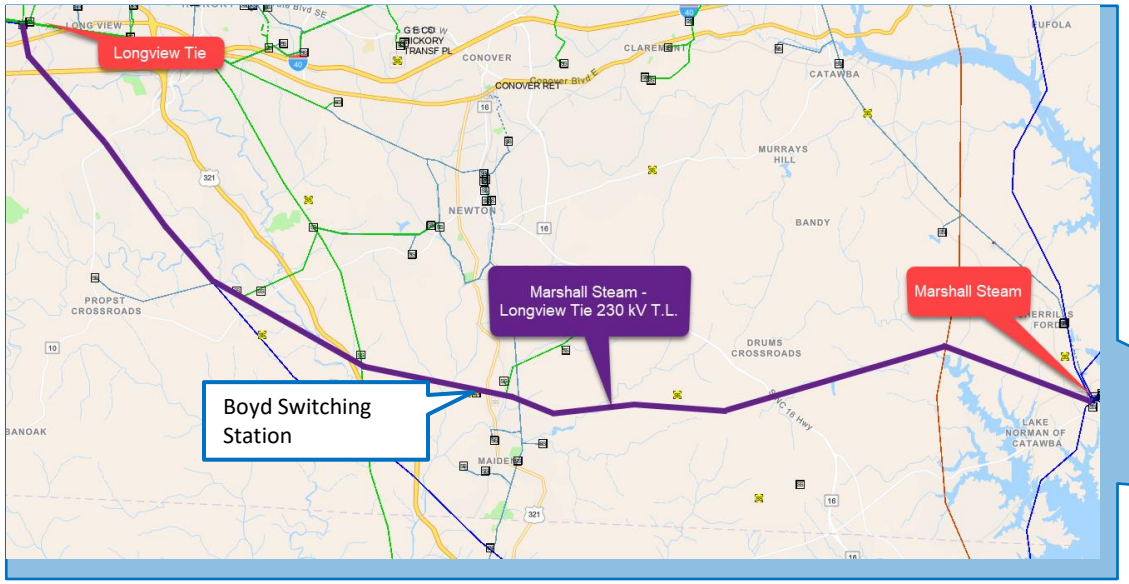


DEC Balancing Authority Area

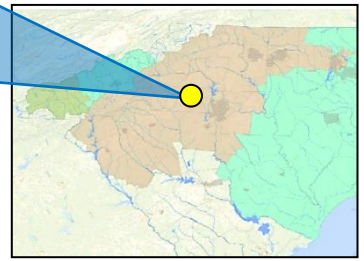
DUKE ENERGY CAROLINAS - 1

• **2027**

BOYD 230 KV SWITCHING STATION



- **DESCRIPTION:**
  - Construct a new 230 kV switching station on the Marshall Steam to Longview Tie 230 kV transmission lines.
- **SUPPORTING STATEMENT:**
  - Boyd 230 kV Switching Station is needed to support new customer load growth.

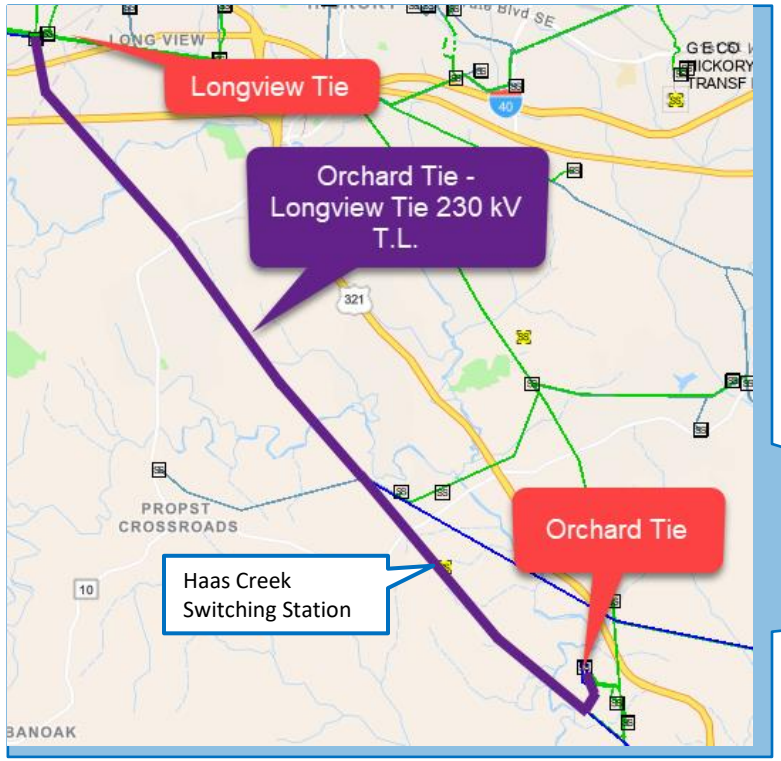


DEC Balancing Authority Area

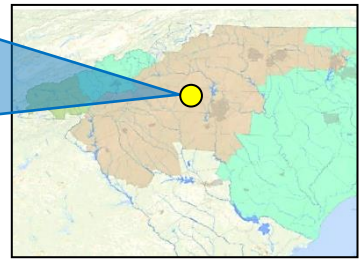
DUKE ENERGY CAROLINAS – 2

• **2027**

HAAS CREEK 230 KV SWITCHING STATION



- **DESCRIPTION:**
  - Construct a new 230 kV switching station on the Orchard Tie to Longview Tie 230 kV Transmission Lines.
- **SUPPORTING STATEMENT:**
  - Haas Creek 230 kV Switching Station is needed to support new customer load growth.

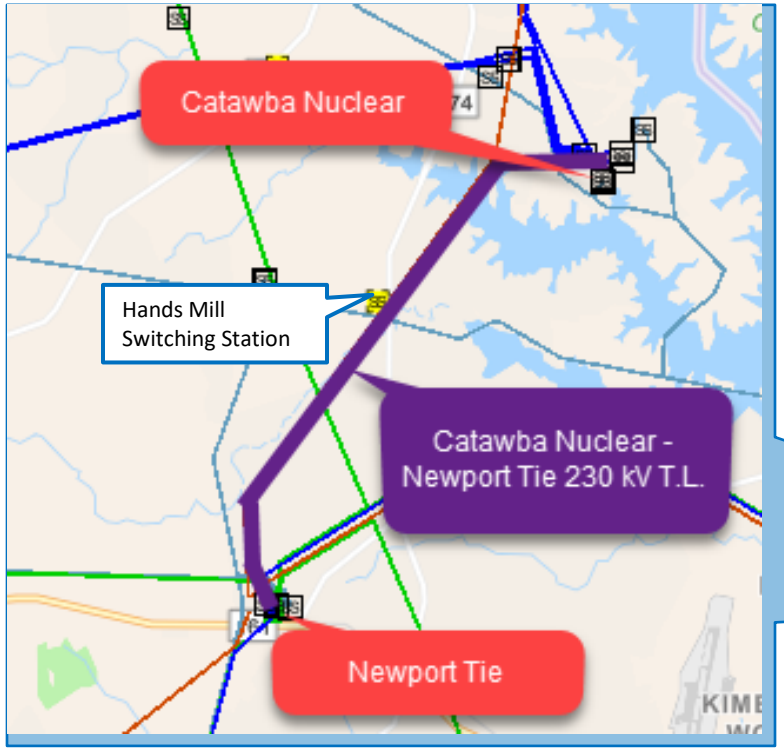


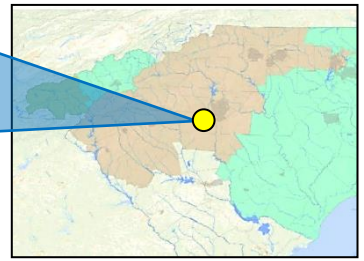
DEC Balancing Authority Area

DUKE ENERGY CAROLINAS – 3

• **2027**

HANDS MILL 230 KV SWITCHING STATION





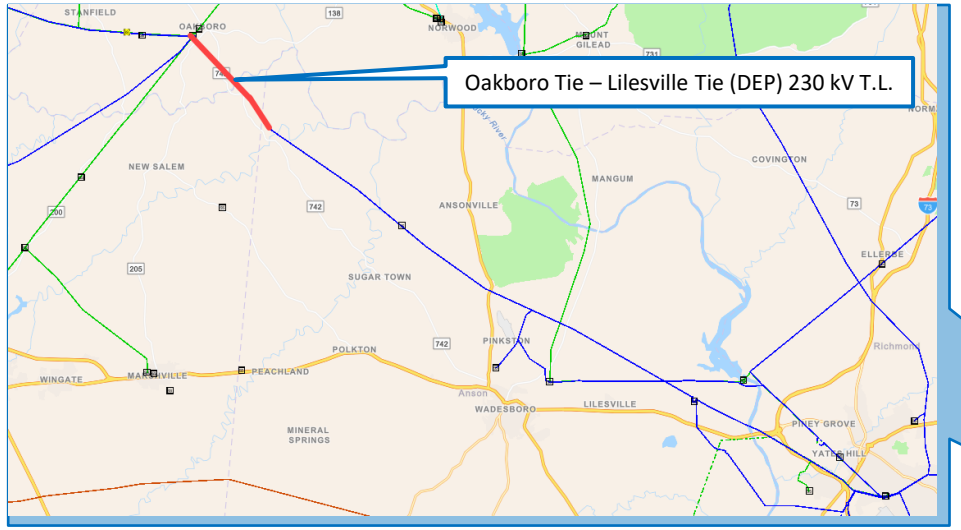
- **DESCRIPTION:**
  - Construct a new 230 kV switching station on the Catawba Nuclear to Newport Tie 230 kV transmission Lines.
- **SUPPORTING STATEMENT:**
  - Hands Mill 230 kV Switching Station is needed to support new customer load growth.

DEC Balancing Authority Area

DUKE ENERGY CAROLINAS – 4

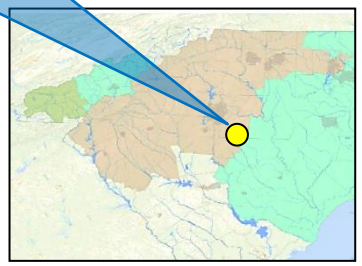
• **2029**

OAKBORO TIE – LILESVILLE TIE (DEP) 230 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Rebuild 5.13 (Oakboro to DEP change of ownership) of the Oakboro Tie – Lilesville Tie (DEP) 230 kV Transmission Line with bundled 1272 ACSR at 120°C.

- **SUPPORTING STATEMENT:**
  - Various generator interconnection studies have shown the need to upgrade this line. This upgrade is needed to enable generation consistent with the approved IRP.
  - Included in the Red Zone 2.0 list of projects.

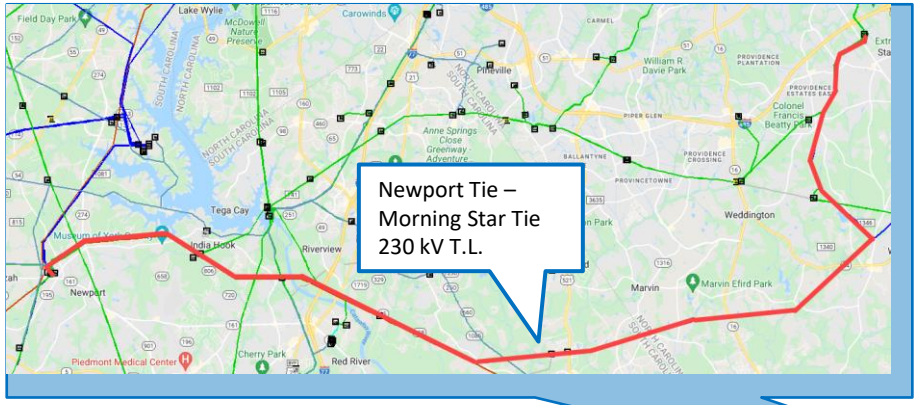


DEC Balancing Authority Area

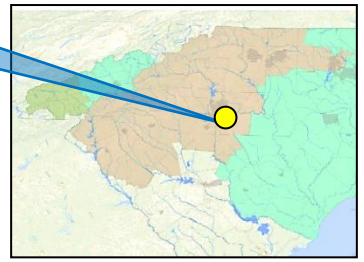
DUKE ENERGY CAROLINAS – 5

• **2033**

NEWPORT TIE – MORNING STAR TIE 230 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Add a second circuit to the existing Newport Tie – Morning Star Tie 230 kV Transmission Line. Conductor will be 954 ACSR at 120°C.
- **SUPPORTING STATEMENT:**
  - A number of contingencies on the Duke Energy Carolinas 230 kV transmission system can cause thermal overloads on the Newport Tie – Morning Star Tie 230 kV T.L.



DEP Balancing Authority Areas

DUKE ENERGY PROGRESS

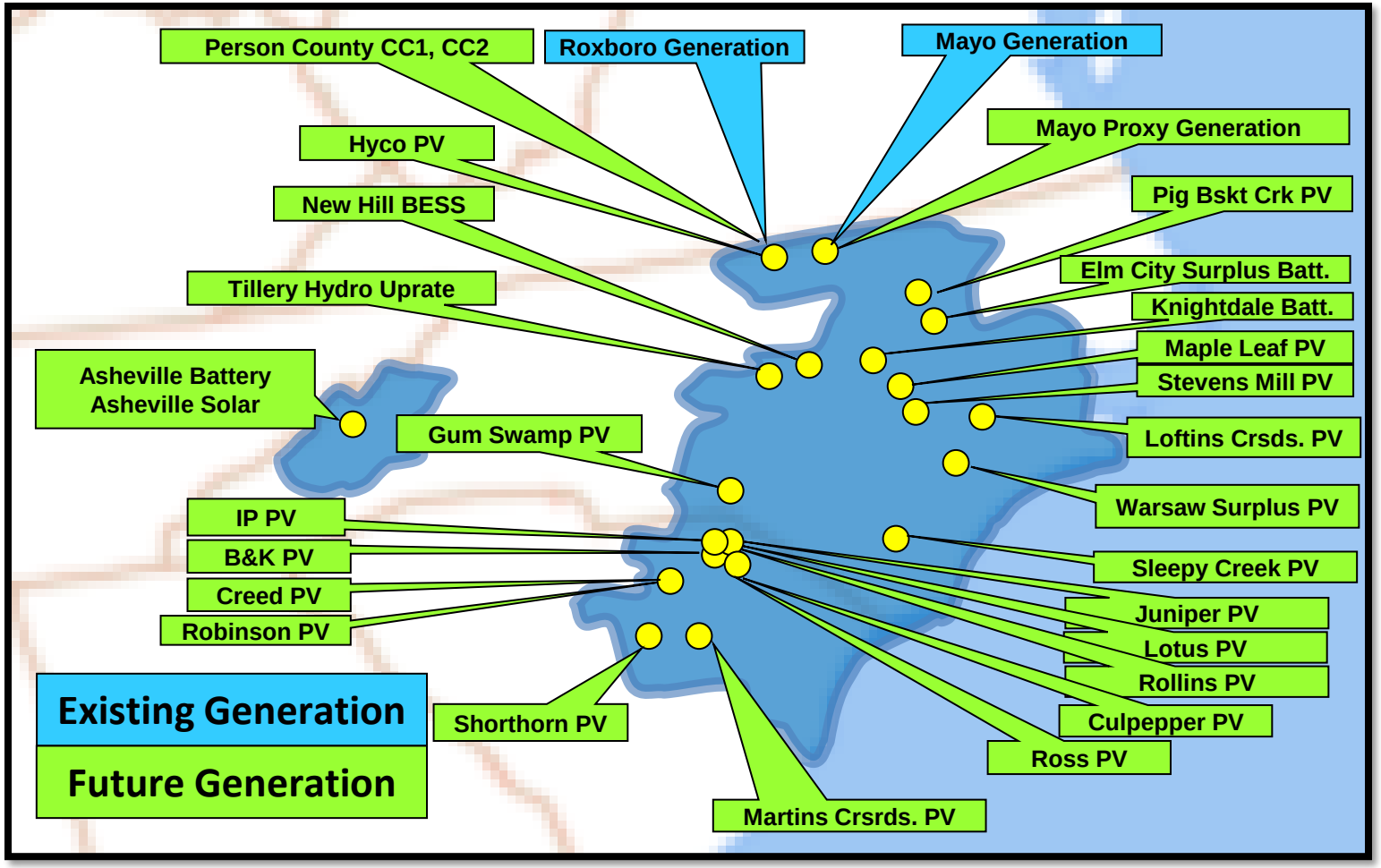
Balancing Authority Areas

2025 Generation Assumptions

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

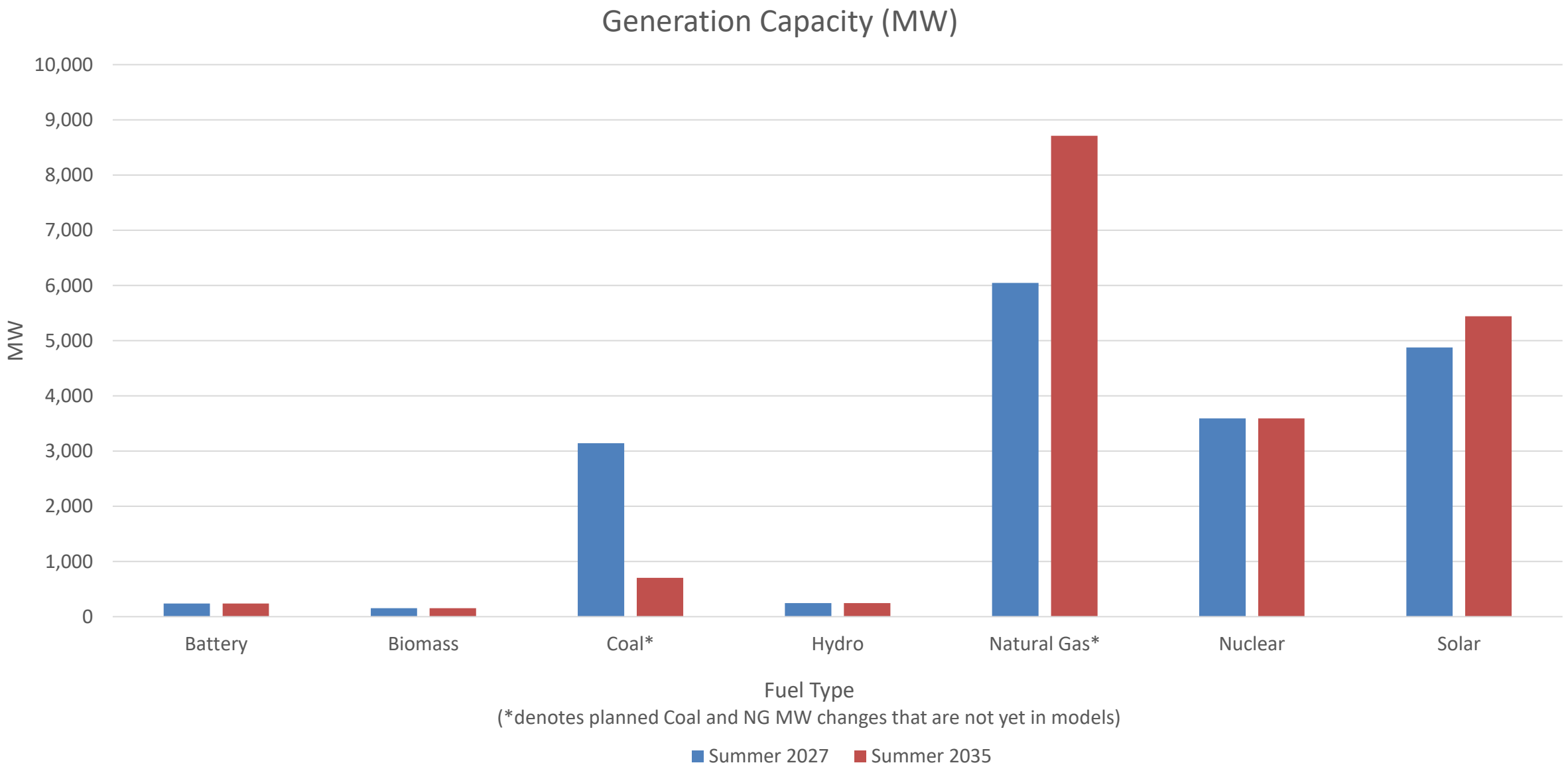
DUKE ENERGY PROGRESS – Generation Assumptions

The following diagram depicts the location of generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2025 SERTP Process.



Southeastern Regional
TRANSMISSION PLANNING

DEP Generation Summary



DEP Balancing Authority Areas

DEP – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
ROXBORO #1 COAL[1]	Coal	379	379	379	0	--	--	--	--	--	--
ROXBORO #4 COAL[1]	Coal	698	698	698	0	--	--	--	--	--	--
ROXBORO #2 COAL[1]	Coal	668	668	668	668	668	668	668	668	0	--
ROXBORO #3 COAL[1]	Coal	694	694	694	694	694	694	694	694	0	--
MAYO COAL[1]	Coal	704	704	704	704	704	0	--	--	--	--
PERSON CC1 (REPLACEMENT)[2]	Natural Gas	--	--	--	1047	1047	1047	1047	1047	1047	1047
PERSON CC1 (INCREMENTAL)[3]	Natural Gas	--	--	--	307	307	307	307	307	307	307
PERSON CC2 (PROXY)[4]	Natural Gas	--	--	--	--	1312	1312	1312	1312	1312	1312
MAYO (PROXY)[5]	TBD	--	--	--	--	--	704	704	704	704	704

1. Generators left in models in expectation of replacement generation through the Generation Replacement Request (GRR) or DISIS processes.
2. Replacement generation with Interconnection Agreement (IA) through the GRR process, not yet in power flow models.
3. Incremental generation in the DISIS 2023 Cluster Study Process, not yet in power flow models.
4. Additional planned generation through the large generator interconnection process, not yet in power flow models.
5. Approximate beginning-of-year time frame for Mayo retirement pending equally reliable replacement resources exist to allow retirements, not yet in power flow models

DEP – Generation Assumptions Continued

The following table depicts the preliminary generation assumptions that could change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
WARSAW SURPLUS	Battery	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
KNIGHTDALE BATTERY	Battery	100	100	100	100	100	100	100	100	100	100
ELM CITY SURPLUS	Battery	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
PIG BASKET CREEK	PV	80	80	80	80	80	80	80	80	80	80
LOFTINS CROSSROADS	PV	75	75	75	75	75	75	75	75	75	75
MARTINS CROSSROADS	PV	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
CRAGGY BATTERY	Battery	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
ASHEVILLE SOLAR	PV	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
ASHEVILLE BATTERY	Battery	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25
TILLERY HYDRO	Hydro	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
B&K SOLAR	PV	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
NEW HILL BESS	Battery	56	56	56	56	56	56	56	56	56	56
GUM SWAMP SOLAR	PV	80	80	80	80	80	80	80	80	80	80
MAPLE LEAF SOLAR	PV	73	73	73	73	73	73	73	73	73	73

Includes only generation with signed interconnection agreements

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DEP – Generation Assumptions Continued

The following table depicts the preliminary generation assumptions that could change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
SLEEPY CREEK SOLAR	PV	80	80	80	80	80	80	80	80	80	80
STEVENS MILL SOLAR	PV	80	80	80	80	80	80	80	80	80	80
HYCO SOLAR	PV	80	80	80	80	80	80	80	80	80	80
CREED SOLAR	PV	--	48	48	48	48	48	48	48	48	48
JUNIPER SOLAR	PV	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
LOTUS SOLAR	PV	--	75	75	75	75	75	75	75	75	75
ROBINSON SOLAR	PV	--	76	76	76	76	76	76	76	76	76
ROLLINS SOLAR	PV	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
SHORTHORN SOLAR	PV	--	--	60	60	60	60	60	60	60	60
IP SOLAR	PV	--	--	75	75	75	75	75	75	75	75
CULPEPPER SOLAR	PV	--	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
ROSS SOLAR	PV	--	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9

Includes only generation with signed interconnection agreements

DEP Balancing Authority Areas

DEP– Generation Assumptions (Point-to-Point)

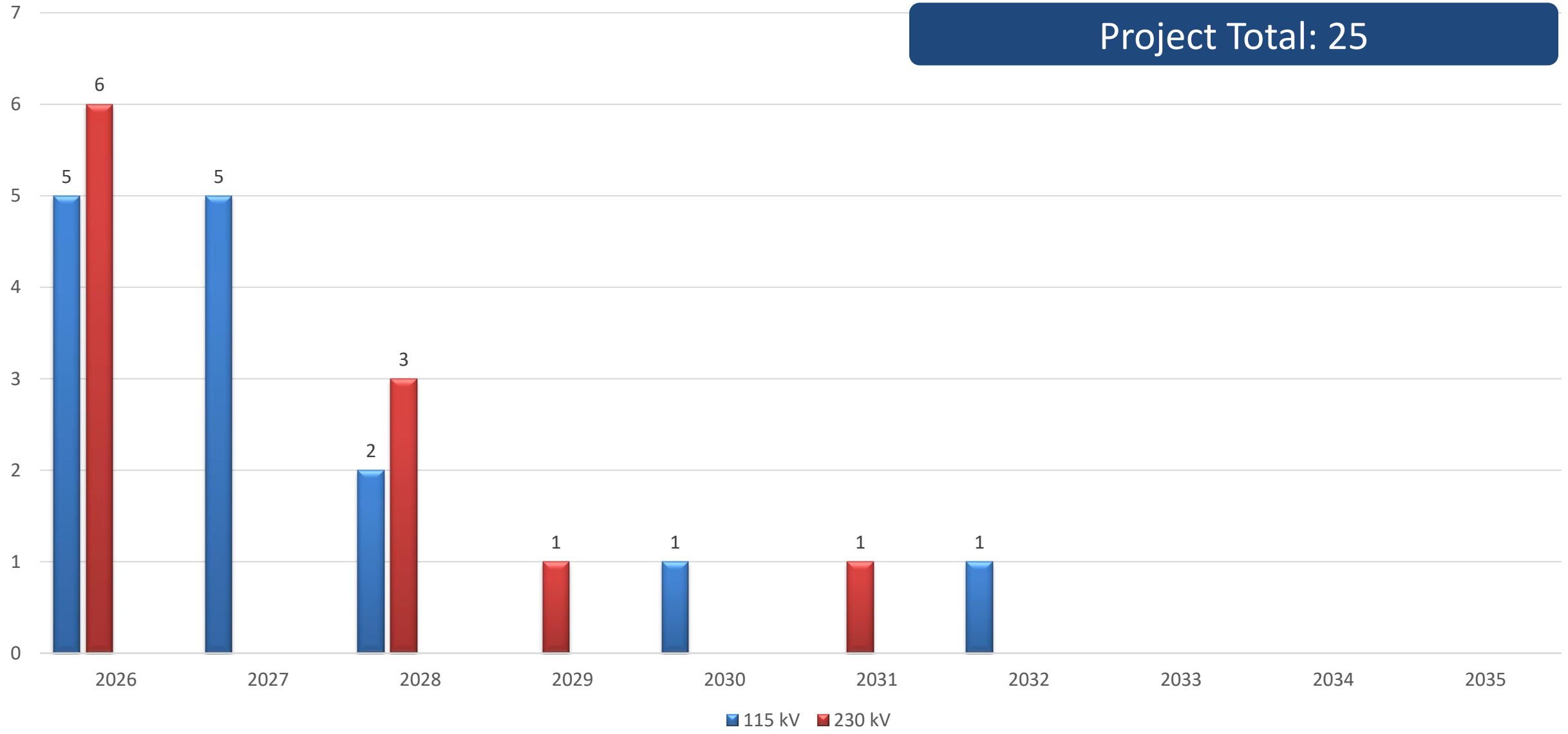
The following table depicts generation assumptions based upon expected long-term firm point-to-point commitments for the SERTP 2025 Planning Process. The years shown represent Summer Peak conditions.

SITE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
HAMLET #2 AND #3	110	110	110	110	110	110	110	110	110	110
HAMLET #6	55	55	55	55	55	55	55	55	55	55

Southeastern Regional
TRANSMISSION PLANNING

DEP Project Summary

Project Total: 25



Southeastern Regional TRANSMISSION PLANNING

DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST

Balancing Authority Area

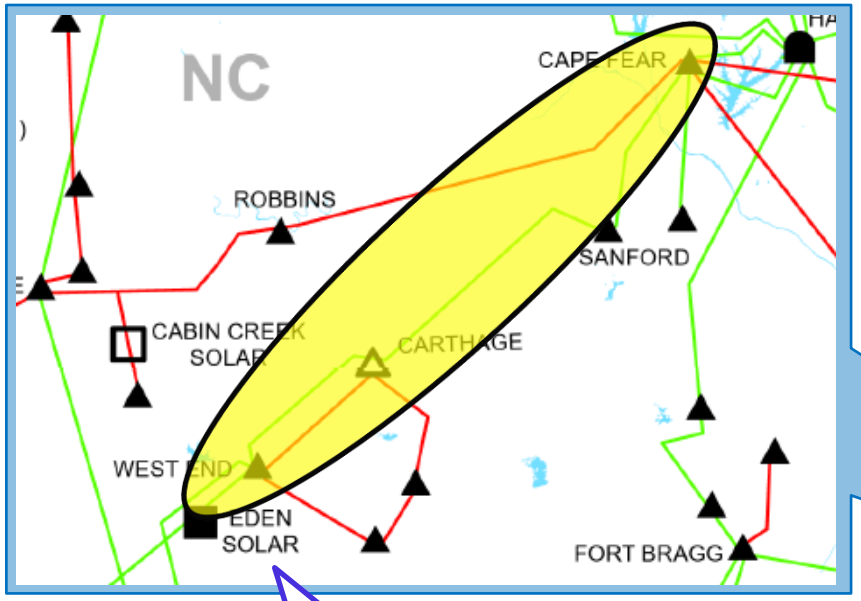
Regional Transmission Expansion Plan

DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 1

• **2026**

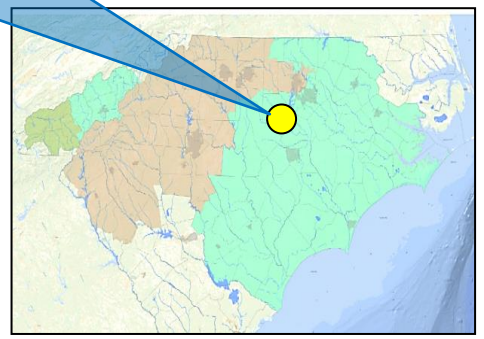
CAPE FEAR PLANT – WEST END 230 KV LINE, REBUILD



REBUILD 26.6 MILES OF 230 KV T.L. WITH 6-1590 ACSR, RAISE 4.5 MILES

- **DESCRIPTION:**
  - Rebuild 26.6 miles of 1272 ACSR conductor of the Cape Fear – West End 230 kV Line with 6-1590 MCM ACSR 212°F conductor. Raise 4.5 miles of 2515 ACSR to 212°F maximum operating temperature. Upgrade switches and terminal equipment.

- **SUPPORTING STATEMENT:**
  - Various solar studies performed have shown the need to upgrade this line. This upgrade is needed for future solar generation proposed for compliance with the Carbon Plan goals.

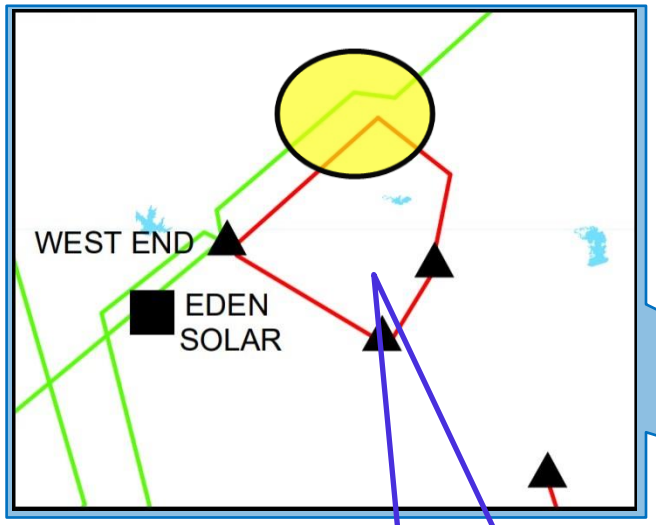


DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 2

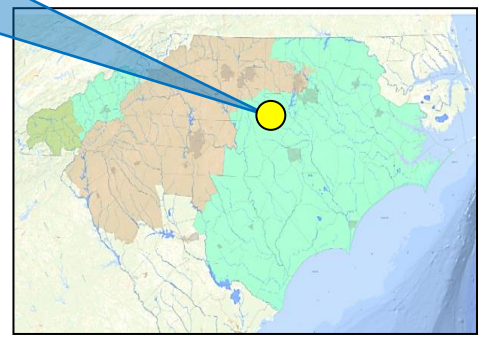
• **2026**

HILL CREST 230/115 KV SUBSTATION – CONSTRUCT



CONSTRUCT A NEW 230/115 KV SUBSTATION NEAR THE EXISTING CARTHAGE 115 KV SUBSTATION

- **DESCRIPTION:**
  - Construct a new Hill Crest 230/115 kV substation near the existing Carthage 115 kV substation. Loop in the existing Cape Fear – West End 230 kV line and West End – Southern Pines 115 kV feeder.
- **SUPPORTING STATEMENT:**
  - This project is needed to mitigate numerous overloads and voltage issues under contingency near Southern Pines 115 kV and Carthage 115 kV.

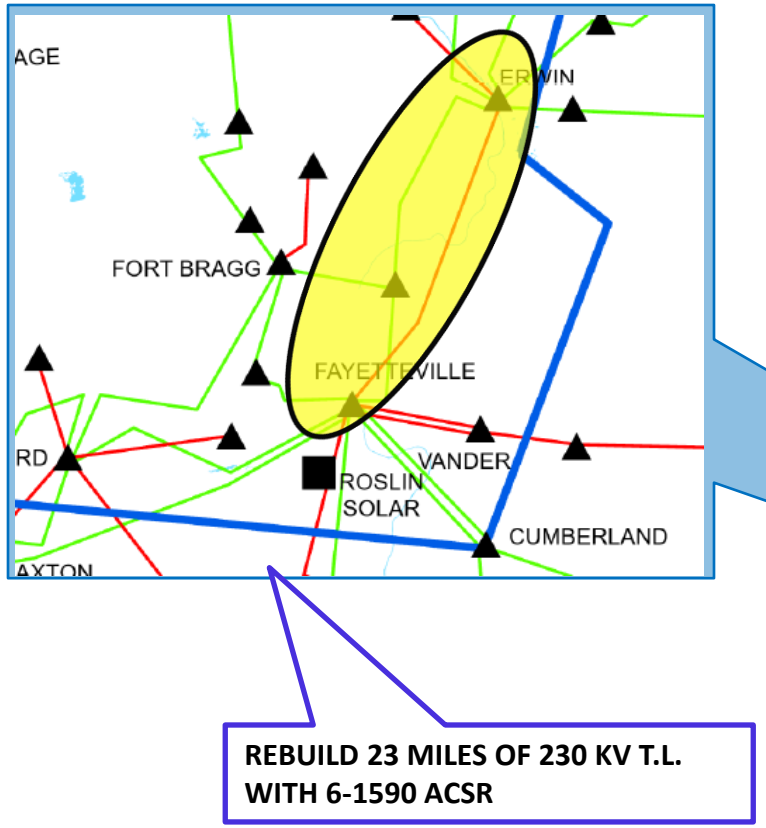


DEP Balancing Authority Areas

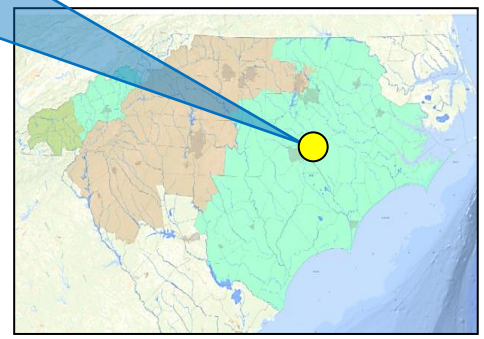
DUKE ENERGY PROGRESS EAST – 3

• **2026**

ERWIN - FAYETTEVILLE EAST 230 KV LINE, REBUILD



- **DESCRIPTION:**
  - Rebuild 23 miles of the Erwin - Fayetteville East 230 kV Line with 6-1590 MCM ACSR 212°F conductor.
- **SUPPORTING STATEMENT:**
  - Various solar studies performed have shown the need to upgrade this line. This upgrade is needed for future solar generation proposed for compliance with the Carbon Plan goals.

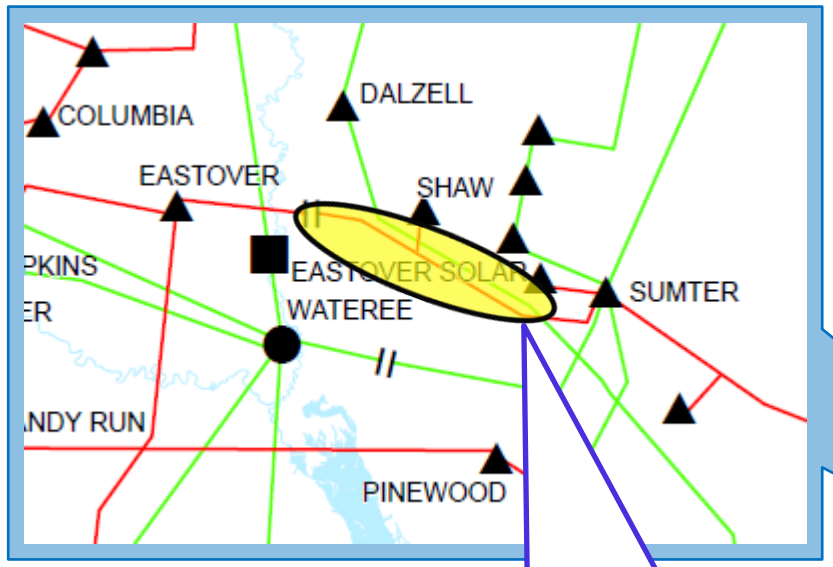


DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 4

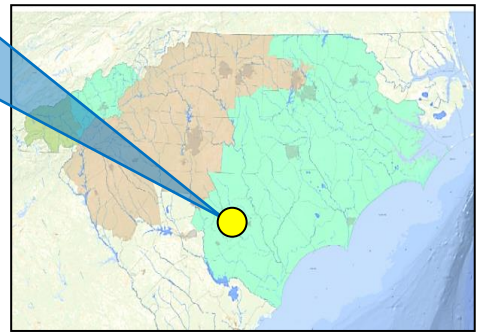
• **2026**

SUMTER – DESC EASTOVER 115 KV LINE, REBUILD KINGS HWY – SHAW FIELD – EASTOVER



- **DESCRIPTION:**
  - Rebuild Sumter Kings Hwy - Shaw Field Tap and the DEP portion of Shaw Field Tap - DESC Eastover sections of Sumter-Eastover 115 kV line, 6.35 miles, to 1272 ACSR 212°F, and raise 2.16 miles of the Sumter Gold Kist Tap – Sumter Kings Hwy section to 212°F full conductor rating.

- **SUPPORTING STATEMENT:**
  - Multiple contingencies cause the Shaw Field Tap-Eastover section of the Sumter-Eastover 115 kV line to overload.

