SERTP – 4th Quarter Meeting

Annual Transmission Planning Summit & Assumptions Input Meeting

December 10th - 11th, 2024

MEAG Headquarters

Atlanta, GA

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.

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.
- SERTP Website Address:
  - www.southeasternrtp.com

Agenda

- **Ten (10) Year Regional Transmission Plan**
  - Planning Horizon 2025-2034
- **2025 Preliminary Modeling Input Assumptions**
  - Planning Horizon 2026-2035
- **Economic Planning Studies**
  - Final Results
- **SERTP Regional Transmission Analyses**
- **Miscellaneous Updates**
- **Upcoming 2025 SERTP Process**

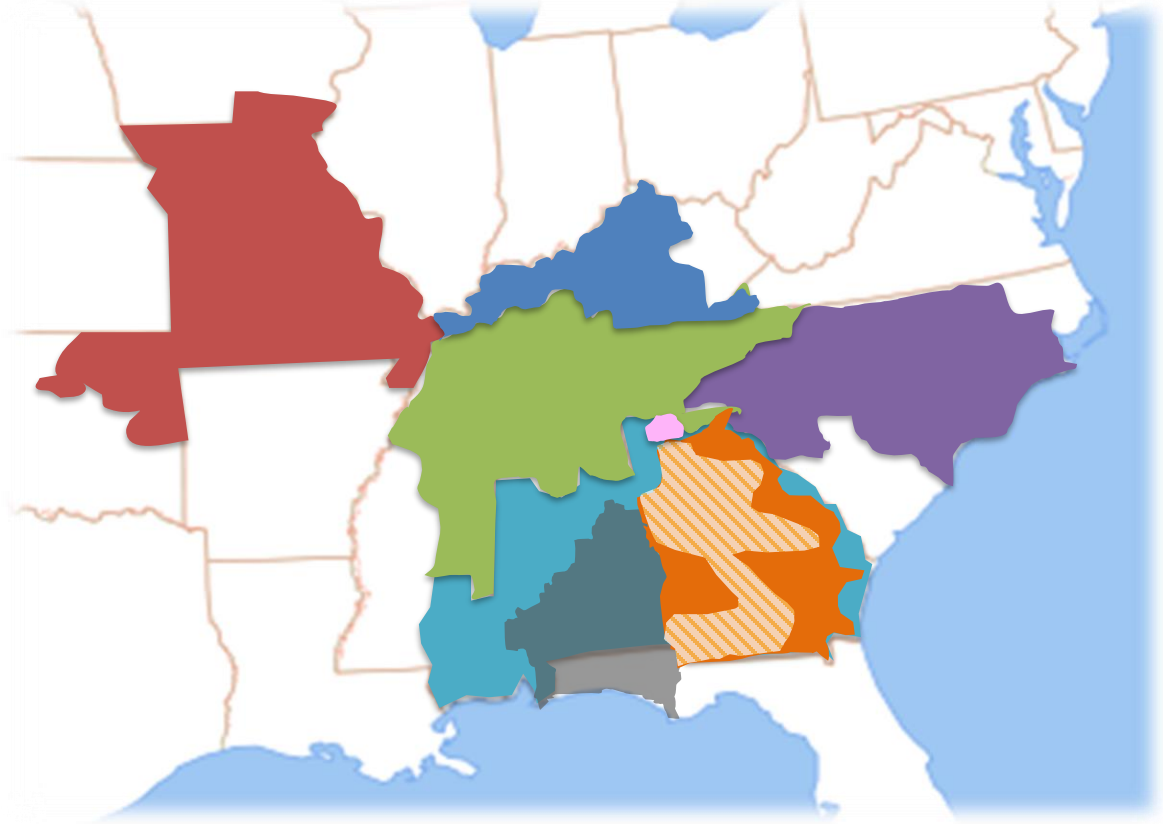
SERTP

Regional Modeling Assumptions

SERTP

Regional Transmission Plan

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)

10 YEAR TRANSMISSION EXPANSION PLANS :

AECI

Duke Carolinas

Duke Progress

LG&E/KU

SBAA

TVA

SERTP

Regional Transmission Expansion Plan Process

Southeastern Regional TRANSMISSION PLANNING

2024 SERTP

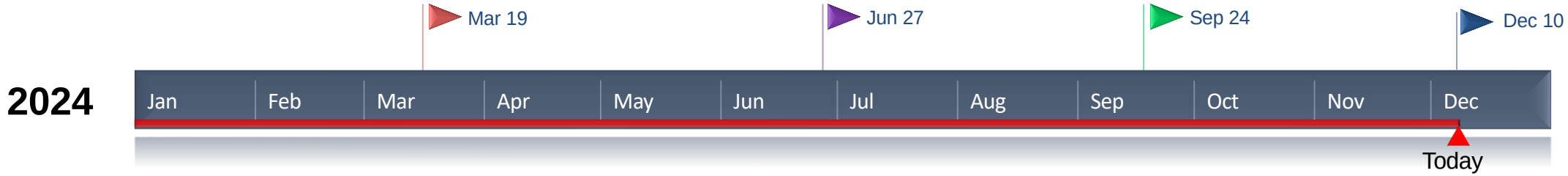
10 Year SERTP Regional Transmission Expansion Plan Process

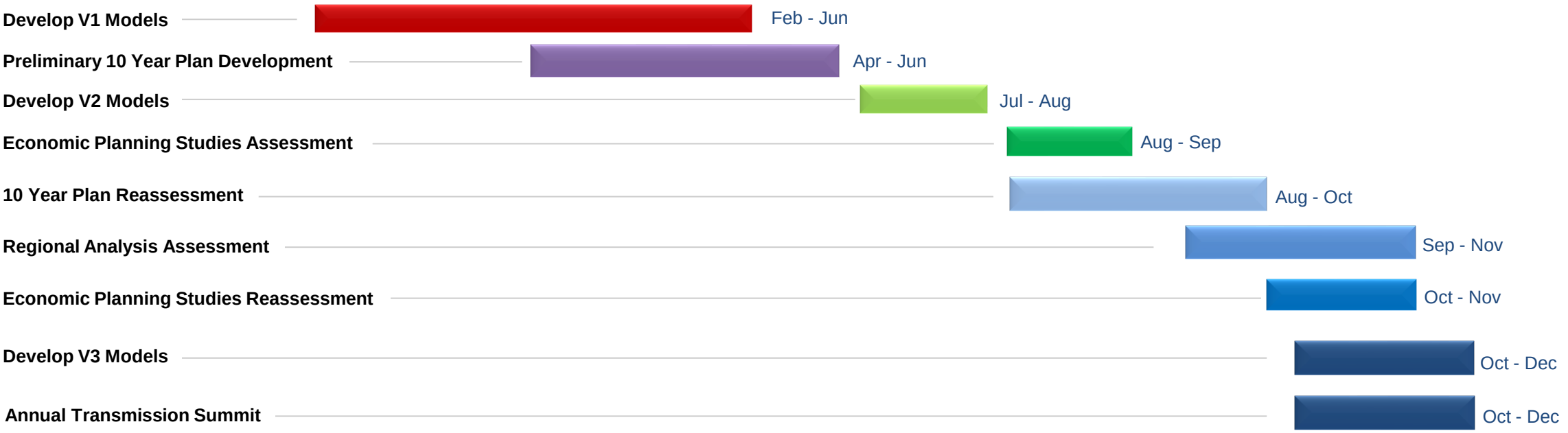
1st Quarter Meeting
- RPSG and Interactive Training

2nd Quarter Meeting
- Preliminary Expansion Plans

3rd Quarter Meeting
- Preliminary Economic Studies

4th Quarter Meeting
- Annual Transmission Summit

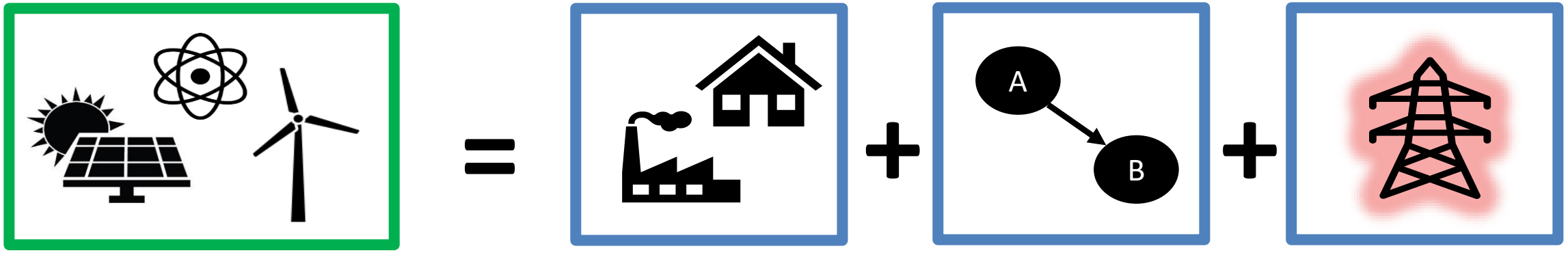




SERTP

Regional Model Assumptions

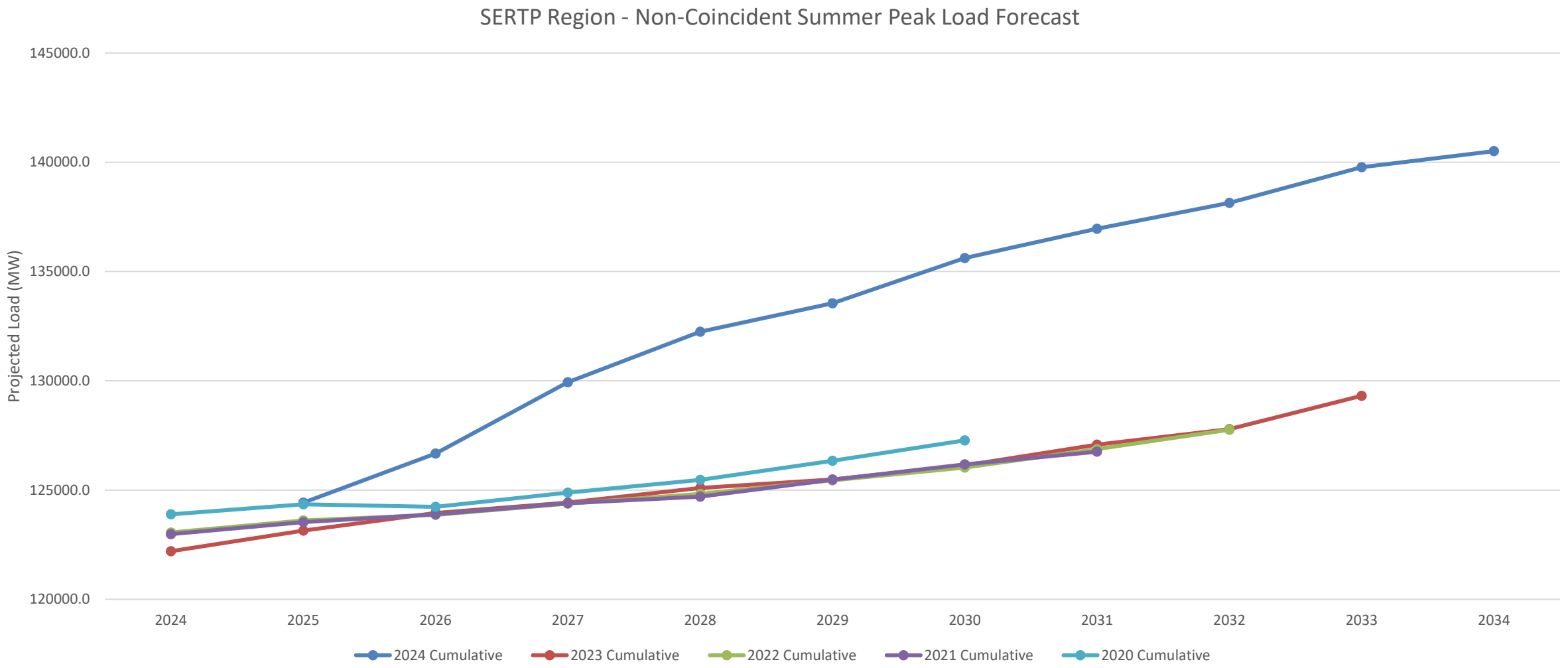
Regional Model Assumptions



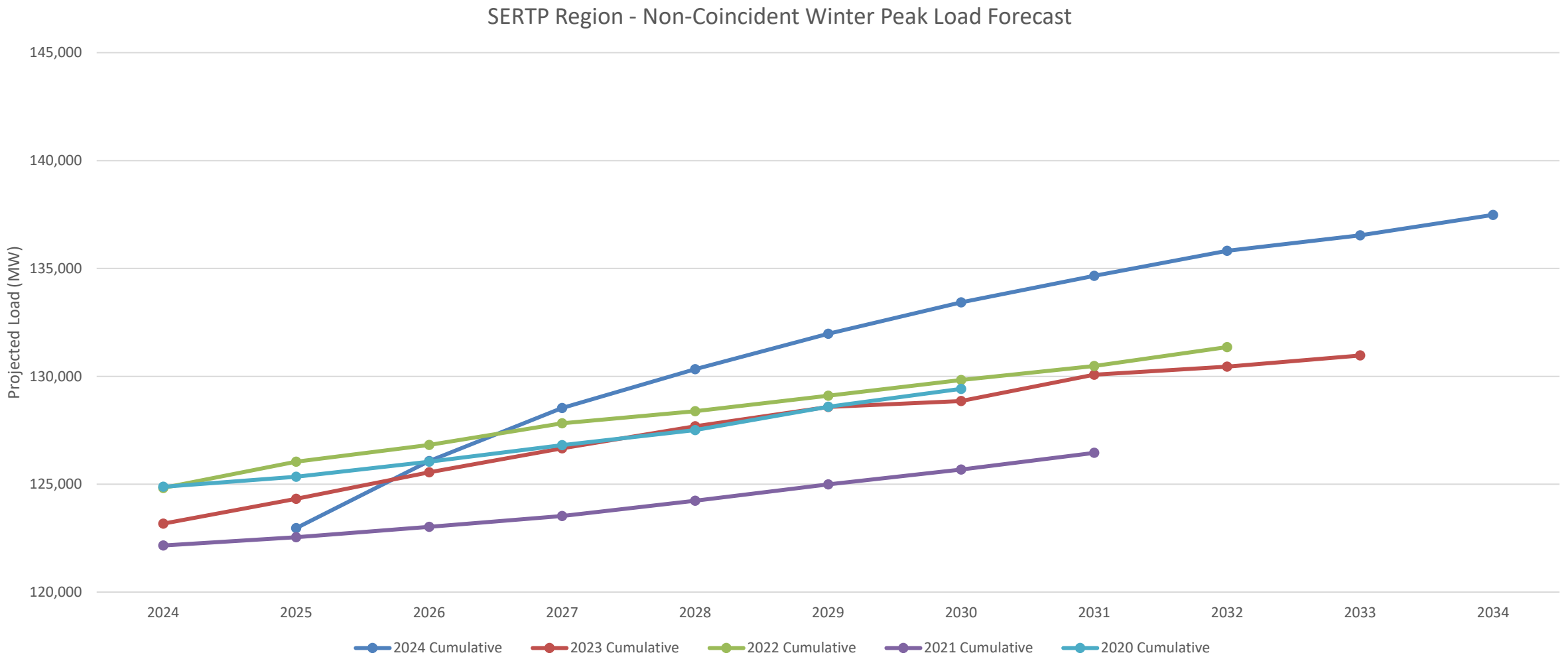
Generation = Load + Interchange + Losses