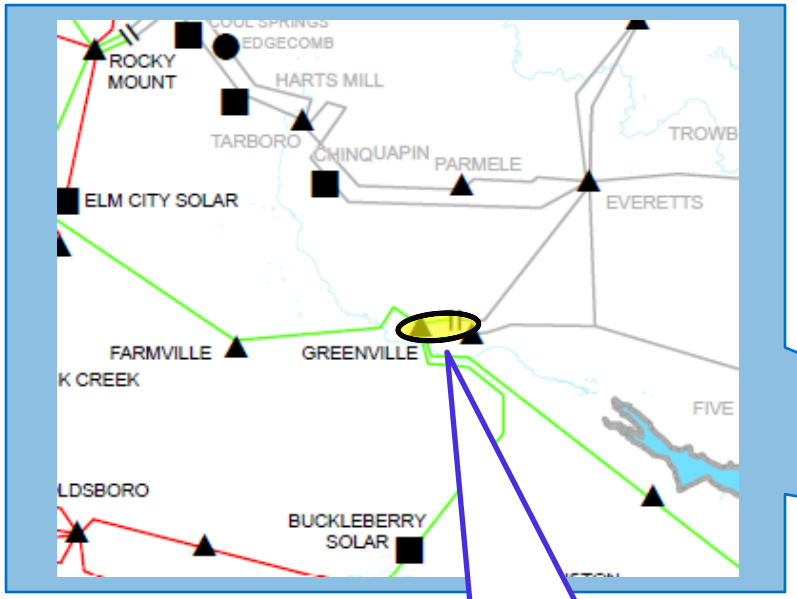


DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 5

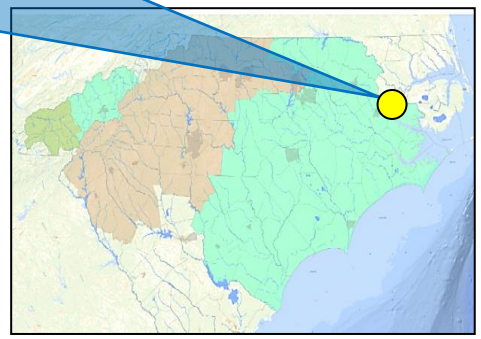
• **2026**

GREENVILLE – DVP EVERETTS 230 KV LINE, RECONDUCTOR



REBUILD 1.93 MILES OF 230 kV T.L. WITH 6-795 ACSS/TW/HS

- **DESCRIPTION:**
  - Affected System project to rebuild the DEP portion of the Greenville – DVP Everetts 230 kV Line, 1.93 miles, with 6-795 ACSS/TW/HS 392°F.
- **SUPPORTING STATEMENT:**
  - This upgrade is driven by affected system studies for PJM queued generation.

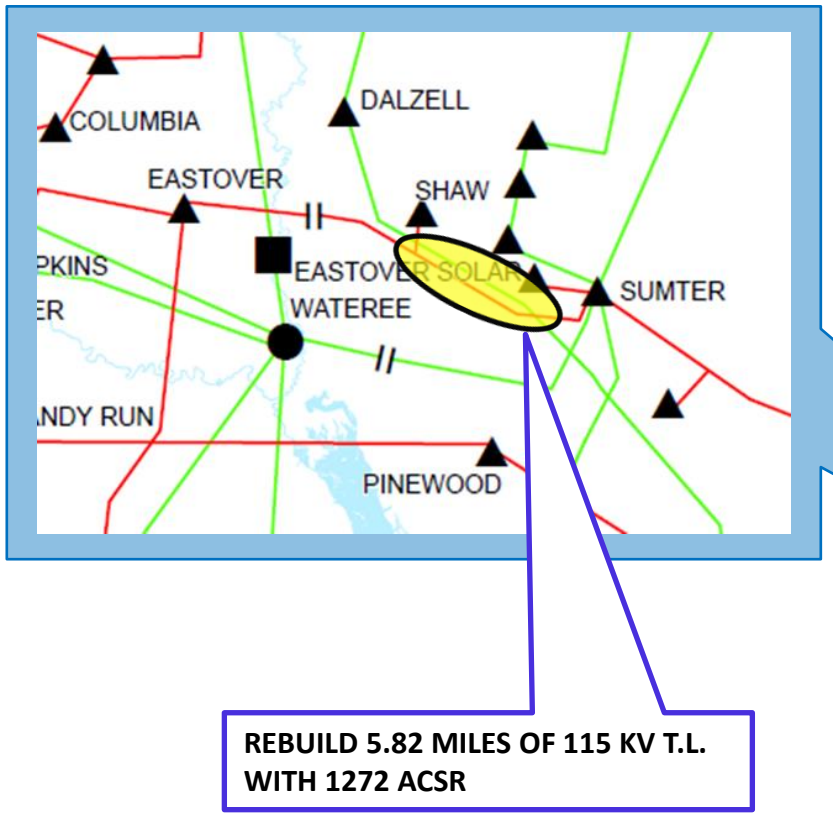


DEP Balancing Authority Areas

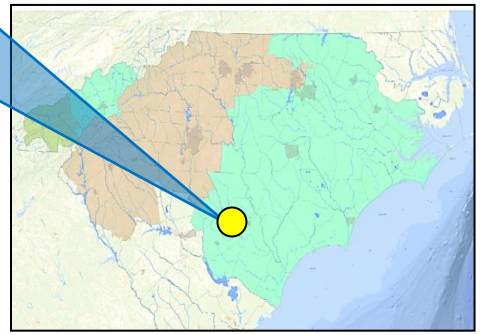
DUKE ENERGY PROGRESS EAST – 6

• **2027**

SUMTER – DESC EASTOVER 115 KV LINE, REBUILD GOLD KIST - KINGS HWY



- **DESCRIPTION:**
  - Rebuild 5.82 miles, the 397.5 ACSR portion of Sumter Gold Kist Tap - Sumter Kings Hwy, to 1272 ACSR 212°F.
- **SUPPORTING STATEMENT:**
  - Multiple contingencies cause the Gold Kist - Kings Hwy section of the Sumter-Eastover 115 kV line to overload.

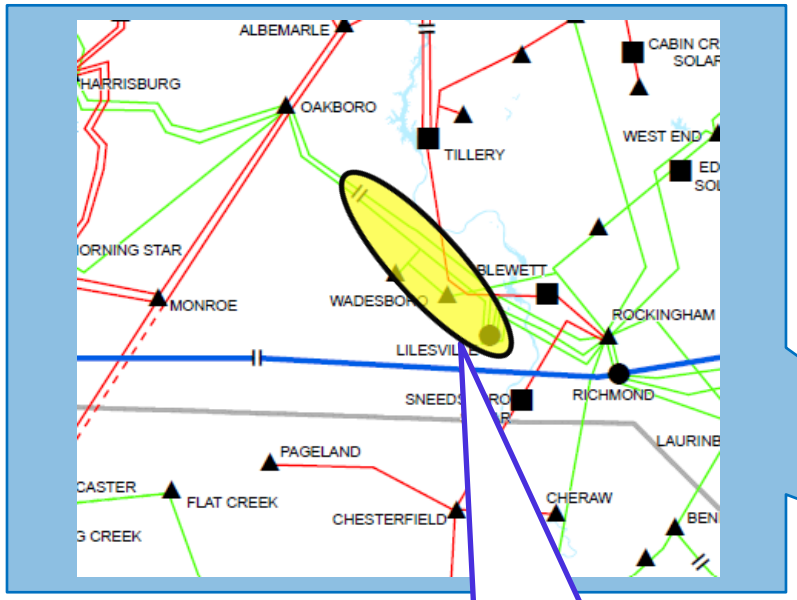


DEP Balancing Authority Areas

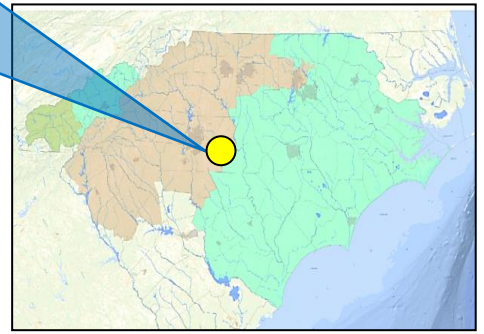
DUKE ENERGY PROGRESS EAST – 7

• **2028**

LILESVILLE – OAKBORO (DEC TIE) 230 KV BLACK AND WHITE LINES, REBUILD



- **DESCRIPTION:**
  - Rebuild the DEP portion of Lilesville - Oakboro 230 kV Black and White lines to 6-1272 ACSR 212°F conductor, 29.7 miles each line.
- **SUPPORTING STATEMENT:**
  - Various generator interconnection studies have shown the need to upgrade this line. This upgrade is needed to enable generation consistent with the approved IRP.

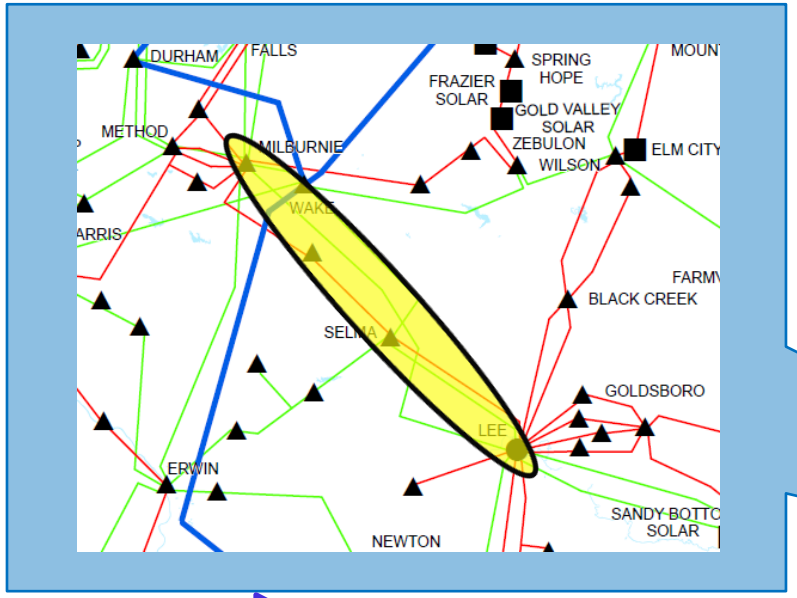


DEP Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 8

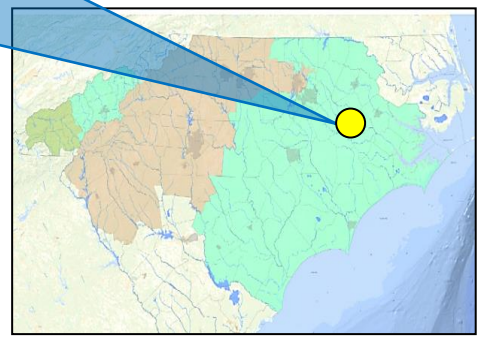
• **2031**

LEE - MILBURNIE 230 KV TRANSMISSION LINE, REBUILD



REBUILD 40.2 MILES OF 230 kV T.L. WITH 954 HS285 ACSS/TW

- **DESCRIPTION:**
  - Rebuild the entire Lee - Milburnie 230 kV transmission line with 954 MCM HS285 ACSS/TW 392°F conductor (40.2 miles) and upgrade terminal equipment.
- **SUPPORTING STATEMENT:**
  - Various generator interconnection studies have shown the need to upgrade this line. This upgrade is needed to enable generation consistent with the approved IRP.



Southeastern Regional TRANSMISSION PLANNING

DEP Balancing Authority Areas

DUKE ENERGY PROGRESS WEST

Balancing Authority Area

Regional Transmission Expansion Plan

* DEP West has no projects that meet the presentation criteria in the 2025 SERTP Process.

LG&E/KU Balancing Authority Area

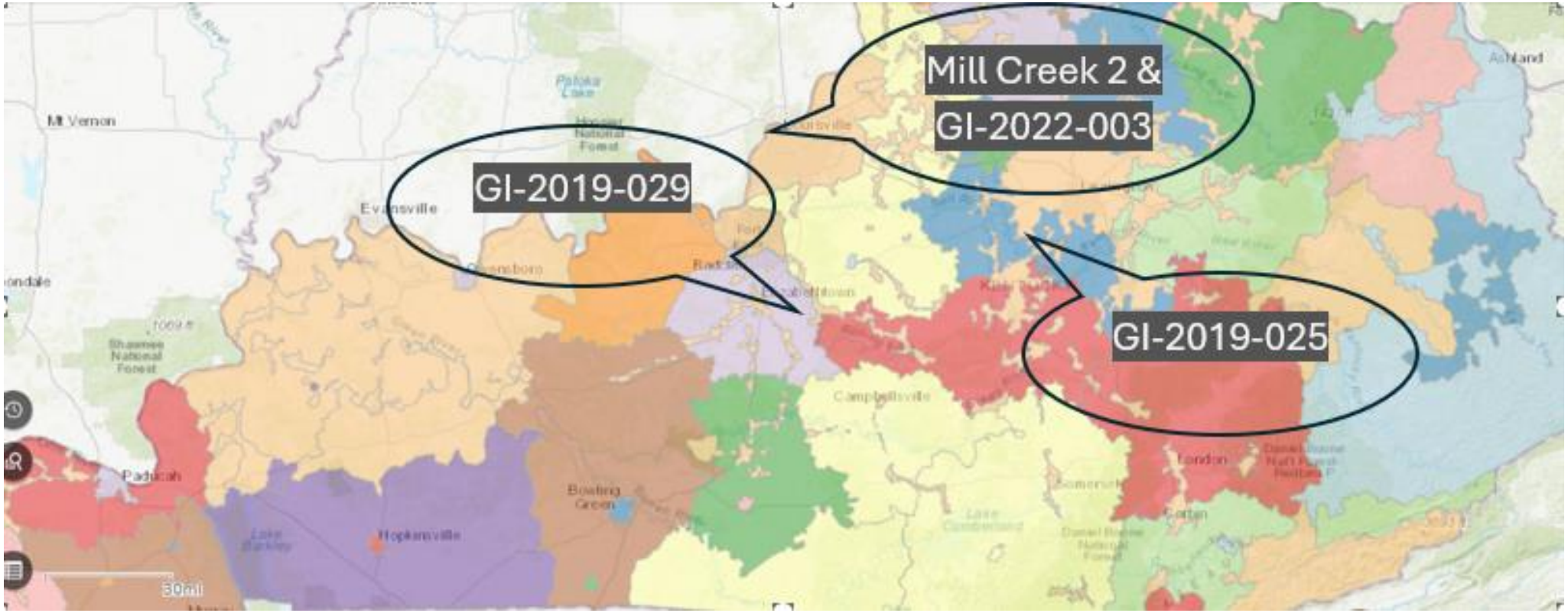
LG&E/KU Balancing Authority Area

2025 Generation Assumptions

LG&E/KU Balancing Authority Area

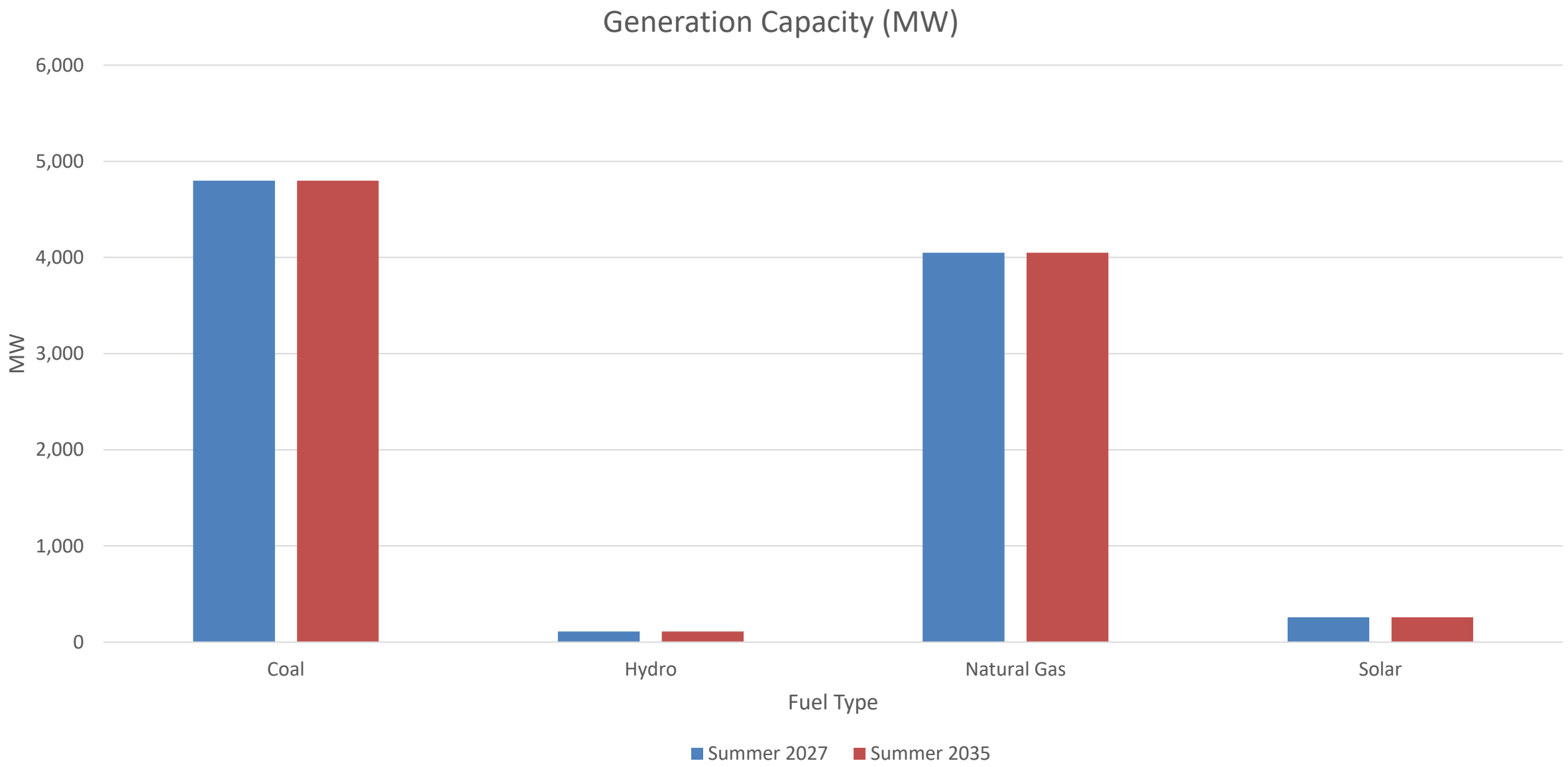
LG&E/KU Generation Assumptions

The following diagram depicts location of generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2026 SERTP Process.



Southeastern Regional
TRANSMISSION PLANNING

LG&E/KU Generation Summary



LG&E/KU – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Mill Creek 2	Coal	301	0	0	0	0	0	0	0	0	0
GI-2022-003	Gas	0	661	661	661	661	661	661	661	661	661
GI-2019-029	Solar	0	100	100	100	100	100	100	100	100	100
GI-2019-025	Solar	100	100	100	100	100	100	100	100	100	100

LG&E/KU – Generation Assumptions (Point-to-Point)

The following table depicts generation assumptions based upon expected long-term firm point-to-point commitments. The years shown represent Summer Peak conditions.

SITE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
TRIMBLE COUNTY	324	324	324	324	324	324	324	324	324	324

LG&E/KU Balancing Authority Area

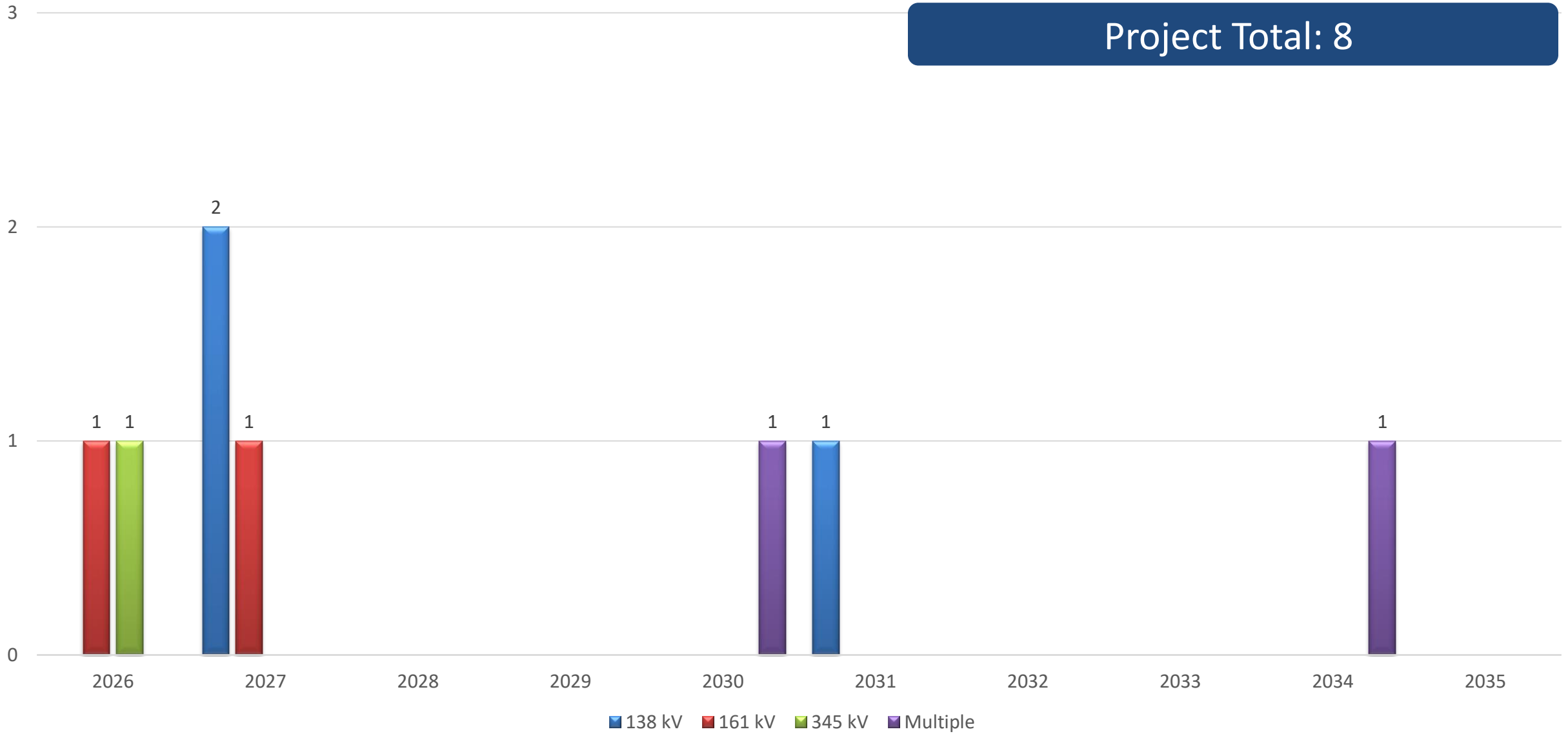
LG&E/KU Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

LG&E/KU Project Summary

Project Total: 8

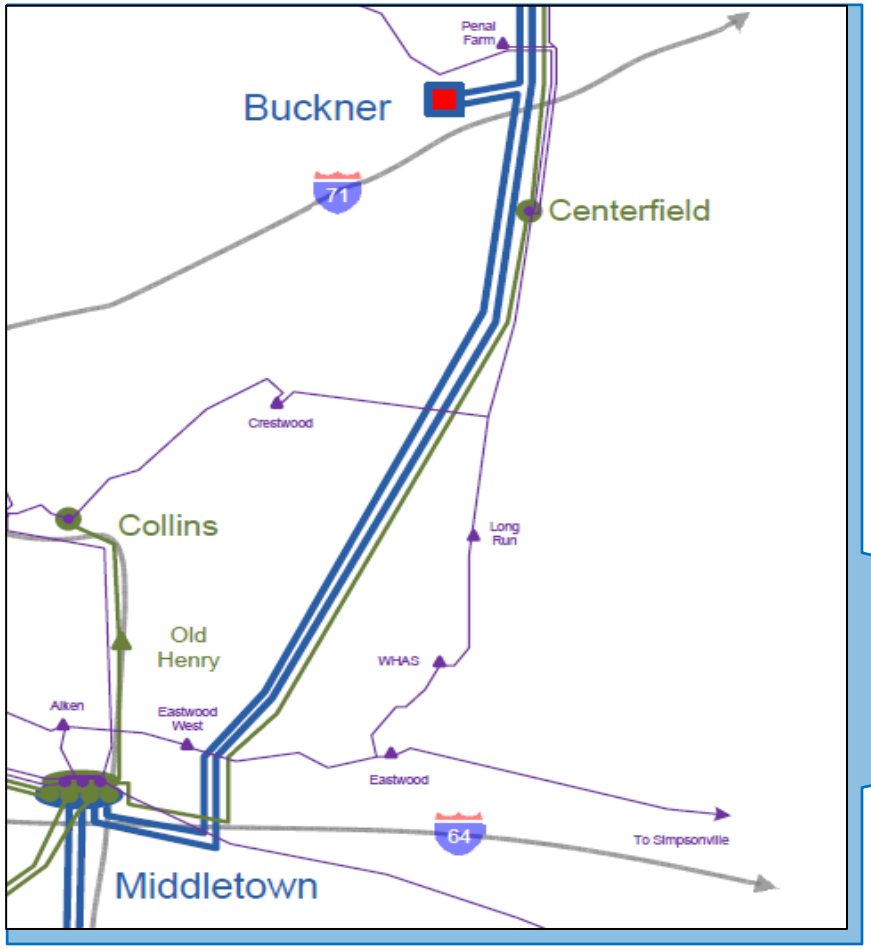


LG&E/KU Balancing Authority Area

LG&E/KU - 1

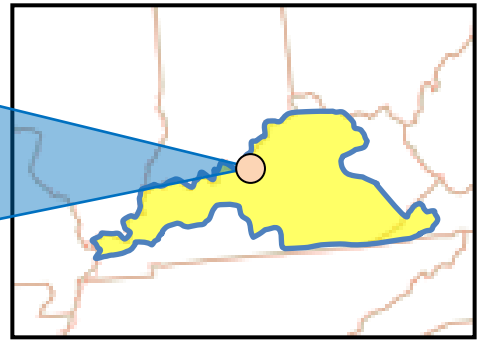
- **2026**

MIDDLETOWN – BUCKNER 345 KV



- **DESCRIPTION:**
  - Replace the 345 kV breakers associated with the Middletown – Buckner 345 kV line.

- **SUPPORTING STATEMENT:**
  - The Middletown – Buckner 345 kV transmission line overloads under contingency.



SOUTHERN Balancing Authority Area

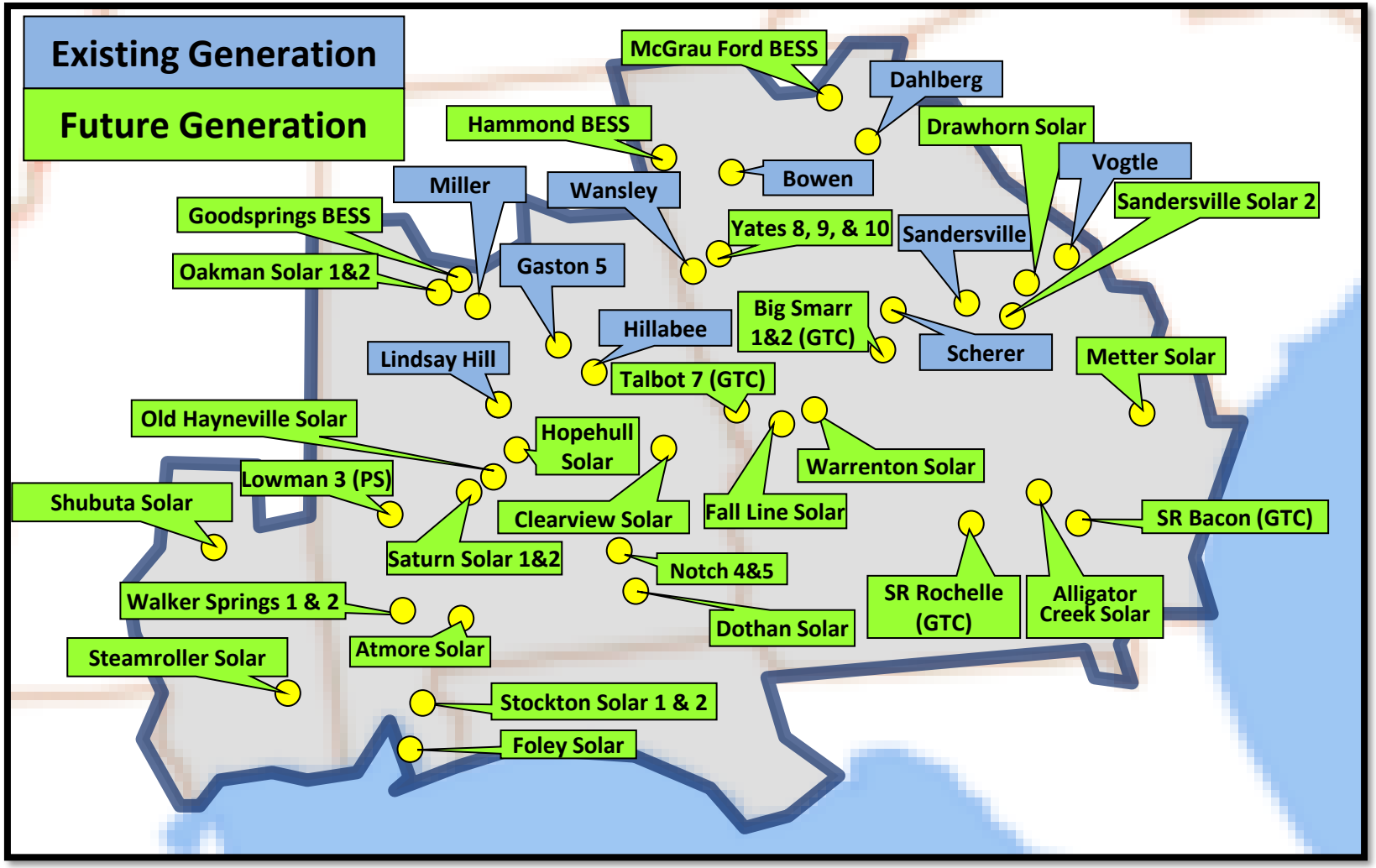
SOUTHERN Balancing Authority Area

2025 Generation Assumptions

SOUTHERN Balancing Authority Area

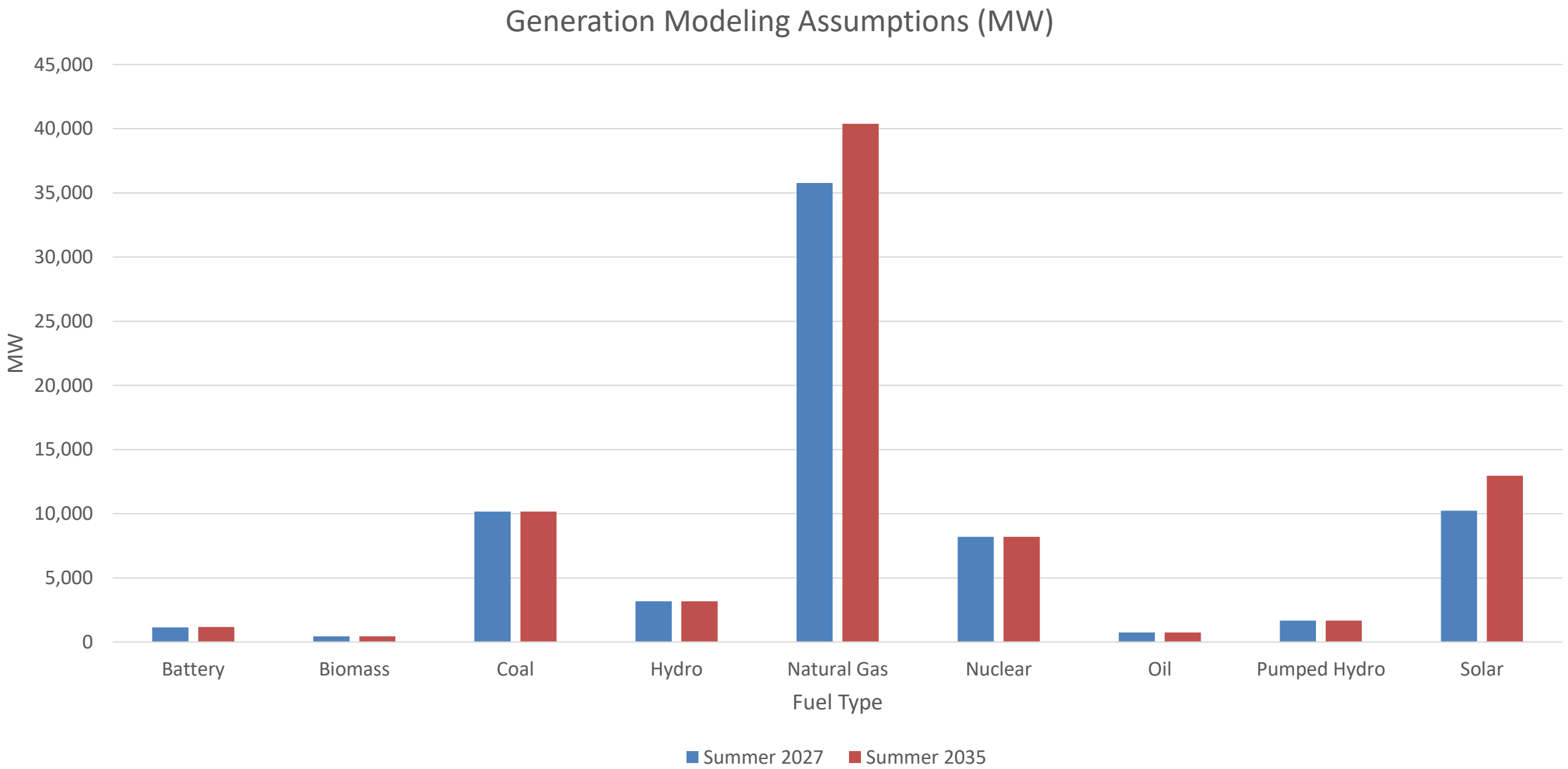
SOUTHERN – Generation Assumptions

The following diagram depicts the location of generation assumptions discussed in the following slides.



Southeastern Regional TRANSMISSION PLANNING

SBAA Generation Summary



Southern Company – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
GASTON 5 [1]	COAL/GAS	921	946	946	946	946	946	946	946	946	946
LINDSAY HILL [2]	GAS	--	--	--	850	850	850	850	850	850	850
YATES 8, 9 & 10	GAS	--	882	1323	1323	1323	1323	1323	1323	1323	1323

1 Plant conversion from coal to gas.
2 Third-party delivery service ending, transitioning generation to a Designated Network Resource.

Southern Company – Generation Assumptions Continued

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
ALLIGATOR CREEK SOLAR	SOLAR	80	80	80	80	80	80	80	80	80	80
ATMORE SOLAR	SOLAR	--	80	80	80	80	80	80	80	80	80
CLEARVIEW SOLAR	SOLAR	--	--	200	200	200	200	200	200	200	200
DOTHAN SOLAR	SOLAR	--	--	--	--	120	120	120	120	120	120
DRAWHORN SOLAR	SOLAR	--	--	80	80	80	80	80	80	80	80
FALL LINE SOLAR	SOLAR	--	--	--	20	20	20	20	20	20	20
FOLEY SOLAR	SOLAR	--	80	80	80	80	80	80	80	80	80
HOPEHULL SOLAR	SOLAR	--	--	--	--	80	80	80	80	80	80
METTER SOLAR	SOLAR	80	80	80	80	80	80	80	80	80	80

Southern Company – Generation Assumptions Continued

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
NOTCH 4 & 5	SOLAR	--	160	160	160	160	160	160	160	160	160
OAKMAN SOLAR 1 & 2	SOLAR	--	--	--	162.5	162.5	162.5	162.5	162.5	162.5	162.5
OLD HAYNEVILLE SOLAR	SOLAR	--	80	80	80	80	80	80	80	80	80
SANDERSVILLE SOLAR 2	SOLAR	--	--	50	50	50	50	50	50	50	50
SATURN SOLAR 1 & 2	SOLAR	--	160	160	160	160	160	160	160	160	160
SHUBUTA SOLAR	SOLAR	--	--	--	156	156	156	156	156	156	156
STEAMROLLER SOLAR	SOLAR	--	--	--	150	150	150	150	150	150	150
STOCKTON SOLAR 1 & 2	SOLAR	--	--	--	--	260	260	260	260	260	260
WALKER SPRINGS 1 & 2	SOLAR	160	160	160	160	160	160	160	160	160	160
WARRENTON SOLAR	SOLAR	--	--	--	--	150	150	150	150	150	150

Southern Company – Generation Assumptions Continued

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
GOODSPSPRINGS BESS	BESS	--	150	150	150	150	150	150	150	150	150
HAMMOND BESS	BESS	--	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
MCGRAU FORD BESS	BESS	265	530	530	530	530	530	530	530	530	530
BOWEN PROVISIONAL UNIT [1]	NONE	--	--	--	--	--	--	744	1488	1488	2232
WANSLEY PROVISIONAL UNIT [1]	NONE	--	--	--	--	744	744	744	744	744	744

[1] Provisional unit locations do not represent long term generation resource plans and may be moved based on study needs.

Southern Company – Generation Assumptions (Point-to-Point)

The following table depicts generation assumptions based upon expected long-term firm point-to-point commitments. The years shown represent Summer Peak conditions.

SITE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
DAHLBERG	44	44	44	44	44	44	44	44	44	44
HILLABEE	210	210	210	210	210	210	210	210	210	210
LINDSAY HILL[1]	220	220	220	0	--	--	--	--	--	--
MILLER[2]	1500	1233	1500	1500	1500	1500	1500	1500	1500	1500
SANDERSVILLE	--	267	--	292	292	292	292	292	292	292
SCHERER	210	210	210	0	--	--	--	--	--	--
VOGTLE	206	206	206	206	206	206	206	206	206	206
WANSLEY[2]	271	271	71	71	71	71	71	71	71	71

1 Third-party delivery service ending, transitioning generation to a Designated Network Resource.
2 Third-party delivery service, sourcing from a Designated Network Resource, will likely require a redirect to new source.

GTC – Generation Assumptions

The following table depicts the generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
SR BACON	SOLAR	--	--	300	300	300	300	300	300	300	300
SR ROCHELLE	SOLAR	--	140	140	140	140	140	140	140	140	140
BIG SMARR 1 & 2	GAS	--	--	--	1543	1543	1543	1543	1543	1543	1543
TALBOT 7	GAS	--	--	--	250	250	250	250	250	250	250

MEAG – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PINEVIEW SOLAR PROJECT	SOLAR	80	80	80	80	80	80	80	80	80	80

DALTON – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
NO KNOWN UPDATES AT THIS TIME											

POWERSOUTH – Generation Assumptions

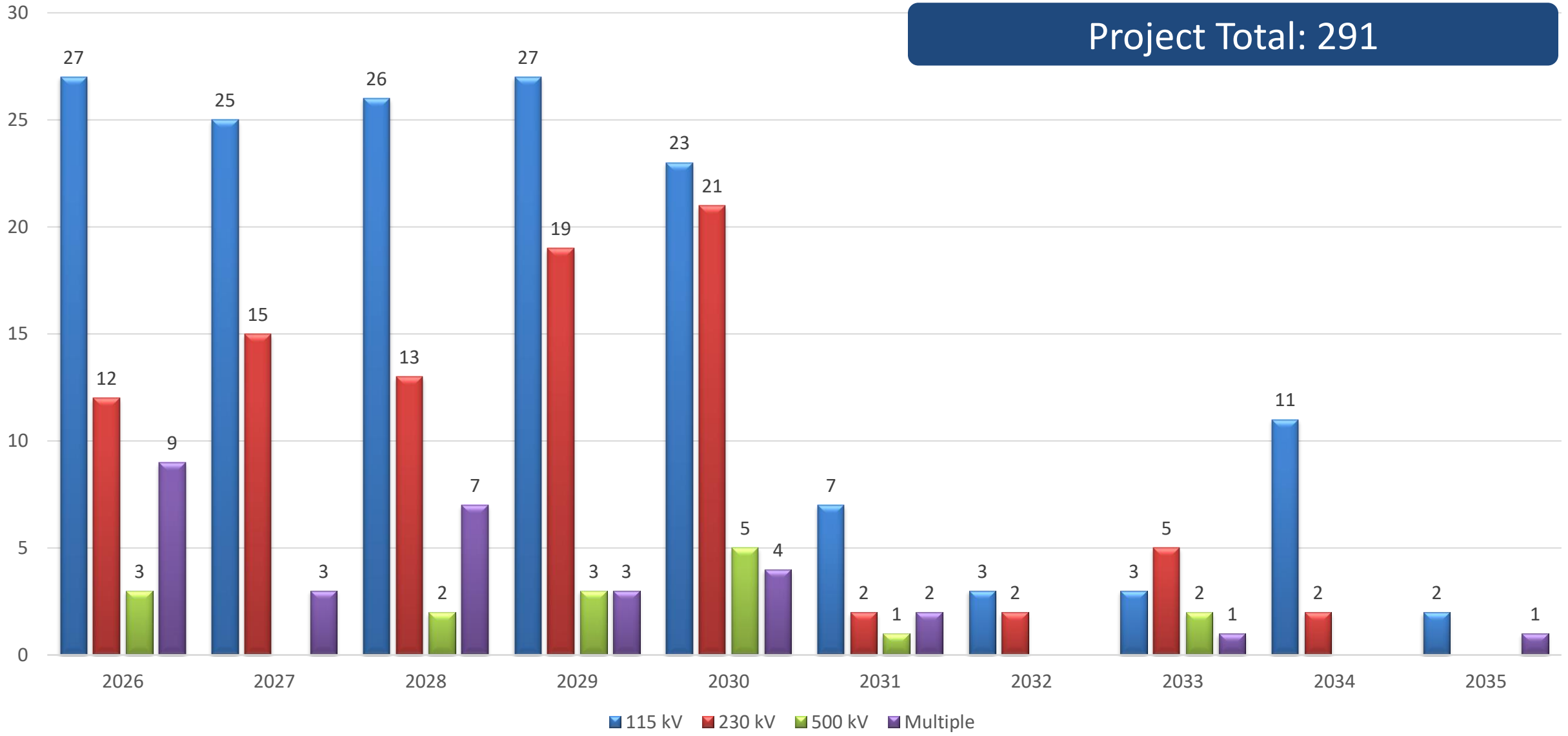
The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
LOWMAN UNIT 3 CT	NATURAL GAS	--	--	--	420	420	420	420	420	420	420

Southeastern Regional TRANSMISSION PLANNING

SBAA Project Summary

Project Total: 291



SOUTHERN Balancing Authority Area

SOUTHERN (WEST) Balancing Authority Area

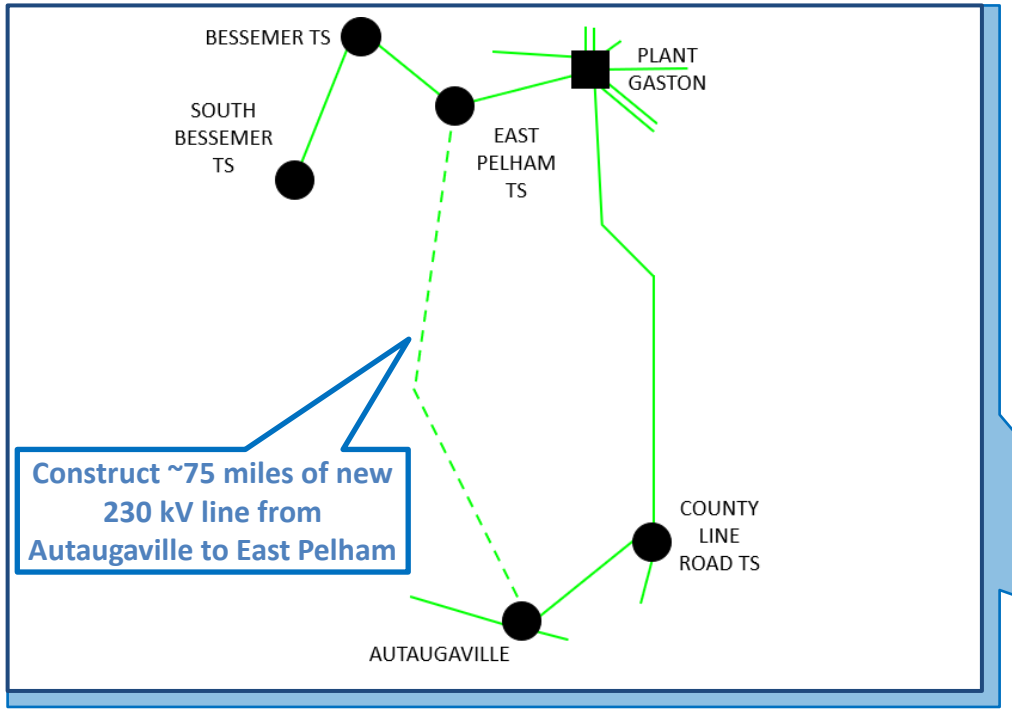
Transmission Expansion Plan

SOUTHERN Balancing Authority Area

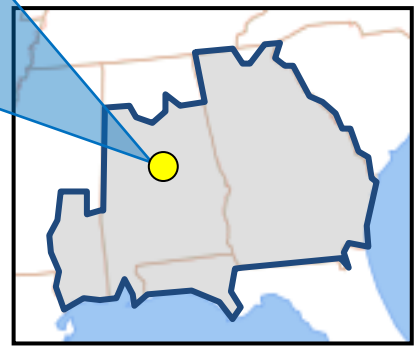
SOUTHERN – 1W

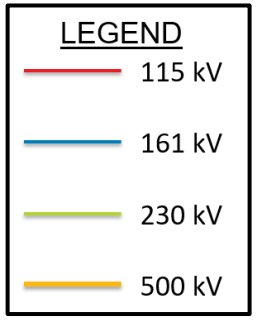
• **2027**

AUTAUGAVILLE – EAST PELHAM NEW 230 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Construct ~75 miles of new 230 kV transmission line bundled 795 26/7 ACSS 200°C from Autaugaville TS to East Pelham TS.
- **SUPPORTING STATEMENT:**
  - The Bessemer – South Bessemer 230 kV transmission line overloads under contingency. Reduces loadings on multiple 230 kV transmission lines and provides additional operational and maintenance flexibility, which increases reliability.



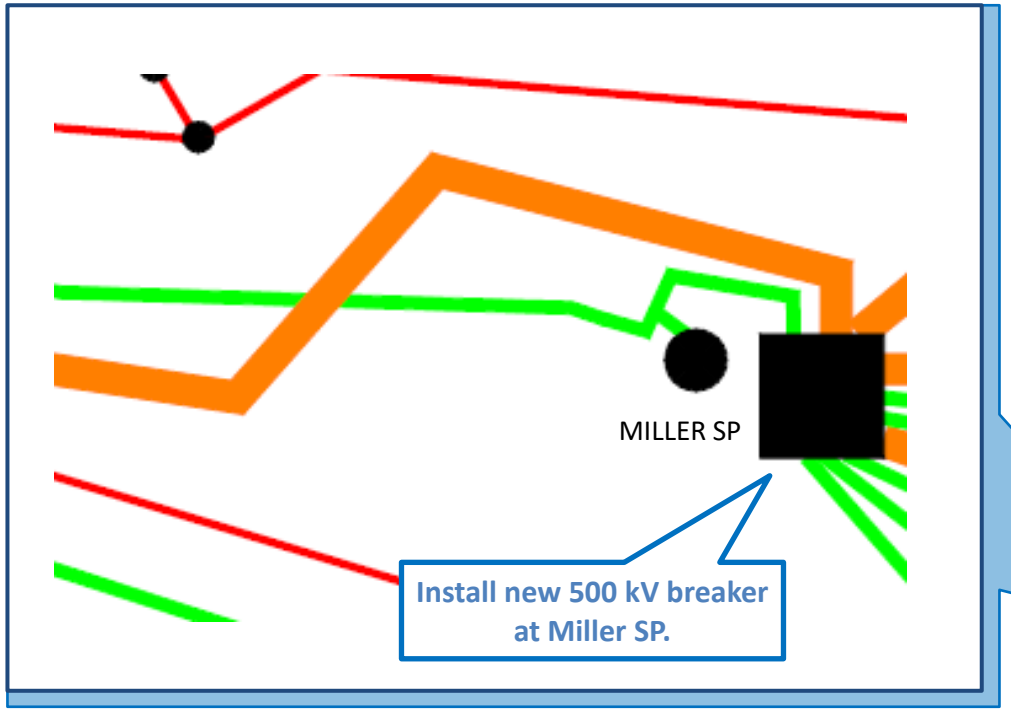


SOUTHERN Balancing Authority Area

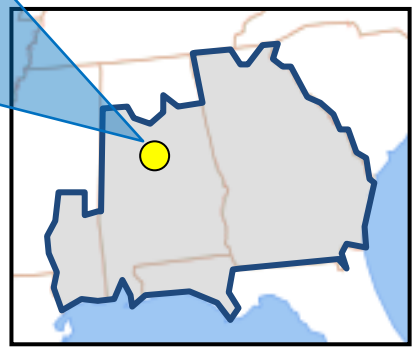
SOUTHERN – 2W

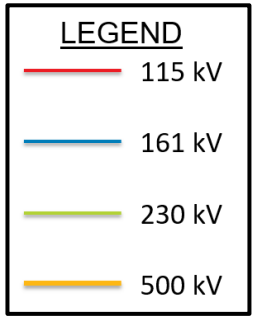
• **2028**

MILLER SP 500 KV BREAKER



- **DESCRIPTION:**
  - Install a 500 kV breaker at Miller SP.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency. This project provides additional operational and maintenance flexibility, which increases reliability.



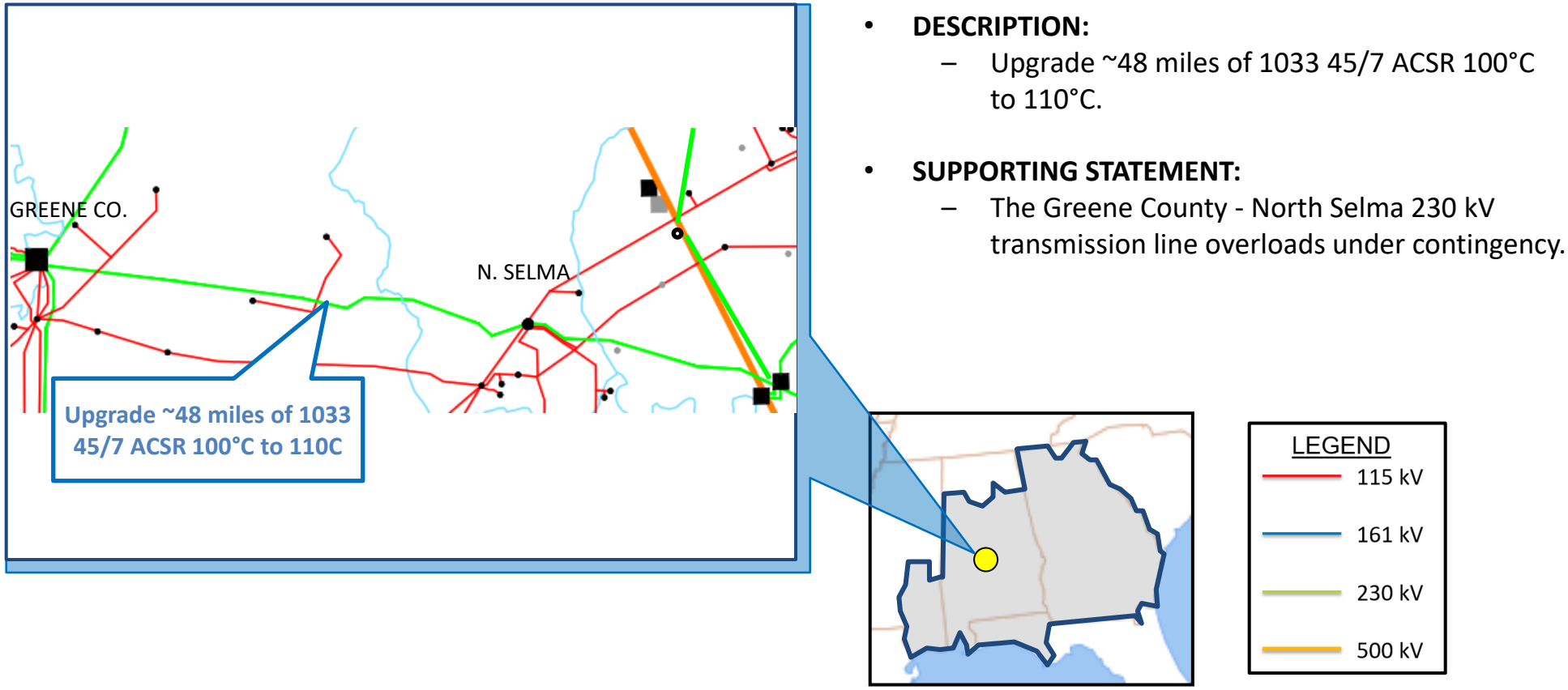


SOUTHERN Balancing Authority Area

SOUTHERN – 3W

• **2028**

GREENE COUNTY – NORTH SELMA 230 KV TL UPGRADE



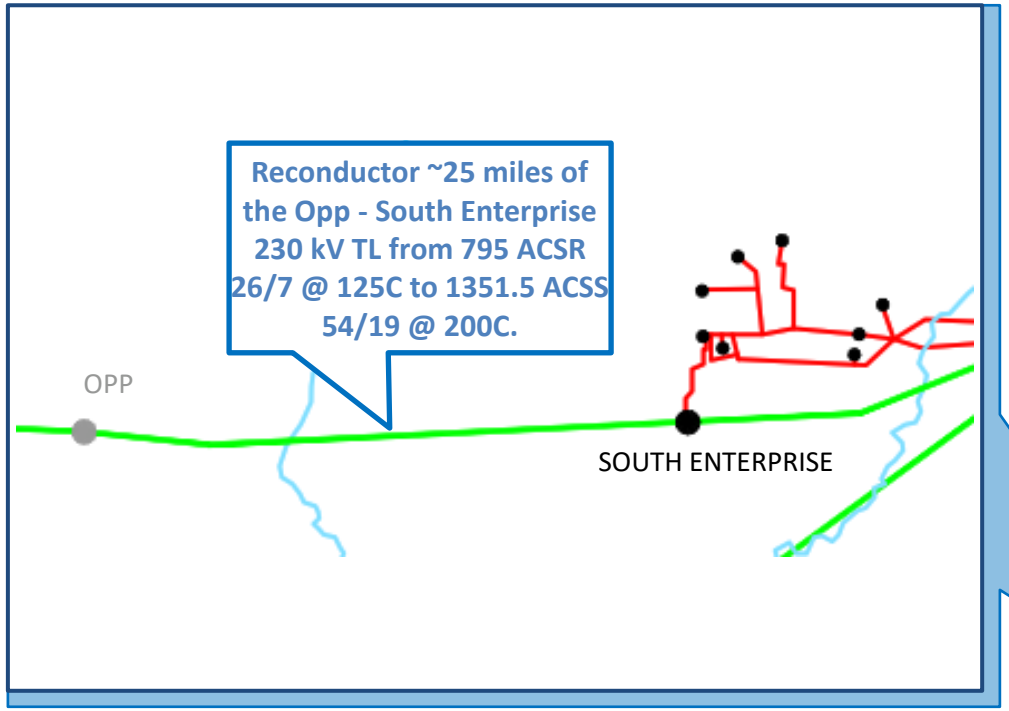
- **DESCRIPTION:**
  - Upgrade ~48 miles of 1033 45/7 ACSR 100°C to 110°C.
- **SUPPORTING STATEMENT:**
  - The Greene County - North Selma 230 kV transmission line overloads under contingency.

SOUTHERN Balancing Authority Area

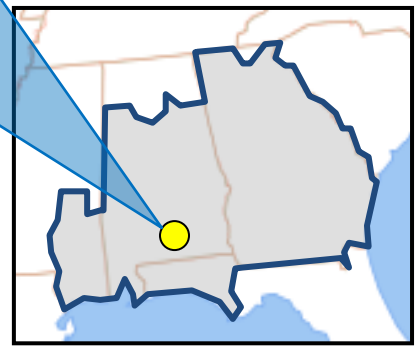
SOUTHERN – 4W

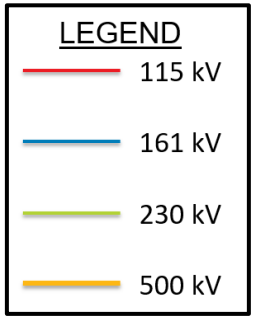
- **2029**

OPP – SOUTH ENTERPRISE 230 KV TL RECONDUCTOR



- **DESCRIPTION:**
  - Reconductor ~25 miles of the Opp - South Enterprise 230 kV TL from 795 ACSR 26/7 @ 125°C to 1351.5 ACSS 54/19 @ 200°C.
- **SUPPORTING STATEMENT:**
  - The Opp - South Enterprise 230 kV transmission line overloads under contingency.



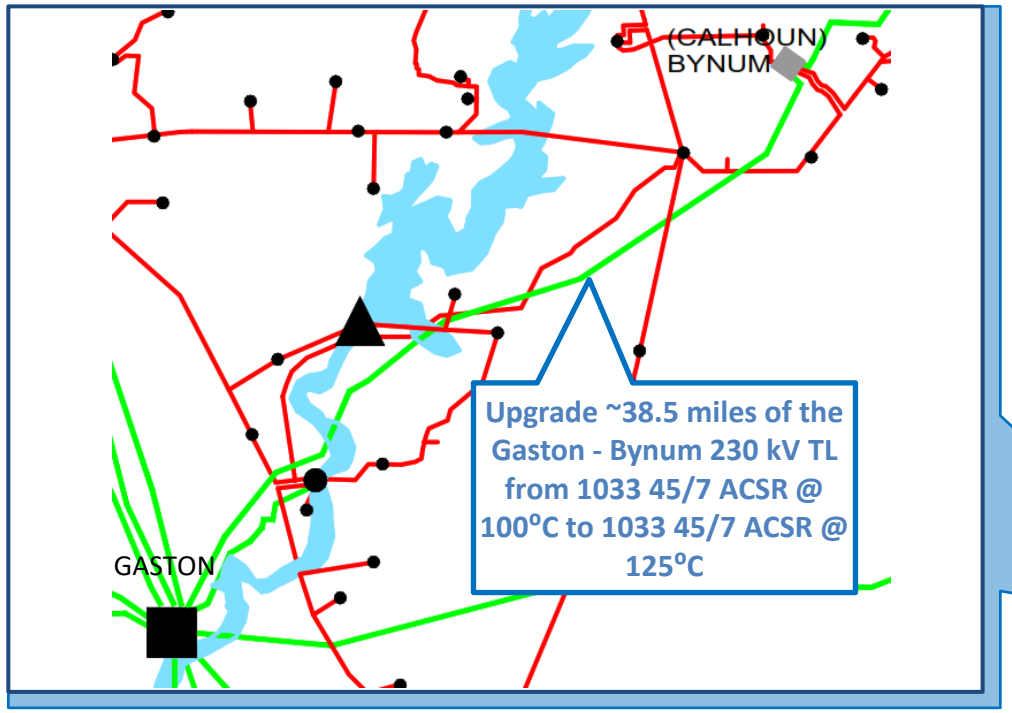


SOUTHERN Balancing Authority Area

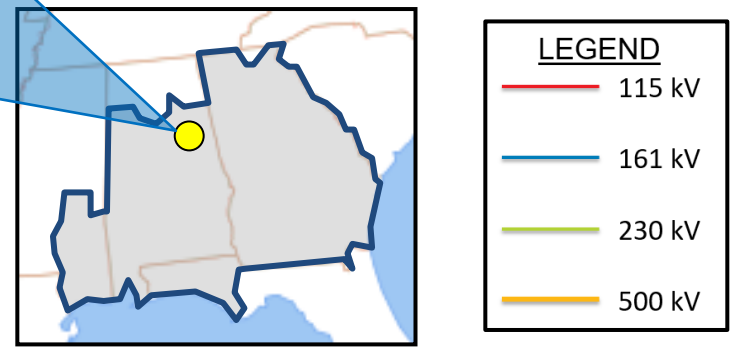
SOUTHERN – 5W

- **2030**

GASTON – BYNUM 230 KV TL UPGRADE



- **DESCRIPTION:**
  - Upgrade ~38.5 miles of the Gaston - Bynum 230 kV TL from 1033 45/7 ACSR @ 100°C to 1033 45/7 ACSR @ 125°C
- **SUPPORTING STATEMENT:**
  - The Bynum - Gaston 230 kV transmission line overloads under contingency.

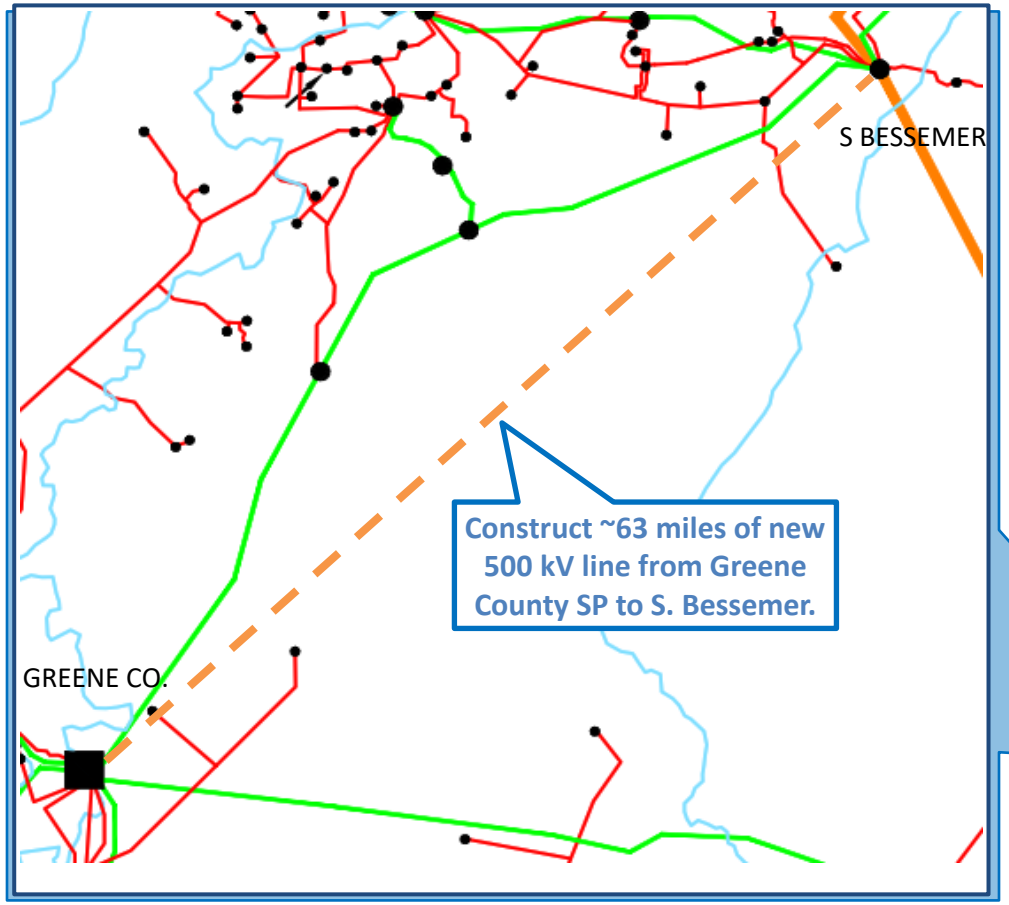


SOUTHERN Balancing Authority Area

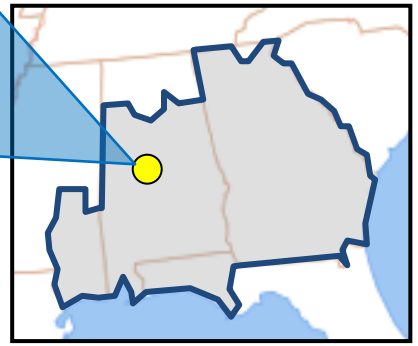
SOUTHERN – 6W

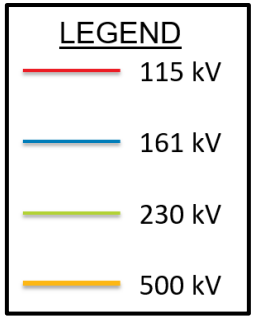
- **2031**

GREENE COUNTY – SOUTH BESSEMER 500 KV TL



- **DESCRIPTION:**
  - Construct ~63 miles of new 500 kV line from Greene County SP to S. Bessemer including the addition of a new 500/230 kV Bank.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency. This project provides additional operational and maintenance flexibility, which increases reliability.





SOUTHERN (EAST) Balancing Authority Area

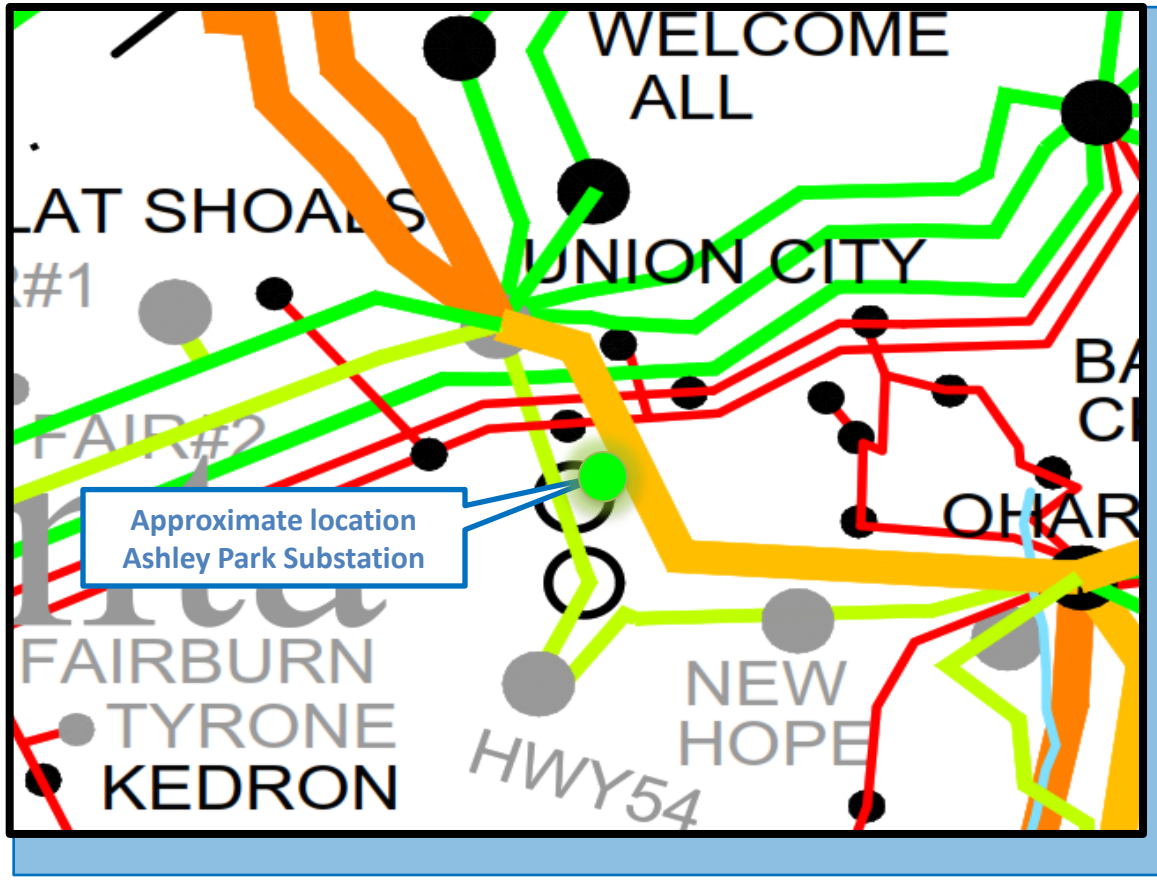
Preliminary Transmission Expansion Plan

SOUTHERN Balancing Authority Area

SOUTHERN – 1E

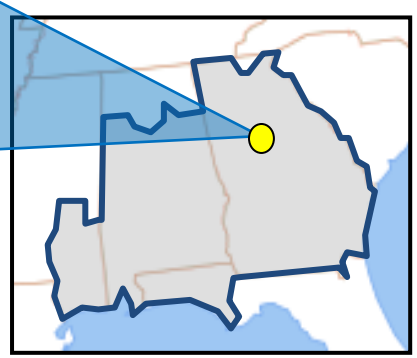
• **2026**

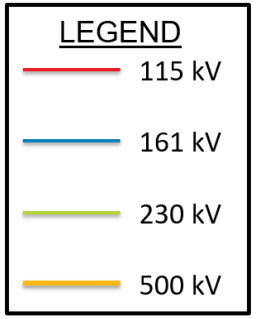
ASHLEY PARK 500/230 KV SUBSTATION



- **DESCRIPTION:**
  - Construct a 500/230 kV substation with two autotransformers.
  - Build two new 230 kV lines from the new 500/230 kV station to serve customer load with (2) 200°C 1351 ACSS.

- **SUPPORTING STATEMENT:**
  - The new 500/230 kV substation and new 230 kV lines are needed to reliably serve a new large load in the area.



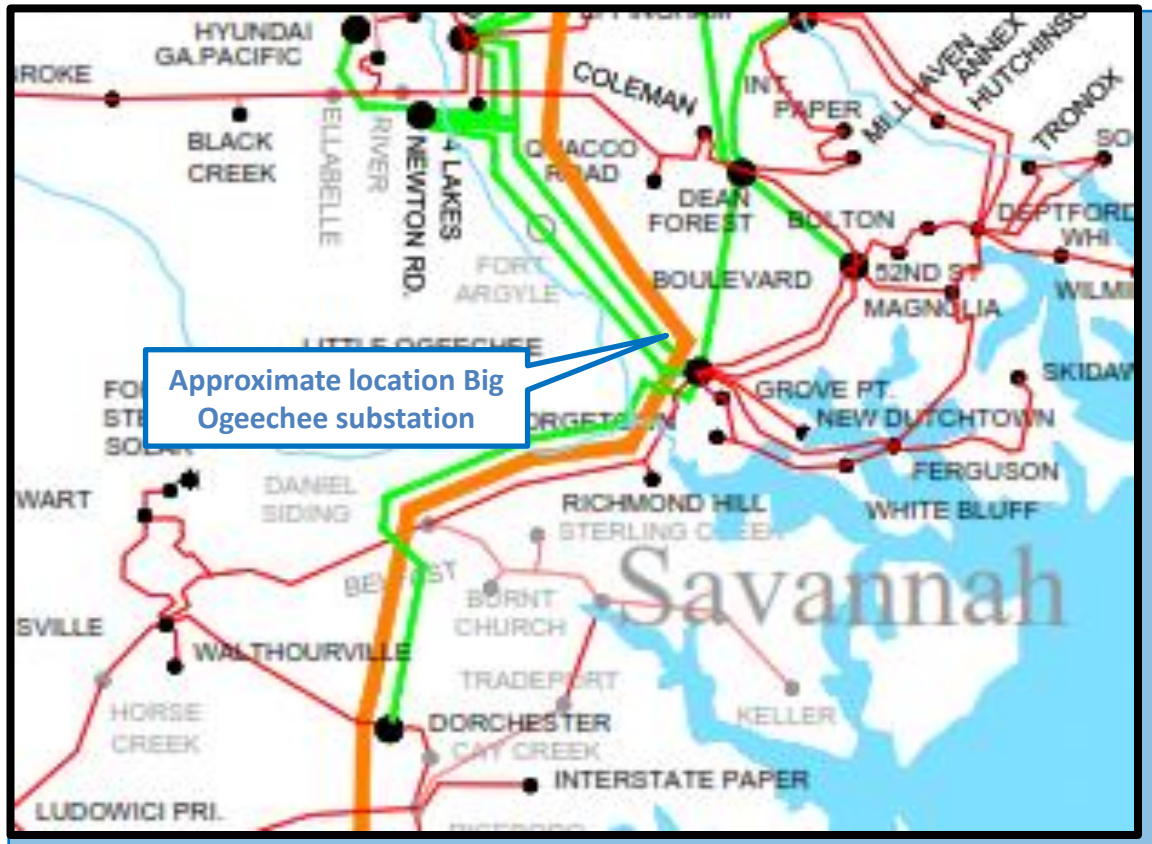


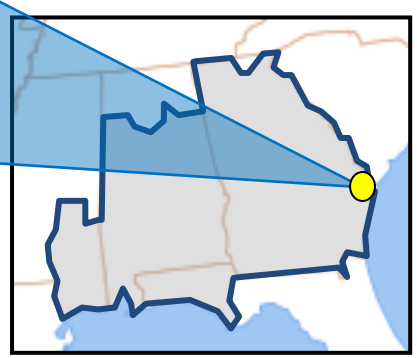
SOUTHERN Balancing Authority Area

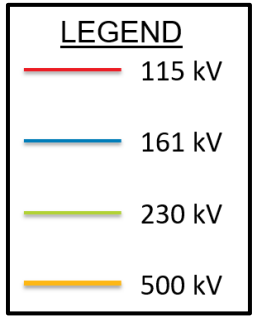
SOUTHERN – 2E

• **2026**

BIG OGEECHEE 500/230 KV STATION







- **DESCRIPTION:**
  - Construct a new 500/230 kV substation near Little Ogeechee substation, loop in the nearby 500 kV and 230 kV lines, and construct a new 230 kV line to Little Ogeechee substation with 100°C 1033 ACSR conductor.

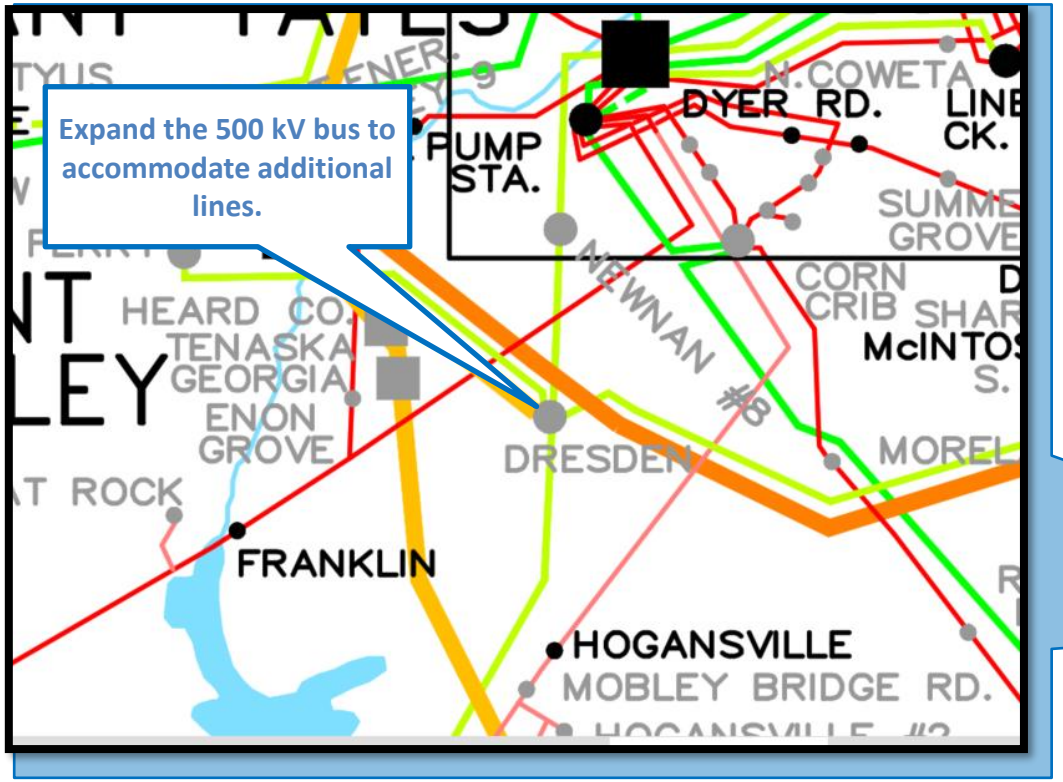
- **SUPPORTING STATEMENT:**
  - The West McIntosh 500/230 kV autotransformers overload under contingency.

SOUTHERN Balancing Authority Area

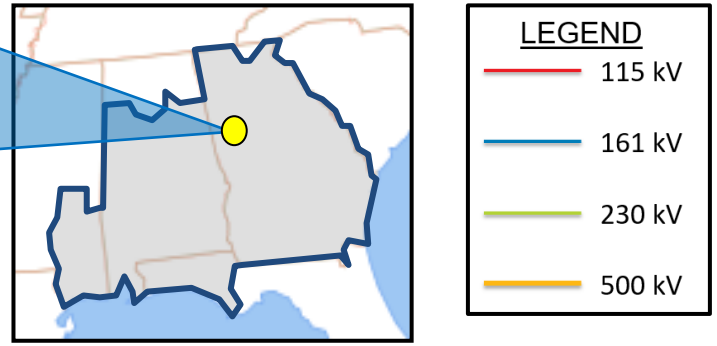
SOUTHERN – 3E

• **2026**

GTC: DRESDEN 500 KV BUS EXPANSION



- **DESCRIPTION:**
  - Expand the Dresden 500 kV bus to bring additional 500 kV lines into the station.
- **SUPPORTING STATEMENT:**
  - This project resolves multiple thermal constraints by eliminating a contingency.

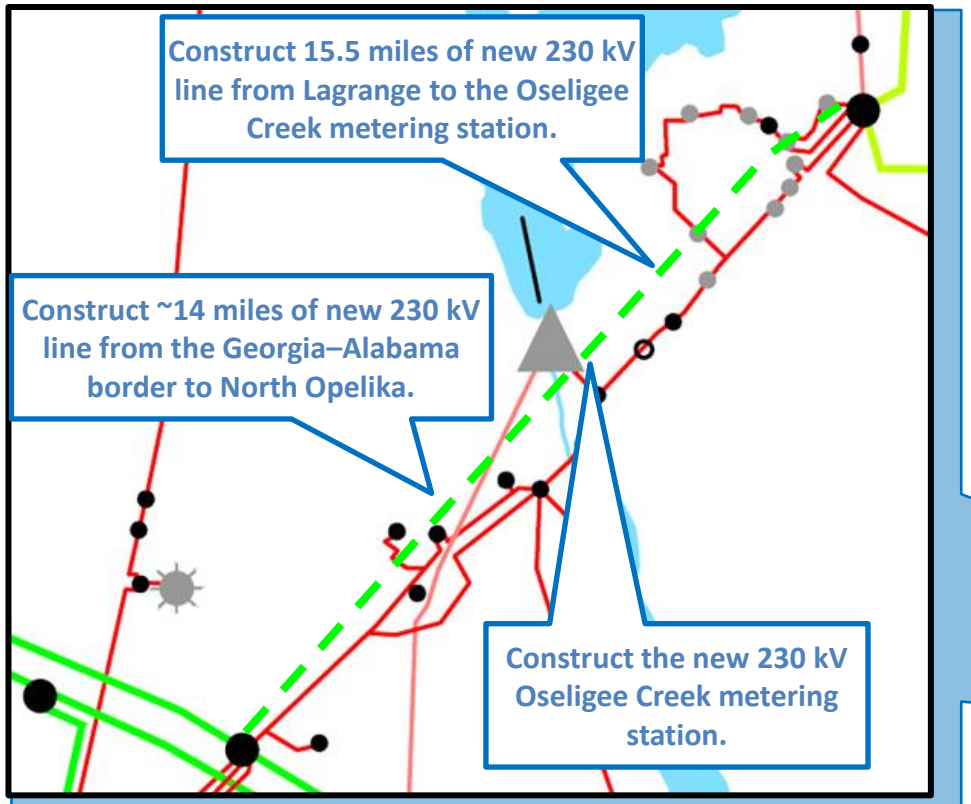


SOUTHERN Balancing Authority Area

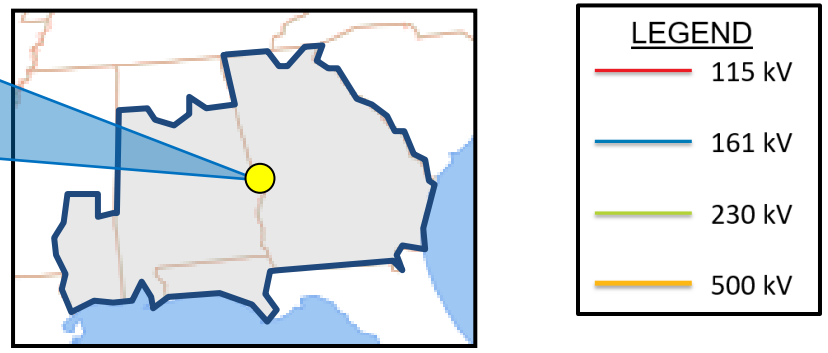
SOUTHERN – 4E

• **2026**

GTC: LAGRANGE PRIMARY-NORTH OPELIKA 230 KV (NEW LINE)



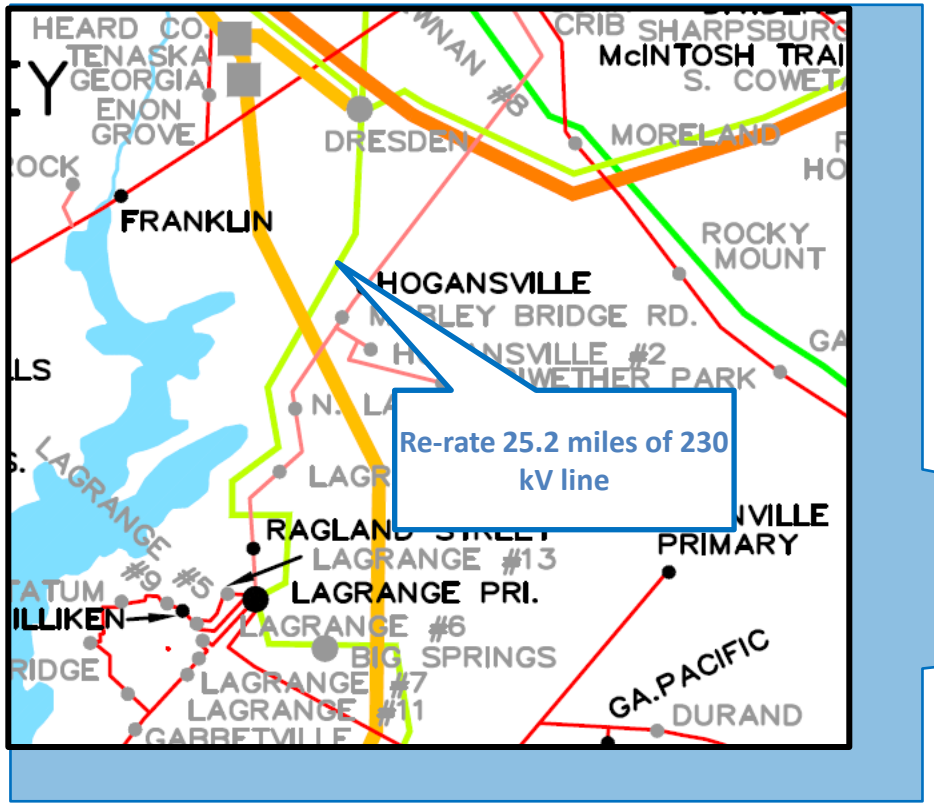
- **Description:**
  - APC: Construct ~14 miles of new 230 kV transmission line utilizing 100°C 1351 ACSR from a new metering point, located at the Georgia-Alabama border, to North Opelika TS.
  - GTC: Construct the Oseligee Creek 230 kV metering station near the Georgia-Alabama state line. Construct the 230 kV line section (15.5 miles) from Lagrange Primary to Oseligee Creek.
  - GPC: Construct the 230 kV line section from Oseligee Creek to the Georgia-Alabama state line (~1 mile). Extend the 230 kV bus at Lagrange Primary to terminate the new line.
- **Supporting Statement:**
  - The project addresses multiple thermal overloads that occur under contingency.