- 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 of the above

SERTP Cumulative Summer Peak Load Forecast



SERTP Cumulative Winter Peak Load Forecast



SERTP

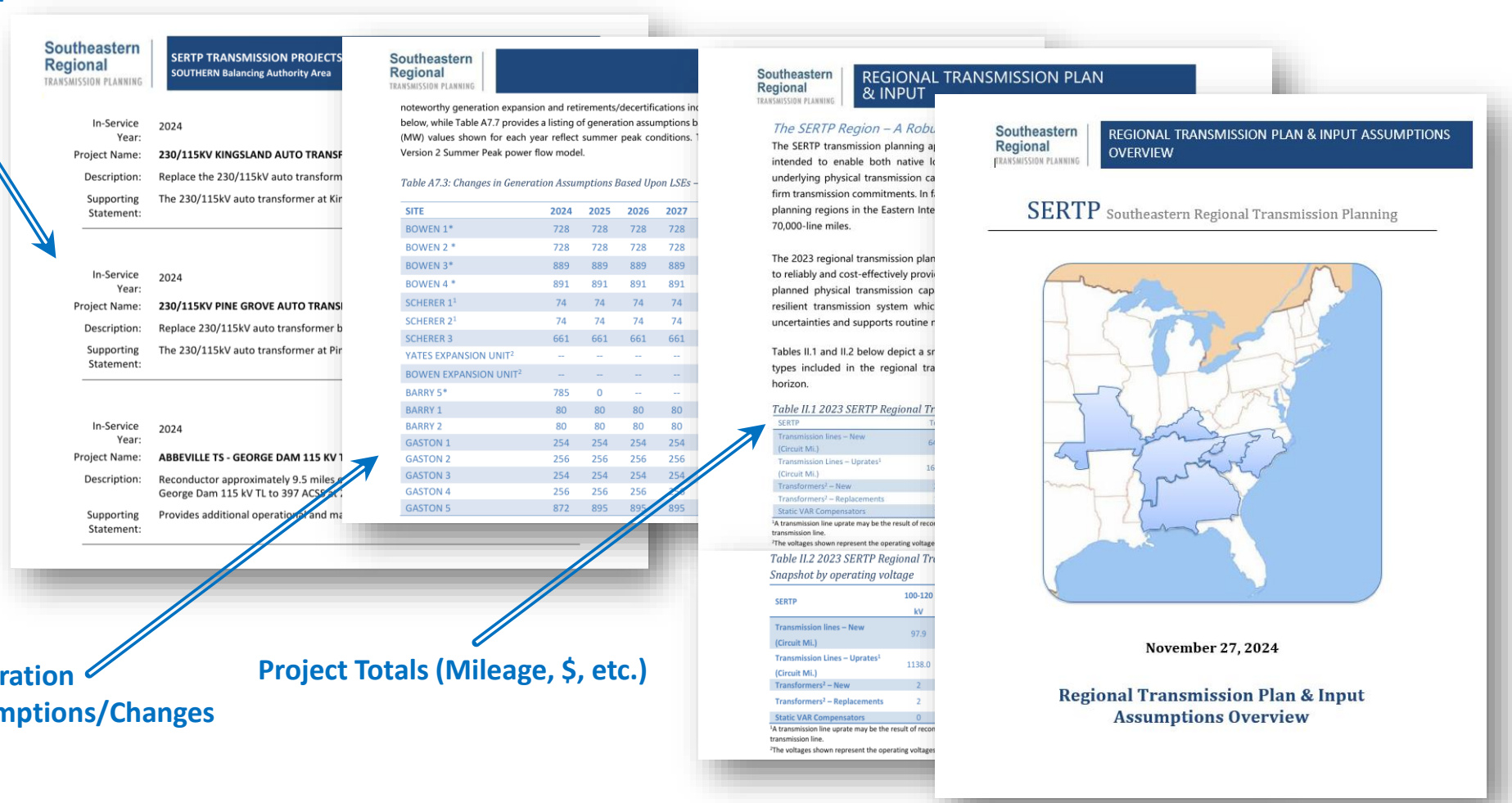
Regional Transmission Expansion Plans

Regional Transmission Expansion Plan

The projects described in this presentation represent the regional 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.

Regional Transmission Expansion Plan

Project Descriptions and Drivers



Generation Assumptions/Changes

Project Totals (Mileage, $, etc.)

Criteria For Projects in Presentation

- **For the full list of projects, the 2024 Expansion Plan Report is posted on the SERTP website**
  - Report
- **Criteria for projects included in today's presentation:**
  - Tie lines: All projects
  - 300kV and above: All projects
  - 161kV-300kV: New BES stations and Line projects ~20 miles or longer

Regional Transmission Expansion Plan – Advanced Transmission Technology

Advanced Transmission Technology	100kV-200kV	200kV-300kV	300kV-500kV	Total
Advance Conductor (mi.)	139	14	-	153
Static Compensator	-	2	-	2
Power Flow Control Device	-	2	-	2

AECI Balancing Authority Area

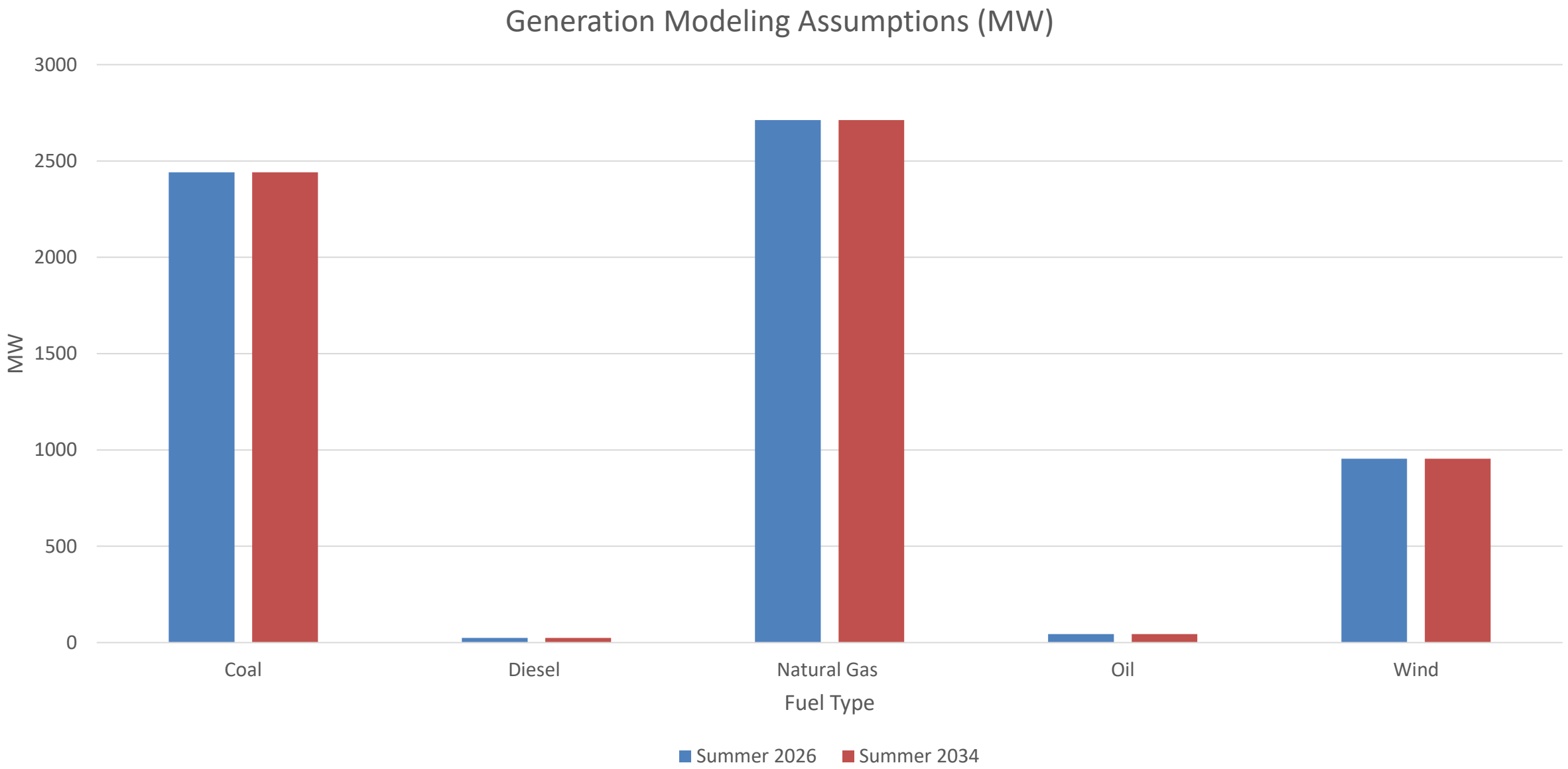
AECI Balancing Authority Area

2024 Generation Assumptions

***** AECI has no known generation changes throughout the ten-year planning horizon for the 2024 SERTP Process.

Southeastern Regional TRANSMISSION PLANNING

AECI Generation Summary



AECI Balancing Authority Area

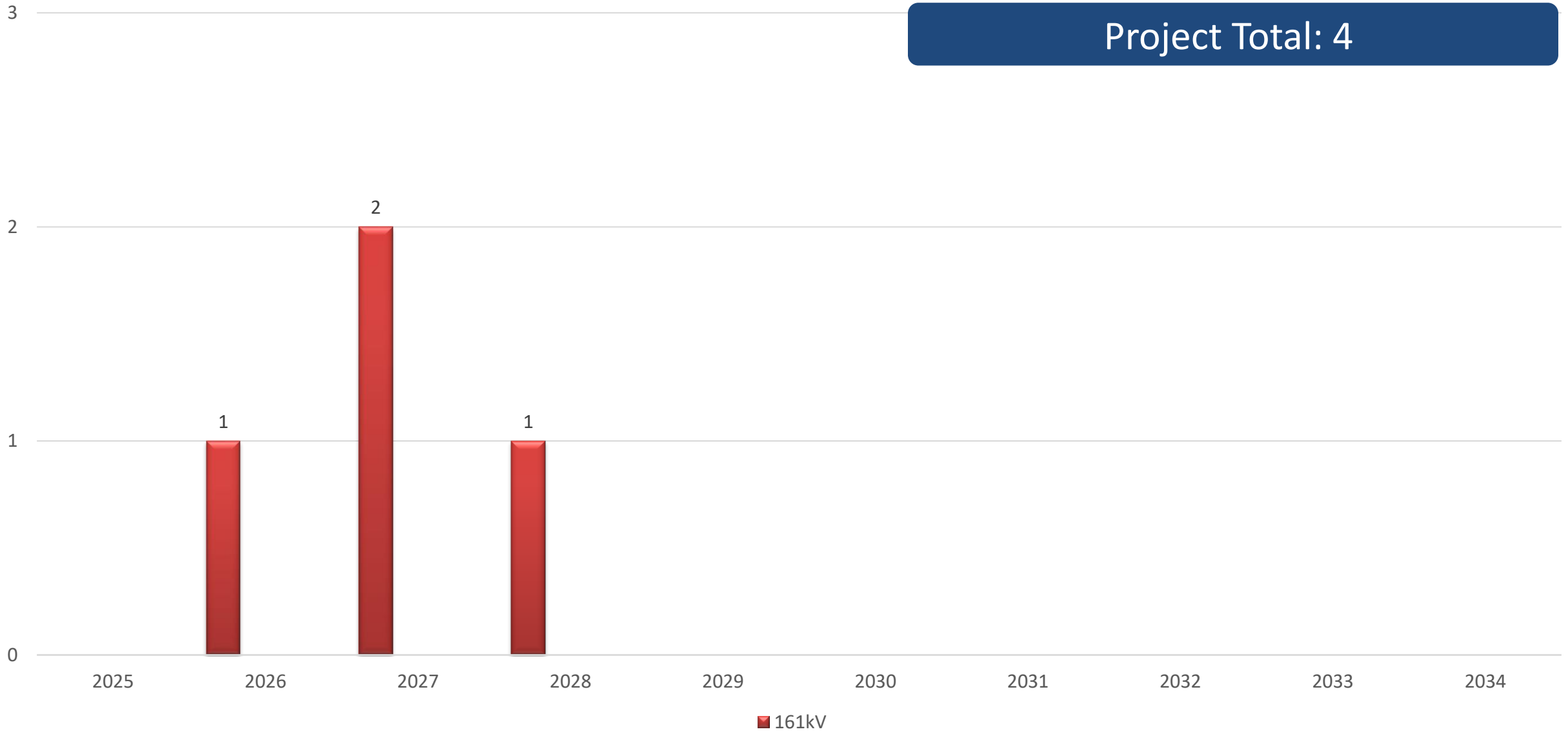
AECI Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