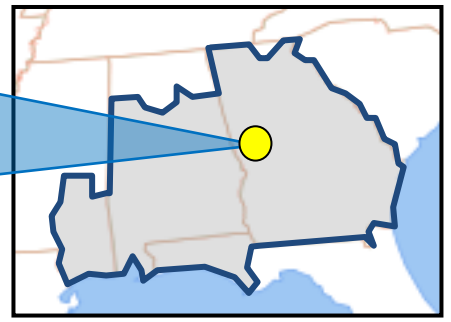
SOUTHERN – 5E

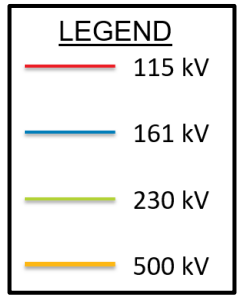
• **2026**

MEAG: DRESDEN – LAGRANGE PRIMARY 230 KV LINE RE-RATE



- **DESCRIPTION:**
  - Re-rate the 25.2 miles of the Dresden - LaGrange Primary 230 kV line and upgrade limiting elements at substations along the line.
- **SUPPORTING STATEMENT:**
  - The Dresden – Lagrange Primary 230 kV line overloads under contingency.

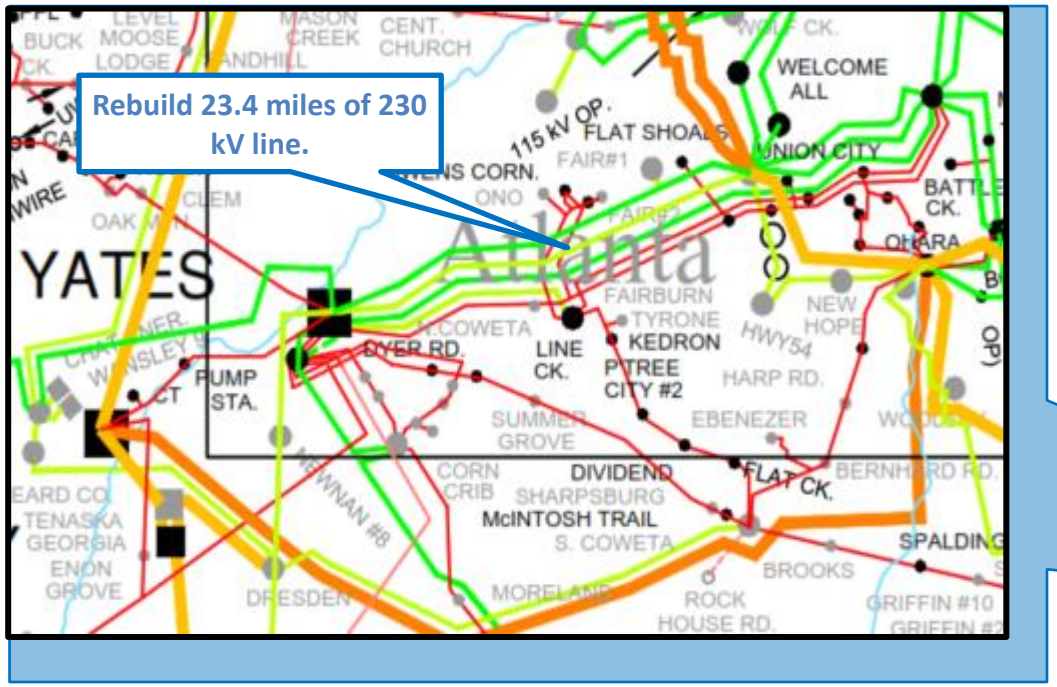




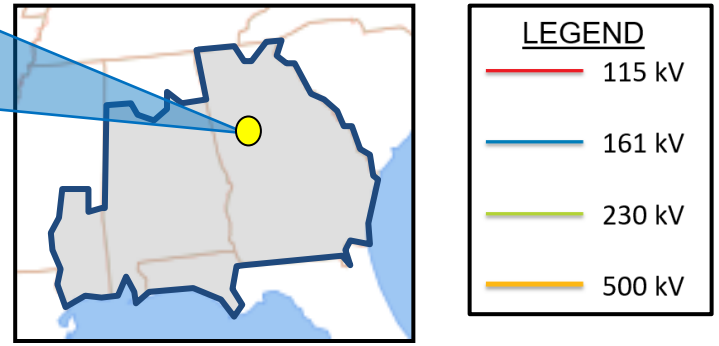
SOUTHERN – 6E

• **2026**

UNION CITY - YATES (WHITE) 230 KV REBUILD



- **DESCRIPTION:**
  - Rebuild the entire Union City - Yates 230 kV White line with 200°C 1351 ACSS conductor(23.4 miles).
- **SUPPORTING STATEMENT:**
  - The Union City - Yates (White) 230 kV line overloads under contingency.

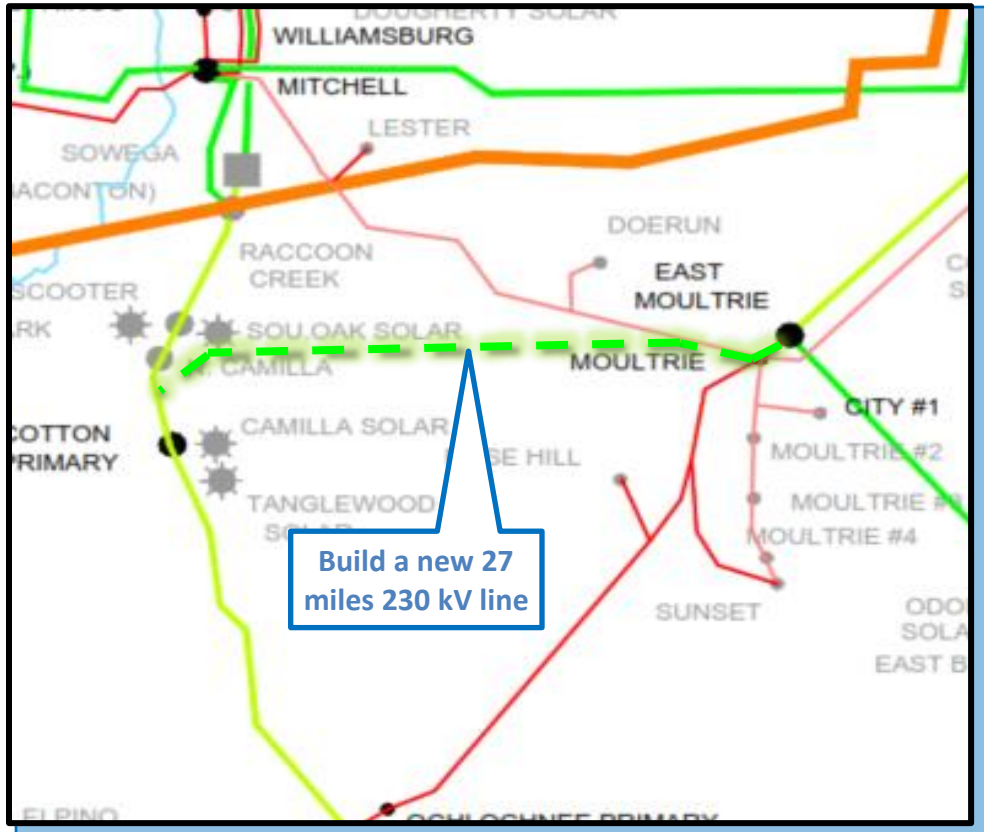


SOUTHERN Balancing Authority Area

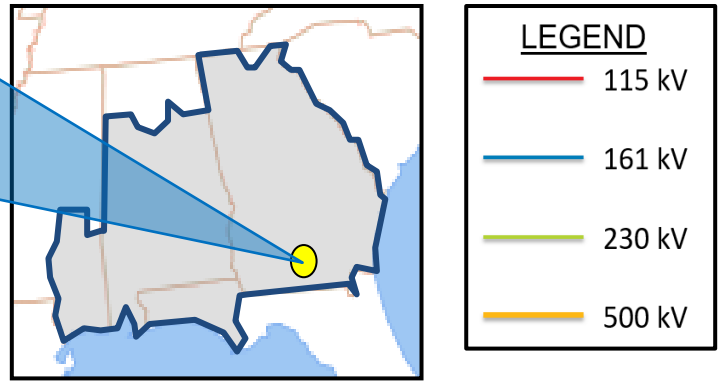
SOUTHERN – 7E

• **2027**

GTC: EAST MOULTRIE-HIGHWAY 112 230 KV



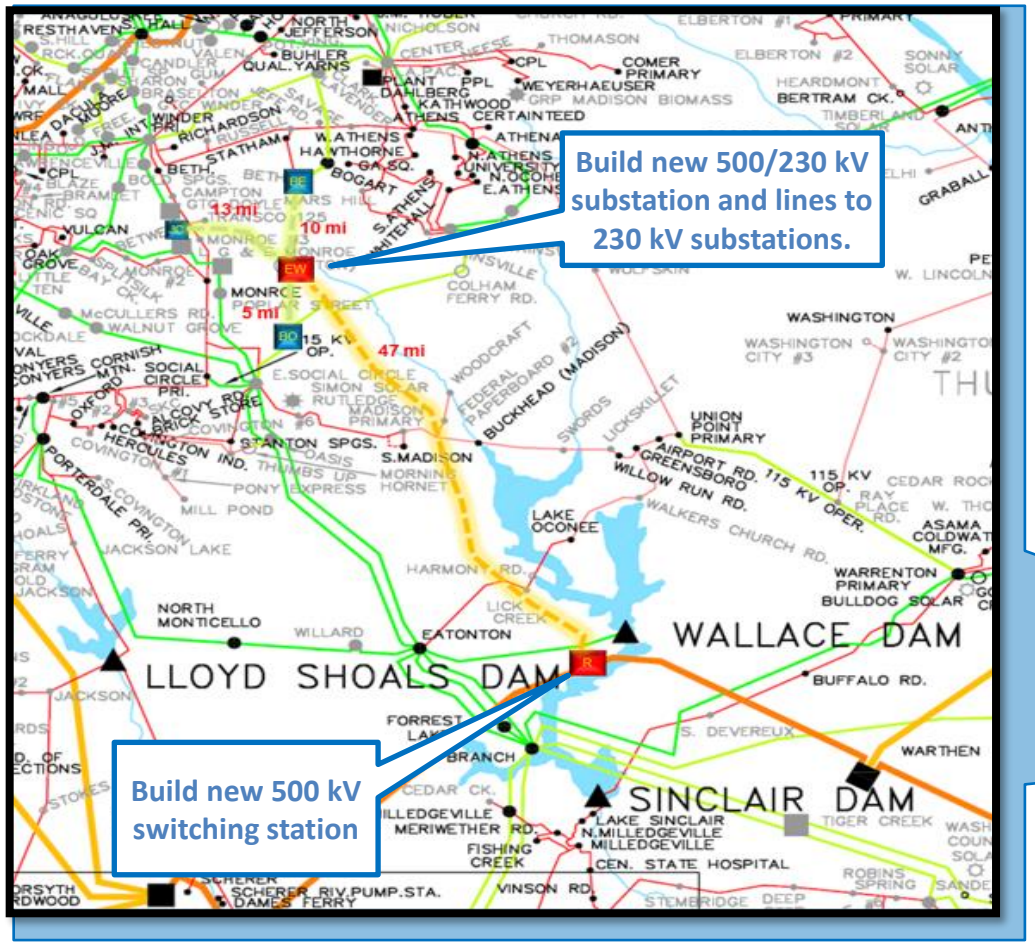
- **DESCRIPTION:**
  - Build approximately 27 miles of new 230 kV line between HWY 112 and East Moultrie substations with 160°C 1351 ACSS conductor.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.



SOUTHERN – 8E

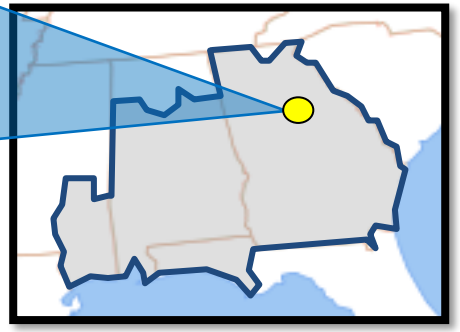
• **2027**

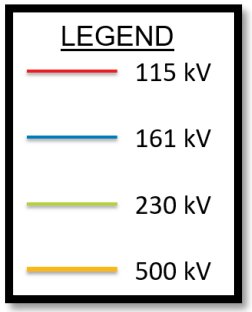
GTC: EAST WALTON 500/230 KV AREA PROJECT



- **DESCRIPTION:**
  - GPC/GTC: Construct the Rockville 500 kV switching station looping the Scherer - Warthen 500 kV. Construct the East Walton 500/230 kV substation and build the East Walton - Rockville 500 kV line.
  - GTC: Construct the Bostwick 230 kV switching station and loop the East Social Circle - East Watkinsville 230 kV line.
  - MEAG/GPC/GTC: Construct the Jack's Creek 230 kV switching station and loop the Doyle - LG&E Monroe 230 kV line.
  - GTC/MEAG: Construct 230 kV lines from East Walton to Bethabara, Bostwick and Jack's Creek substations.

- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.

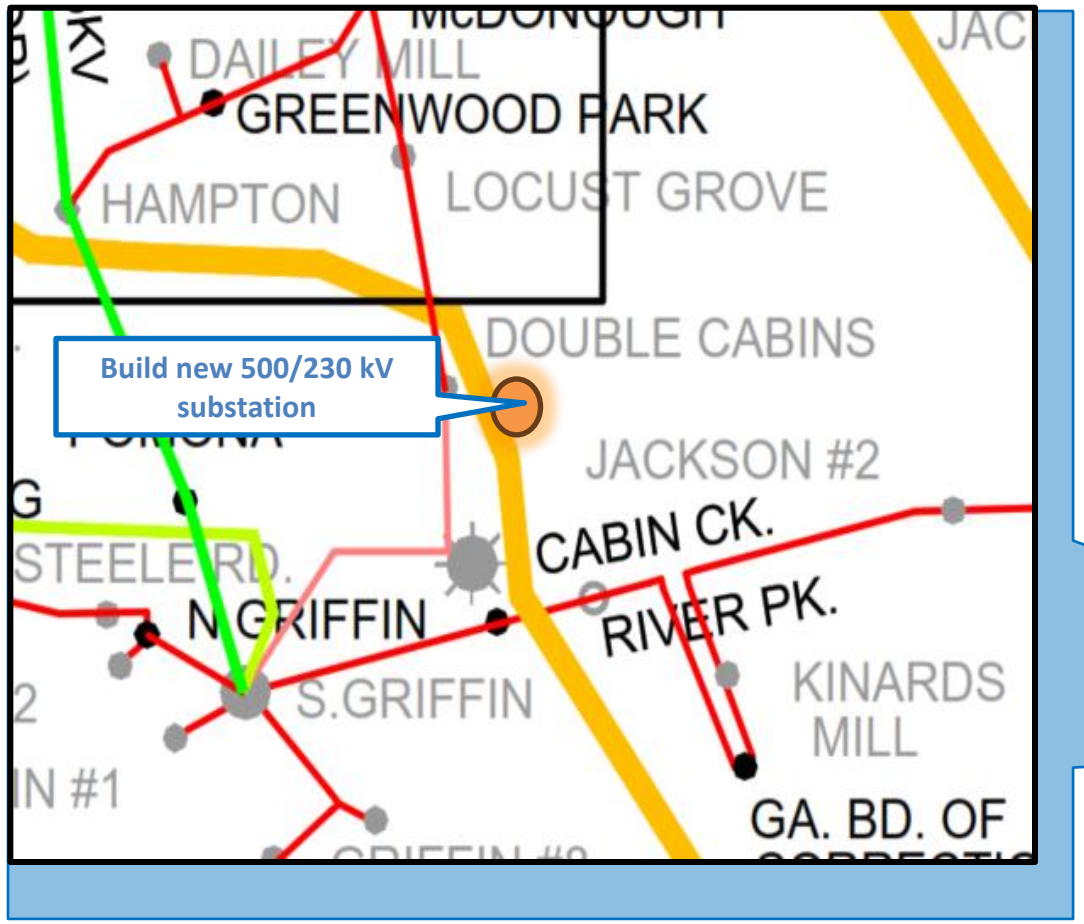




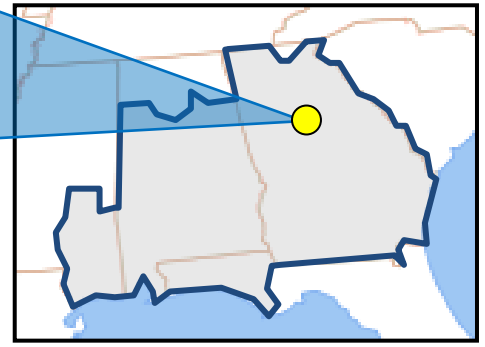
SOUTHERN – 9E

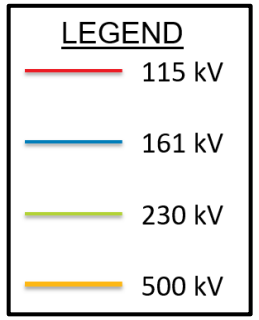
• **2027**

TOMOCHICHI 500/230 KV SUBSTATION



- **Description:**
  - Build the new Tomochichi 500/230 kV switching station along with two new 230 kV lines constructed with 200°C 1351 ACSS conductor.
- **Supporting Statement:**
  - The new 500/230 kV substation and new 230 kV lines are needed to reliably serve a new large load in the area.



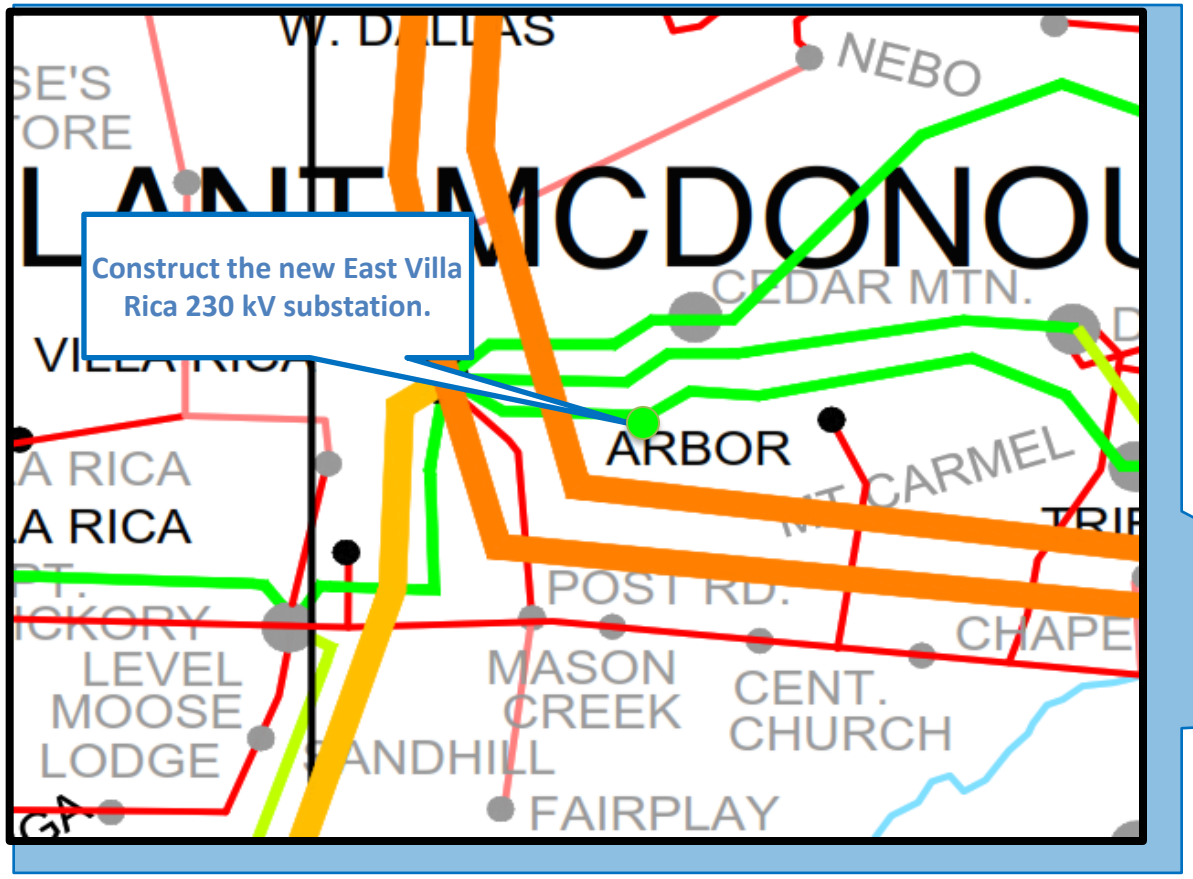


SOUTHERN Balancing Authority Area

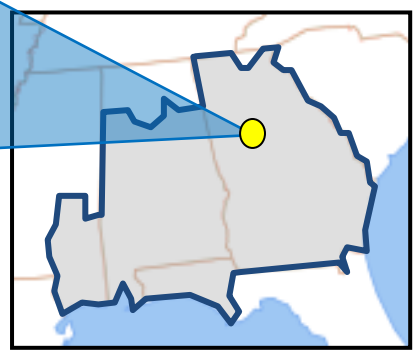
SOUTHERN – 10E

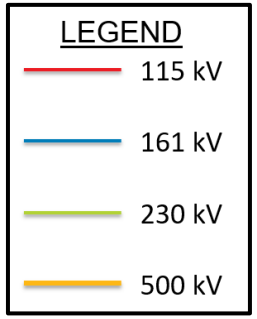
• **2028**

EAST VILLA RICA 230 KV SUBSTATION



- **DESCRIPTION:**
  - Build a 7 rung 230 kV breaker and a half switching station and terminate (3) adjacent 230 kV lines.
- **SUPPORTING STATEMENT:**
  - This project is required to reliably serve large loads in the area.



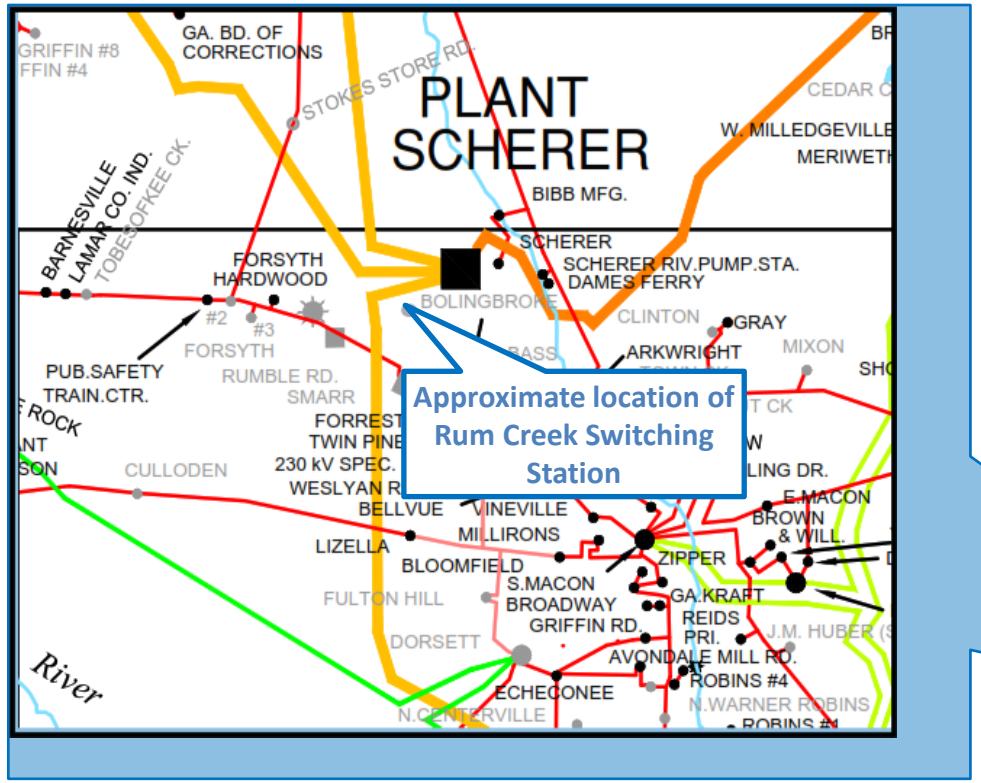


SOUTHERN Balancing Authority Area

SOUTHERN – 11E

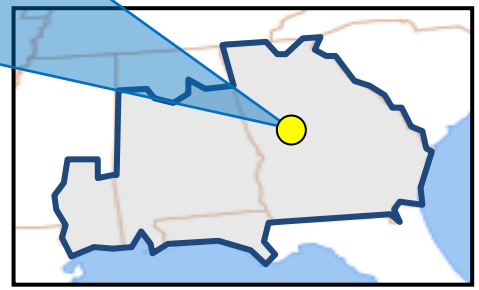
• **2028**

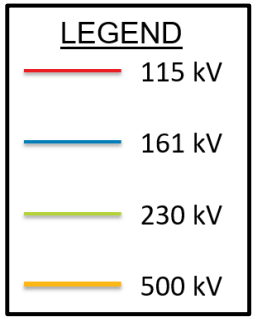
GTC: RUM CREEK 500 KV NEW SWITCHING STATION



- **DESCRIPTION:**
  - Construct the new Rum Creek 500 kV breaker and half switching station. Loop in the existing Bonaire Primary – Scherer and O'Hara – Scherer 500 kV lines. Terminate the new Big Smarr – Rum Creek 500 kV line. Construct the new line using 100°C (3) 1113 ACSR Bluejay conductor.

- **SUPPORTING STATEMENT:**
  - The Bonaire Primary 500/230 kV Bank C and Bonaire Primary – Dorsett 230 kV line overload under contingency. The transmission network improvements are required to grant firm Network Integration Transmission Service for a new generating facility in the Central Area.

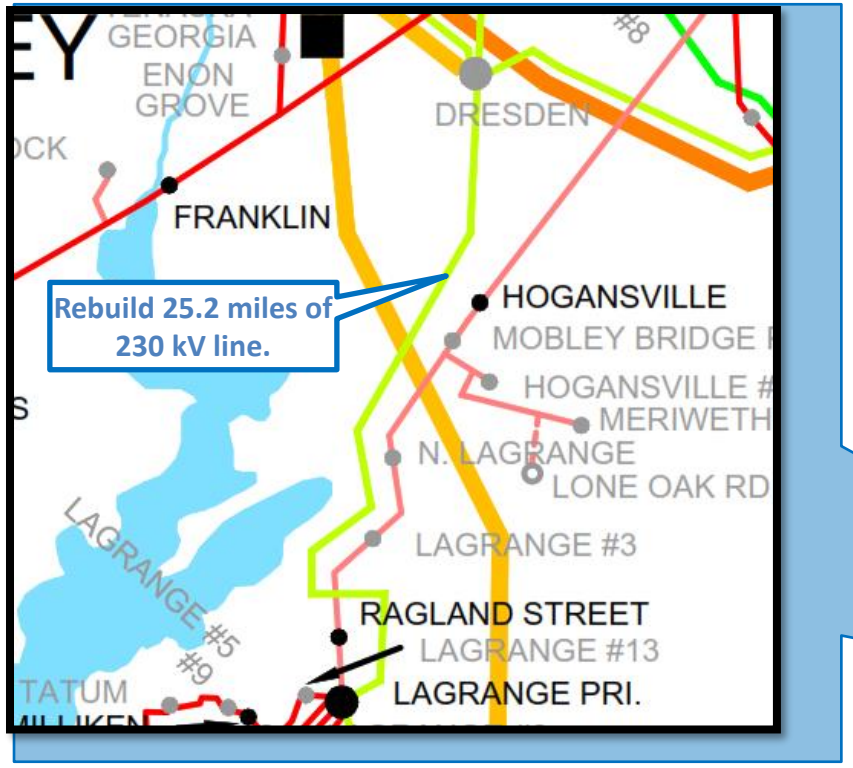




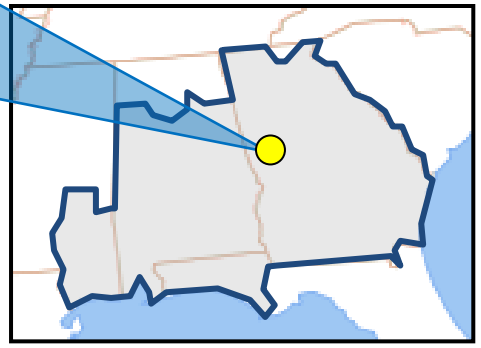
SOUTHERN – 12E

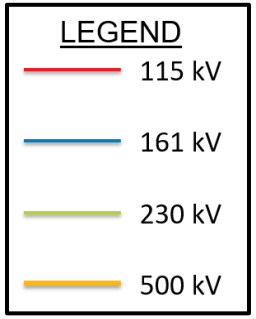
• **2028**

MEAG: DRESDEN - LAGRANGE 230 KV REBUILD



- **Description:**
  - Rebuild 25.2 miles of the Dresden - LaGrange 230 kV line with (2) 1351 ACSS 200°C conductor.
- **Supporting Statement:**
  - The Dresden - LaGrange 230 kV line overloads under contingency.



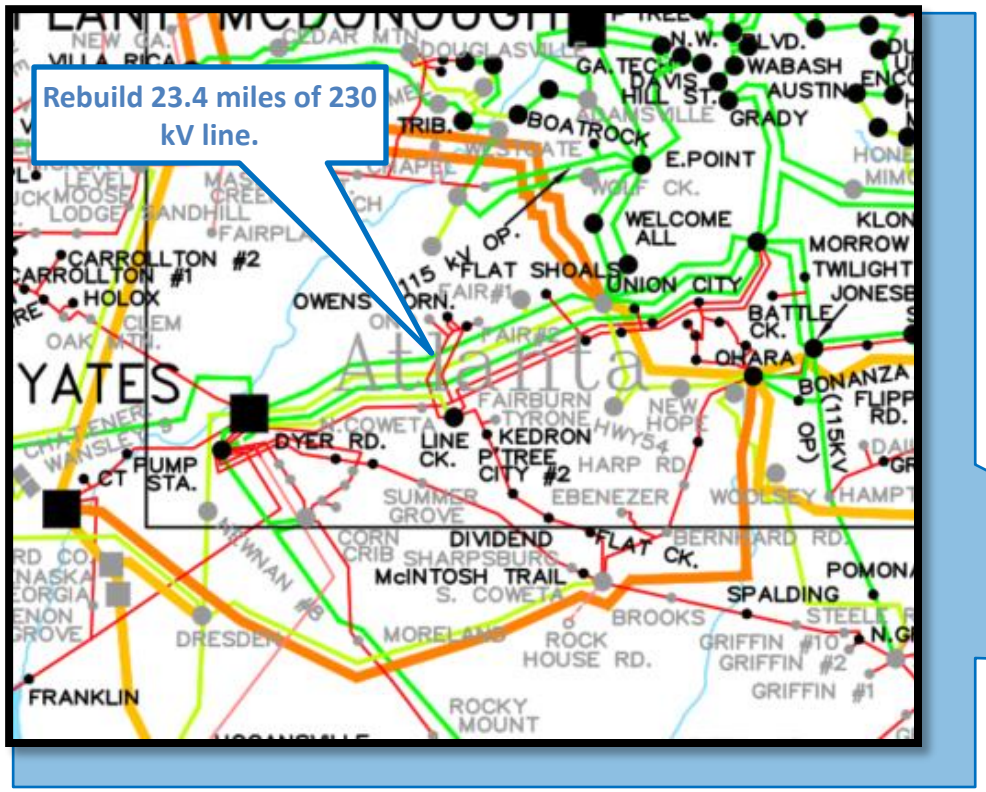


SOUTHERN Balancing Authority Area

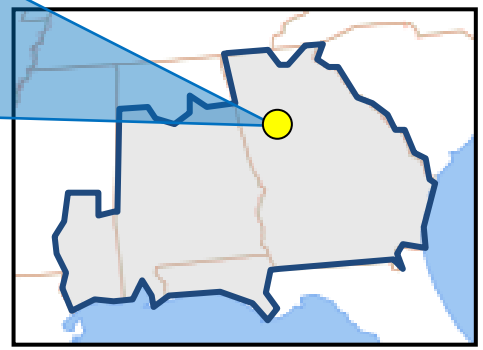
SOUTHERN – 13E

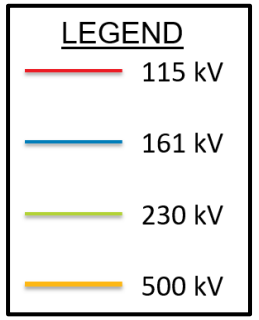
• **2028**

UNION CITY – YATES (BLACK) 230 KV LINE REBUILD



- **Description:**
  - Rebuild the entire Union City - Yates (Black) 230 kV line (approximately 23.4 miles) with 200°C 1351 ACSS conductor and upgrade limiting elements at substations along the line.
- **Supporting Statement:**
  - The Union City - Yates (Black) 230 kV line overloads under contingency.



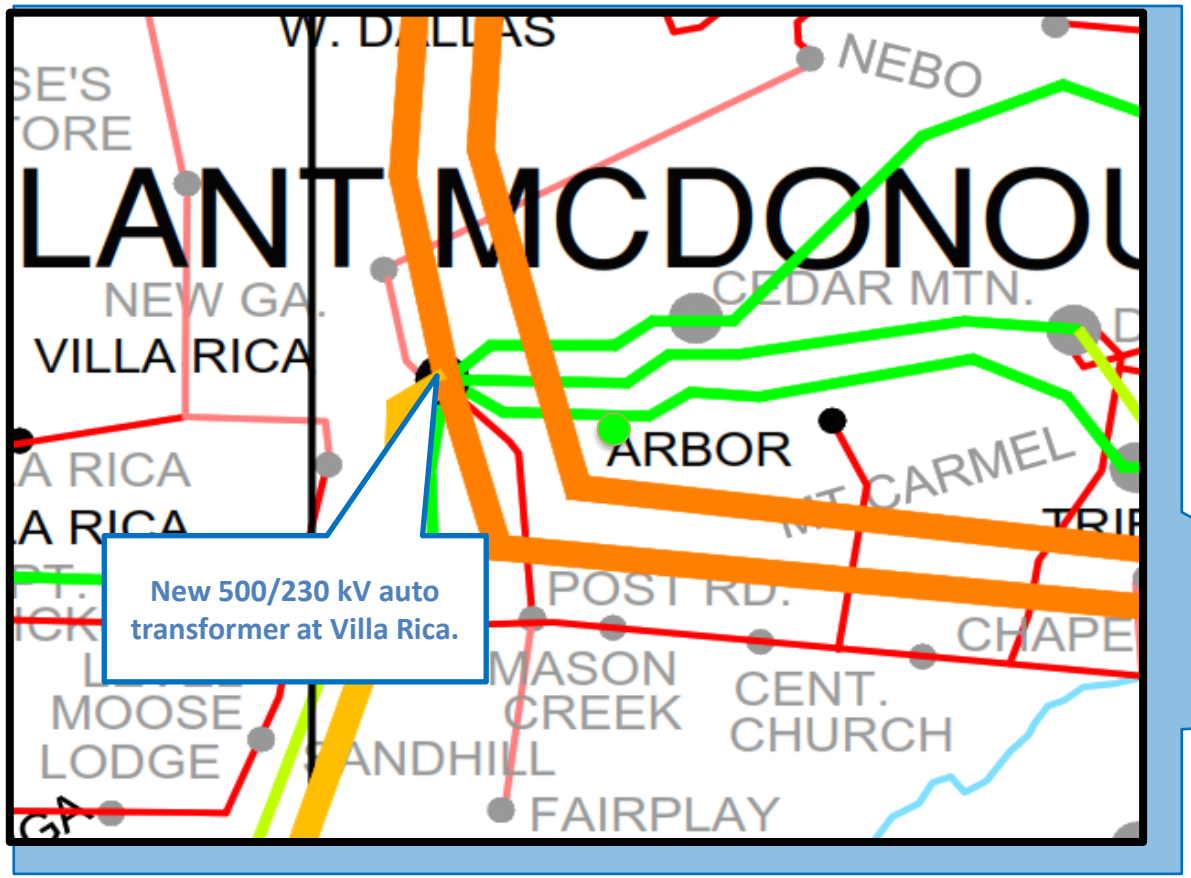


SOUTHERN Balancing Authority Area

SOUTHERN – 14E

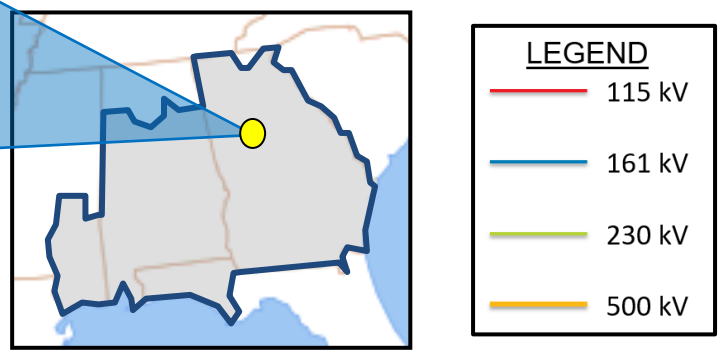
• **2028**

VILLA RICA NEW 500/230 KV AUTO TRANSFORMER



- **DESCRIPTION:**
  - Add a new 500/230 kV auto transformer at Villa Rica, and loop in and out the Bowen - Union City 500 kV line into Villa Rica.
  - Convert the 230 kV side to a breaker and a half scheme.

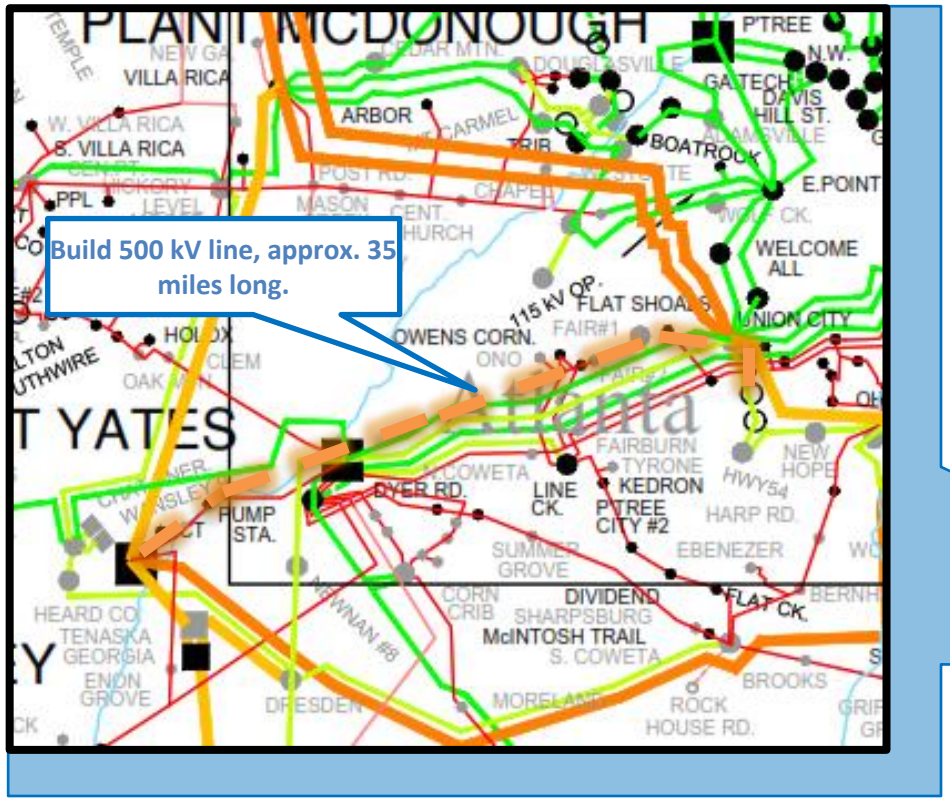
- **SUPPORTING STATEMENT:**
  - This project is required to reliably serve large loads in the area.



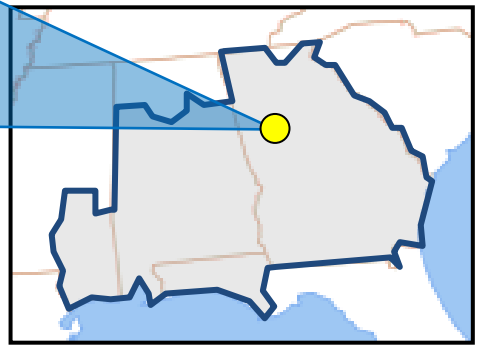
SOUTHERN – 15E

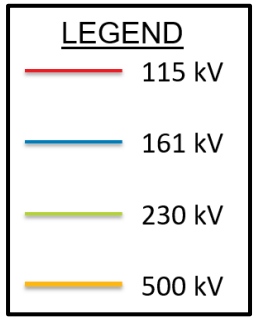
• **2029**

ASHLEY PARK – WANSLEY 500 KV



- **DESCRIPTION:**
  - Construct a new 500 kV line from Ashley Park to Wansley, approximately 35 miles long, with (3) 100°C 1113 ACSR conductor.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.



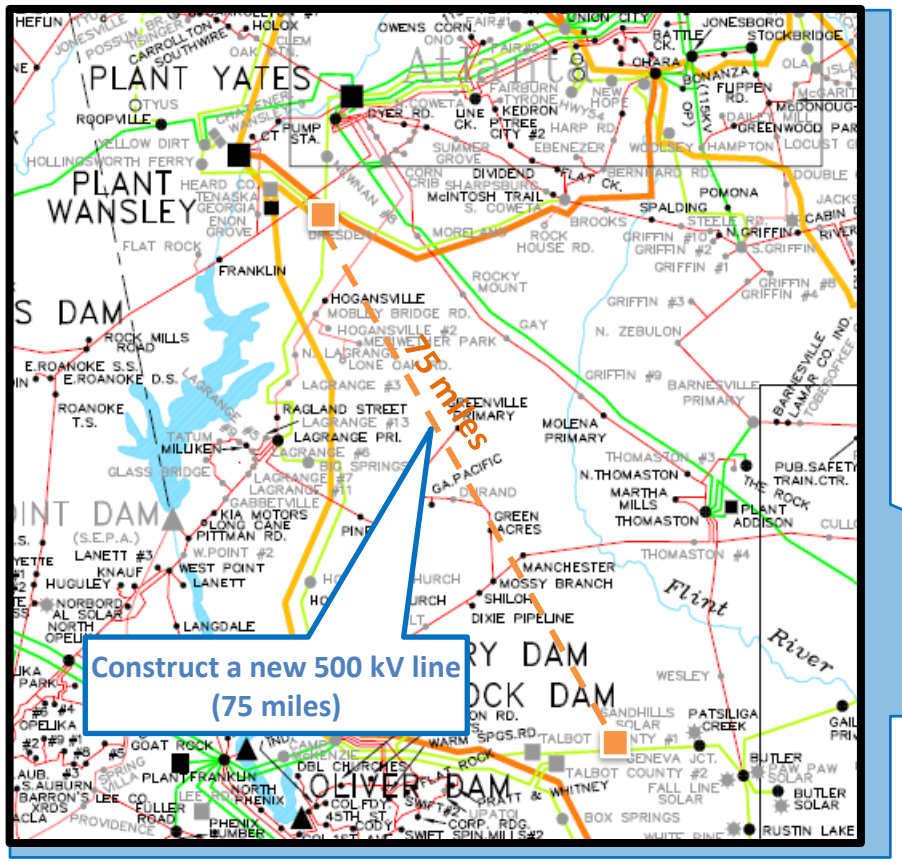


SOUTHERN Balancing Authority Area

SOUTHERN – 16E

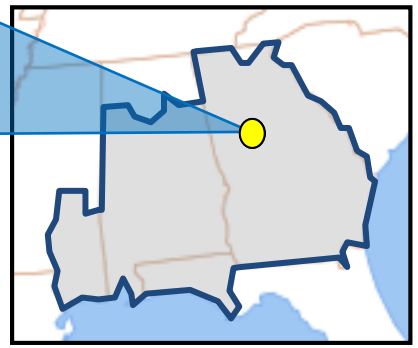
• **2029**

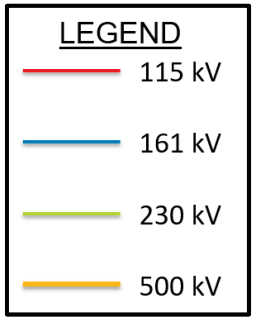
GTC: DRESDEN – TALBOT 500 KV LINE



- **DESCRIPTION:**
  - Build the new Talbot 500/230 kV substation.
  - Build a 75 miles 500 kV line from the Talbot substation to Dresden with (3) 100°C 1113 ACSR conductor.

- **SUPPORTING STATEMENT:**
  - The project addresses multiple thermal overloads that occur under contingency.



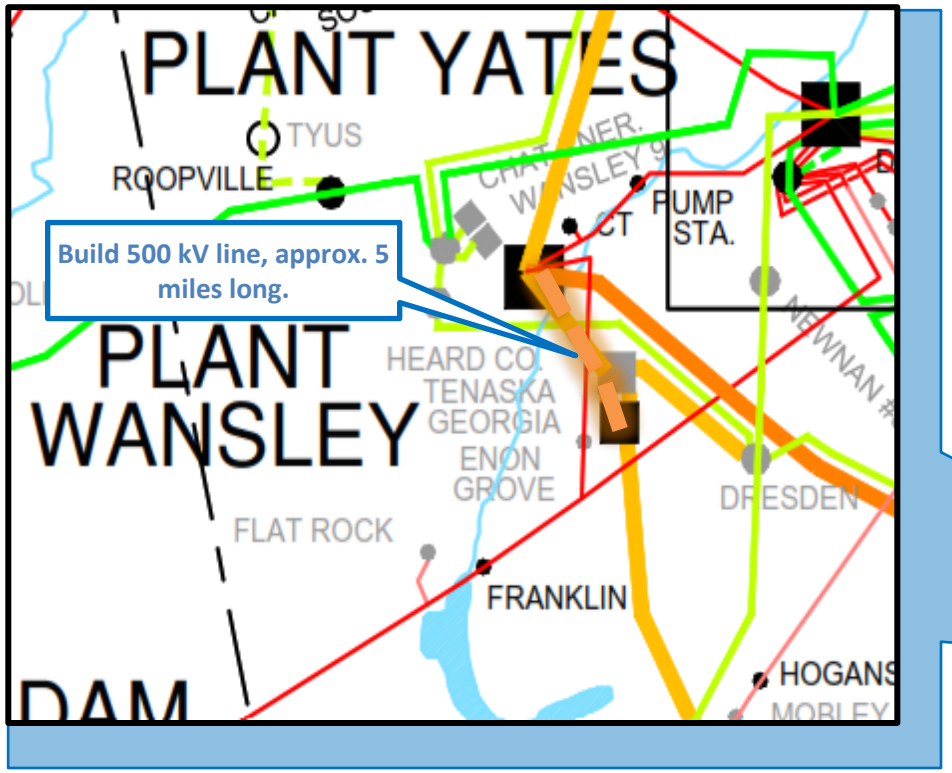


SOUTHERN Balancing Authority Area

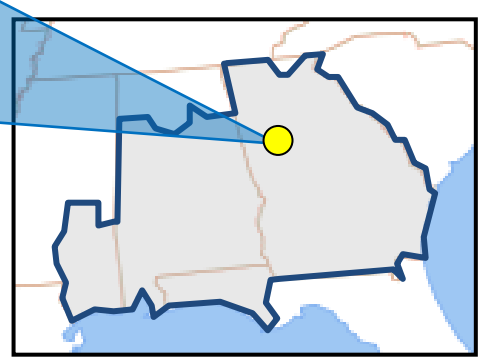
SOUTHERN – 17E

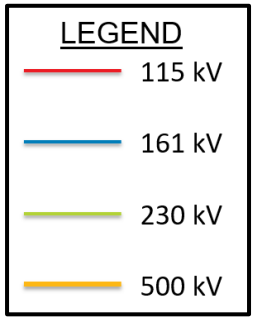
• **2029**

GTC: TENASKA – WANSLEY 500 KV



- **DESCRIPTION:**
  - Construct a new 500 kV line from Tenaska to Wansley, approximately 5 miles long, with (3) 100°C 1113 ACSR conductor.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.

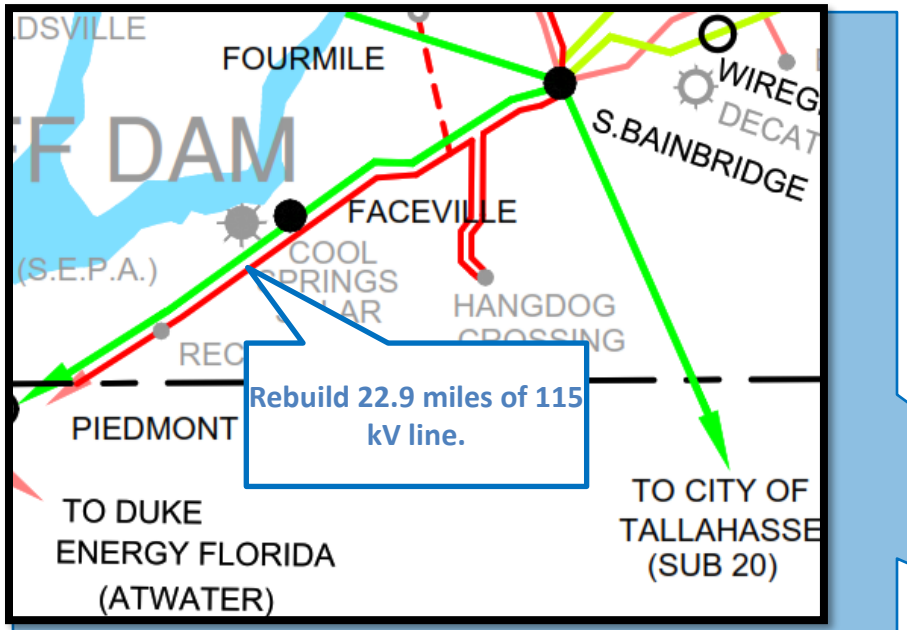




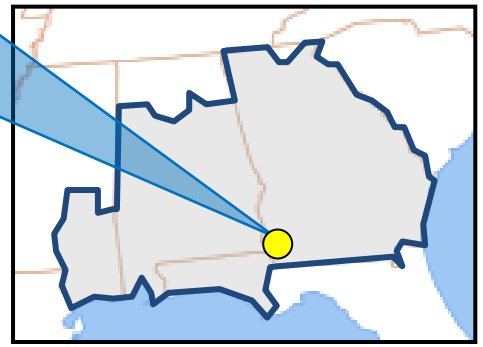
SOUTHERN – 18E

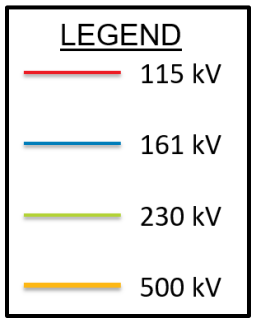
• **2029**

SOUTH BAINBRIDGE - SINAI (FPL) 115 KV LINE REBUILD



- **Description:**
  - Rebuild 22.9 miles of the Sinai (FPL) - South Bainbridge 115 kV line with 200°C 1351 ACSS. Replace limiting elements along the line.
- **Supporting Statement:**
  - The Sinai (FPL) - South Bainbridge 115 kV line overloads under contingency.

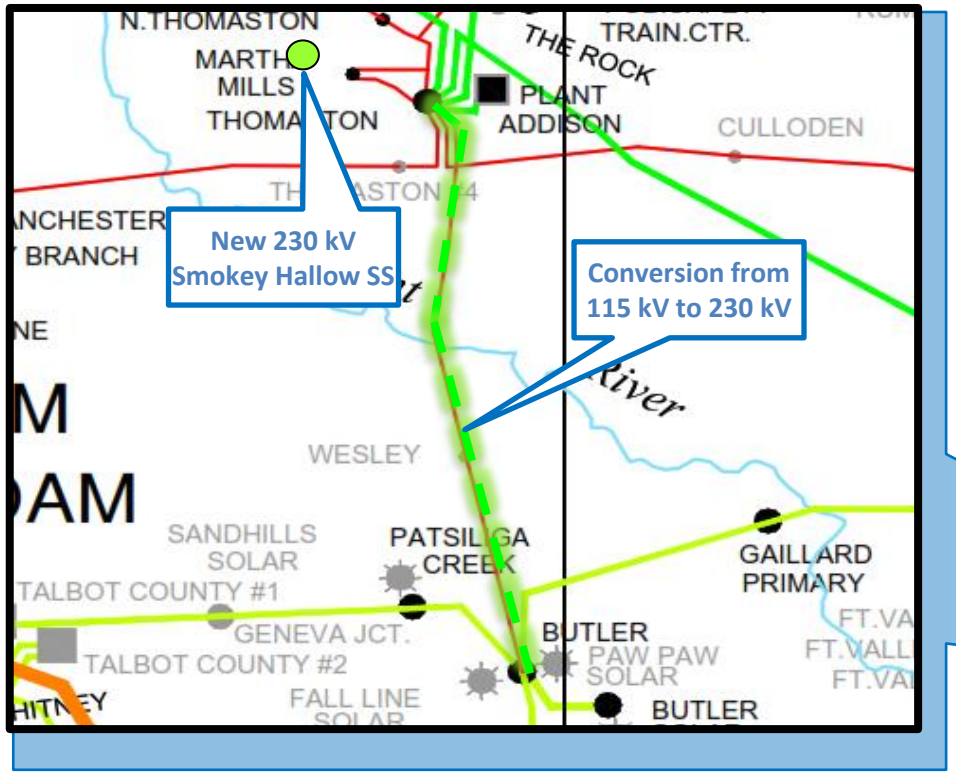




SOUTHERN – 19E

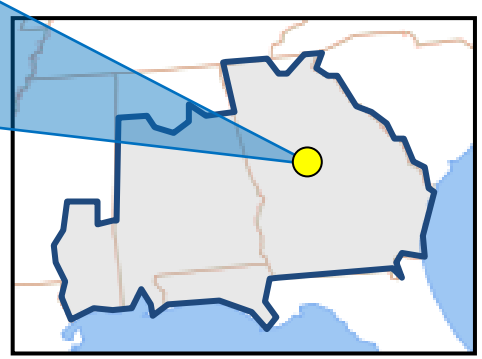
• **2029**

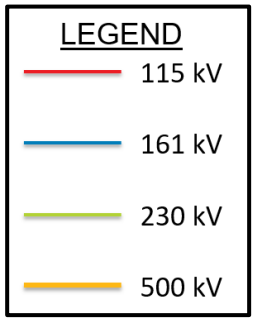
THOMASTON 230 KV NETWORK AREA IMPROVEMENT



- **Description:**
  - Rebuild the 23 miles radial Butler – Thomaston 115 kV line to 230 kV voltage operation with 200°C 1351 ACSS conductor. Make all necessary upgrades and accommodations in substations along the line.
  - Build new 230 kV breaker and a half Smokey Hallow switching station to replace the Thomaston 230 kV yard and end of life equipment.

- **Supporting Statement:**
  - Line conversion and new 230 kV breaker and a half switching station reduces multiple 230 kV line loadings, replaces end of life equipment and provides additional operational and maintenance flexibility, which increases reliability.



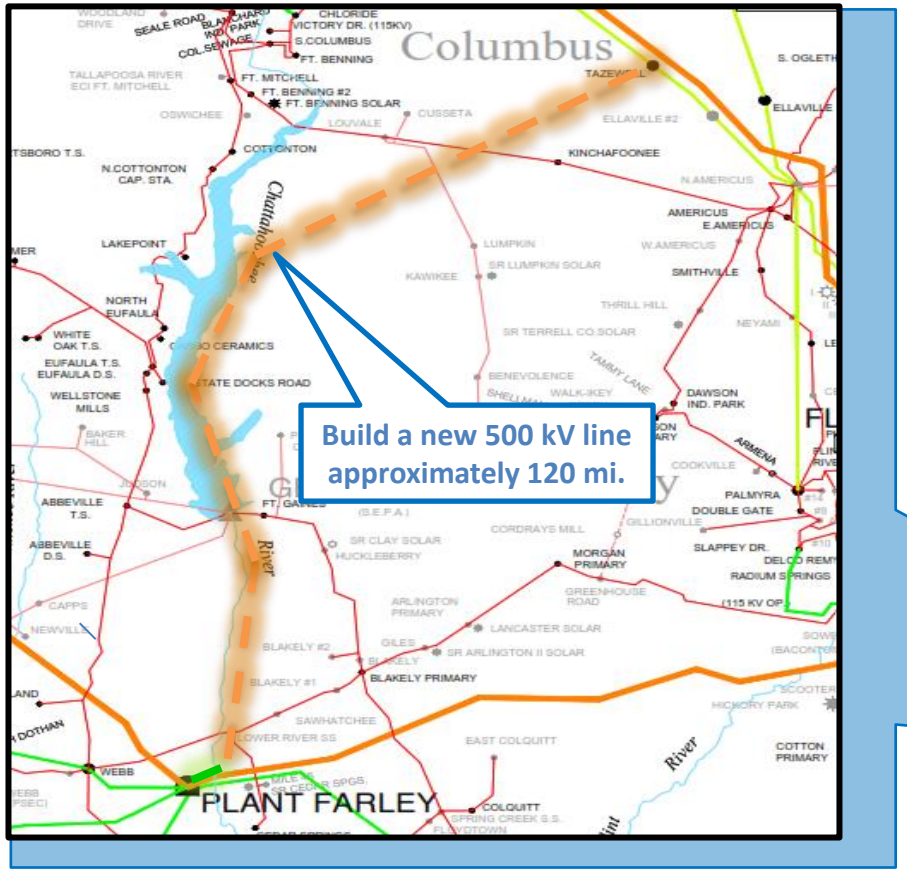


SOUTHERN Balancing Authority Area

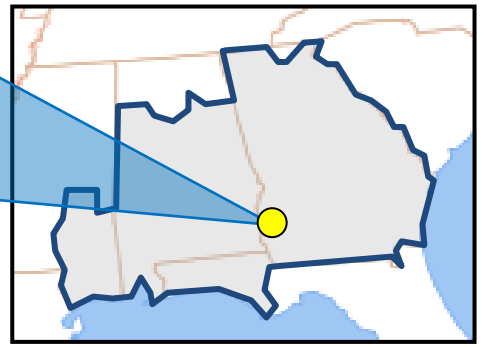
SOUTHERN – 20E

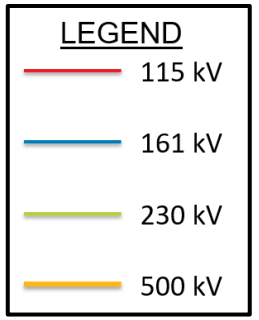
• **2030**

FARLEY – TAZEWELL 500 KV LINE



- **Description:**
  - Build a 120 miles of 500 kV line from Farley to Tazewell.
  - Build a 500 kV, 5-breaker ring bus at Tazewell and install a 500/230 kV autotransformer to connect to the existing 230 kV switchyard.
- **Supporting Statement:**
  - This project addresses multiple thermal overloads that occur under contingency.



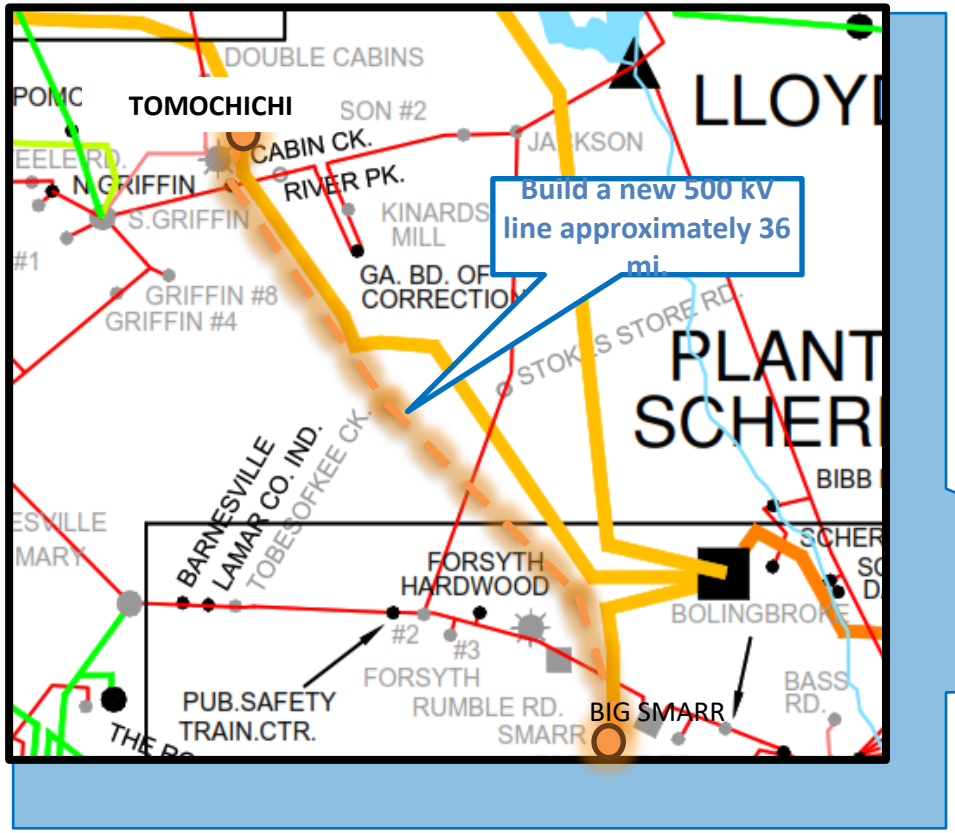


SOUTHERN Balancing Authority Area

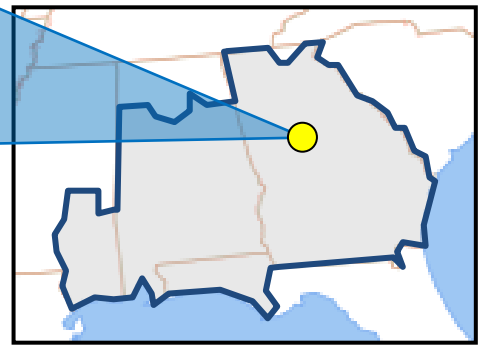
SOUTHERN – 21E

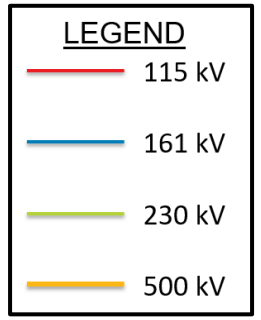
• **2030**

GTC: BIG SMARR – TOMOCHICHI 500 KV



- **Description:**
  - Construct a 500 kV line from Big Smarr to Tomochichi, approximately 36 miles long, with (3) 100°C 1113 ACSR conductor.
  - Make the necessary modifications at Big Smarr and Tomochichi to add breakers and terminate the line.
- **Supporting Statement:**
  - This project addresses multiple thermal overloads that occur under contingency.



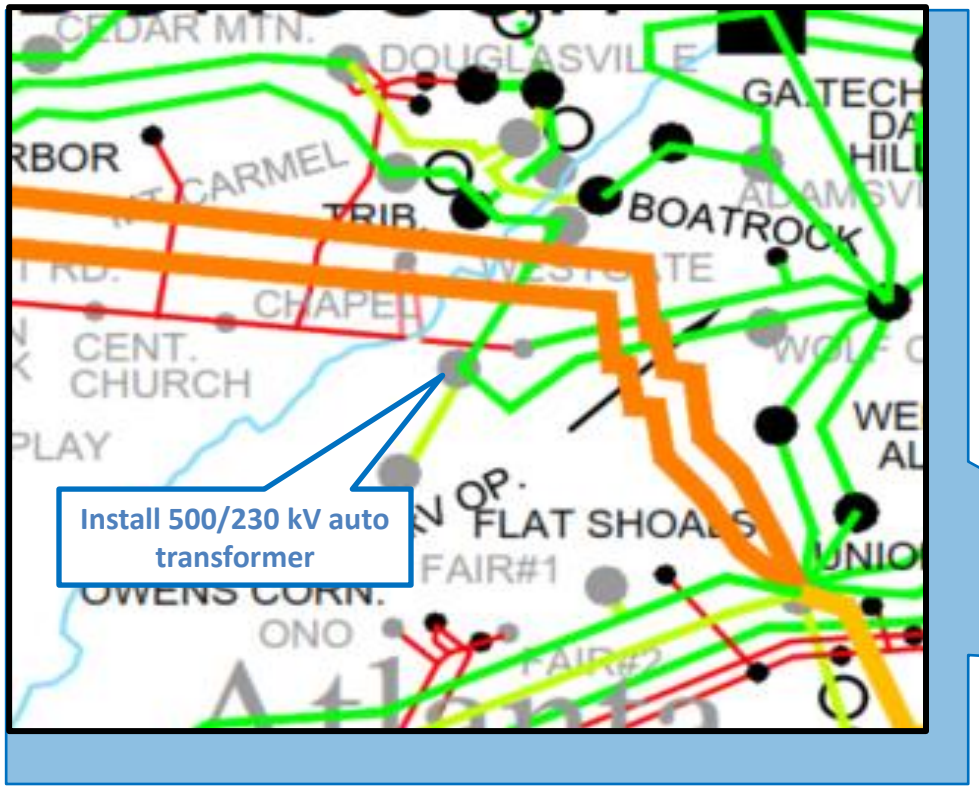


SOUTHERN Balancing Authority Area

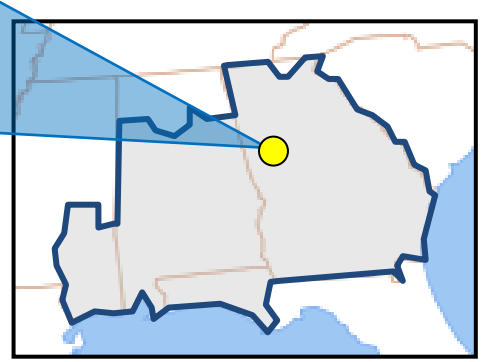
SOUTHERN – 22E

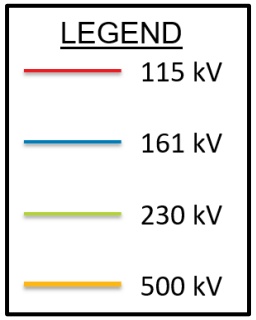
• 2030

GTC: CAVENDER DRIVE 500/230 KV AUTOTRANSFORMER INSTALLATION



- **Description:**
  - Install a 500/230 kV autotransformer at Cavender Drive station and loop in the Villa Rica - Union City 500 kV line.
- **Supporting Statement:**
  - The project resolves multiple thermal overloads in the area.



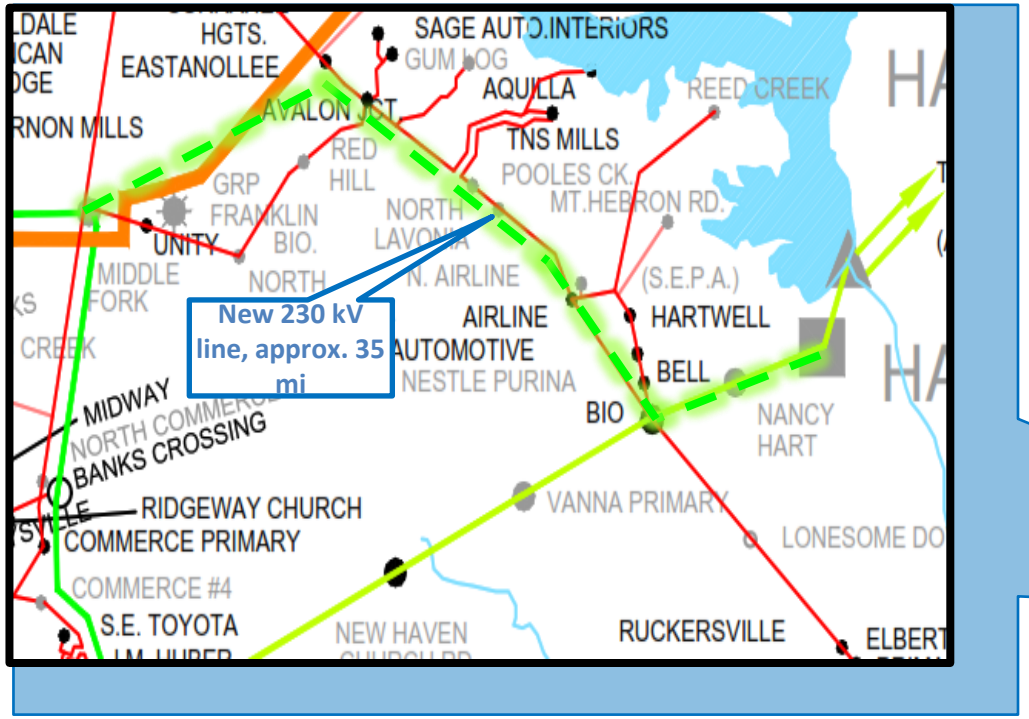


SOUTHERN Balancing Authority Area

SOUTHERN – 23E

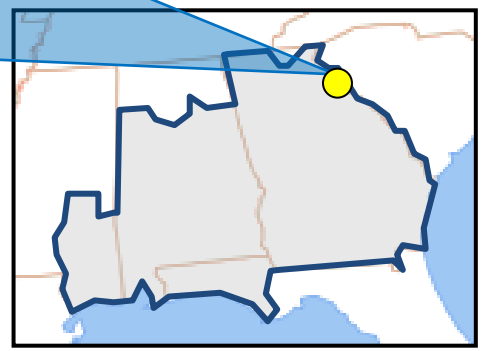
- **2030**

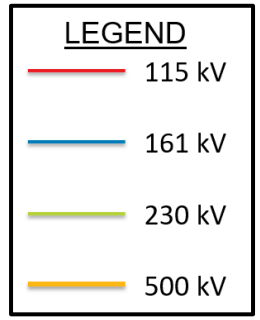
GTC: HARTWELL ENERGY – MIDDLE FORK 230 KV LINE



- **Description:**
  - Construct a new 230 kV line, approximately 35 miles, from Hartwell Energy to Middle Fork with 200°C 1351 ACSS conductor.
  - Expand Hartwell Energy 230 kV and Middle Fork 230 kV as necessary to install breakers for the new line termination.

- **Supporting Statement:**
  - Line addresses constraints along the eastern interface.



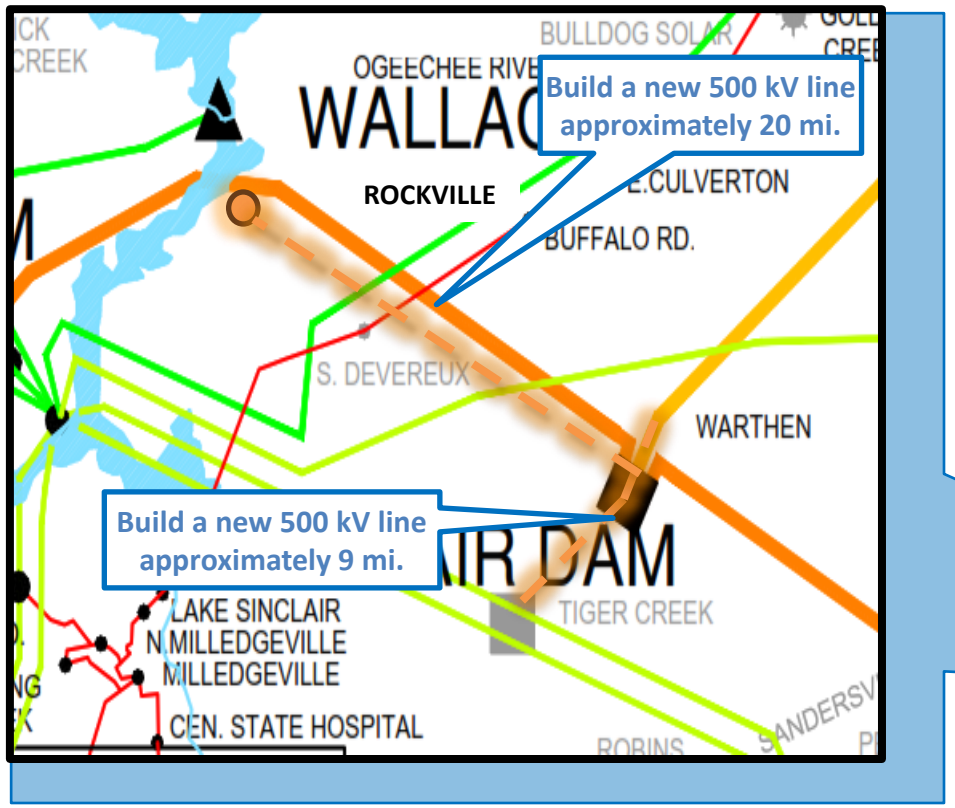


SOUTHERN Balancing Authority Area

SOUTHERN – 24E

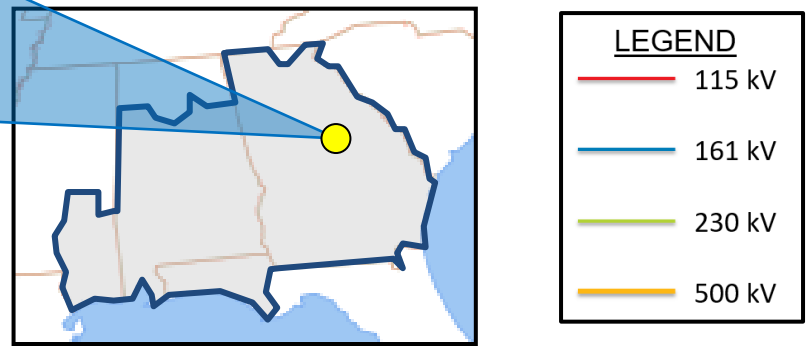
• **2030**

GTC: ROCKVILLE – TIGER CREEK – WARTHEN 500 KV LINES



- **Description:**
  - Build the new 500 kV line from Rockville to Tiger Creek and Tiger Creek to Warthen, approximately 20 miles and 9 miles long respectively with (3) 100°C 1113 ACSR conductor.
  - Build a 500 kV yard at Tiger Creek and install a 500/230 kV autotransformer.
  - Make all necessary accommodations at Warthen and Rockville for the new 500 kV breakers and line termination

- **Supporting Statement:**
  - This project addresses multiple thermal overloads that occur under contingency.

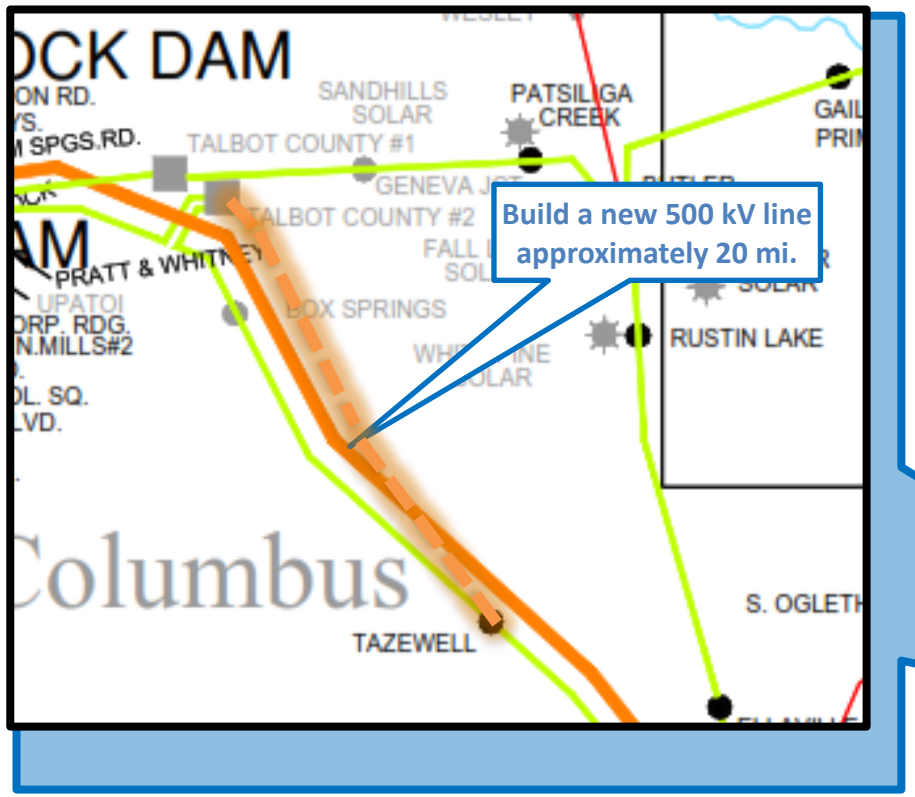


SOUTHERN Balancing Authority Area

SOUTHERN – 25E

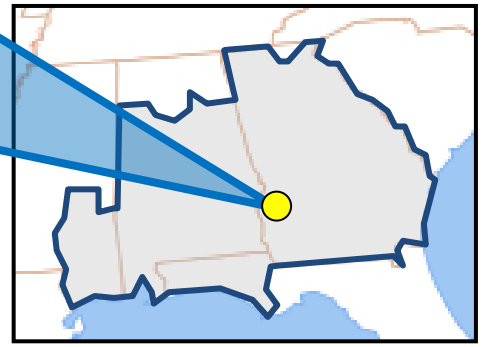
• **2030**

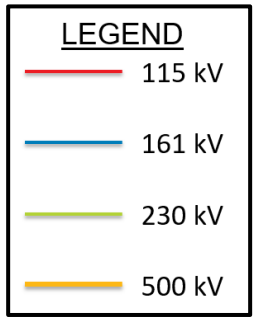
GTC: TALBOT #2 - TAZEWELL 500 KV LINE



- **DESCRIPTION:**
  - Build a 20 miles 500 kV line from Talbot #2 to Tazewell with (3) 100°C 1113 ACSR conductor.
  - Make all necessary accommodations at Talbot #2 to accommodate the new line termination.