AECI Project Summary

Project Total: 4

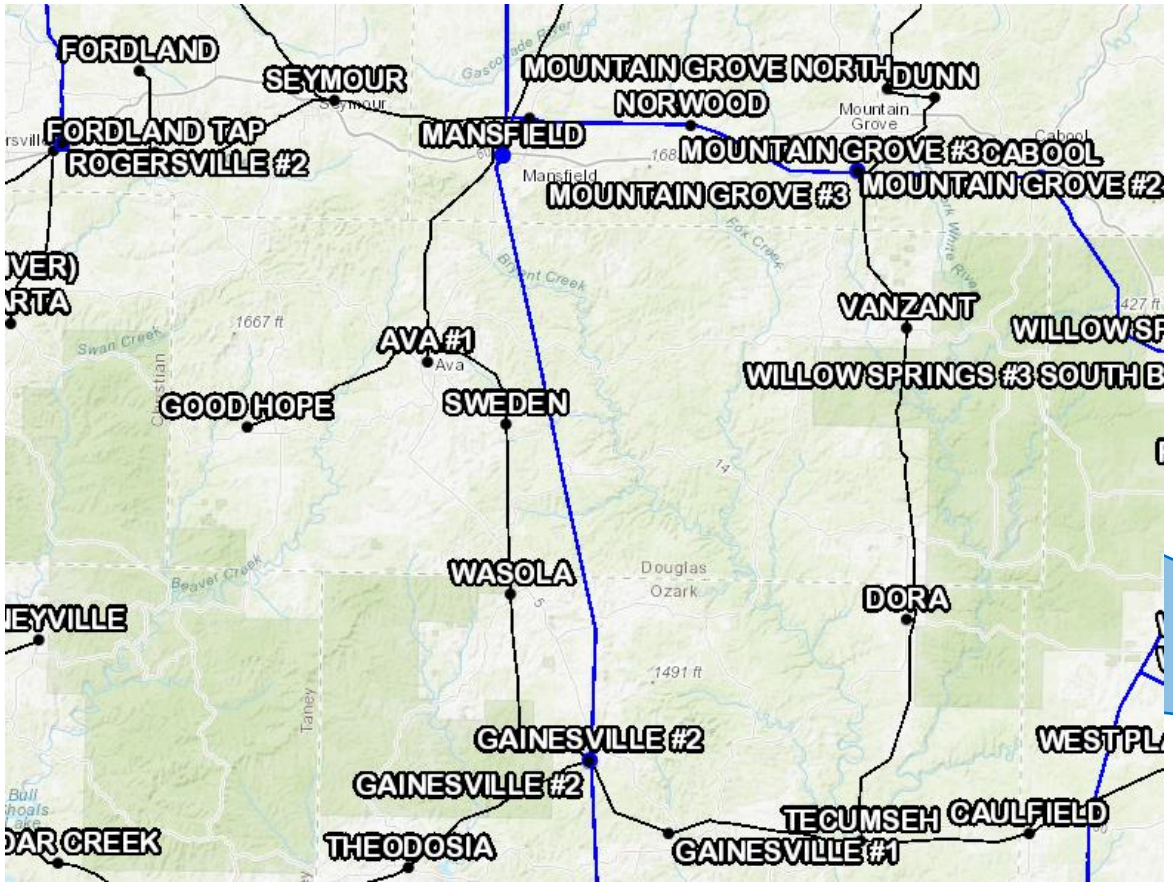


AECI Balancing Authority Area

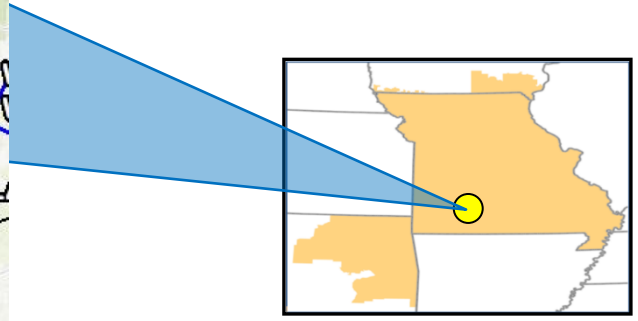
AECI – 1

- **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 100C
- **SUPPORTING STATEMENT:**
  - The Mansfield – Gainesville – Bull Shoals 161 kV transmission segment overloads under contingency.

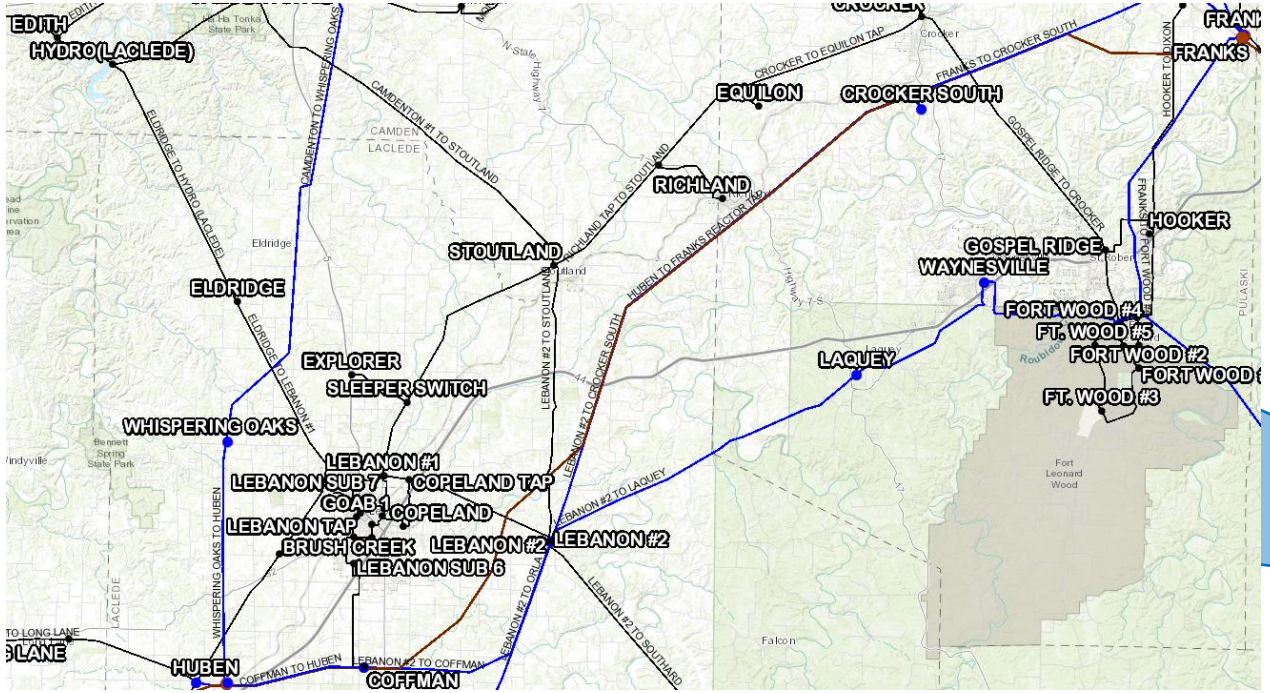


AECI Balancing Authority Area

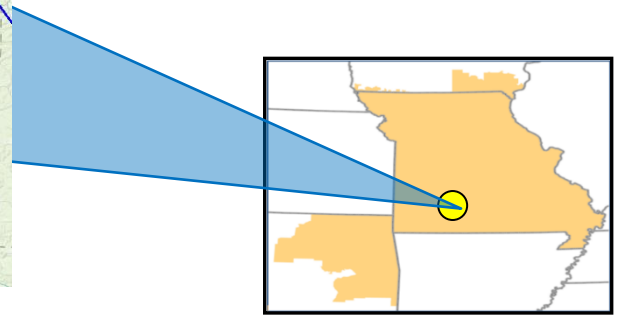
AECI – 2

- **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 100C
- **SUPPORTING STATEMENT:**
  - The Crocker South – Lebanon 161 kV Transmission Line overloads under contingency



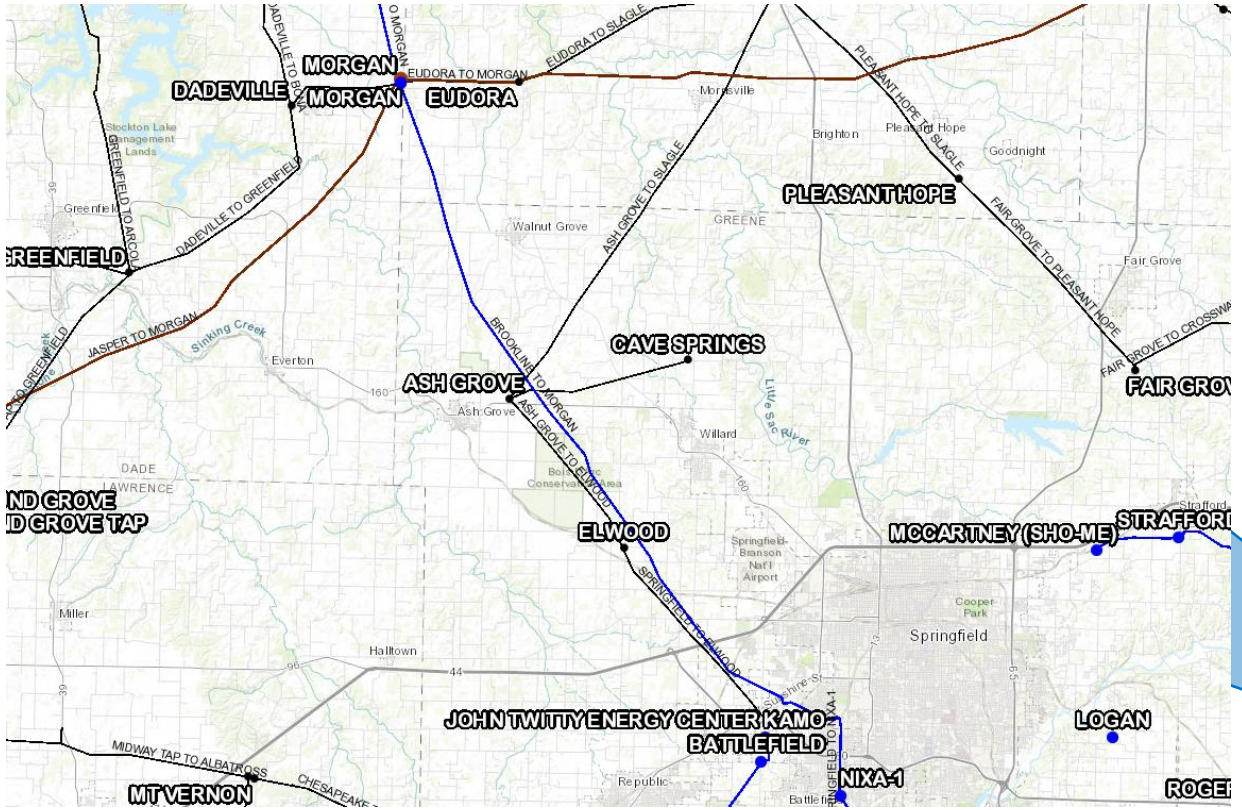
Southeastern Regional TRANSMISSION PLANNING

AECI Balancing Authority Area

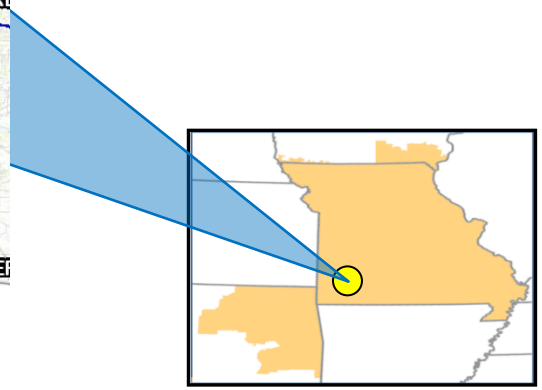
AECI – 3

- **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.



AECI Balancing Authority Area

AECI Balancing Authority Area

Preliminary 2025 Generation Assumptions

* AECI has no known generation changes throughout the ten-year planning horizon for the 2025 SERTP Process.