- **SUPPORTING STATEMENT:**
  - The project addresses several thermal overloads that occur under contingency.

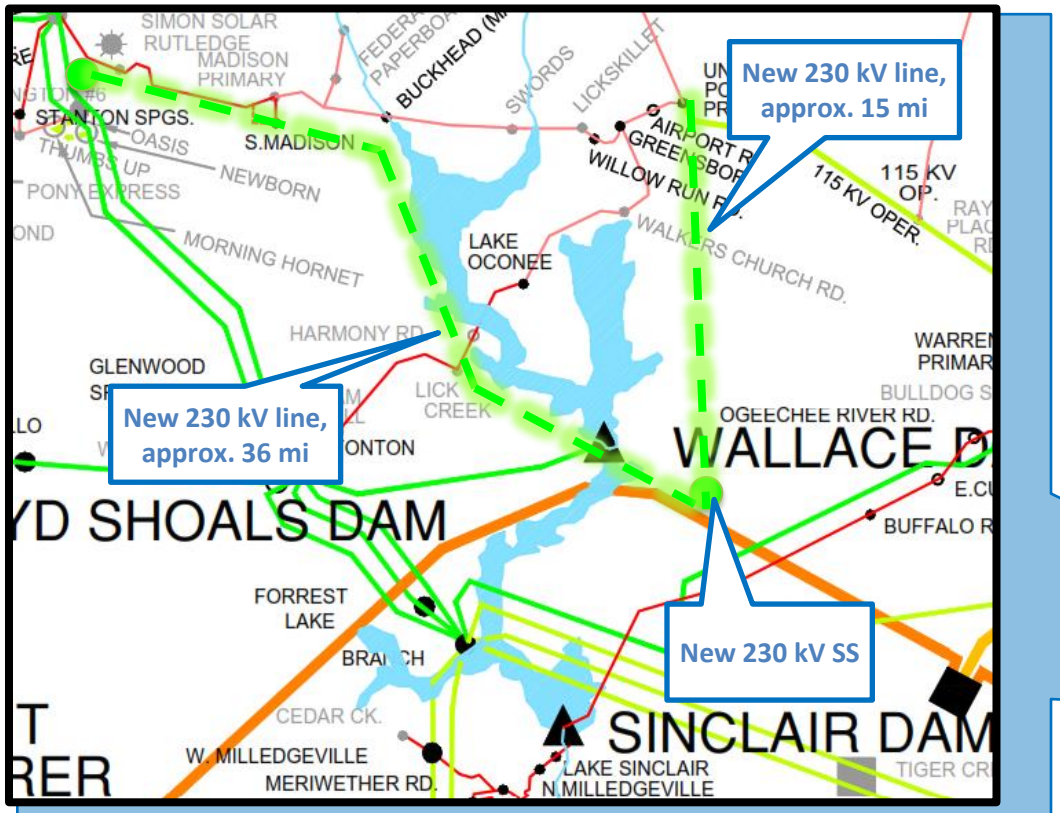




SOUTHERN – 26E

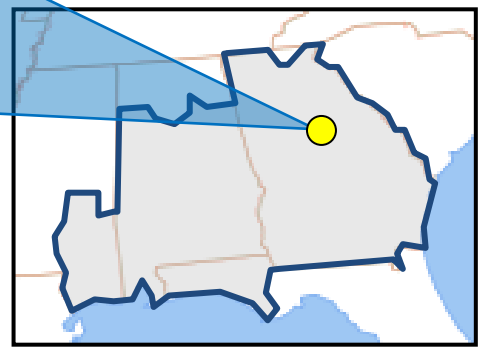
• **2030**

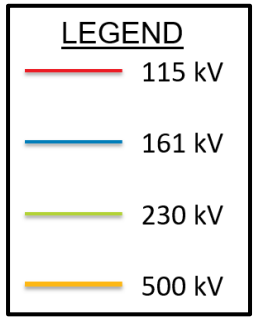
GTC: TIGER CREEK - ROCKVILLE - NORTH SPA 230 KV



- **DESCRIPTION:**
  - Build a new 4-breaker 230 kV ring bus at Rockville substation with no autotransformer.
  - Loop in the Eatonton Primary #2 - Wallace Dam 230 kV line.
  - Build a new line 230 kV line to Tiger Creek with 200°C 1351 ACSS conductor.
  - Build a new 230 kV line to North Spa with 200°C 1351 ACSS conductor.
  - Build a new 230 kV line from Wallace Dam to Union Point with 200°C 1351 ACSS conductor.

- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.



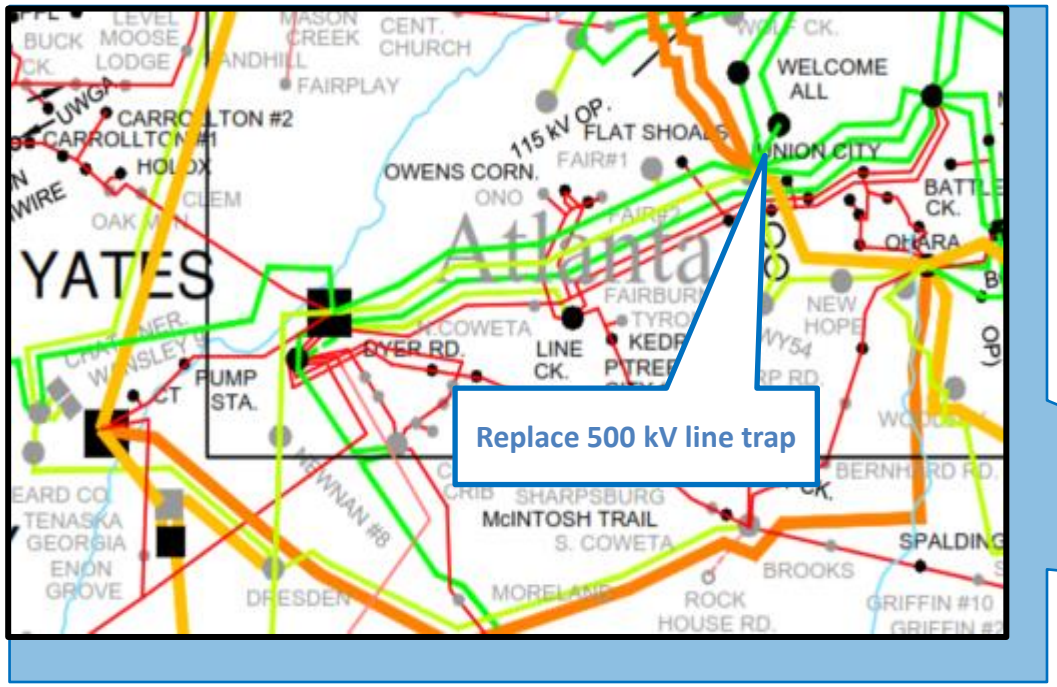


SOUTHERN Balancing Authority Area

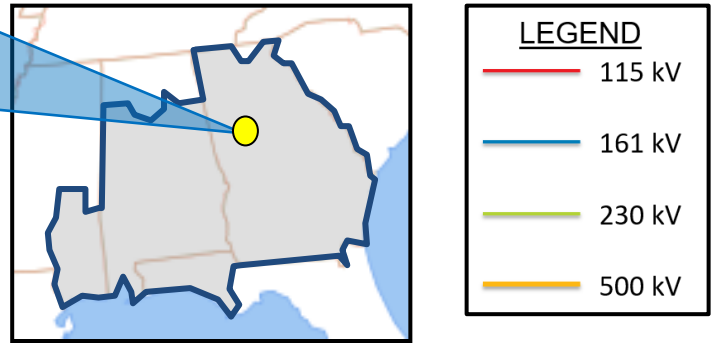
SOUTHERN – 27E

• **2030**

GTC: UNION CITY LINE TRAP REPLACEMENT



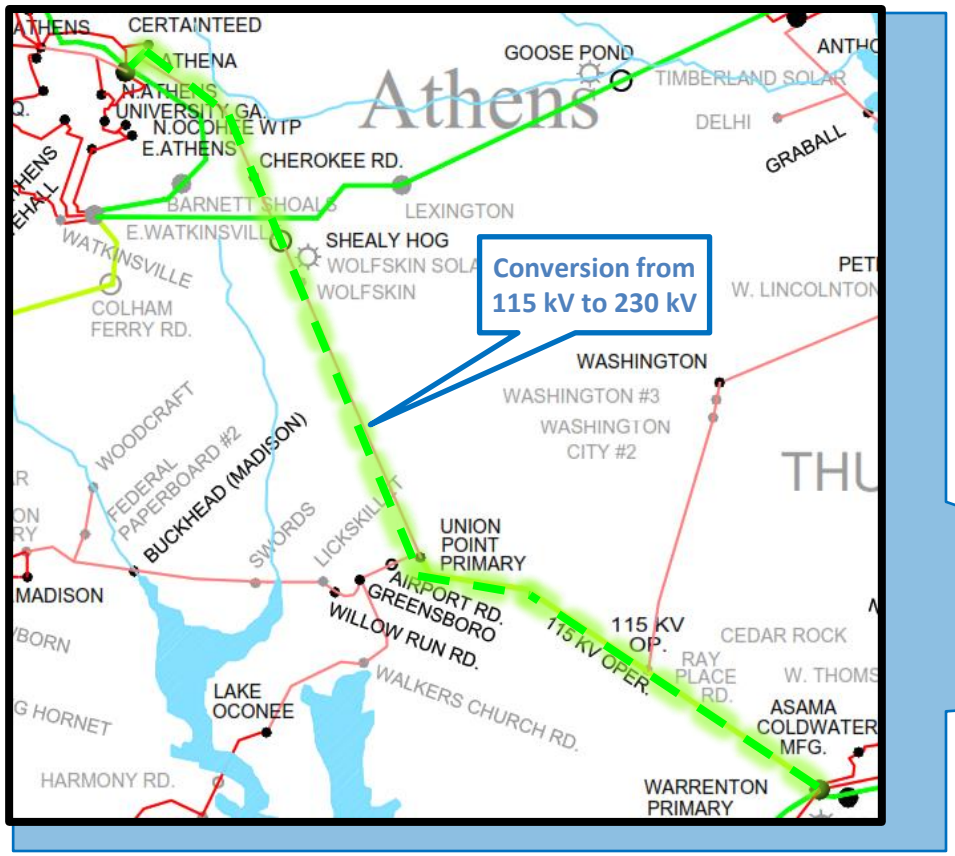
- **DESCRIPTION:**
  - Replace 500 kV line trap at Union City with a higher rating.
- **SUPPORTING STATEMENT:**
  - The Union City - Ashley Park 500 kV line overloads under contingency.



SOUTHERN – 28E

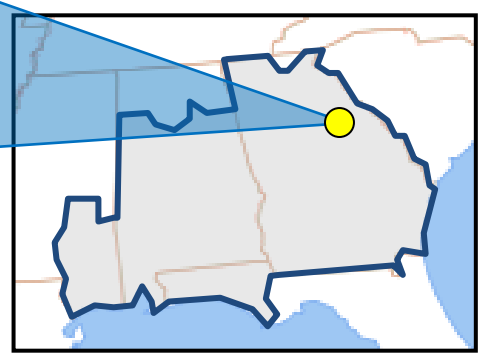
• 2030

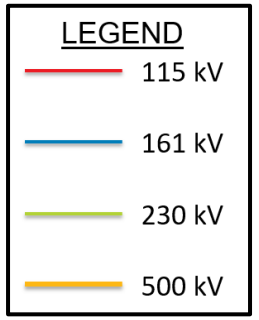
MEAG: ATHENA-UNION POINT-WARRENTON PRIMARY 230 KV CONVERSION



- **DESCRIPTION:**
  - Convert the 115 kV lines from Athena - Union Point - Ray Place Road - Warrenton Primary to 230 kV operation, a total of 32 miles.
  - Replace limiting equipment in substations along the lines.

- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.

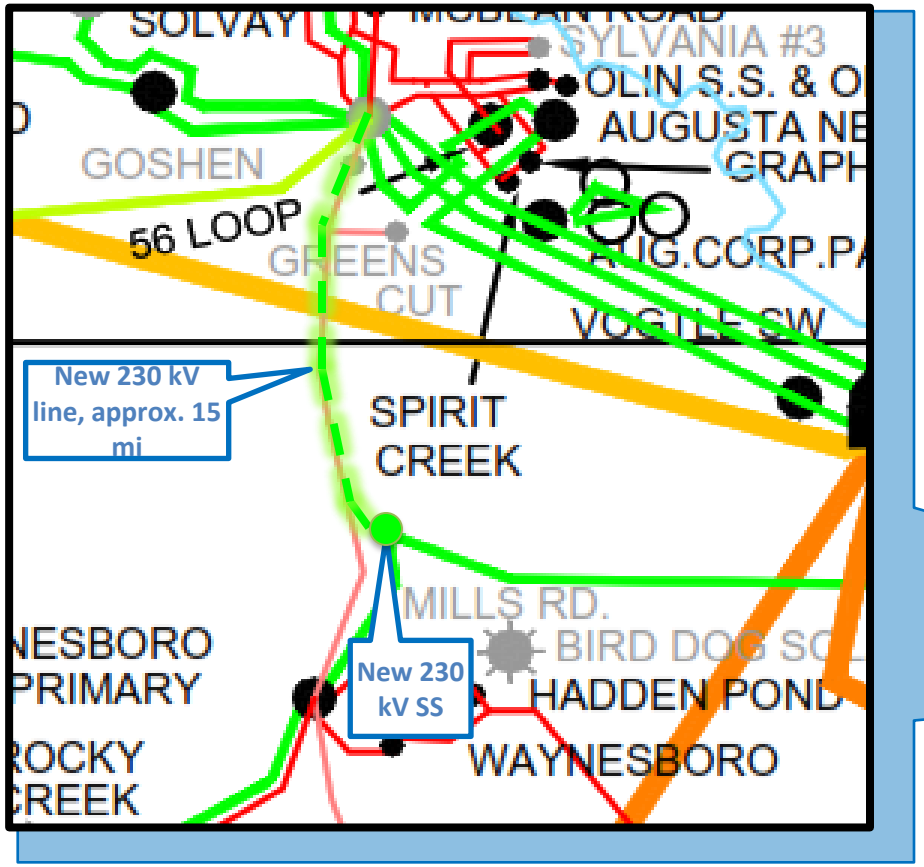


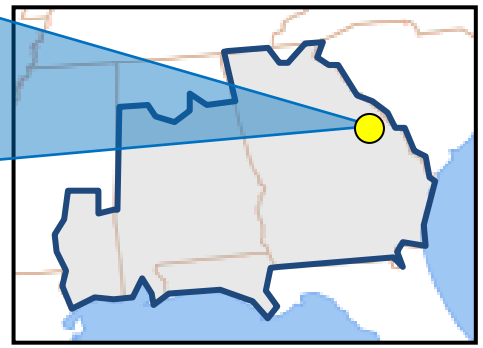


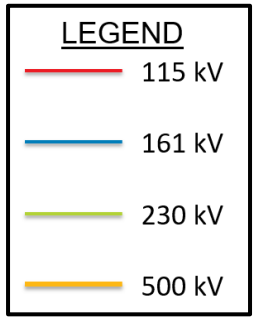
SOUTHERN – 29E

• 2030

MEAG: GOSHEN AREA 230 KV SOLUTION







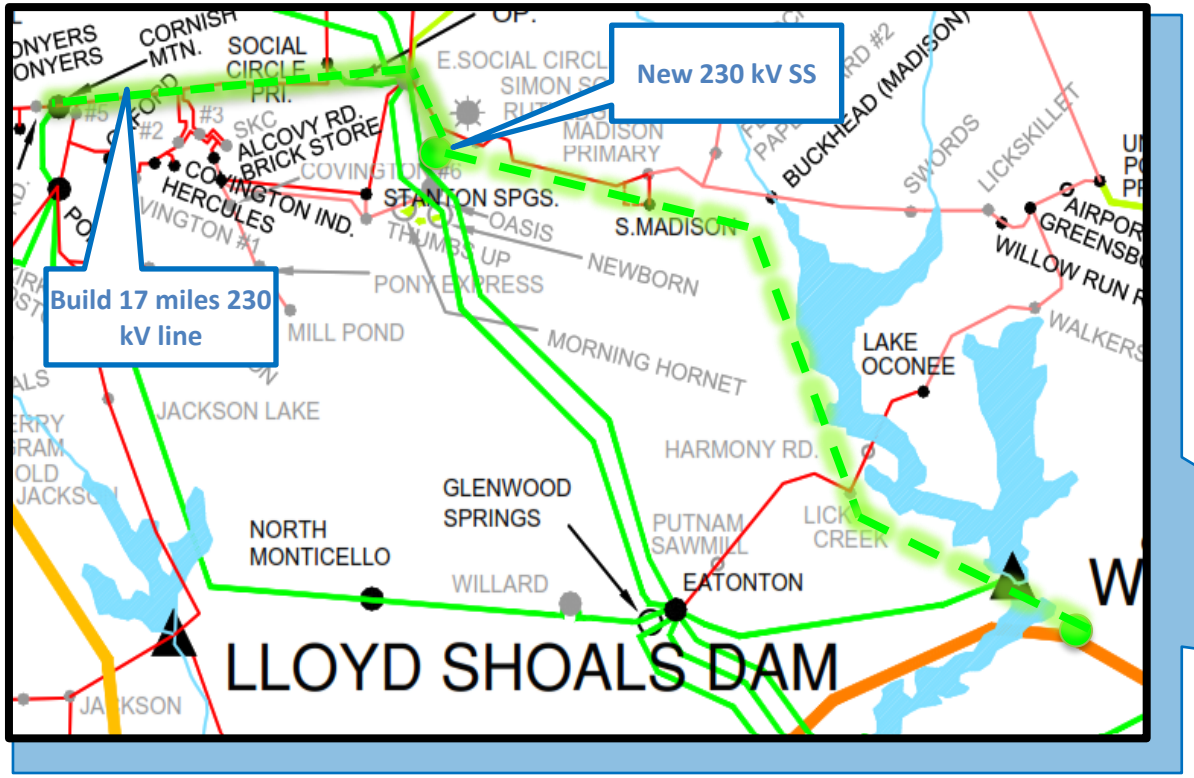
- **DESCRIPTION:**
  - Construct a 230 kV switching station on the Waynesboro – Wilson 230 kV line and a new 230 kV line between the switching station and Goshen, approximately 12 miles, with 200°C 1351 ACSS conductor.
- **SUPPORTING STATEMENT:**
  - This project addresses multiple thermal overloads that occur under contingency.

SOUTHERN Balancing Authority Area

SOUTHERN – 30E

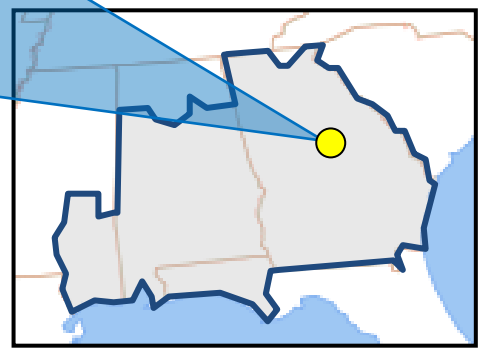
• **2030**

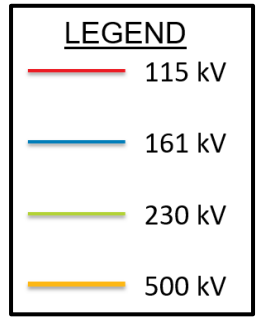
NORTH SPA 230 KV AREA SOLUTION



- **DESCRIPTION:**
  - Build a 230 kV 4 breaker ring switching station north of Oasis.
  - Loop in the East Social Circle - Oasis (White) 230 kV line.
  - Build a new 230 kV line from North Spa to Cornish Mountain 200°C 1351 ACSS conductor.
  - New 230 kV line from Rockville will terminate in this station.

- **SUPPORTING STATEMENT:**
  - This projects addresses multiple thermal overloads that occur under contingency.



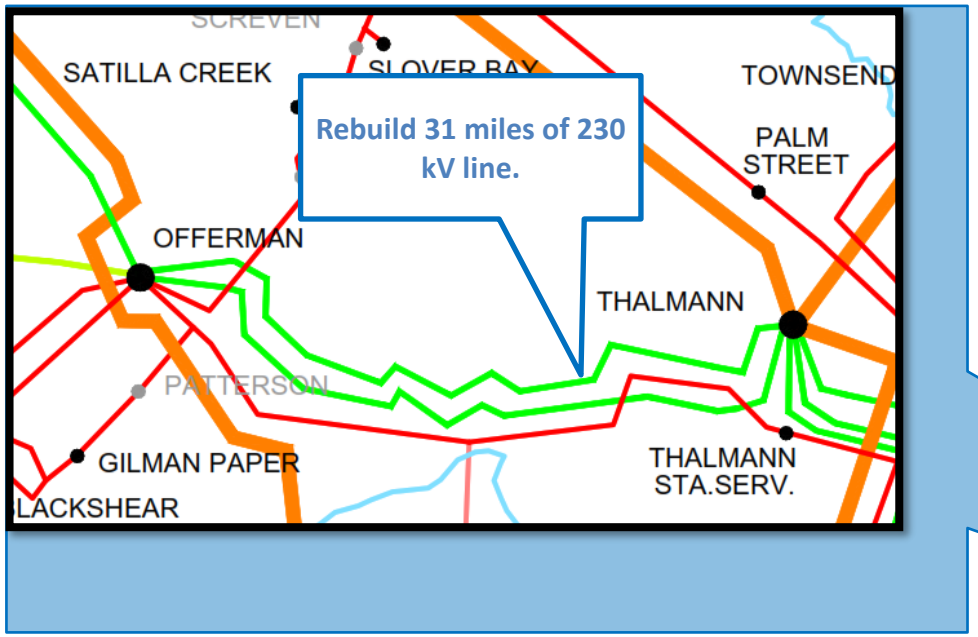


SOUTHERN Balancing Authority Area

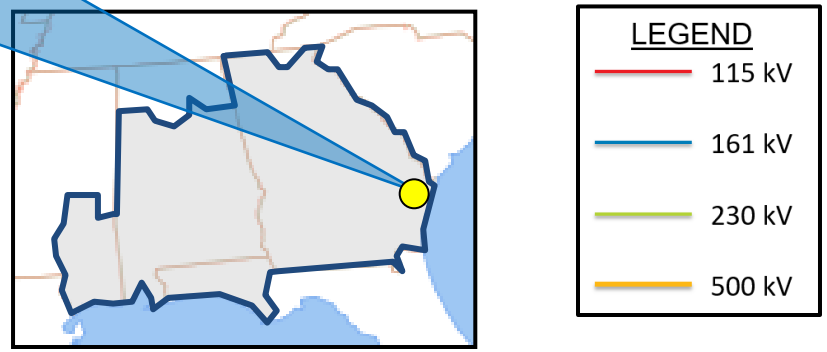
SOUTHERN – 31E

• **2030**

OFFERMAN-THALMANN (BLACK) 230 KV



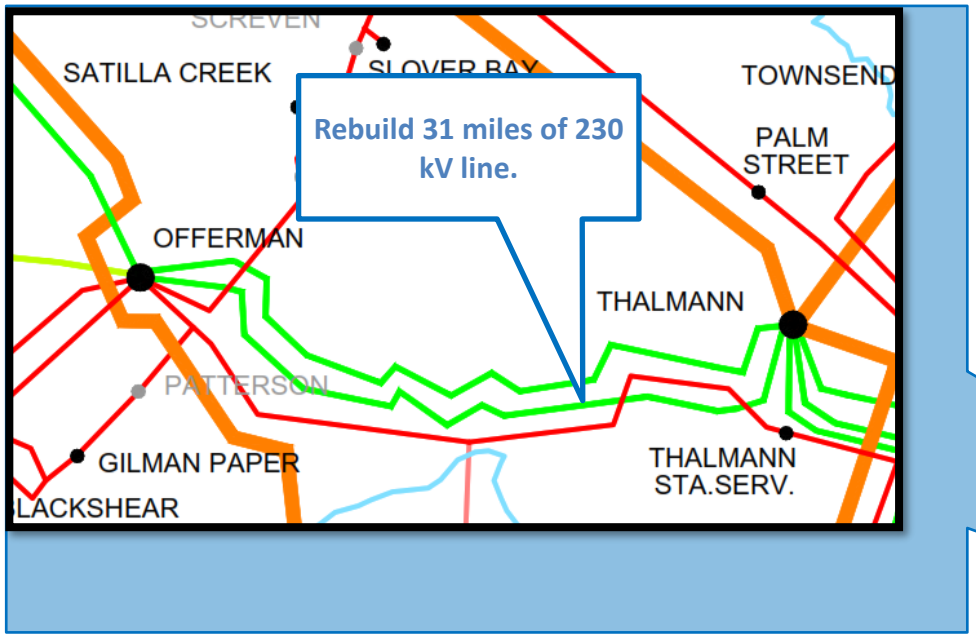
- **Description:**
  - Rebuild 31 miles of the Offerman - Thalmann (Black) 230 kV line using 200°C 1351 ACSS conductor.
- **Supporting Statement:**
  - The Offerman - Thalmann (Black) 230 kV line overloads under contingency.



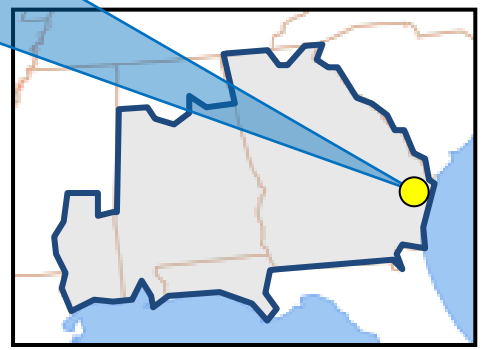
SOUTHERN – 32E

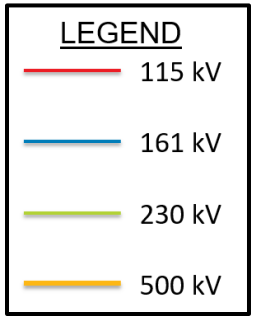
• 2030

OFFERMAN-THALMANN (WHITE) 230 KV



- **Description:**
  - Rebuild 31 miles of the Offerman - Thalmann (White) 230 kV line using 200°C 1351 ACSS conductor.
- **Supporting Statement:**
  - The Offerman - Thalmann (White) 230 kV line overloads under contingency.

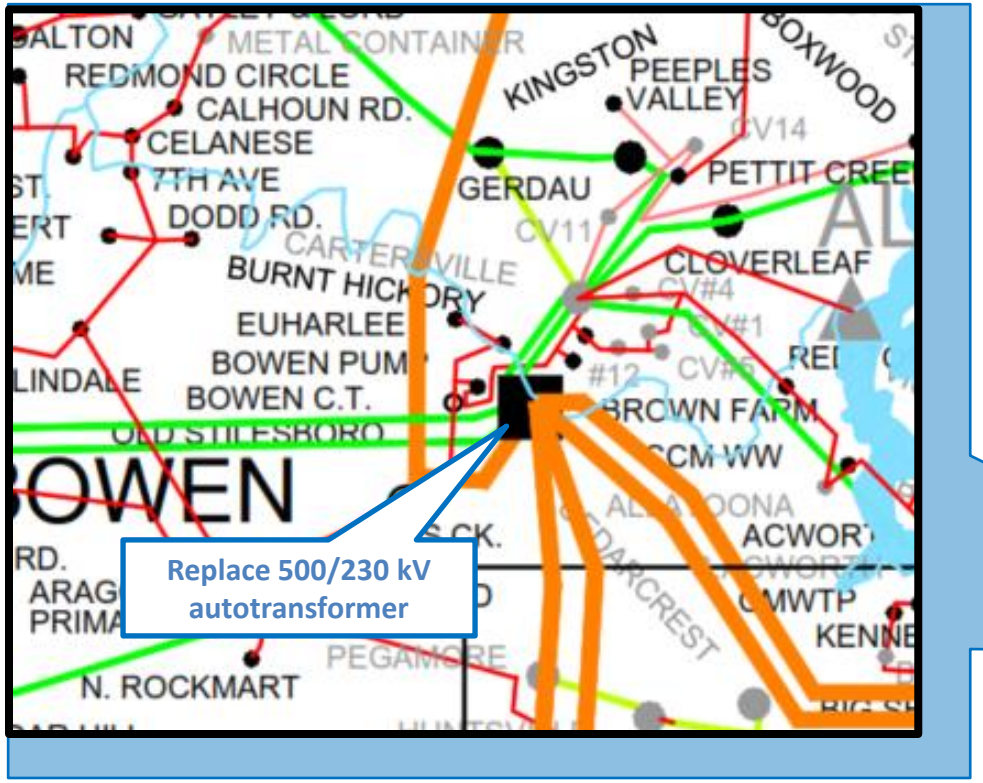




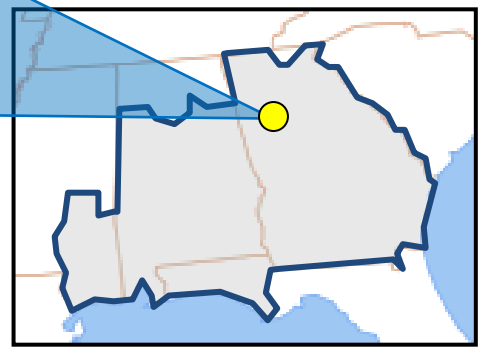
SOUTHERN – 33E

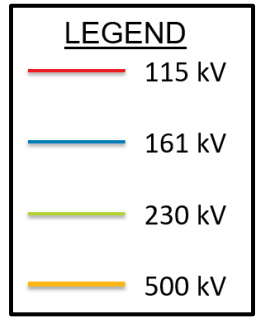
• 2031

BOWEN #10 500/230 KV AUTOTRANSFORMER REPLACEMENT



- **DESCRIPTION:**
  - Replace the Bowen #10 500/230 kV autotransformer with higher rated autotransformer.
- **SUPPORTING STATEMENT:**
  - The Bowen #10 500/230 kV autotransformer overloads under contingency.

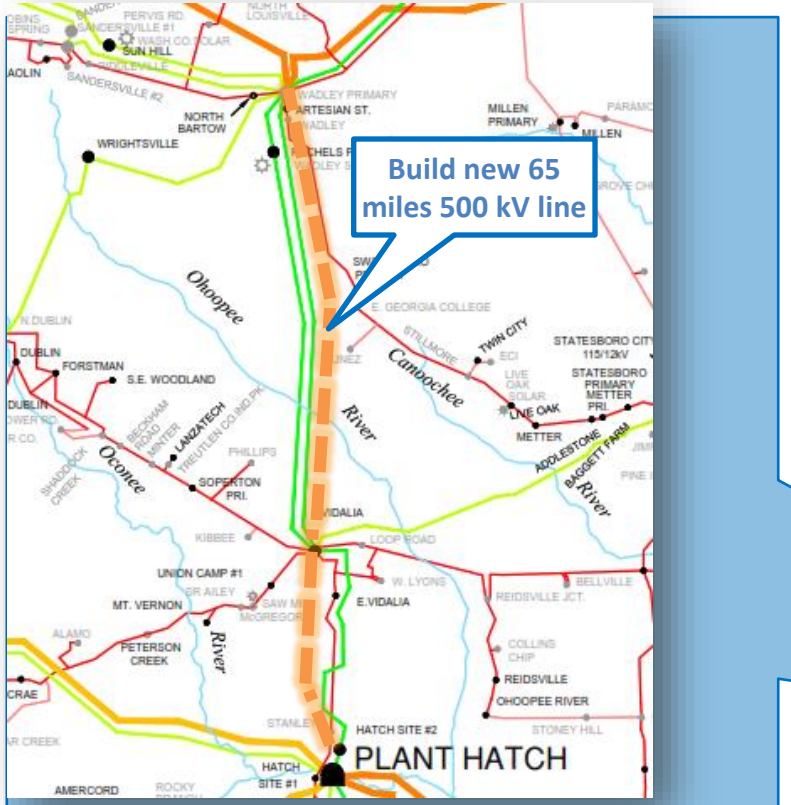




SOUTHERN – 34E

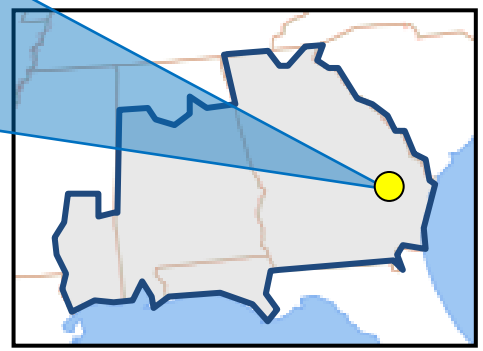
• 2031

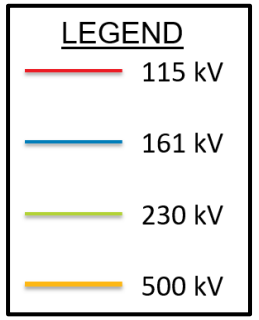
HATCH - WADLEY 500 KV LINE STRATEGIC PROJECT



- **DESCRIPTION:**
  - Construct a new 65 miles 500 kV line from Hatch - Wadley Primary with (3) 100°C 1113 ACSR conductor.

- **SUPPORTING STATEMENT:**
  - The construction of the new Hatch - Wadley Primary 500 kV line aims to address the increasing penetration of renewable generation and load growth.



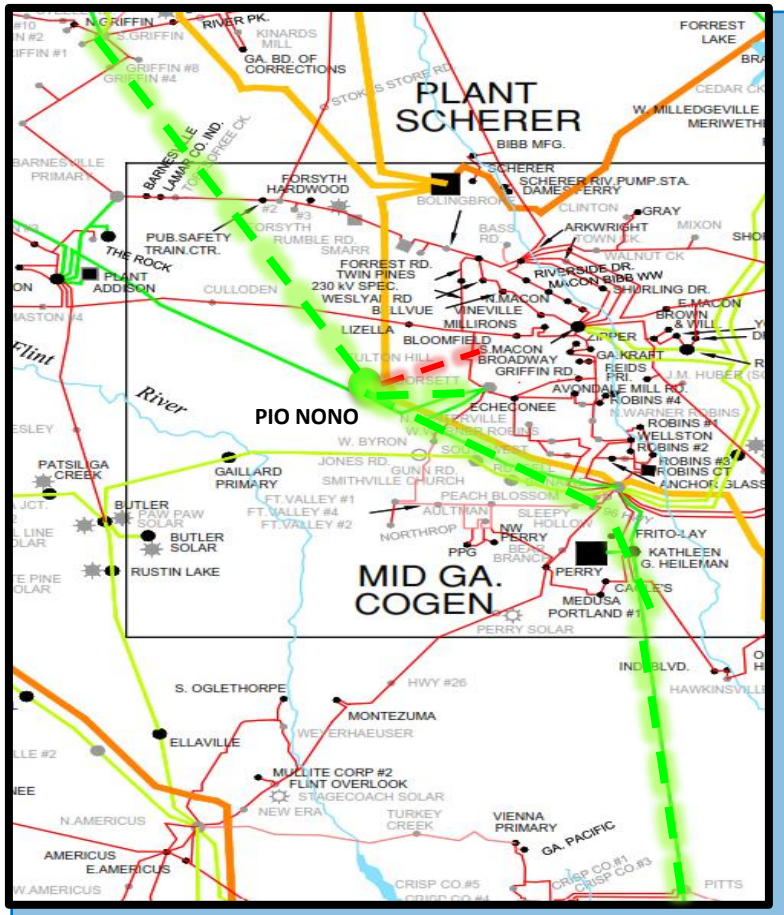


SOUTHERN Balancing Authority Area

SOUTHERN – 35E

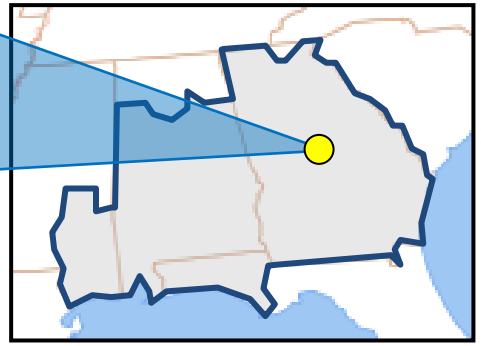
- **2031**

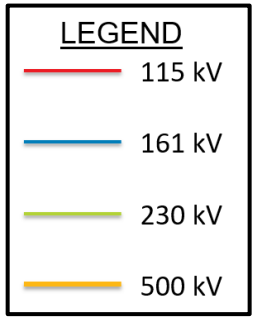
MEAG: PIO NONO 230/115 KV AREA SOLUTION



- **DESCRIPTION:**
  - Build a 4-breaker 230 kV ring bus to terminate lines from Dorsett, South Griffin, and Pitts. Lines to be build with 200°C 1351 ACSS conductor. Install a 400MVA autotransformer and build a 115 kV yard to terminate a line from Broadway.
  - Make all necessary modifications to accommodate all the 230 kV and 115 kV lines terminations.

- **SUPPORTING STATEMENT:**
  - This projects addresses 230 kV and 115 kV thermal overloads that occur under contingency in the Central area and increases transfer capability from the South into Central and Metro South areas.



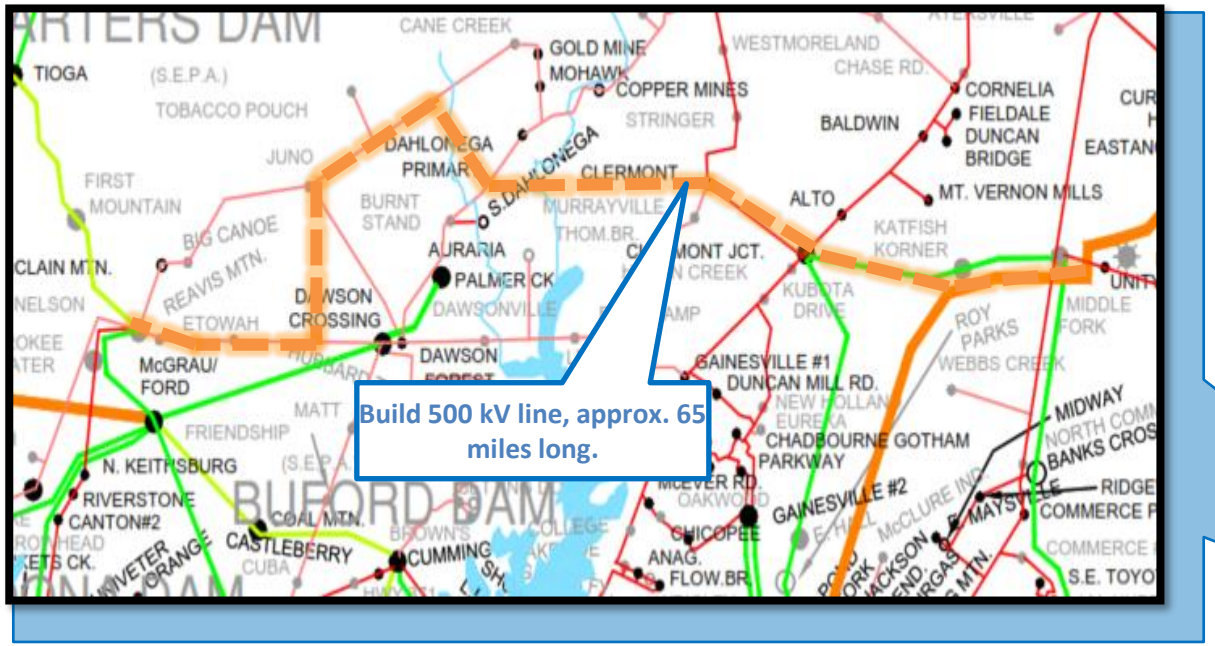


SOUTHERN Balancing Authority Area

SOUTHERN – 36E

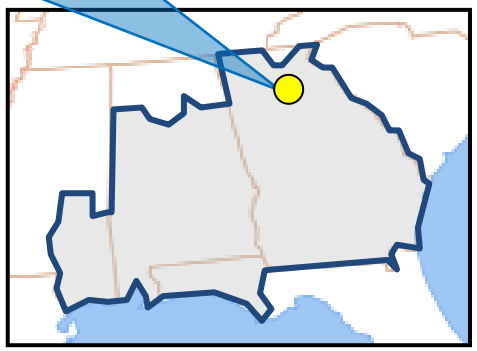
• **2033**

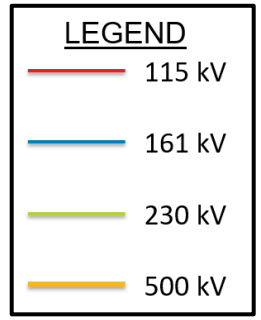
MCGRAU FORD – MIDDLE FORK 500 KV



- **DESCRIPTION:**
  - Build a 65 miles long, 500 kV line from McGrau Ford to Middle Fork, with (3) 100°C 1113 ACSR conductor.
  - Add 2-500 kV breakers at McGrau Ford and create a ring bus configuration.
  - GTC: Build a new 500 kV switchyard at Middle Fork to terminate the new line.

- **SUPPORTING STATEMENT:**
  - This project reduces multiple 230 kV line loadings, resolves thermal overloads that occur under contingency and provides additional operational and maintenance flexibility, which increases reliability.





SOUTHERN Balancing Authority Area

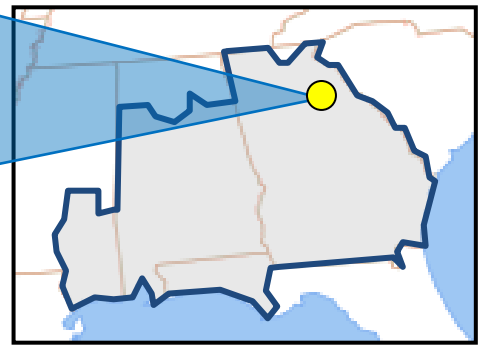
SOUTHERN – 37E

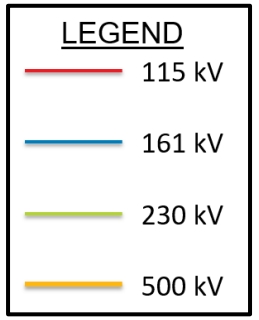
• **2033**

GTC: EAST WALTON – MIDDLE FORK 500 KV

- **DESCRIPTION:**
  - Build a 45 miles long, 500 kV line from East Walton to Middle Fork, with (3) 100°C 1113 ACSR conductor.
  - Make all necessary modifications to accommodate the line termination at Middle Fork and East Walton substations.

- **SUPPORTING STATEMENT:**
  - This project reduces multiple 230 kV line loadings and provides additional operational and maintenance flexibility, which increases reliability.





SOUTHERN Balancing Authority Area

SOUTHERN Balancing Authority Area - PowerSouth

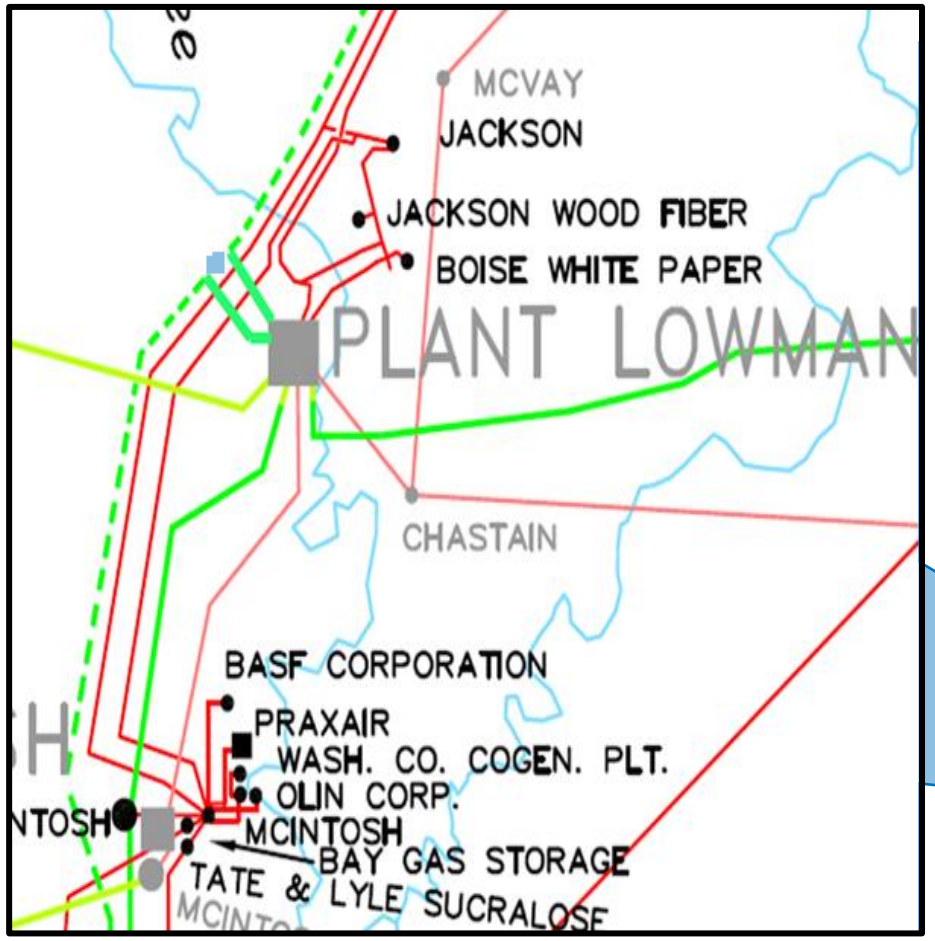
Transmission Expansion Plan

SOUTHERN Balancing Authority Area

POWERSOUTH - 1

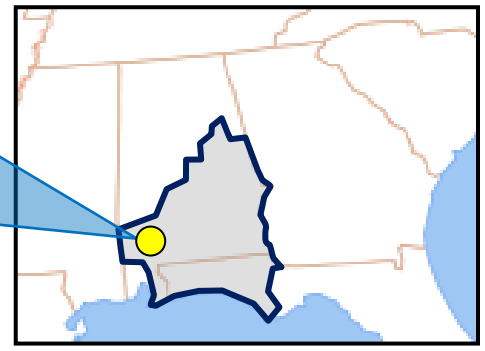
- **2029**

BASSETT CREEK - TENSAW 230 KV LINE LOOP INTO LOWMAN 230 KV



- **DESCRIPTION:**
  - Loop the existing Bassett Creek - Tensaw 230 kV line into Lowman 230 kV station as new tie lines between PS and SOCO. Requires the construction of approximately 7 miles of new 230 kV transmission line with 1351 ACSS at 200°C.

- **SUPPORTING STATEMENT:**
  - Prevents thermal overloading under contingency after addition of new generation at Lowman.



TVA Balancing Authority Area

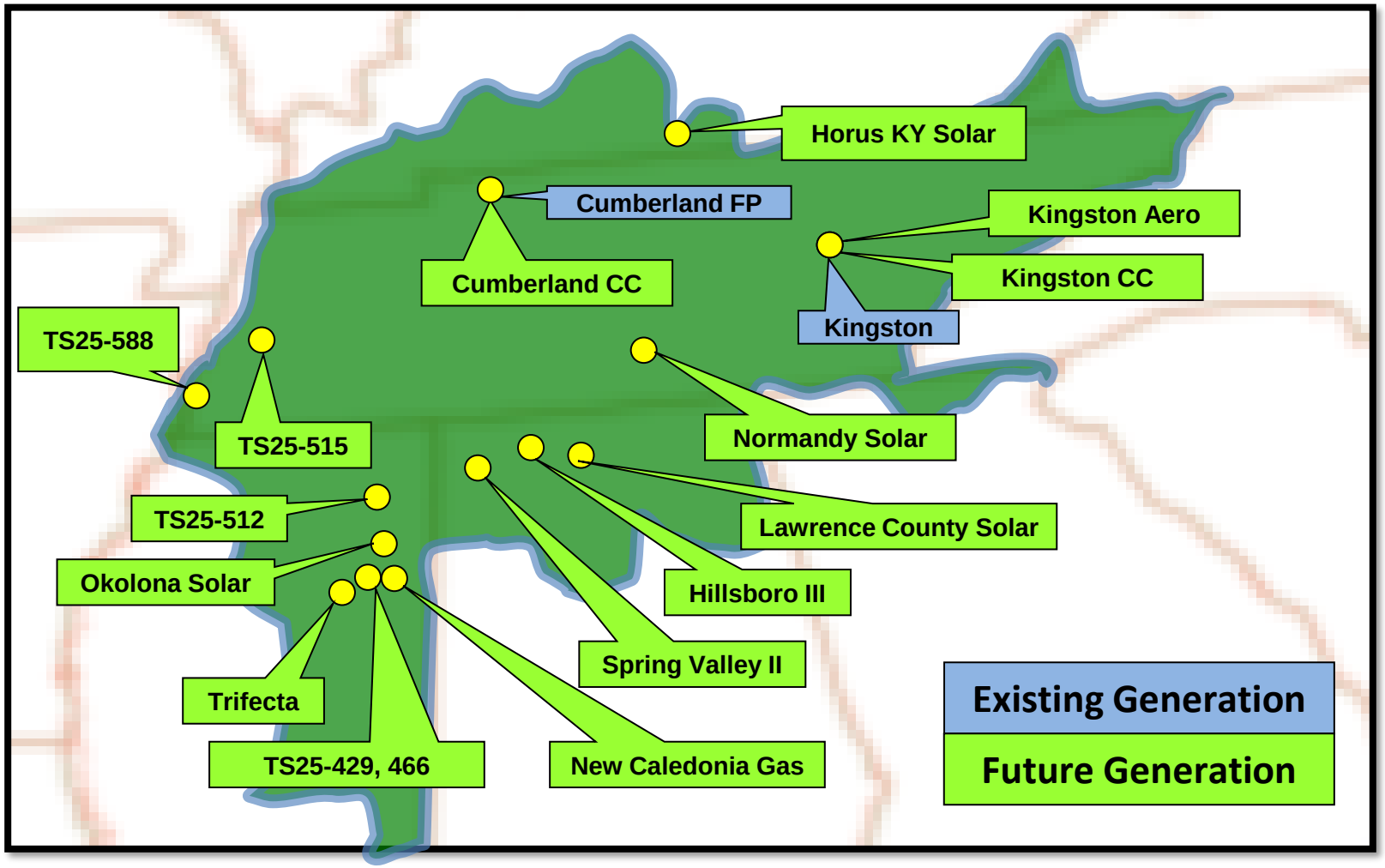
TVA Balancing Authority Area

2025 Generation Assumptions

TVA Balancing Authority Area

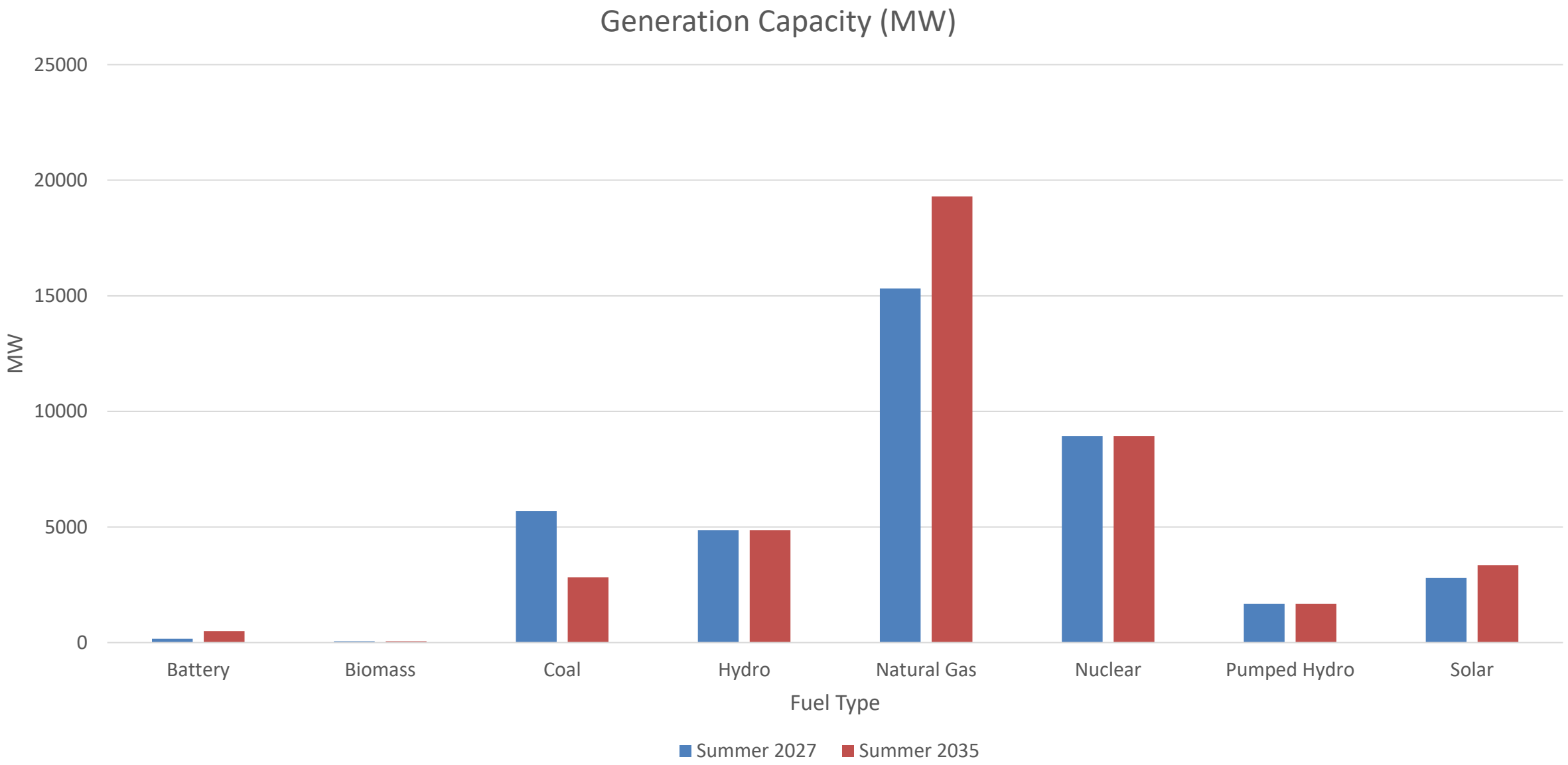
TVA – Generation Assumptions

The following diagram depicts the location of generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process.



Southeastern Regional
TRANSMISSION PLANNING

TVA Generation Summary



TVA Balancing Authority Area

TVA – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
CUMBERLAND FP UNIT 2	COAL	1130	0	--	--	--	--	--	--	--	--
CUMBERLAND FP UNIT 1	COAL	1130	1130	1130	0	--	--	--	--	--	--
KINGSTON FP	COAL	1157	1157	0	--	--	--	--	--	--	--
CUMBERLAND CC	GAS	--	1346	1346	1346	1346	1346	1346	1346	1346	1346
KINGSTON CC	GAS	--	--	715	715	715	715	715	715	715	715
KINGSTON AERO	GAS	--	--	848	848	848	848	848	848	848	848
NEW CALEDONIA	GAS	--	515	515	515	515	515	515	515	515	515
TS25-588	GAS	198	198	198	198	198	198	198	198	198	198

TVA Balancing Authority Area

TVA – Generation Assumptions Continued

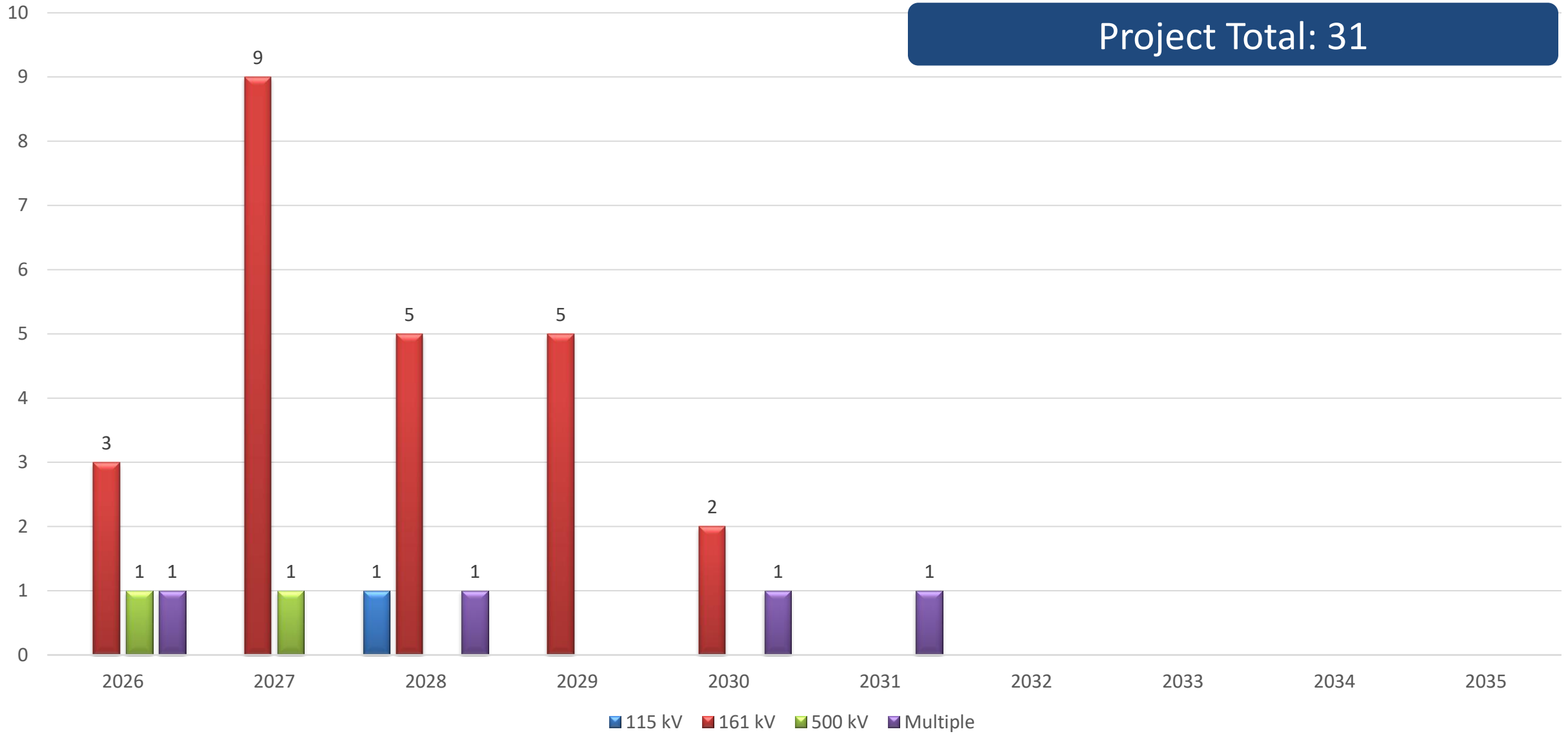
The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2025 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
TRIFECTA	SOLAR	--	68	68	68	68	68	68	68	68	68
HILLSBORO III	SOLAR	--	200	200	200	200	200	200	200	200	200
SPRING VALLEY II	SOLAR	--	200	200	200	200	200	200	200	200	200
LAWRENCE COUNTY	SOLAR	--	--	--	--	100	100	100	100	100	100
OKOLONA	SOLAR	--	145	145	145	145	145	145	145	145	145
NORMANDY	SOLAR	213	213	213	213	213	213	213	213	213	213
HORUS KY	SOLAR	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
TS25-429	BESS	--	--	200	200	200	200	200	200	200	200
TS25-466	SOLAR	--	--	200	200	200	200	200	200	200	200
TS25-512	SOLAR	--	--	--	200	200	200	200	200	200	200
TS25-515	SOLAR	--	--	66	66	66	66	66	66	66	66

Southeastern Regional TRANSMISSION PLANNING

TVA Project Summary

Project Total: 31



TVA Balancing Authority Area

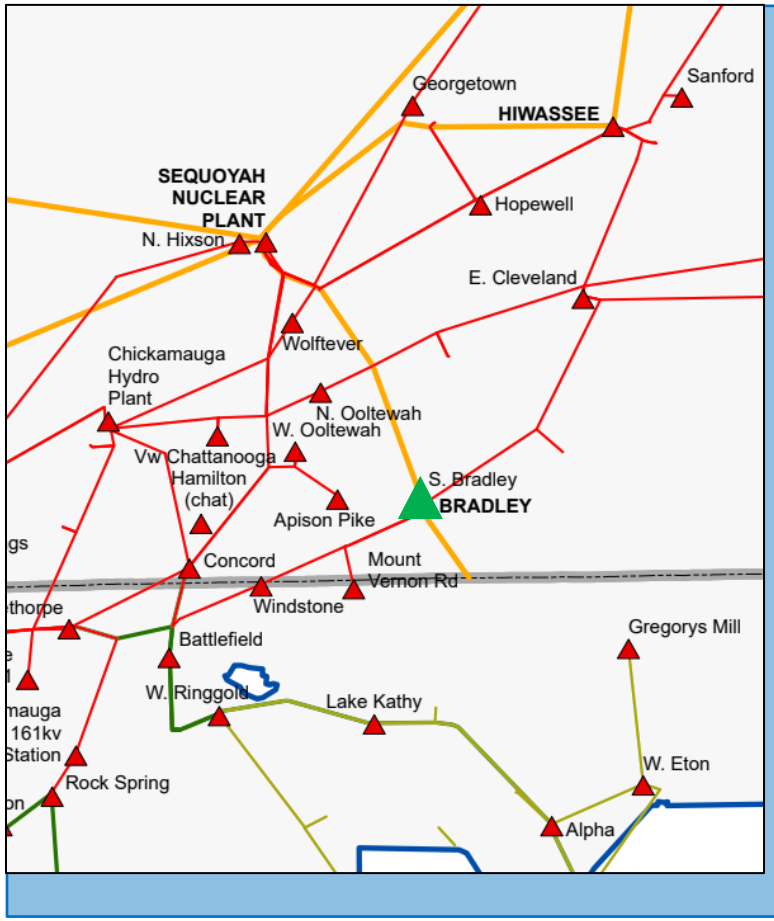
Transmission Expansion Plan

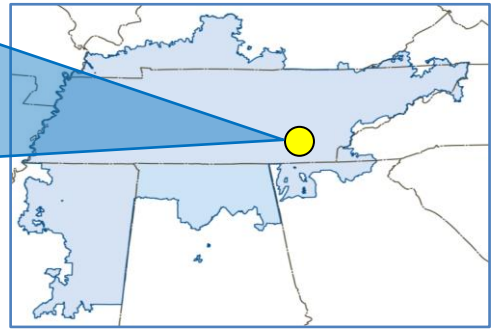
TVA Balancing Authority Area

TVA – 1

• **2026**

BRADLEY 500 KV SWITCH HOUSE





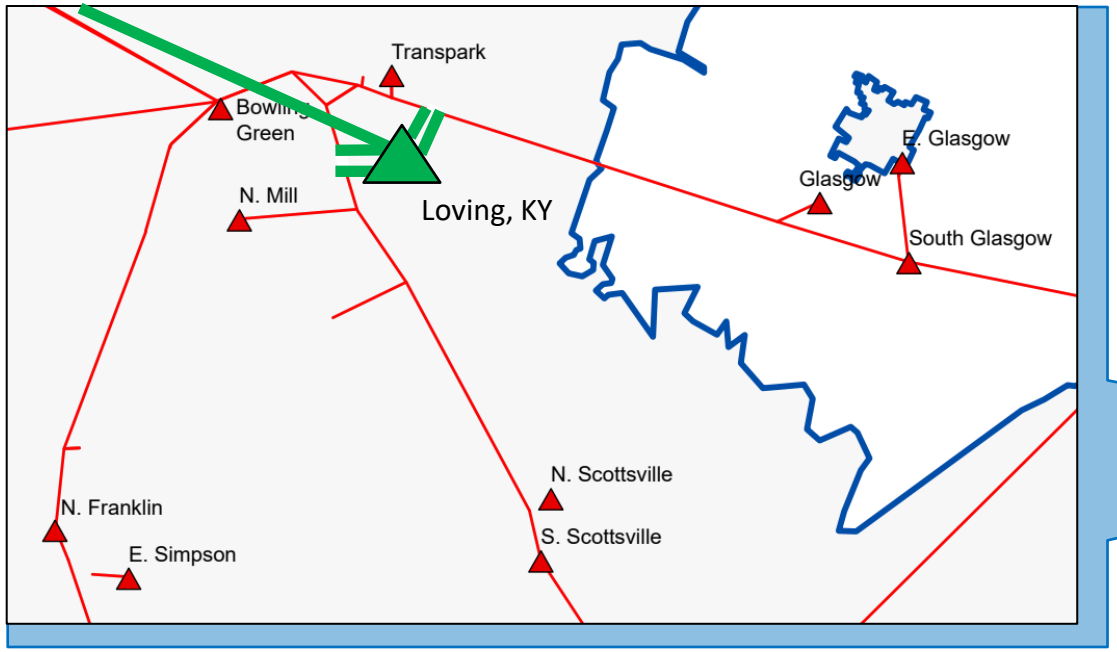
- **DESCRIPTION:**
  - Construct a new 500 kV switch house.
- **SUPPORTING STATEMENT:**
  - Additional thermal capacity and voltage support is needed in the Bradley County, TN area under contingency.

TVA Balancing Authority Area

TVA – 2

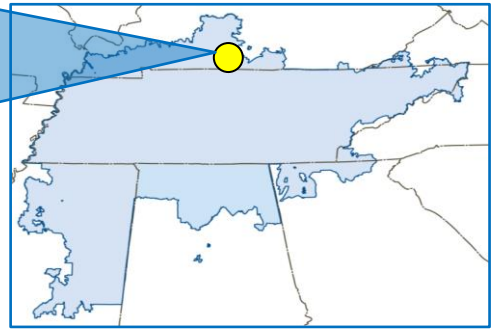
• **2026**

LOVING, KY 161 KV STATION



- **DESCRIPTION:**
  - Construct the Loving, KY 161 kV Substation. Reconductor approximately 26.71 miles of transmission line from Bowling Green to Lost City with 1351 ACSS at 140°C. Reconductor approximately 8.64 miles of transmission line from Bowling Green to East Bowling Green with 1351 ACSS at 135°C.

- **SUPPORTING STATEMENT:**
  - Additional voltage support & thermal capacity is needed in the Bowling Green area for economic development.

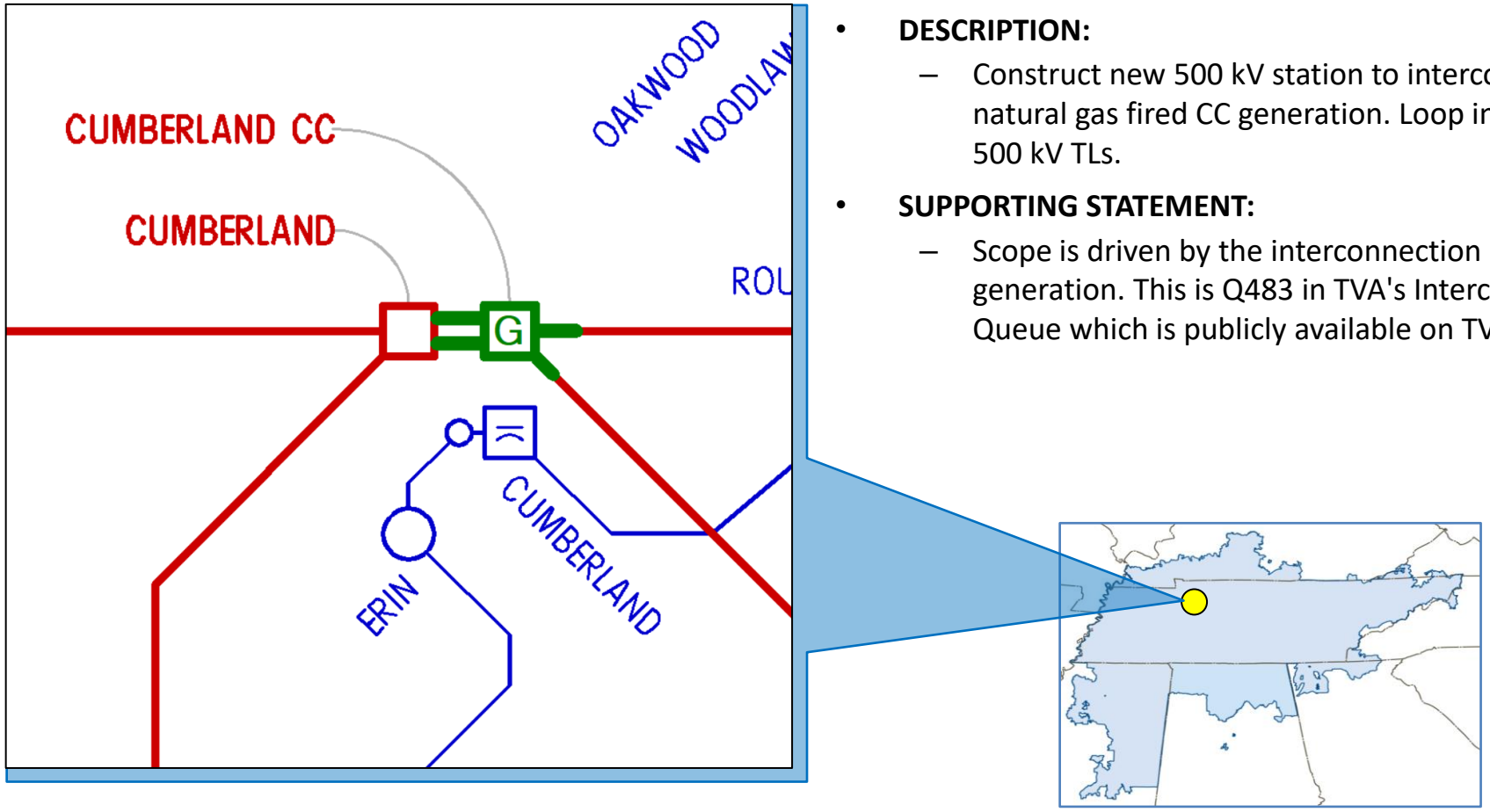


TVA Balancing Authority Area

TVA – 3

• **2026**

CUMBERLAND CC GENERATION INTERCONNECTION



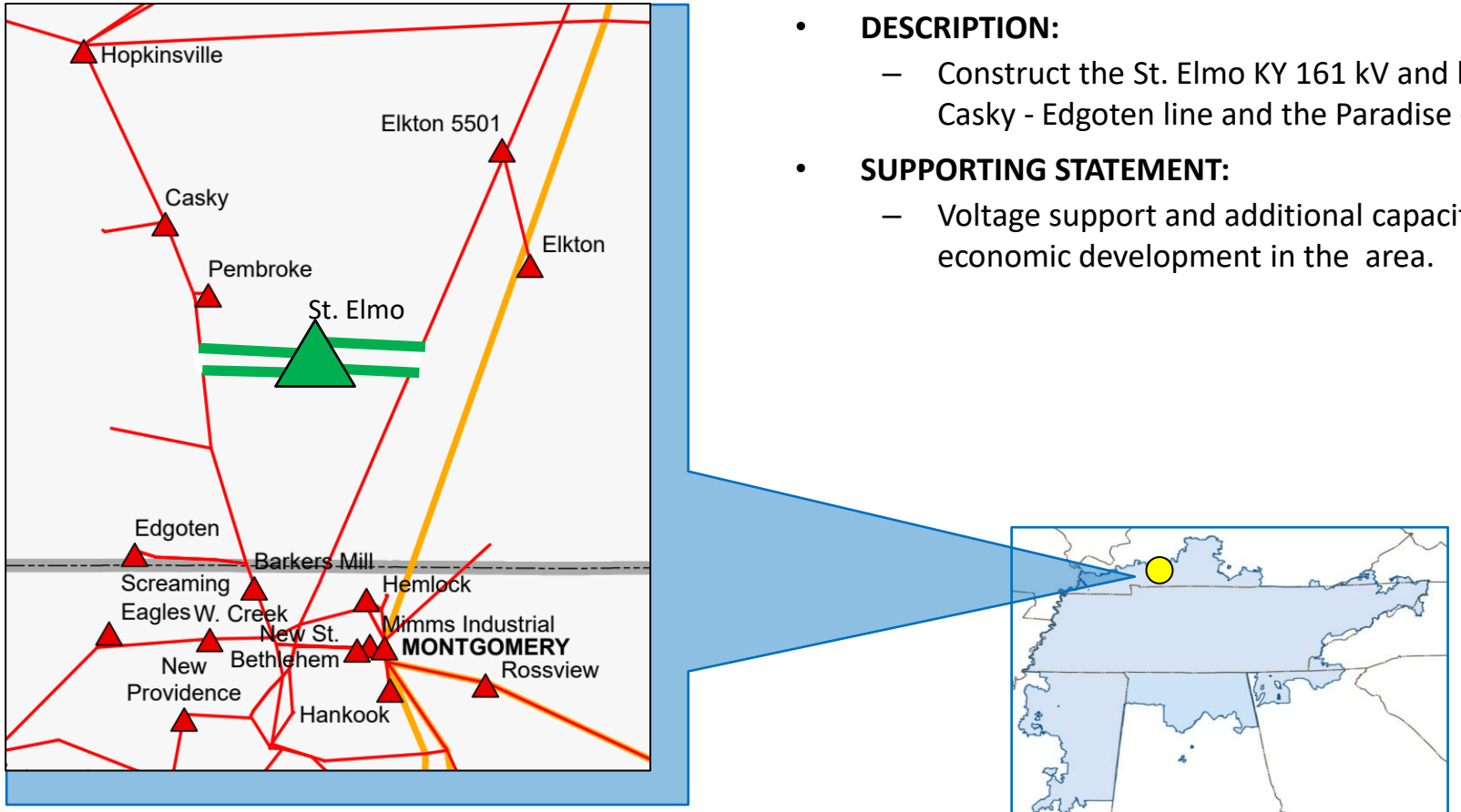
- **DESCRIPTION:**
  - Construct new 500 kV station to interconnect new natural gas fired CC generation. Loop in two nearby 500 kV TLs.
- **SUPPORTING STATEMENT:**
  - Scope is driven by the interconnection of new generation. This is Q483 in TVA's Interconnection Queue which is publicly available on TVA's OASIS.

TVA Balancing Authority Area

TVA – 4

• **2026**

ST. ELMO, KY 161 KV SUBSTATION



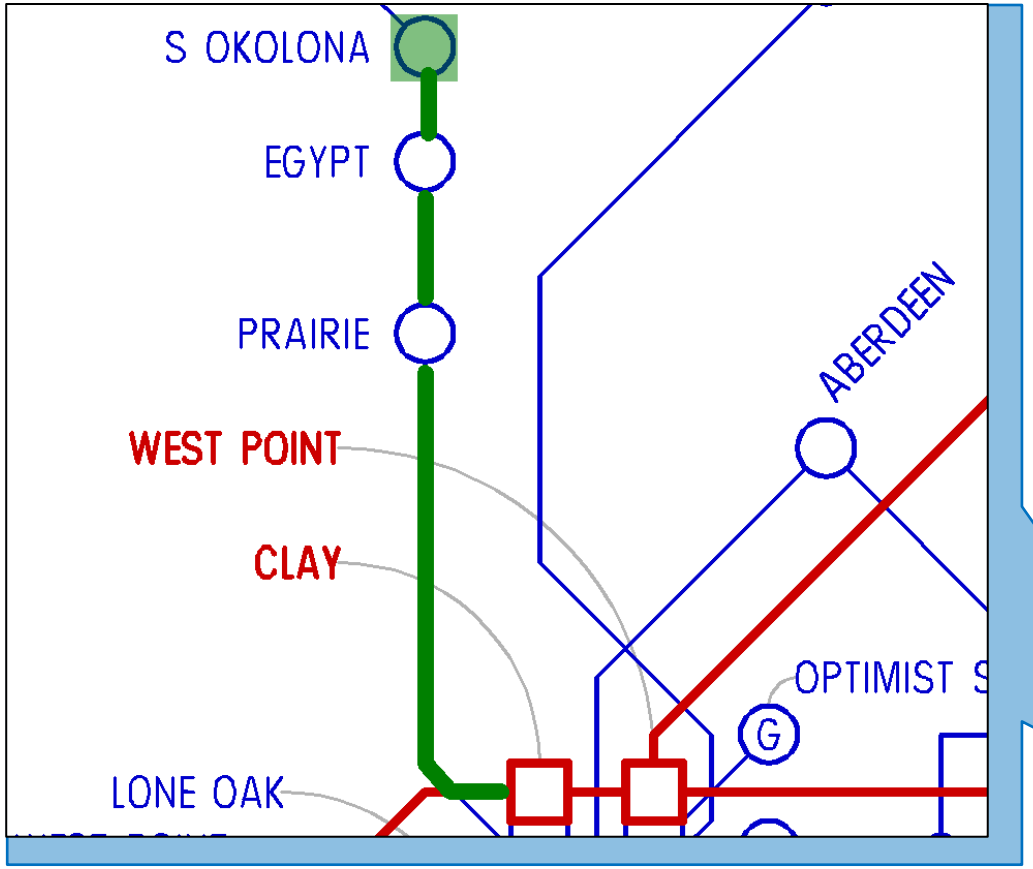
- **DESCRIPTION:**
  - Construct the St. Elmo KY 161 kV and loop in the Casky - Edgoten line and the Paradise - Clarksville line.
- **SUPPORTING STATEMENT:**
  - Voltage support and additional capacity is needed for economic development in the area.

TVA Balancing Authority Area

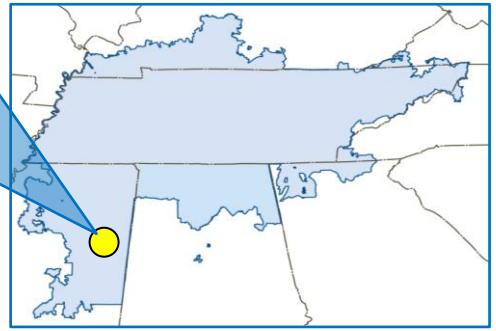
TVA – 5

• **2027**

NEW CALEDONIA GAS



- **DESCRIPTION:**
  - Clay - Prairie 161 kV TL rebuild 11.54 miles and reconductor 0.23 miles. Prairie - Egypt MS rebuild 4.61 miles. Egypt - Okolona reconductor 9.36 miles and bus and jumper replacement at Okolona.
- **SUPPORTING STATEMENT:**
  - New Caledonia CT is adding 520 MW summer (610 MW winter) at the Lowndes 161 kV bus. Plant causes thermal overload on Clay to Okolona line.

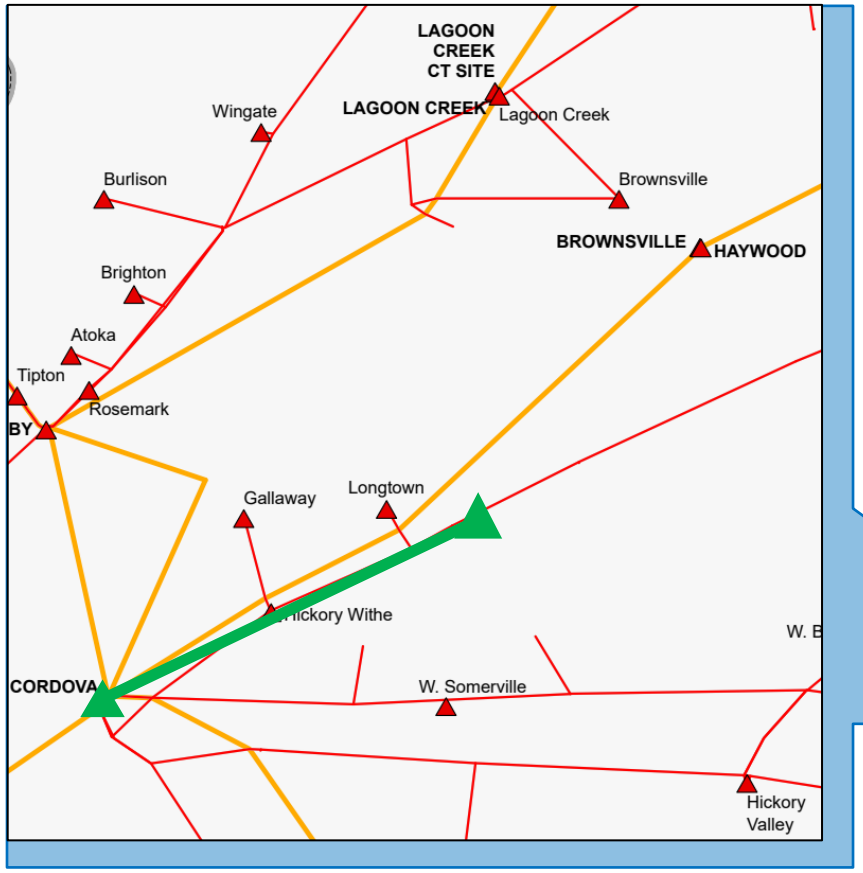


TVA Balancing Authority Area

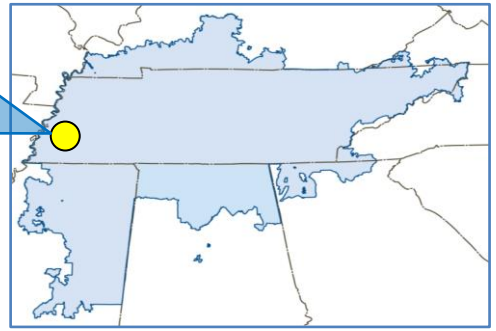
TVA – 6

• **2027**

CORDOVA - YUM YUM TL 161 KV RECONDUCTOR



- **DESCRIPTION:**
  - Reconductor approximately 23.5 miles of the Cordova - Yum Yum 161 kV transmission line section with TS - 1098.6 kcmil Ruddy, sag temp 180°C.
- **SUPPORTING STATEMENT:**
  - Additional thermal capacity is needed for economic development in the Memphis, TN area.