DEC Balancing Authority Area

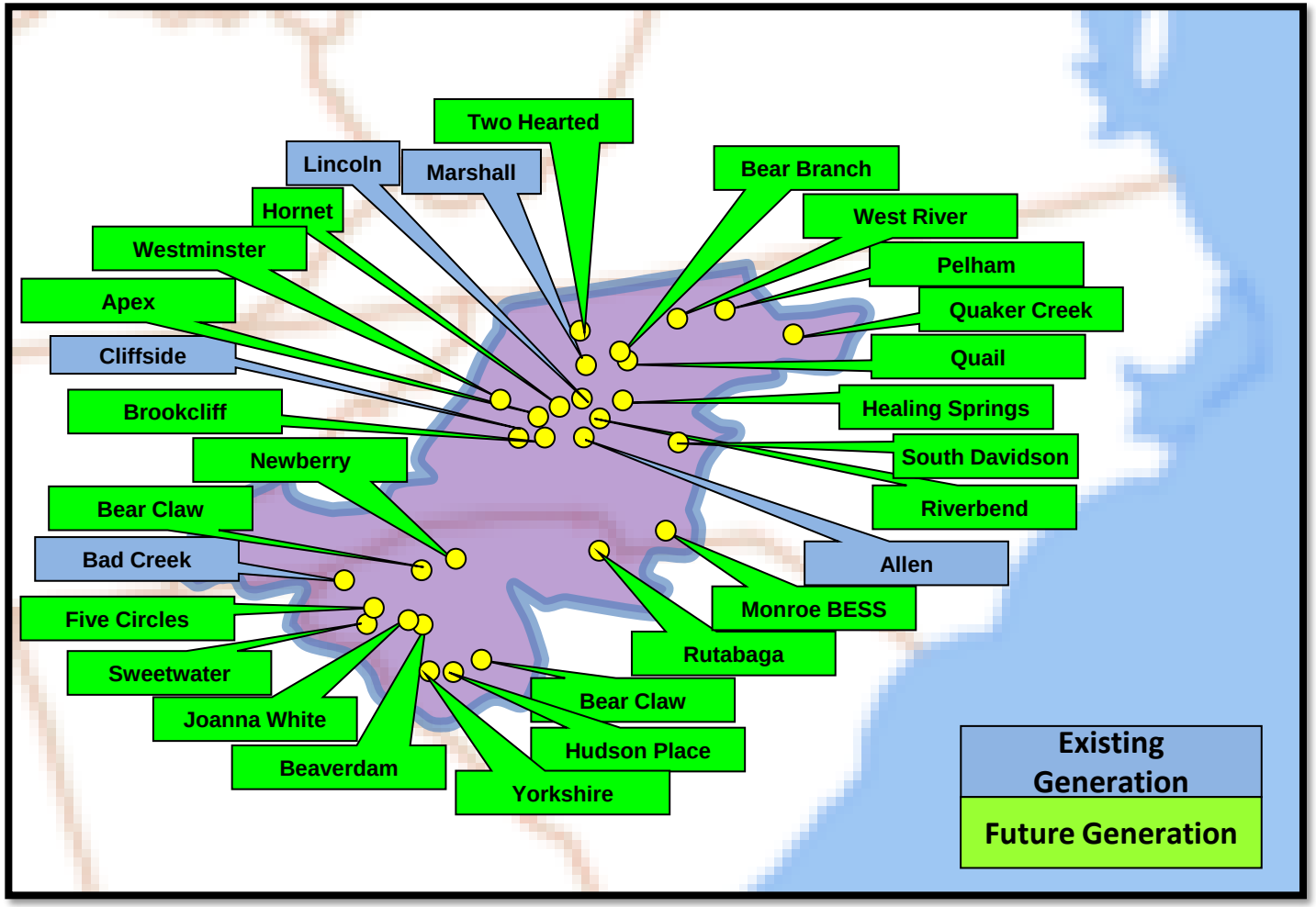
DUKE ENERGY CAROLINAS Balancing Authority Area

2024 Generation Assumptions

DEC Balancing Authority Area

DUKE ENERGY CAROLINAS – Generation Assumptions

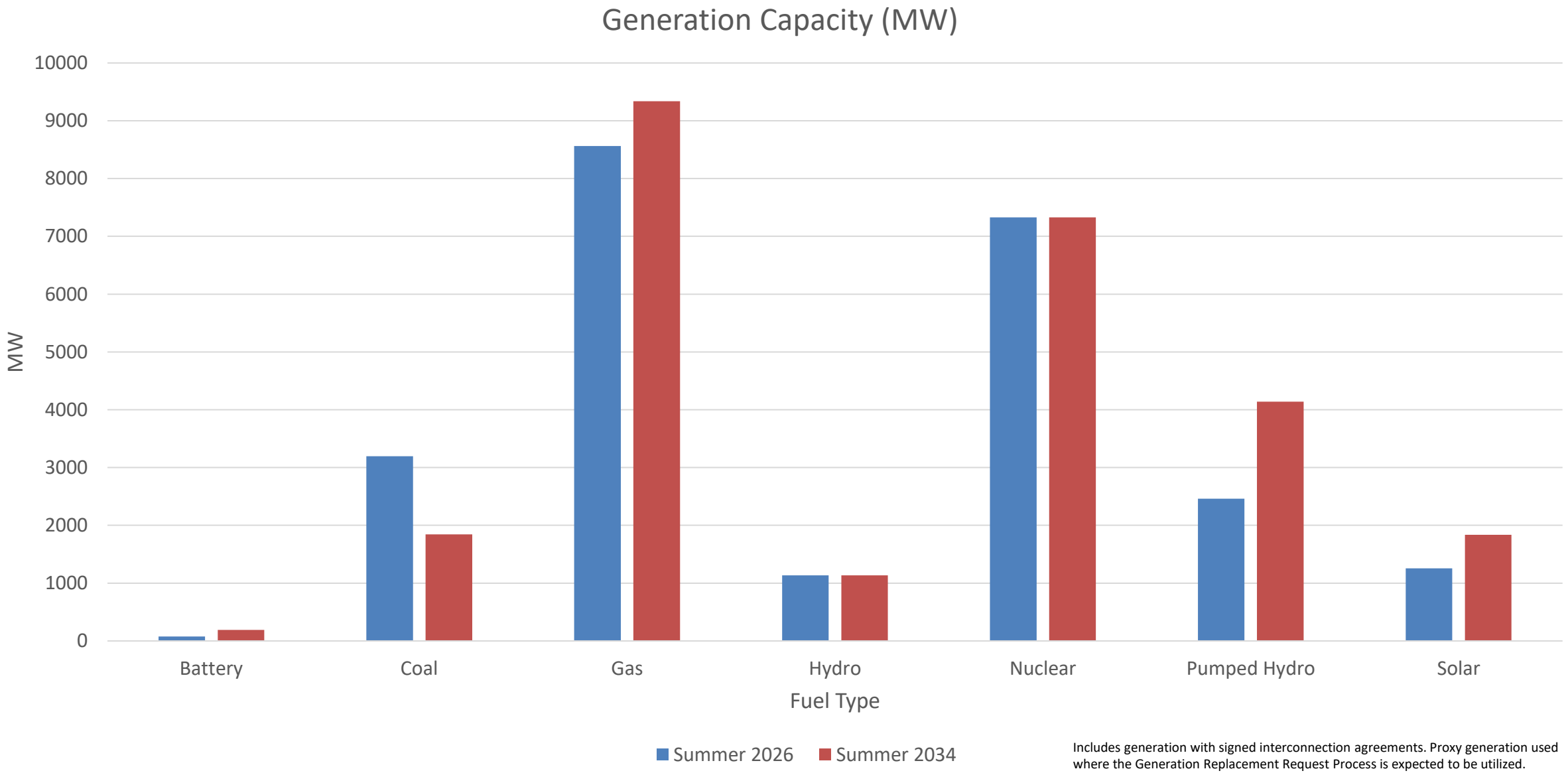
The following diagram depicts the location of generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process.



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 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Allen 1	Coal	0	--	--	--	--	--	--	--	--	--
Allen 1 BESS GRR	Storage	--	--	--	167	167	167	167	167	167	167
Allen 5	Coal	0	--	--	--	--	--	--	--	--	--
Cliffside 5	Coal	574	574	574	574	574	574	0	--	--	--
Cliffside 5 Proxy[1]	Proxy Generation	--	--	--	--	--	--	574	574	574	574
Lincoln 17	Natural Gas	402	402	402	402	402	402	402	402	402	402
Marshall 1	Coal	388	388	388	388	0	--	--	--	--	--
Marshall 1 Replacement	Natural Gas	--	--	--	--	388	388	388	388	388	388
Marshall 2	Coal	392	392	392	392	0	--	--	--	--	--
Marshall 2 Replacement	Natural Gas	--	--	--	--	392	392	392	392	392	392
Marshall 3	Coal	705	705	705	705	705	705	705	0	--	--
Marshall 3 Proxy[1]	Proxy Generation	--	--	--	--	--	--	--	705	705	705
Marshall 4	Coal	711	711	711	711	711	711	711	0	--	--
Marshall 4 Proxy[1]	Proxy Generation	--	--	--	--	--	--	--	711	711	711

1. Generators left in model in expectation of replacement generation through the Generation Replacement Request process.

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 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Monroe Solar BESS[2]	Storage	25	25	25	25	25	25	25	25	25	25
Allen BESS	Storage	--	50	50	50	50	50	50	50	50	50
Riverbend BESS	Storage	--	--	--	115	115	115	115	115	115	115
Bad Creek 4	Pumped Storage	420	420	420	420	420	420	420	420	420	420
Bad Creek II 1	Pumped Storage	--	--	--	--	--	--	--	--	--	420
Bad Creek II 2	Pumped Storage	--	--	--	--	--	--	--	--	--	420
Bad Creek II 3	Pumped Storage	--	--	--	--	--	--	--	--	--	420
Bad Creek II 4	Pumped Storage	--	--	--	--	--	--	--	--	--	420
Apex	Solar	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9
Misenheimer	Solar	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4
Pelham	Solar	32	32	32	32	32	32	32	32	32	32
Two Hearted	Solar	22	22	22	22	22	22	22	22	22	22
West River	Solar	40	40	40	40	40	40	40	40	40	40
Bear Branch	Solar	--	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

2. Output of Monroe Solar is not changing, only adding storage. Impacts the generation output for winter cases

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 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Hornet	Solar	--	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
Quail	Solar	--	30	30	30	30	30	30	30	30	30
Westminster	Solar	--	70	70	70	70	70	70	70	70	70
Brookcliff	Solar	--	--	50	50	50	50	50	50	50	50
Healing Springs	Solar	--	--	55	55	55	55	55	55	55	55
South Davidson	Solar	--	--	80	80	80	80	80	80	80	80
Quaker Creek	Solar	--	--	35	35	35	35	35	35	35	35
Sweetwater	Solar	--	--	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
Rutabaga	Solar	--	--	--	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
Yorkshire	Solar	--	--	--	--	--	--	45	45	45	45
Hudson Place	Solar	--	--	--	--	--	--	70.7	70.7	70.7	70.7
Five Circles	Solar	--	--	--	--	--	--	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 2024 Planning Process. The years shown represent Summer Peak conditions.

SITE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Cleveland	195	195	195	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	428	373	376	370	180	180	180	180	180	180
Kings Mountain	92	92	92	92	92	92	92	92	92	92

DEC Balancing Authority Area

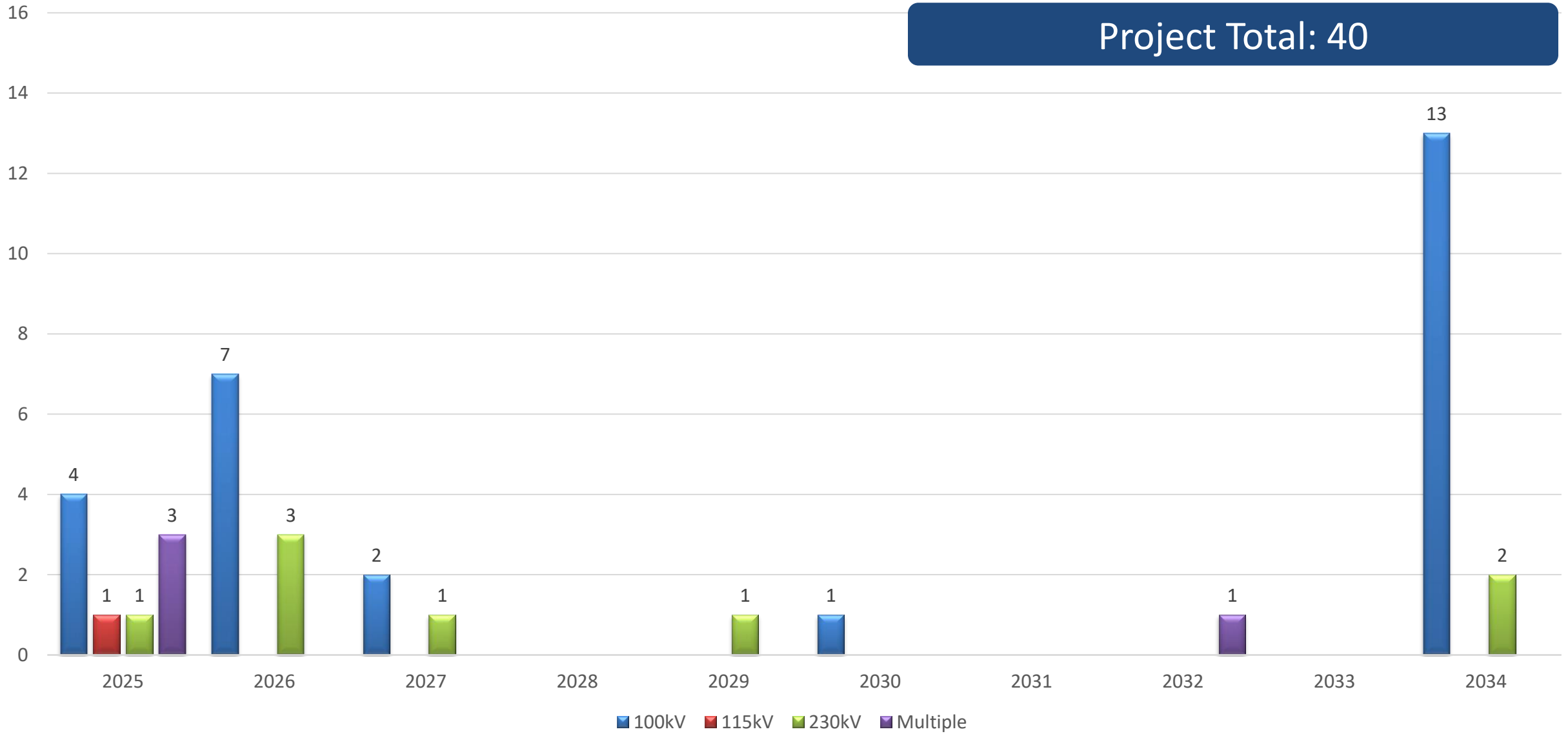
DUKE ENERGY CAROLINAS Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

DEC Project Summary

Project Total: 40

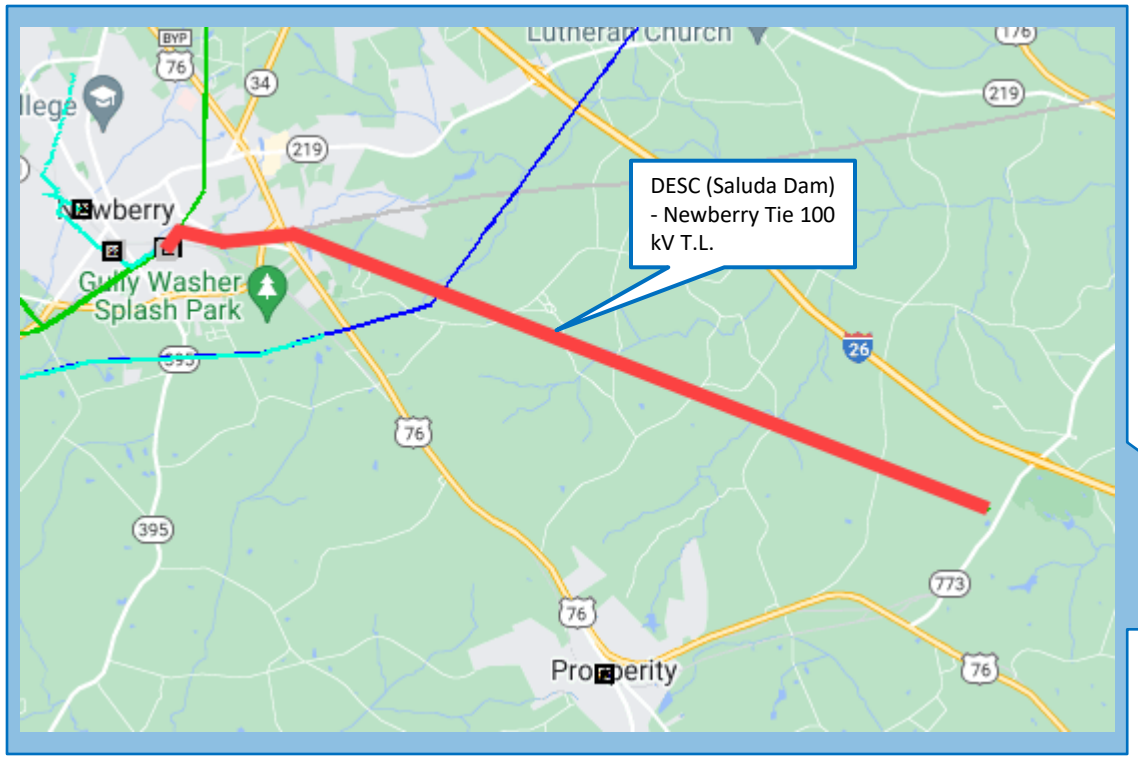


DEC Balancing Authority Area

DUKE ENERGY CAROLINAS - 1

• **2026**

DESC (SALUDA DAM) – BUSH RIVER TIE 100 KV TRANSMISSION LINES

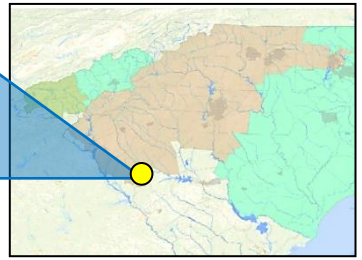


DESCRIPTION:

- Rebuild 11.35 miles of the DESC (Saluda Dam) – Bush River Tie 100 kV Line up to the change of ownership with DESC with 1272 ACSR at 120°C

SUPPORTING STATEMENT:

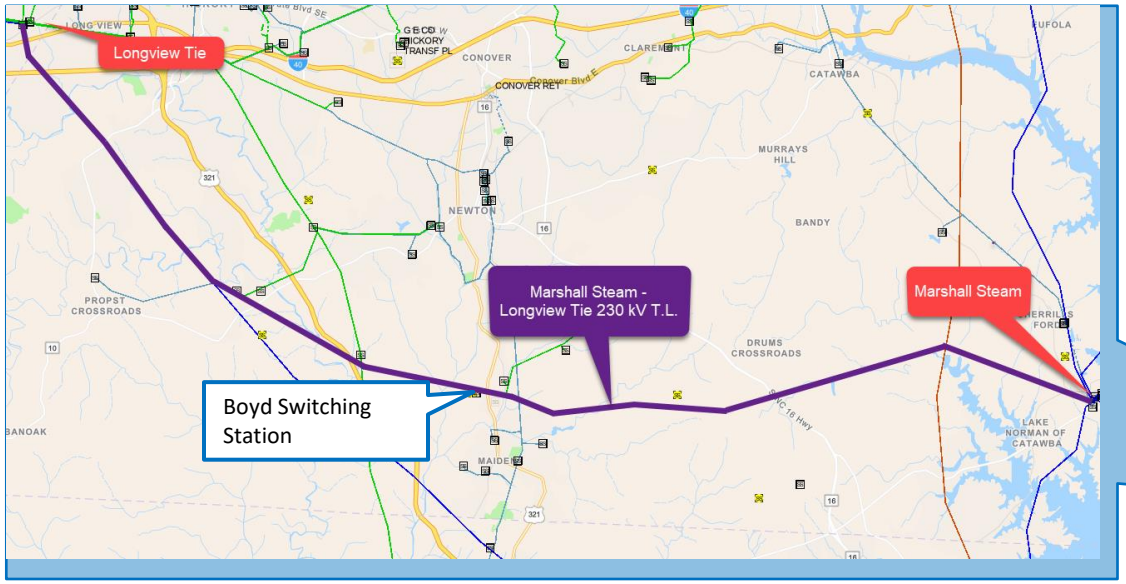
- Support future solar generation in the area and address potential contingency loading conditions on the DESC (Saluda Dam) – Bush River Tie 100 kV



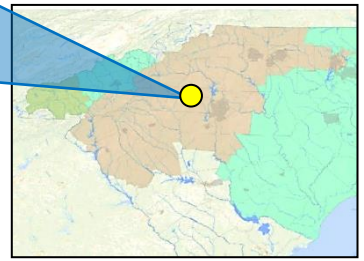
DUKE ENERGY CAROLINAS - 2

• **2026**

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

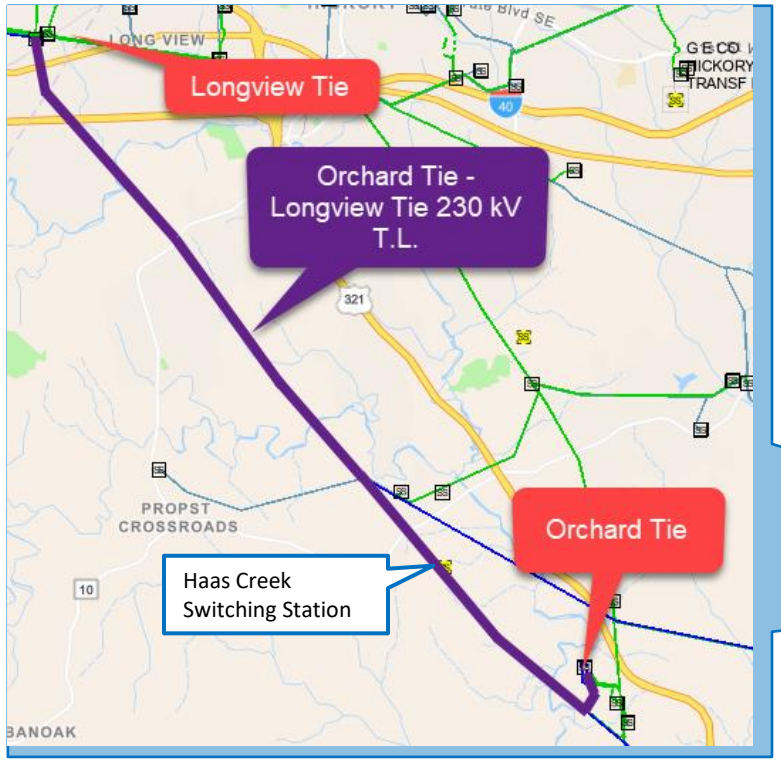


DEC Balancing Authority Area

DUKE ENERGY CAROLINAS – 3

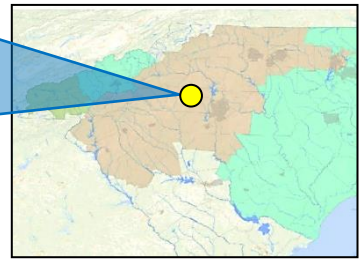
• **2026**

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

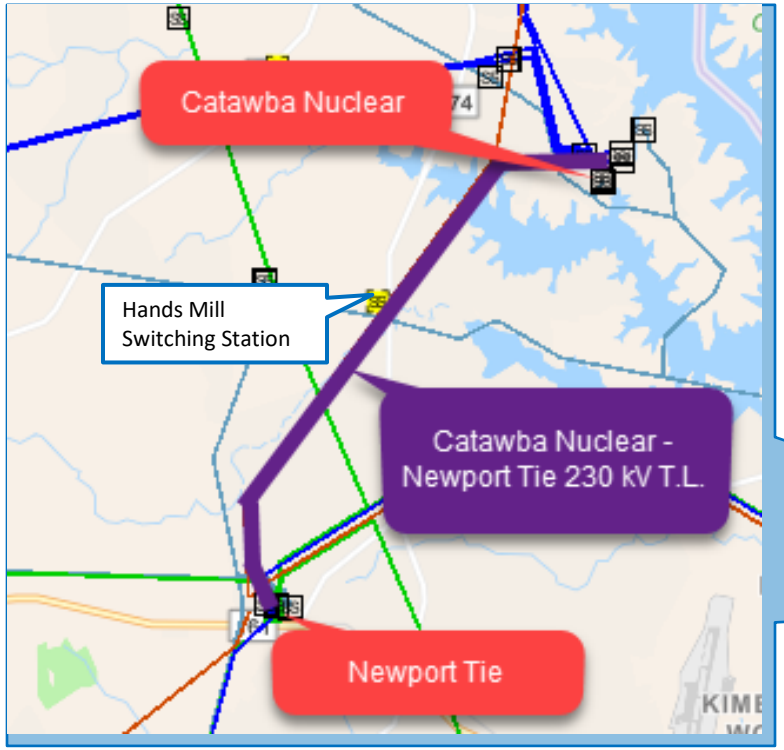


DEC Balancing Authority Area

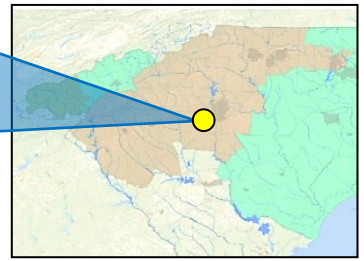
DUKE ENERGY CAROLINAS – 4

• **2027**

HANDS MILL 230 KV SWITCHING STATION



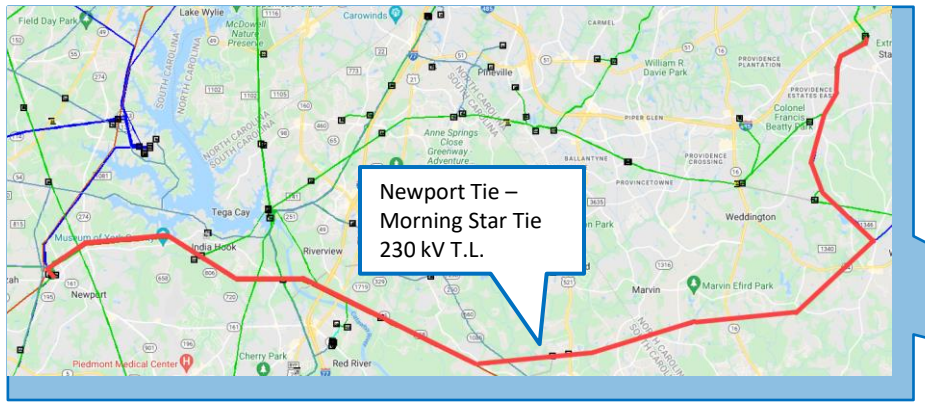
- **DESCRIPTION:**
  - Construct a new 230 kV switching station on the Catawba Nuclear to Newport Tie 230 kV transmission Lines
- **SUPPORTING STATEMENT:**
  - Hands Mill 230 kV Switching Station is needed to support new customer load growth



DUKE ENERGY CAROLINAS – 5

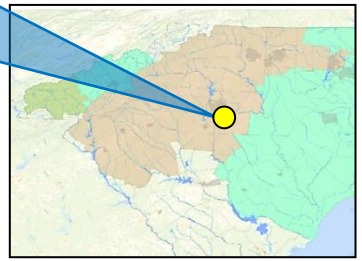
• **2029**

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.



DEC Balancing Authority Area

DUKE ENERGY CAROLINAS Balancing Authority Area

Preliminary 2025 Generation Assumptions

* DEC has no known generation changes throughout the ten-year planning horizon for the 2025 SERTP Process.