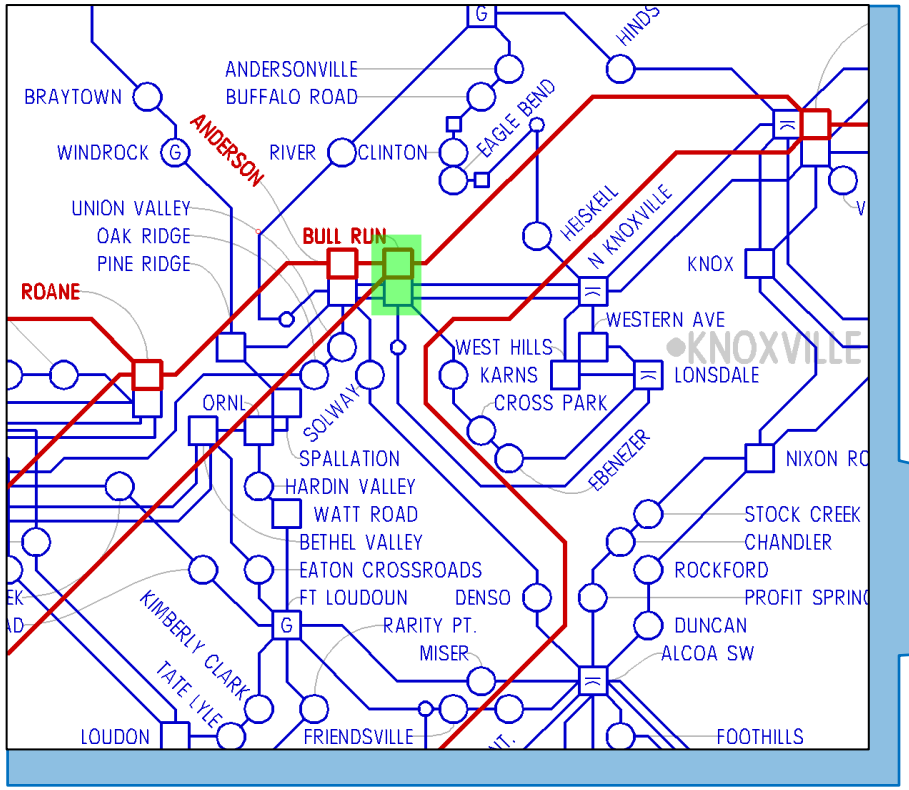


TVA Balancing Authority Area

TVA – 7

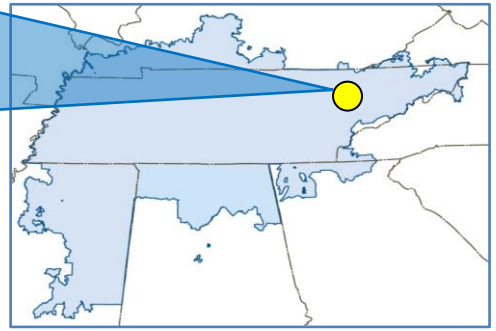
• **2027**

BULL RUN SYNCHRONOUS CONDENSER



- **DESCRIPTION:**
  - TVA to install Breaker, Switches, Relaying and metering to support synchronous condensing units at Bull Run 500 kV.

- **SUPPORTING STATEMENT:**
  - Voltage support and additional capacity is needed for economic development in the area.

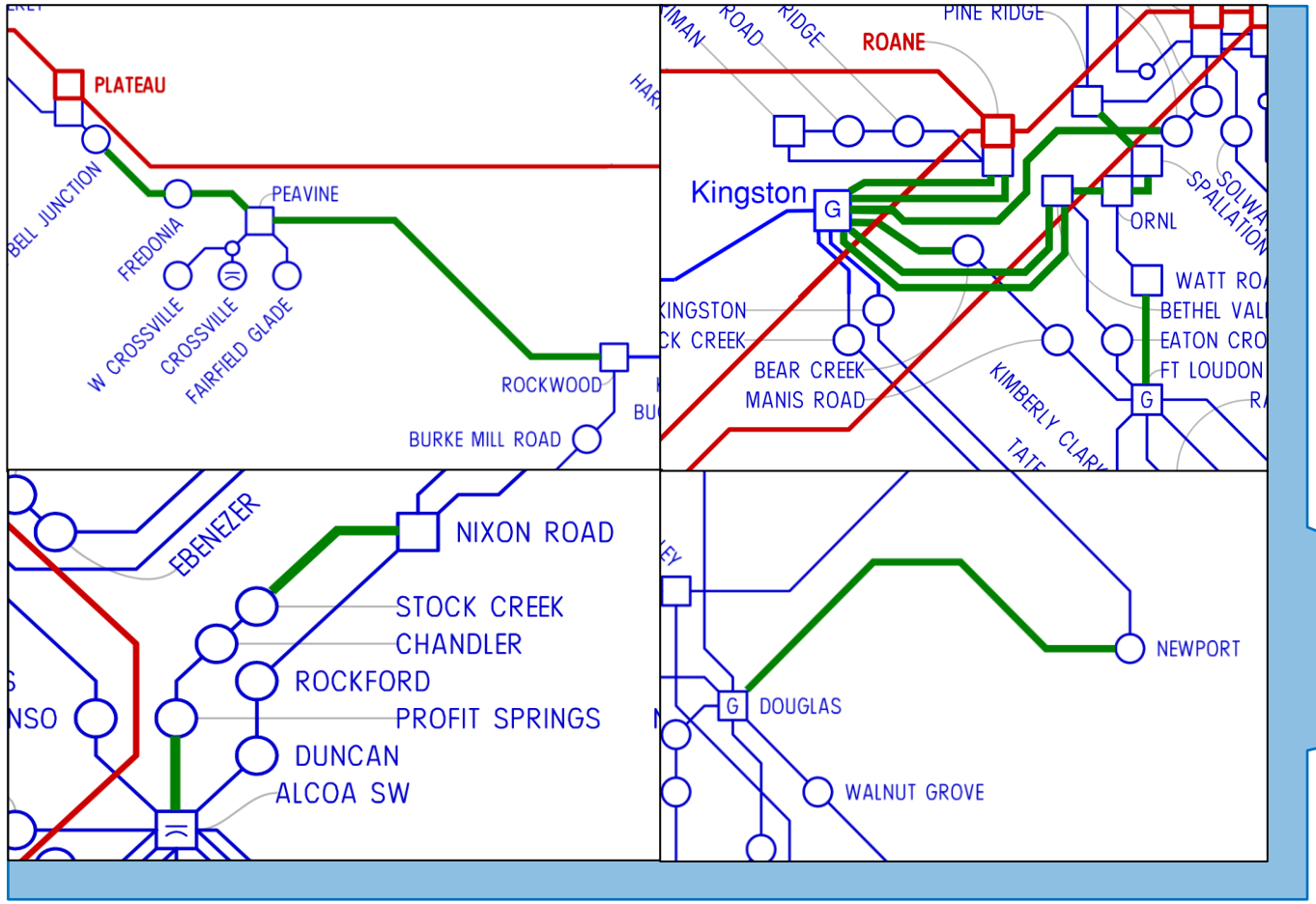


TVA Balancing Authority Area

TVA – 8

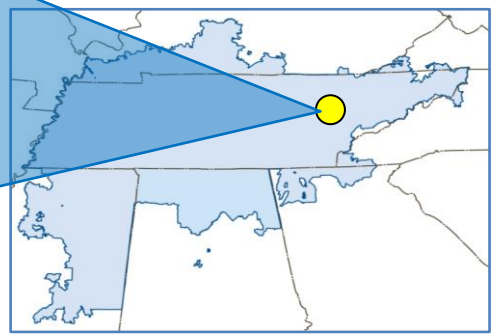
• **2027**

KINGSTON CC & AERODERIVATIVE CT GENERATION INTERCONNECTION



- **DESCRIPTION:**
  - Construct new 161 kV station to interconnect new natural gas fired CC and Aeroderivative generation. Loop in area 161 kV TLs. Upgrade fifteen existing 161 kV TLs to increase the thermal rating of each.

- **SUPPORTING STATEMENT:**
  - Scope is driven by the interconnection of new generation. This is Q489 in TVA's Interconnection Queue which is publicly available on TVA's OASIS.

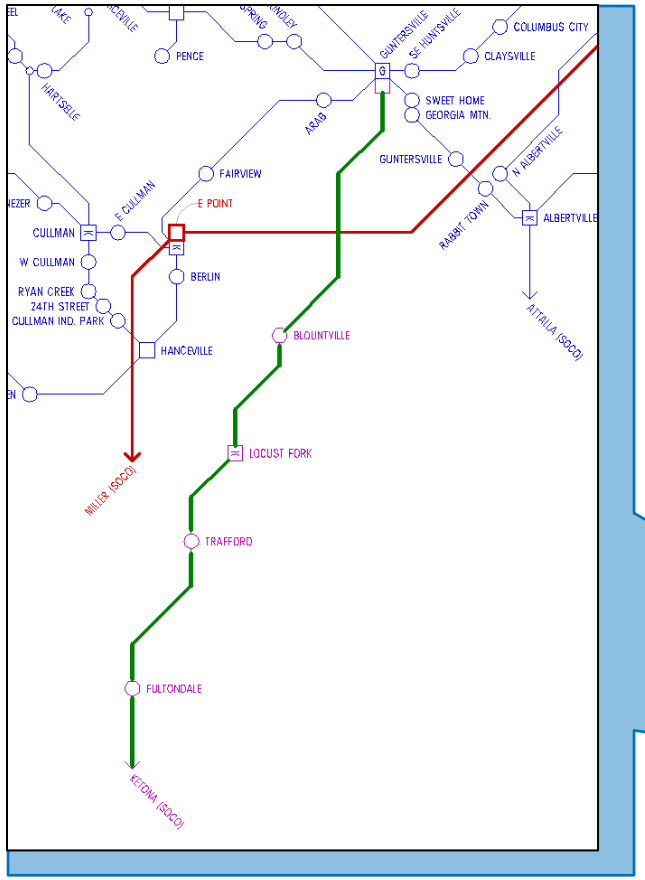


TVA Balancing Authority Area

TVA – 9

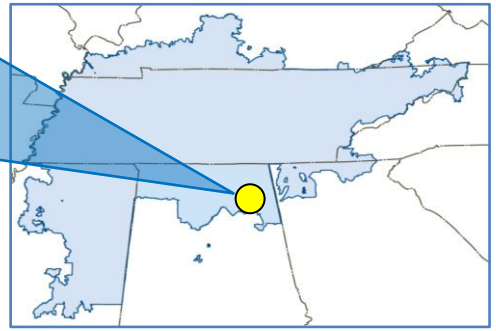
- **2028**

GUNTERSVILLE – KETONA 115 KV TL REBUILD



- **DESCRIPTION:**
  - Rebuild portions of the TVA Guntersville Hydro - AL Power Ketona 115 KV transmission line with single circuit 954 ACSR at 100°C.

- **SUPPORTING STATEMENT:**
  - Additional thermal capacity is needed in area under contingency.

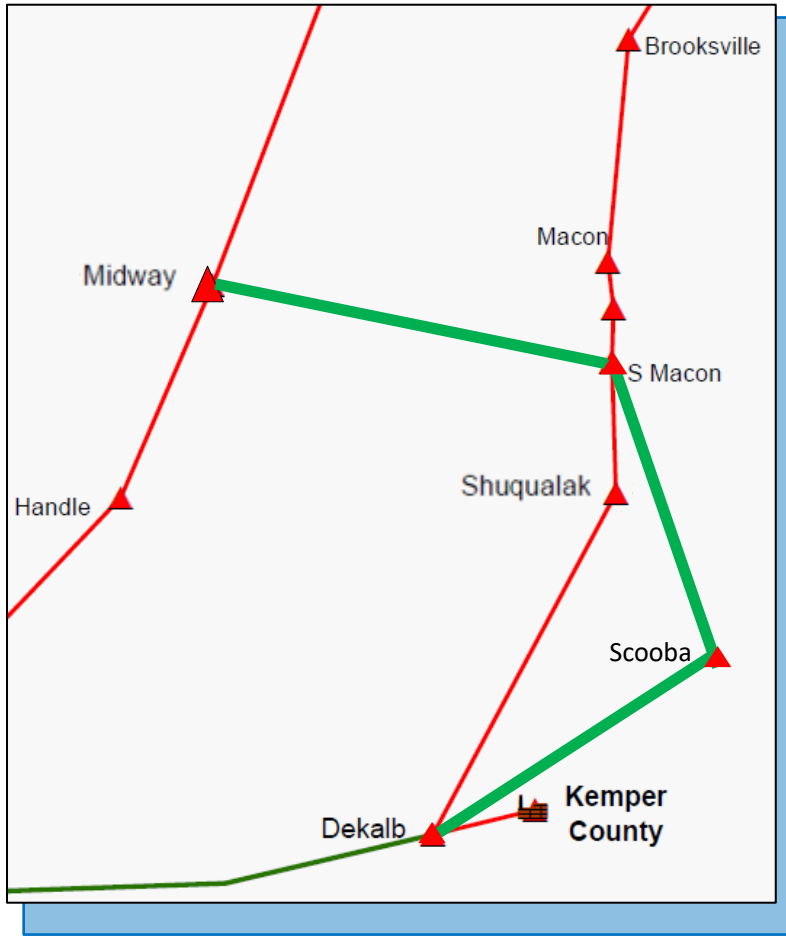


TVA Balancing Authority Area

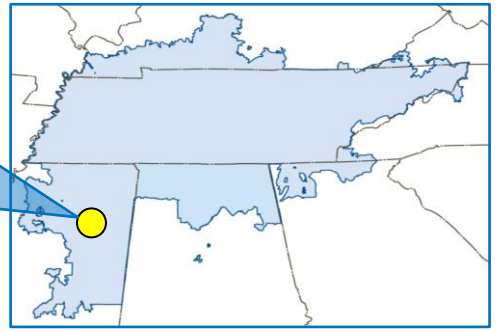
TVA – 10

- **2028**

MIDWAY - S MACON - DEKALB 161 KV TRANSMISSION LINE



- **DESCRIPTION:**
  - Construct approximately 20 miles new 161 kV transmission line from Midway to S Macon and approximately 31.3 miles new 161 kV transmission line from S Macon to Dekalb via Scooba.
- **SUPPORTING STATEMENT:**
  - Voltage support is needed in TVA's Mississippi area under contingency.

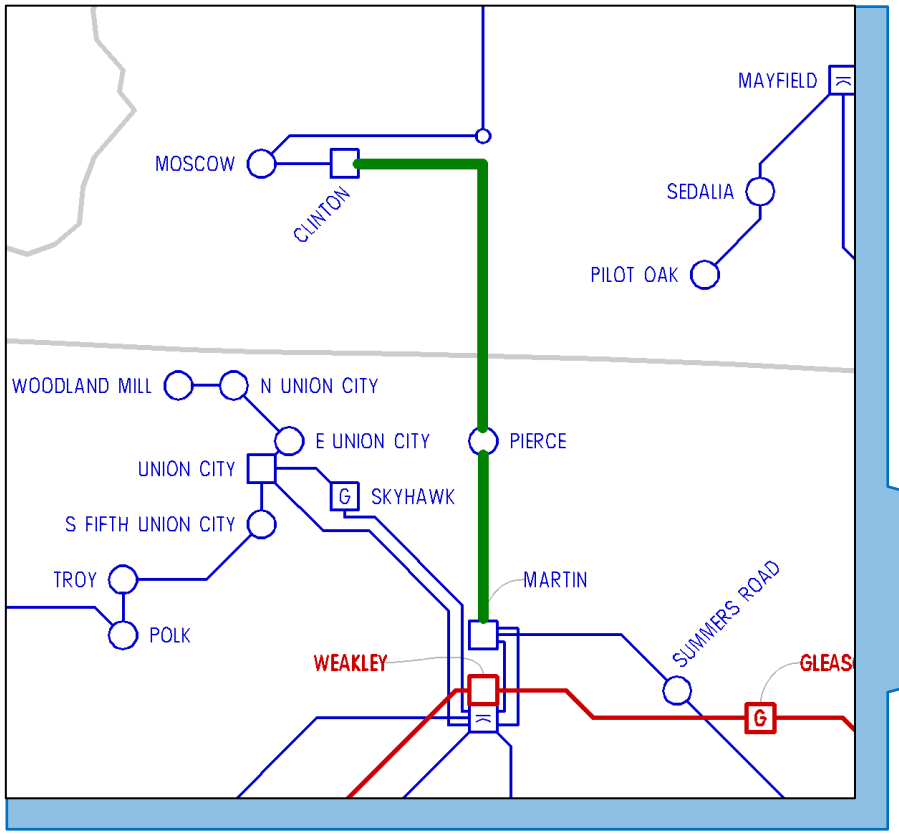


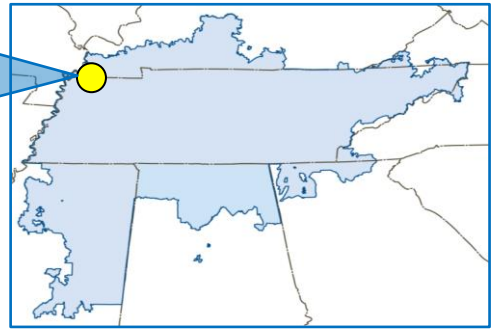
TVA Balancing Authority Area

TVA – 11

• **2028**

CLINTON - MARTIN 161 KV RECONDUCTOR





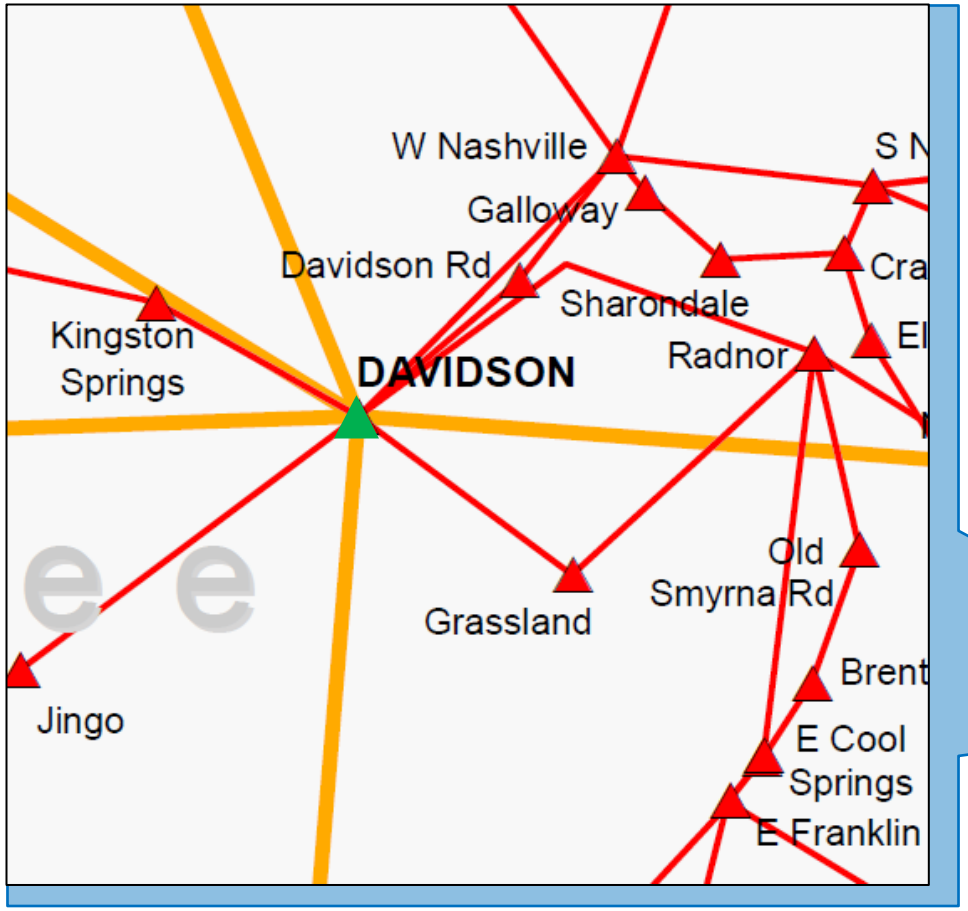
- **DESCRIPTION:**
  - TVA to reconductor Clinton-Martin 161 kV TL.
- **SUPPORTING STATEMENT:**
  - Clinton-Martin was originally constructed in 1952. The original conductor is near end of life. Planning has identified a potential future overload.

TVA Balancing Authority Area

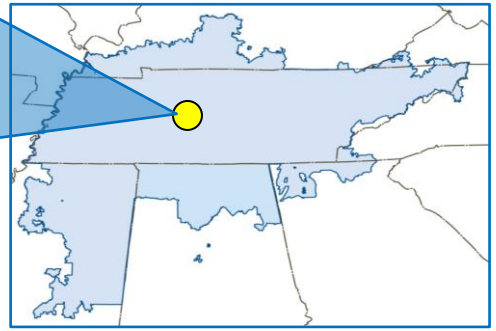
TVA – 12

• **2028**

DAVIDSON 500 KV SWITCH HOUSE



- **DESCRIPTION:**
  - Construct a new 500 kV switch house with all new assets and replace aging assets in the Davidson Yard.
- **SUPPORTING STATEMENT:**
  - Additional thermal capacity and voltage support is needed in the Davidson County, TN area under contingency.

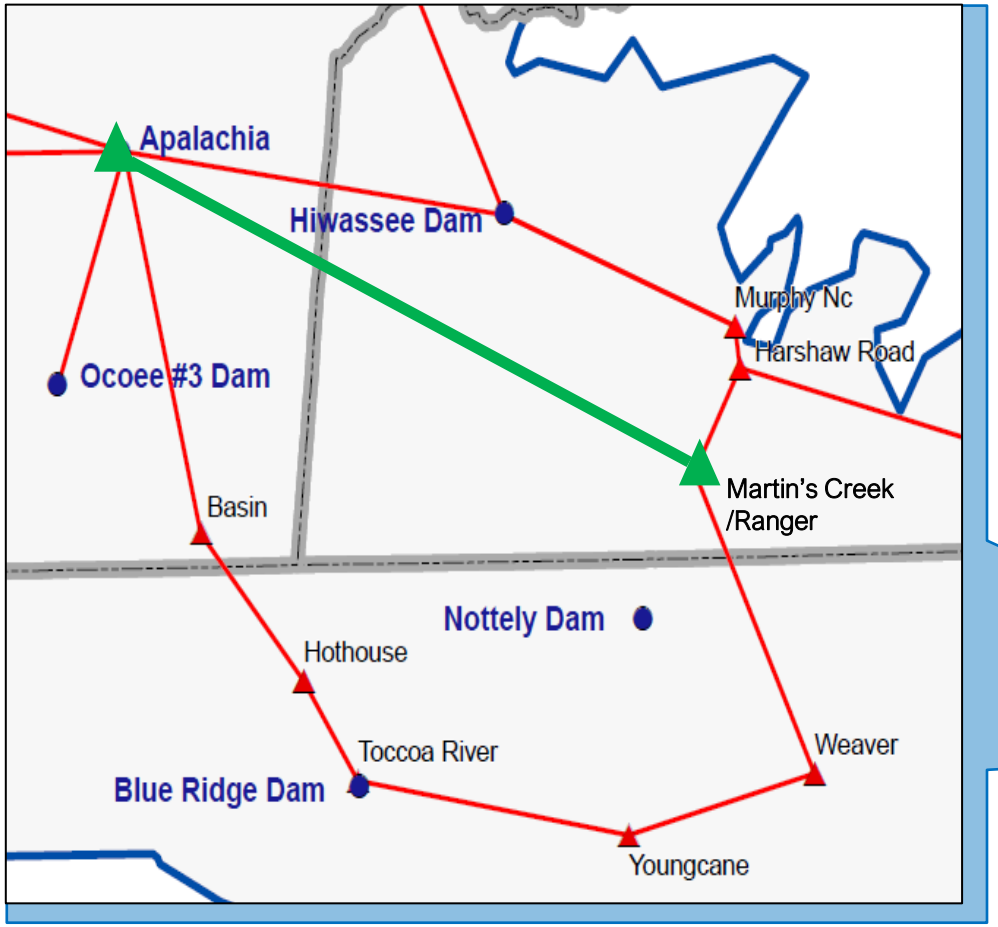


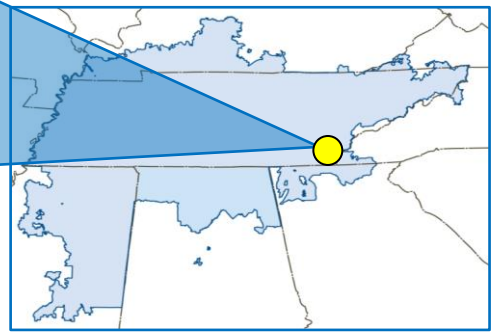
TVA Balancing Authority Area

TVA – 13

• **2029**

APALACHIA AREA IMPROVEMENT PLAN





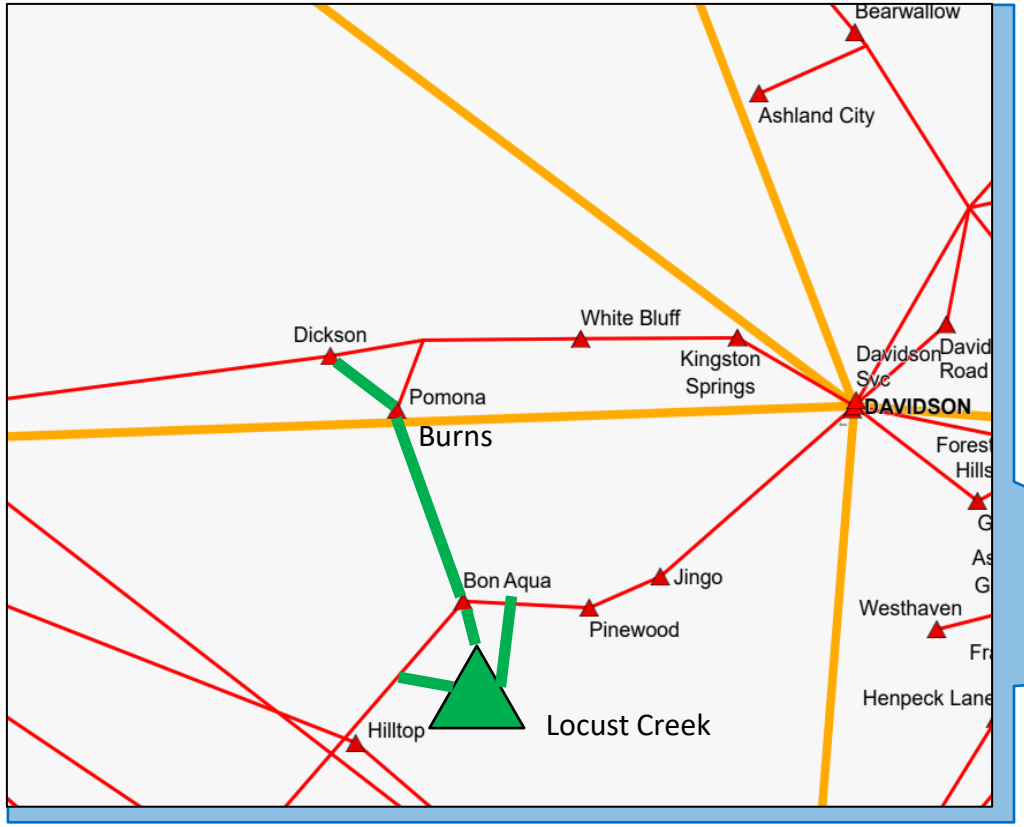
- **DESCRIPTION:**
  - Construct Martin's Creek 161 kV substation. Construct approximately 25 miles of new TL from Apalachia 161 kV substation to Ranger 161 kV switching station.
- **SUPPORTING STATEMENT:**
  - The Apalachia - Basin 161 kV transmission line overloads under contingency.

TVA Balancing Authority Area

TVA – 14

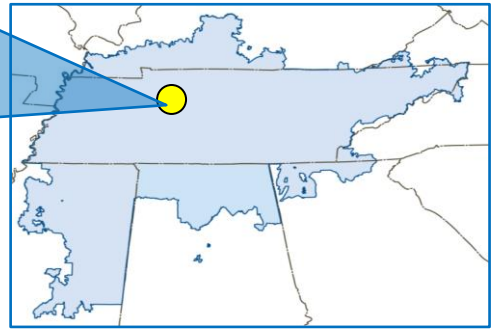
• **2029**

DICKSON 161 KV AREA IMPROVEMENT



- **DESCRIPTION:**
  - Construct new Locust Creek 161 kV substation. Construct approximately 9.5 miles of new 161 kV transmission line from Bon Aqua to Burns. Rebuild approximately 8 miles of 161 kV transmission line between Dickson and Ponoma tap. Build a new switch house at Dickson.

- **SUPPORTING STATEMENT:**
  - Voltage support is needed in the Dickson, TN area under contingency.

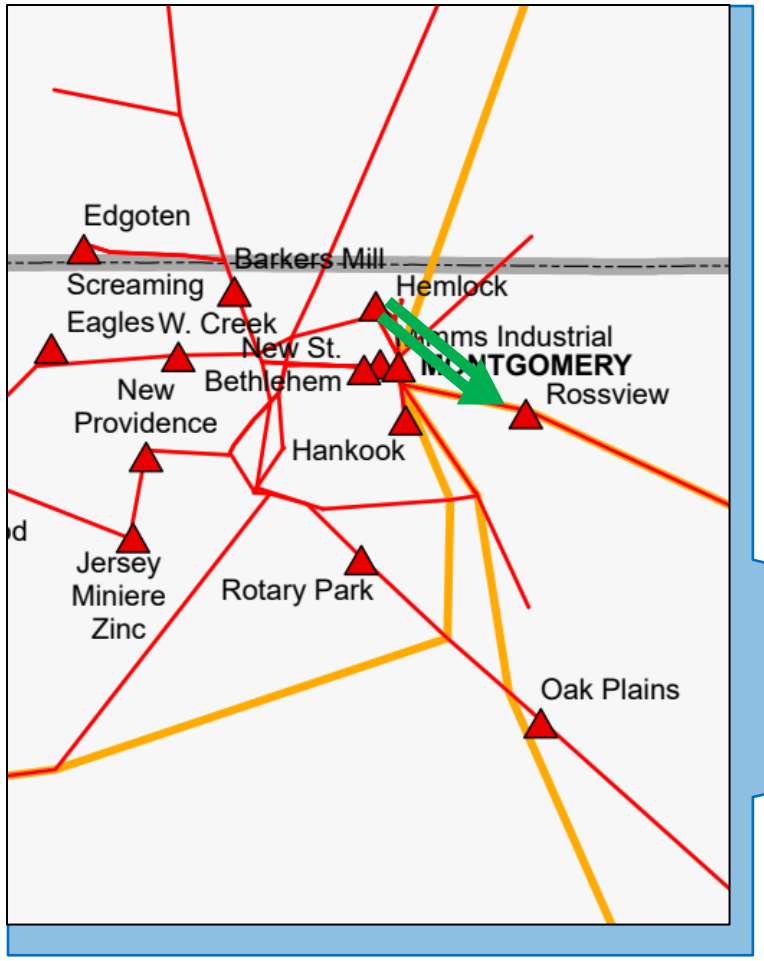


TVA Balancing Authority Area

TVA – 15

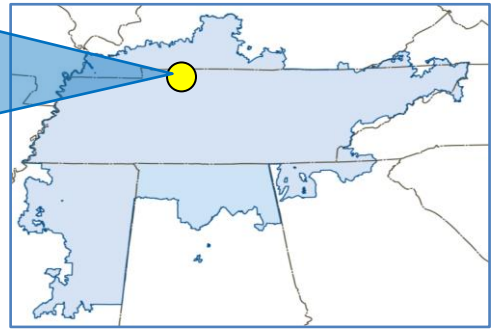
• **2030**

HAMPTON 500 KV STATION



- **DESCRIPTION:**
  - Construct new 500/161 kV Hampton station. Loop in existing Montgomery-Wilson 500 kV line (approximately 0.1 mile from station to loop point). Loop in existing double circuit 161 kV from Montgomery to Hemlock.

- **SUPPORTING STATEMENT:**
  - Additional thermal capacity and voltage support is needed in the Montgomery County, TN & Todd County, KY area under contingency.

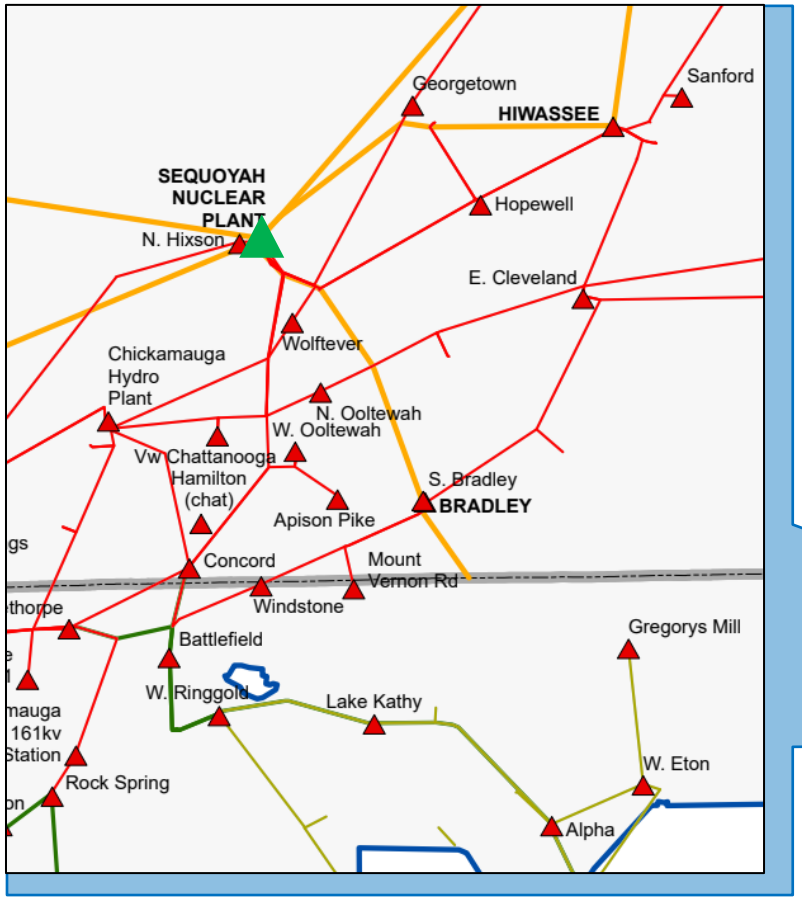


TVA Balancing Authority Area

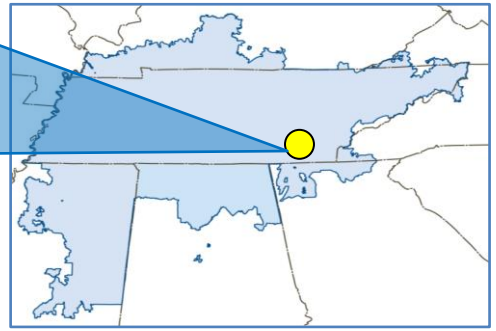
TVA – 16

• **2031**

SEQUOYAH 500 KV SWITCH HOUSE



- **DESCRIPTION:**
  - Construct a new 500 kV switch house with new assets including breakers at the Sequoyah 500 kV substation
- **SUPPORTING STATEMENT:**
  - New revision of the TPL expands the single point of failure which results in violations at Sequoyah.



SERTP

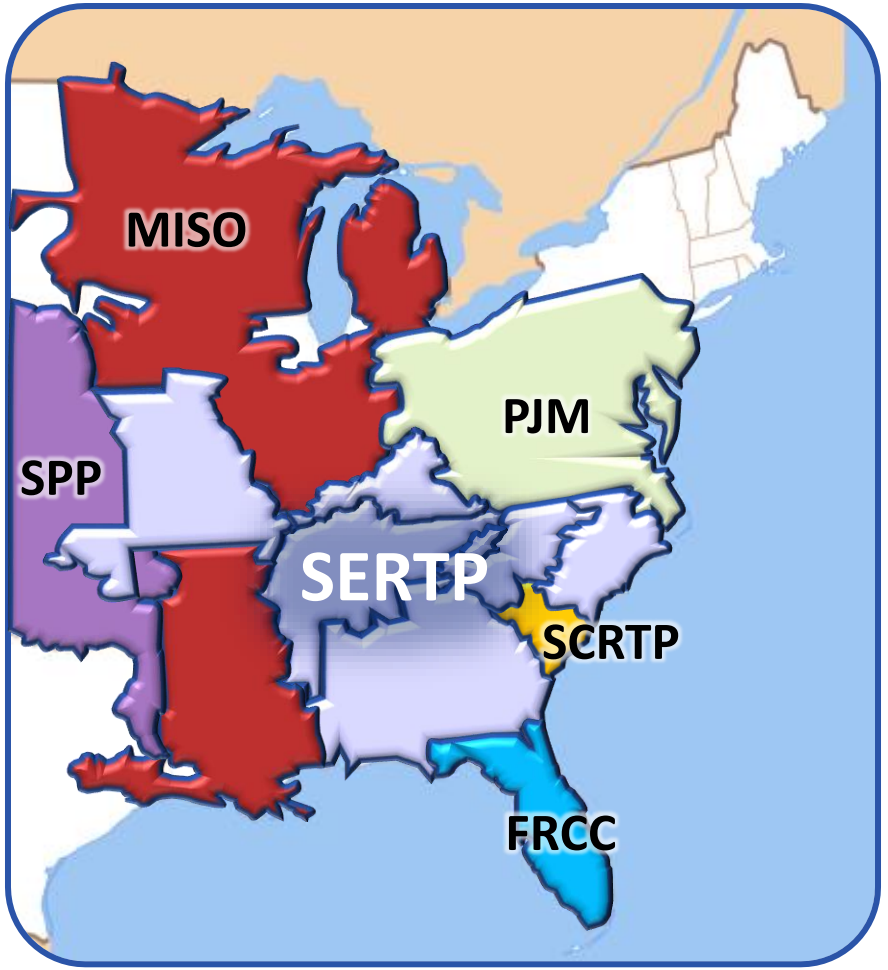
Miscellaneous Updates

Regional Analyses Update

- SERTP Sponsors are currently developing a list of potential alternative transmission projects to evaluate during the 2025 planning process

- These projects are generally developed by identifying areas with multiple forecasted transmission projects which could be potentially displaced by a regional transmission project

Interregional Update



Interregional Update

- Latest interregional coordination procedures are posted on the SERTP website.
- Meetings will occur in the third quarter to facilitate the exchange of power-flow models and transmission expansion plans.

Next Meeting Activities

- **2025 SERTP 3rd Quarter Meeting** – *Second RPSG Meeting*
  - **Location: Web Conference**
  - **Date: September 23, 2025**
  - **Purpose:**
    - Discuss Preliminary Economic Planning Study Results
    - Discuss Previous Stakeholder Input on Transmission Expansion Plans

Questions?

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