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

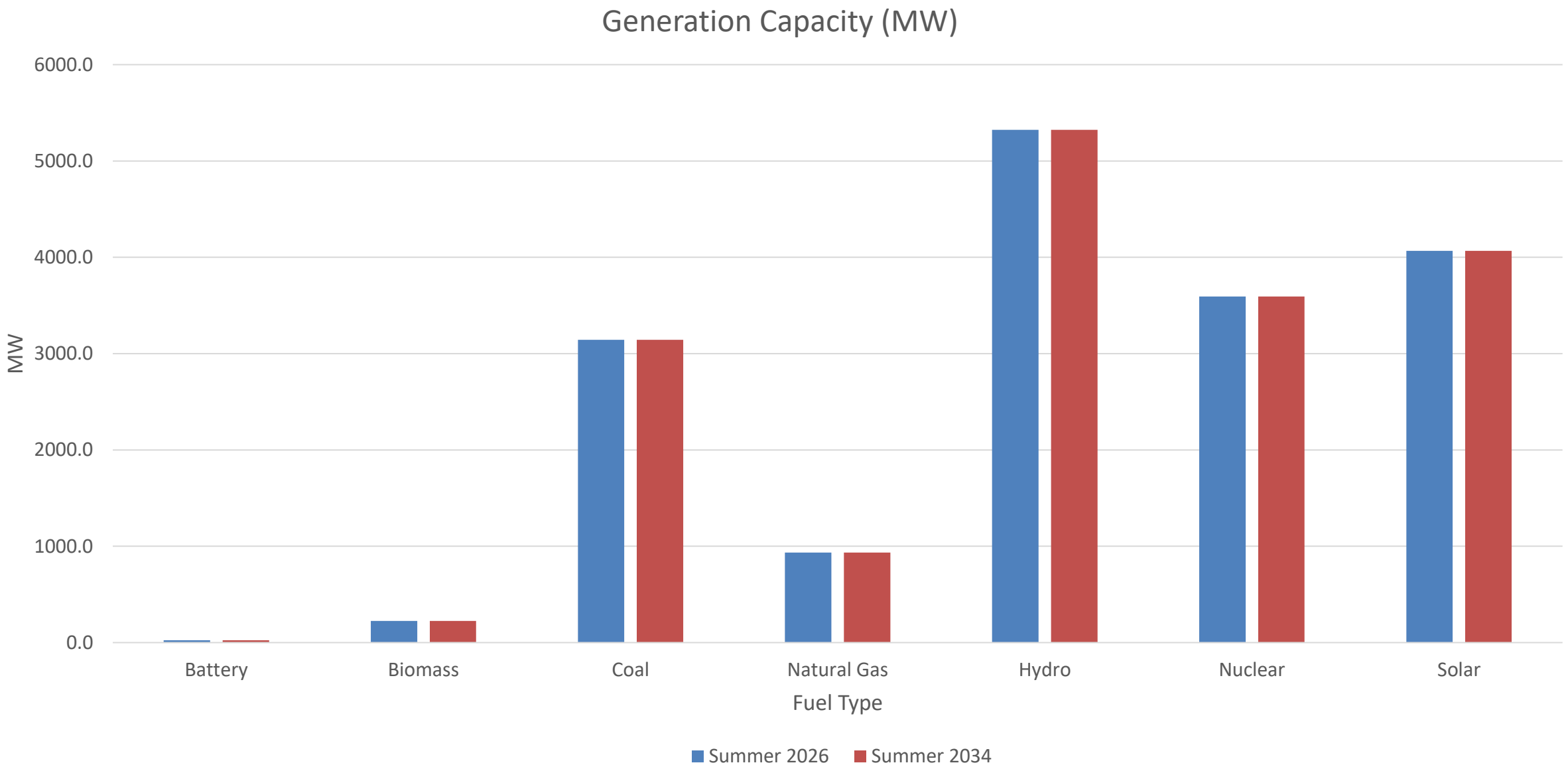
DUKE ENERGY PROGRESS EAST/WEST

Balancing Authority Areas

2024 Generation Assumptions

Southeastern Regional TRANSMISSION PLANNING

DEP Generation Summary



DEP – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Nutbush	PV	35	35	35	35	35	35	35	35	35	35
Sapony Creek	PV	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
Camp Lejeune Battery	Battery	11	11	11	11	11	11	11	11	11	11

DEP– Generation Assumptions (Point-to-Point)

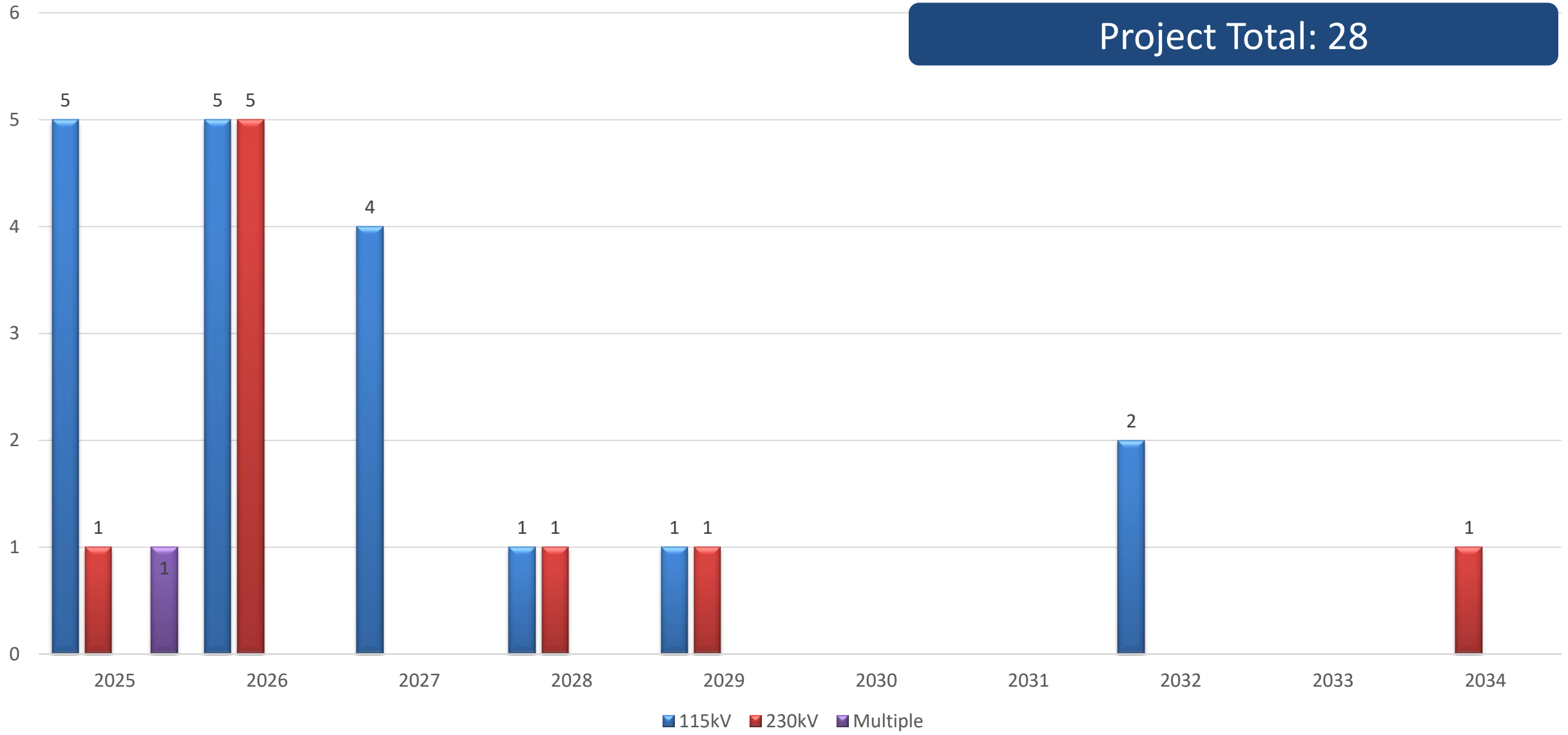
The following table depicts generation assumptions based upon expected long-term firm point-to-point commitments for the SERTP 2024 Planning Process. The years shown represent Summer Peak conditions.

SITE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
HAMLET #1 AND #2	110	110	110	110	110	110	110	110	110	110
HAMLET #6	55	55	55	55	55	55	55	55	55	55
HAMLET #3	4	6	9	9	11	13	14	0	0	0

Southeastern Regional
TRANSMISSION PLANNING

DEP Project Summary

Project Total: 28



DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST

Balancing Authority Area

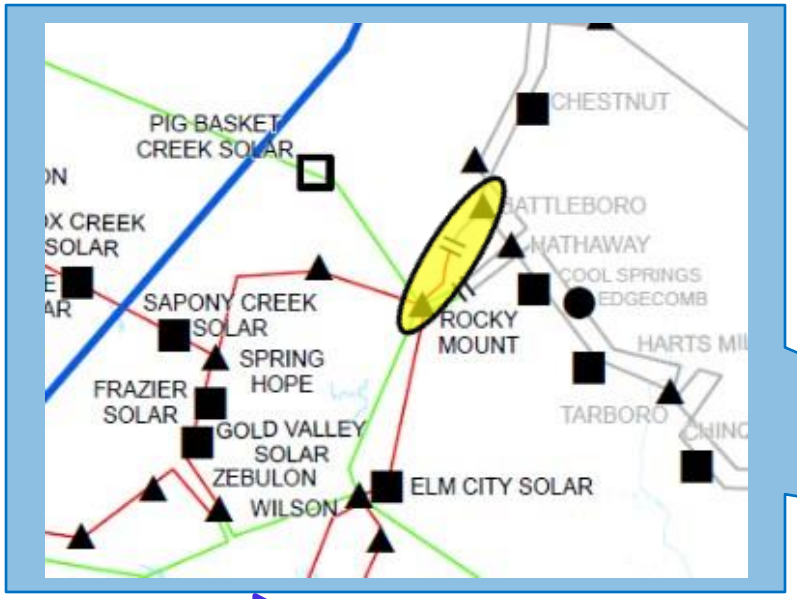
Regional Transmission Expansion Plan

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 1

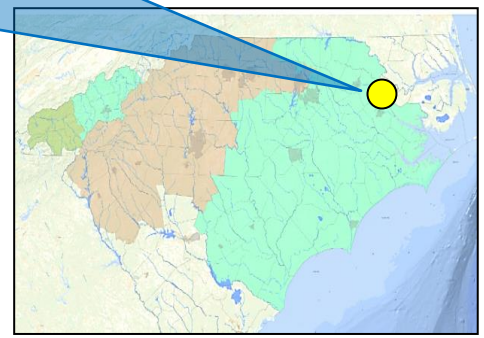
• **2025**

ROCKY MOUNT – VP BATTLEBORO 115 KV LINE, RECONDUCTOR



RECONDUCTOR 8.51 MILES OF 115 KV T.L. WITH 795 ACSS/TW

- **DESCRIPTION:**
  - Reconductor 8.51 miles, the entire DEP portion of the line, with 3-795 MCM ACSS/TW conductor.
- **SUPPORTING STATEMENT:**
  - This upgrade is driven by affected system studies for PJM queued generation.

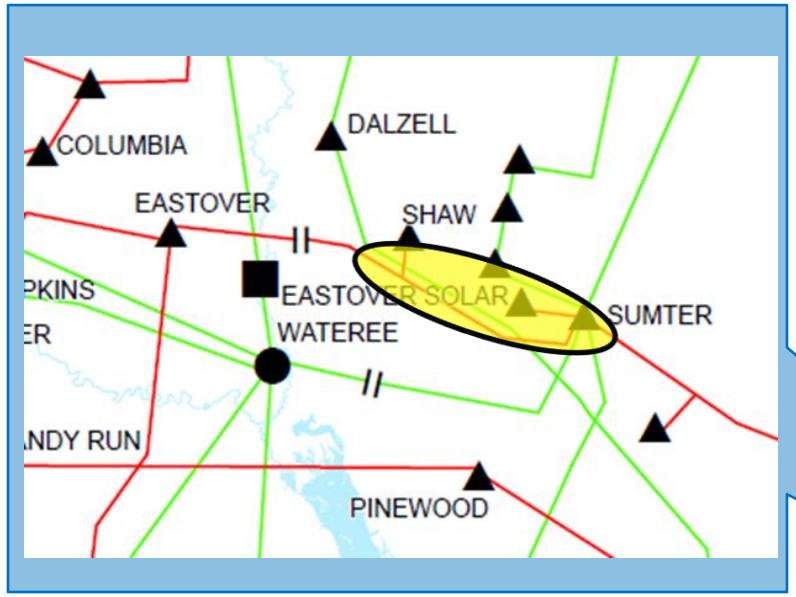


DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

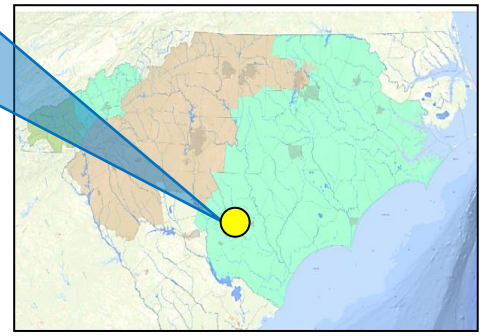
DUKE ENERGY PROGRESS EAST – 2

• **2025**

Sumter - SCE&G Eastover 115kV line, Upgrade Line Switches and Terminal Equipment at Sumter 230 Sub



- **DESCRIPTION:**
  - Upgrade line switches, and CT ratios and relay settings at Sumter 230.
- **SUPPORTING STATEMENT:**
  - Various local contingencies cause overloading on multiple segments of the line due to limiting components.

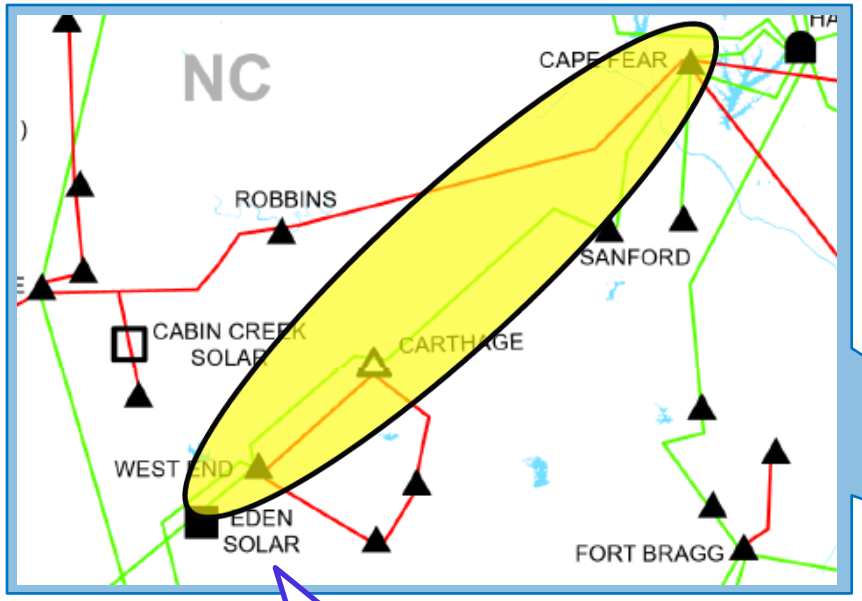


DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 3

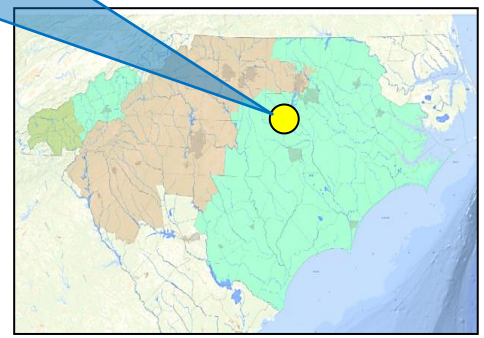
• **2026**

Cape Fear Plant - West End 230 kV Line, Rebuild



RECONDUCTOR 26 MILES OF 230 KV T.L. WITH 6-1590 ACSR, RAISE 4.5 MILES

- **DESCRIPTION:**
  - Reconductor 26 miles and raise 4.5 miles of the Cape Fear Plant - West End 230 kV Line.
- **SUPPORTING STATEMENT:**
  - This upgrade has been approved by NCUC as part of the Carolinas Carbon Plan.

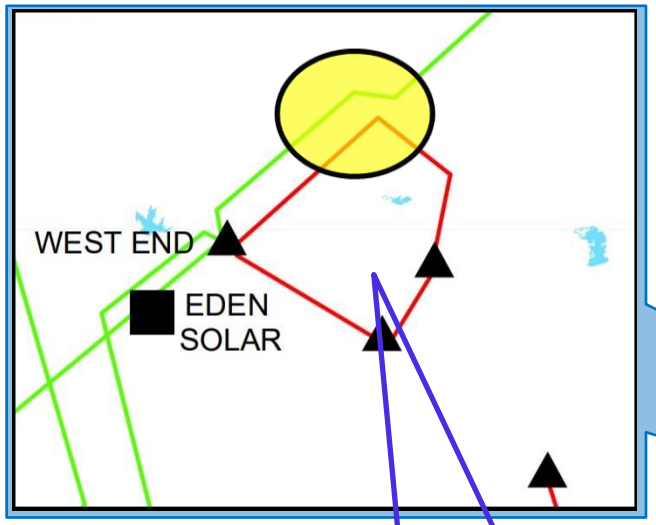


DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 4

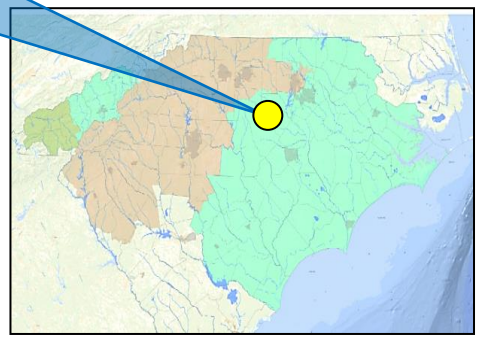
• **2026**

HILL CREST 230/115 KV SUBSTATION – CONSTRUCT



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

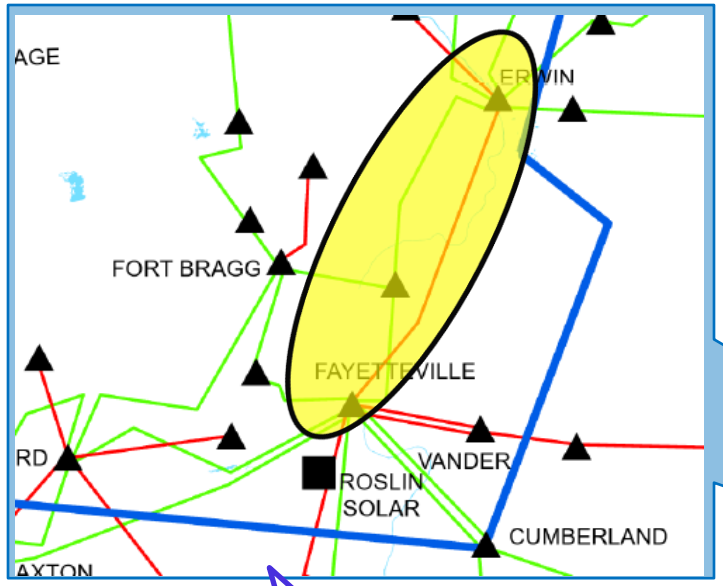
- **DESCRIPTION:**
  - Construct a new Hill Crest 230/115kV substation near the existing Carthage 115kV substation. Loop in the existing Cape Fear – West End 230kV line and West End – Southern Pines 115kV feeder.
- **SUPPORTING STATEMENT:**
  - Outage of one West End transformer overloads the other and voltage at Southern Pines 115kV drops below criteria.



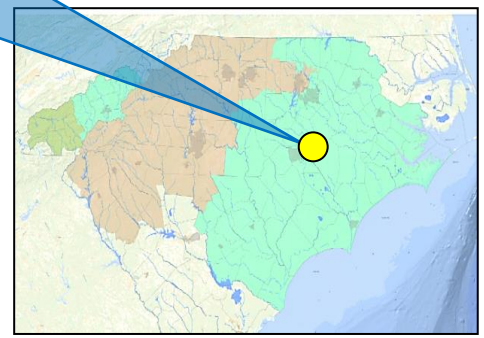
DUKE ENERGY PROGRESS EAST – 5

• **2026**

ERWIN - FAYETTEVILLE EAST 230 KV LINE, REBUILD



RECONDUCTOR 23 MILES OF 230 KV T.L. WITH 6-1590 ACSR



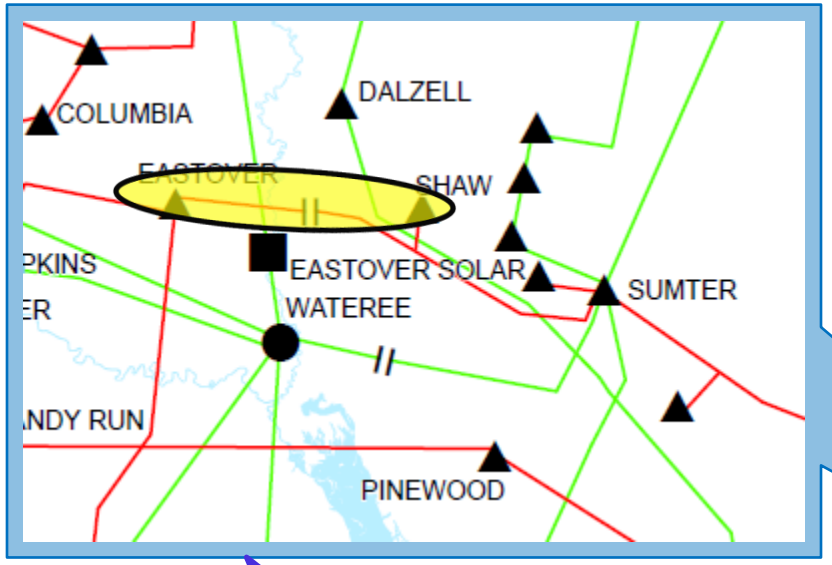
- **DESCRIPTION:**
  - Reconductor 23 miles of the Erwin - Fayetteville East 230 kV Line.
- **SUPPORTING STATEMENT:**
  - This upgrade has been approved by NCUC as part of the Carolinas Carbon Plan.

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST – 6

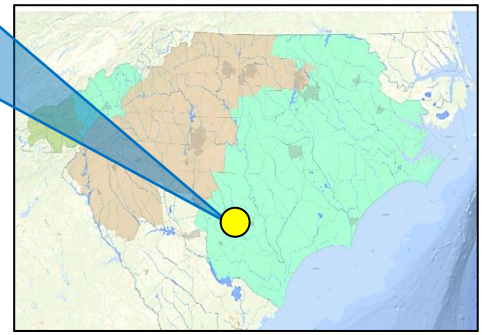
• **2026**

SUMTER – SCE&G EASTOVER 115KV LINE, RECONDUCTOR KINGS HWY – SHAW FIELD – EASTOVER



RECONDUCTOR 7.49 MILES OF 115 KV T.L. WITH 1272 ACSR, INCLUDING 1.01 MILES WITHIN SCE&G

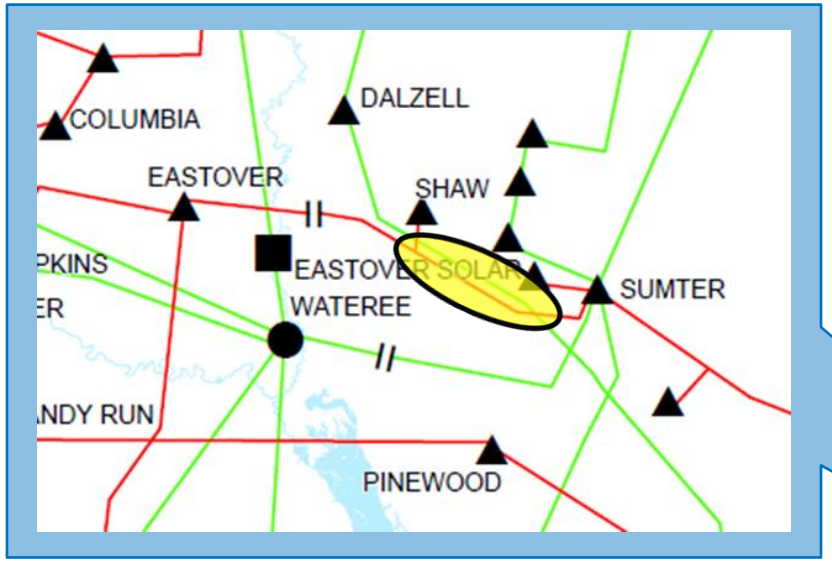
- **DESCRIPTION:**
  - Reconductor Sumter Kings Hwy - Shaw Field Tap and Shaw Field Tap – SCE&G Eastover sections of Sumter-Eastover 115 kV line to 1272 ACSR and raise Sumter Gold Kist Tap - Str #427, 2.16 miles, to 212 F.
- **SUPPORTING STATEMENT:**
  - Multiple contingencies cause the Shaw Field Tap-Eastover section of the Sumter-Eastover 115 kV line to overload.



DUKE ENERGY PROGRESS EAST – 7

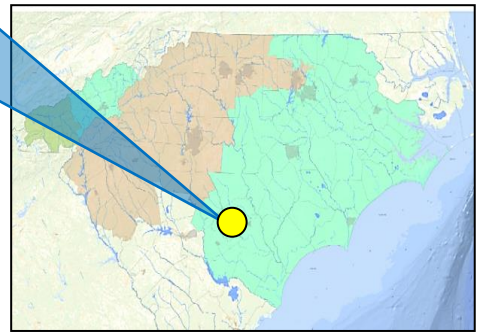
• **2032**

SUMTER – SCE&G EASTOVER 115KV LINE, RECONDUCTOR GOLD KIST - KINGS HWY



RECONDUCTOR 5.82 MILES OF 115 KV T.L. WITH 1272 ACSR

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



DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS WEST

Balancing Authority Area

Regional Transmission Expansion Plan

* DEP West has no projects that meet the project criteria in the 2024 SERTP Process.

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DUKE ENERGY PROGRESS EAST/WEST

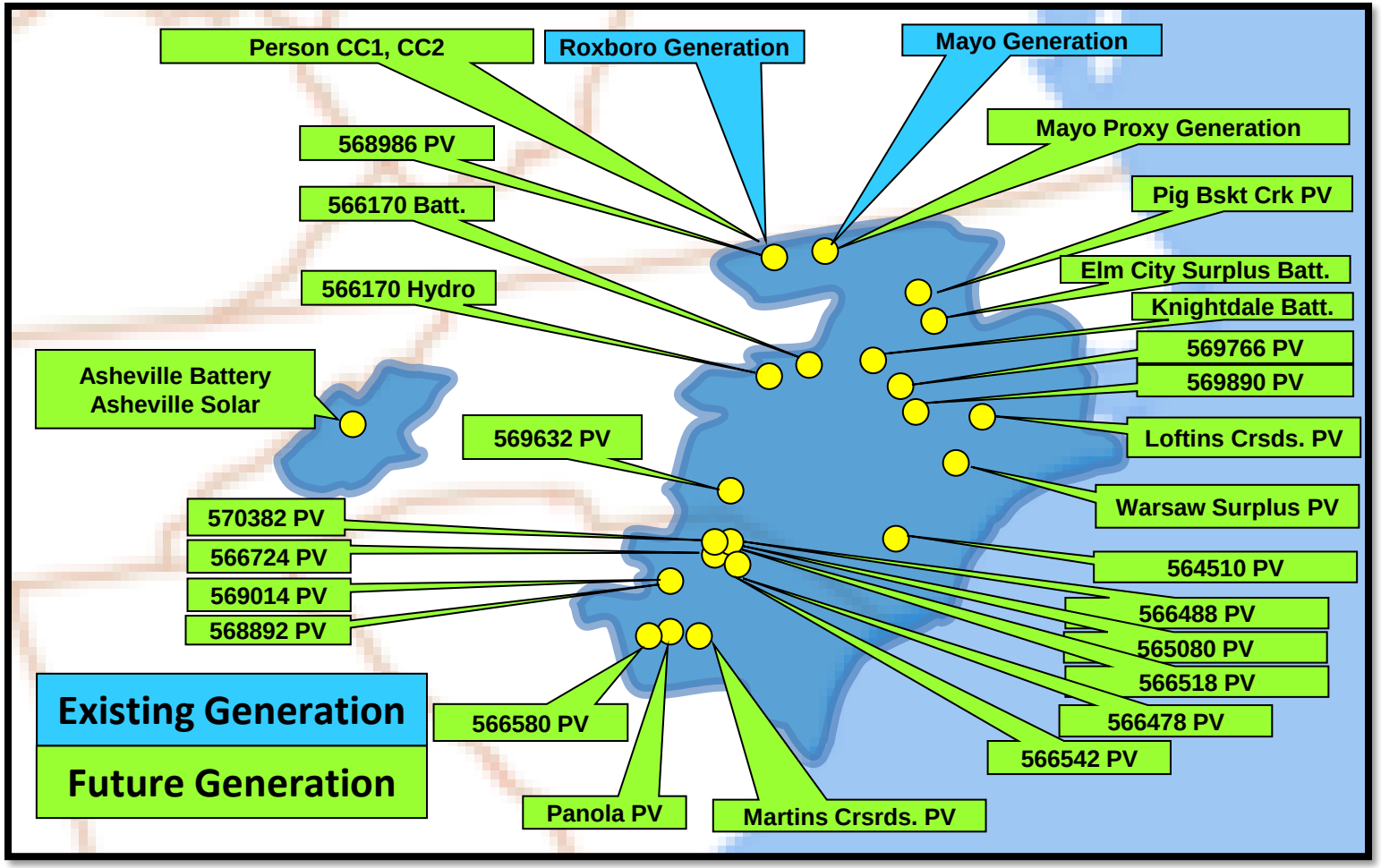
Balancing Authority Areas

Preliminary 2025 Generation Assumptions

DUKE ENERGY PROGRESS EAST/WEST Balancing Authority Areas

DEP – Preliminary Generation Assumptions

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



DEP – Preliminary Generation Assumptions

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
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.
3. Incremental generation in the DISIS 2023 Cluster Study Process.
4. Additional planned generation through the large generator interconnection process.
5. Approximate beginning-of-year time frame for Mayo retirement pending equally reliable replacement resources exist to allow retirements.

DEP – Preliminary 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
ID 570430	Hydro	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
ID 566724	PV	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
ID 566170	Battery	56	56	56	56	56	56	56	56	56	56
ID 569632	PV	80	80	80	80	80	80	80	80	80	80
ID 569766	PV	73	73	73	73	73	73	73	73	73	73

Includes only generation with signed interconnection agreements

DEP – Preliminary 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
ID 564510	PV	80	80	80	80	80	80	80	80	80	80
ID 569890	PV	80	80	80	80	80	80	80	80	80	80
Q353	PV	67	67	67	67	67	67	67	67	67	67
ID 569014	PV	--	48	48	48	48	48	48	48	48	48
ID 566488	PV	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
ID 565080	PV	--	75	75	75	75	75	75	75	75	75
ID 568892	PV	--	76	76	76	76	76	76	76	76	76
ID 566518	PV	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
ID 566580	PV	--	--	60	60	60	60	60	60	60	60
ID 570382	PV	--	--	75	75	75	75	75	75	75	75
ID 566478	PV	--	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
ID 566542	PV	--	--	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9

Includes only generation with signed interconnection agreements

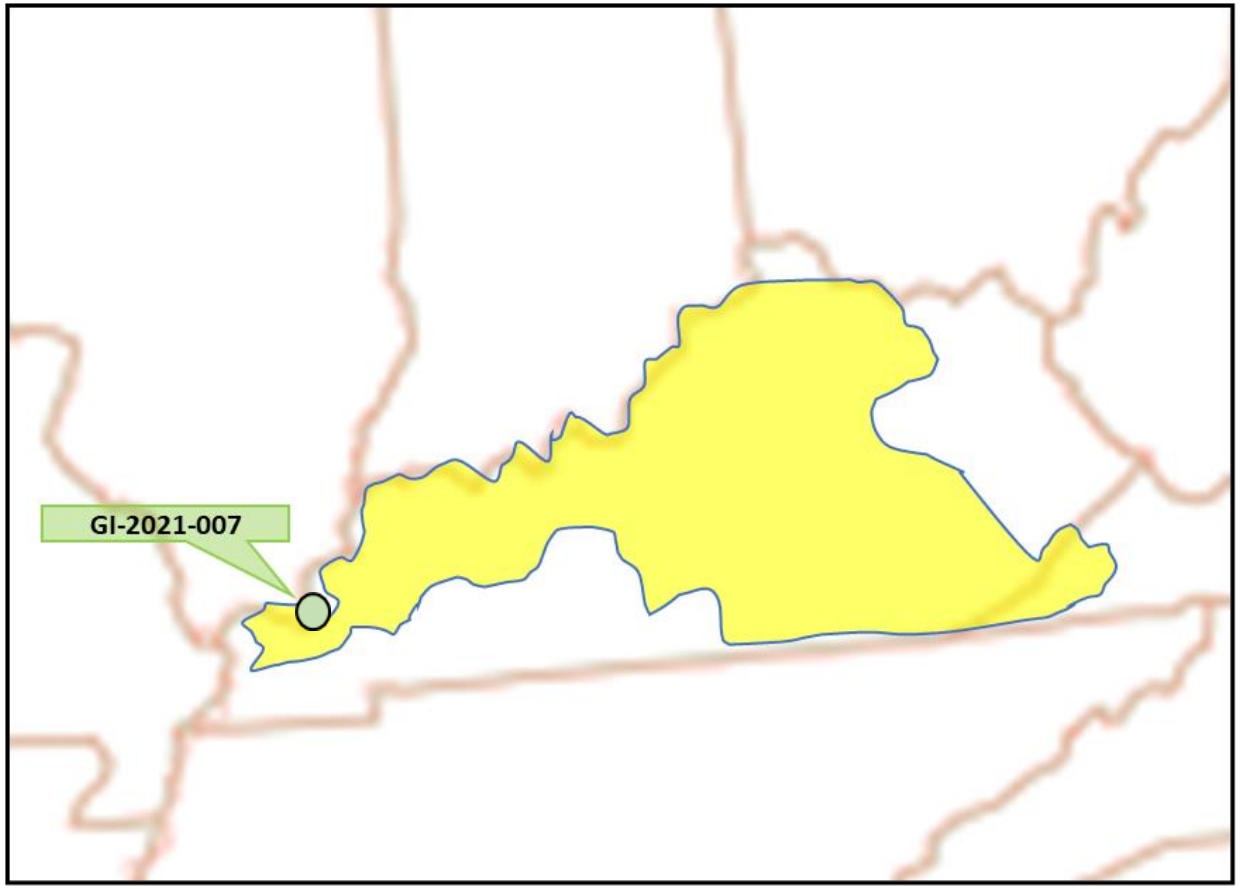
LG&E/KU Balancing Authority Area

2024 Generation Assumptions

LG&E/KU Balancing Authority Area

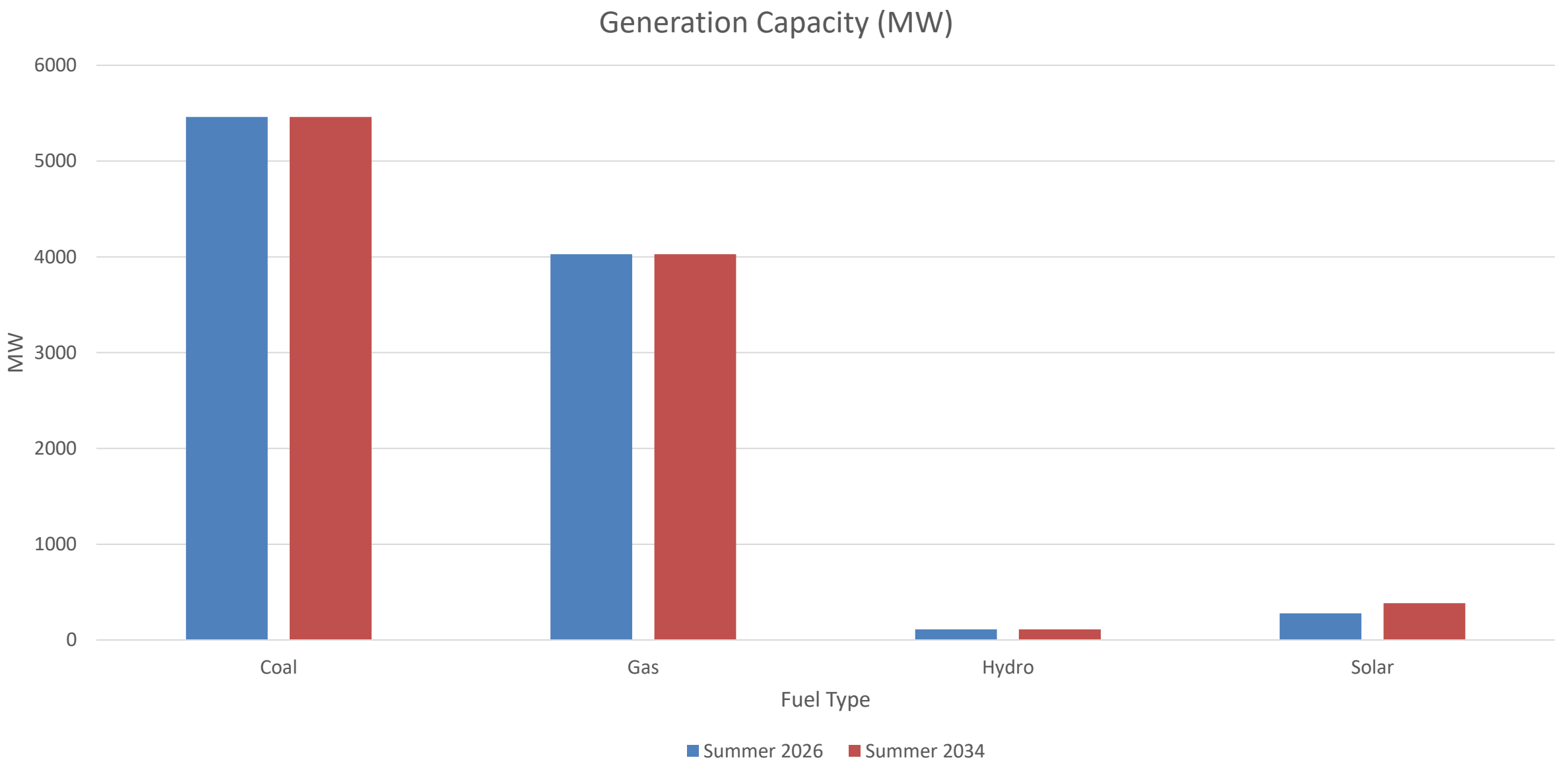
LG&E/KU Generation Assumptions

The following diagram depicts location of generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2024 SERTP Process.



Southeastern Regional TRANSMISSION PLANNING

LG&E/KU Generation Summary



LG&E/KU Balancing Authority Area

LG&E/KU – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
GI-2021-007	Solar	0	120	120	120	120	120	120	120	120	120

LG&E/KU Balancing Authority Area

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	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
TRIMBLE COUNTY	324	324	324	324	324	324	324	324	324	324

LG&E/KU Balancing Authority Area

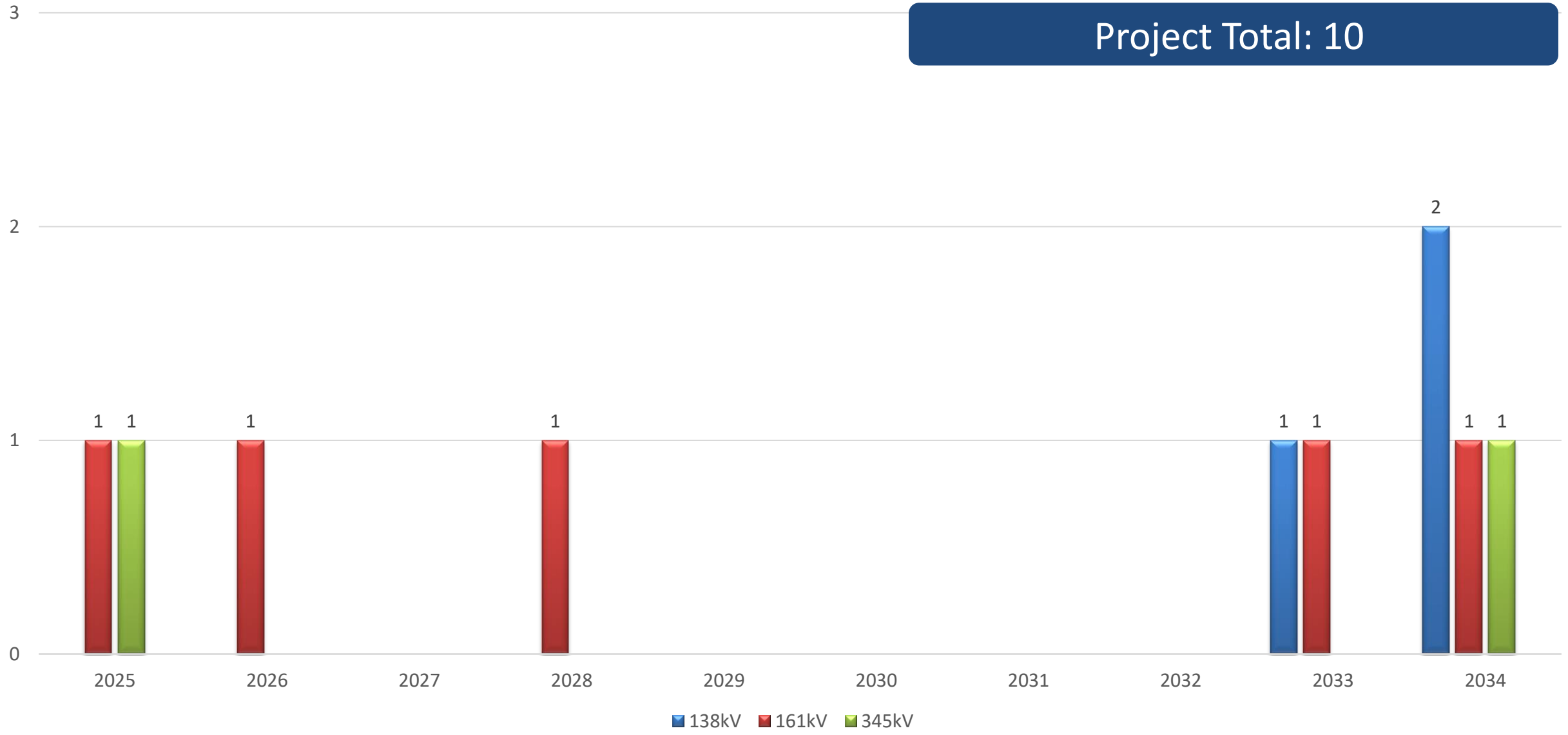
LG&E/KU Balancing Authority Area

Transmission Expansion Plan

Southeastern Regional TRANSMISSION PLANNING

LG&E/KU Project Summary

Project Total: 10

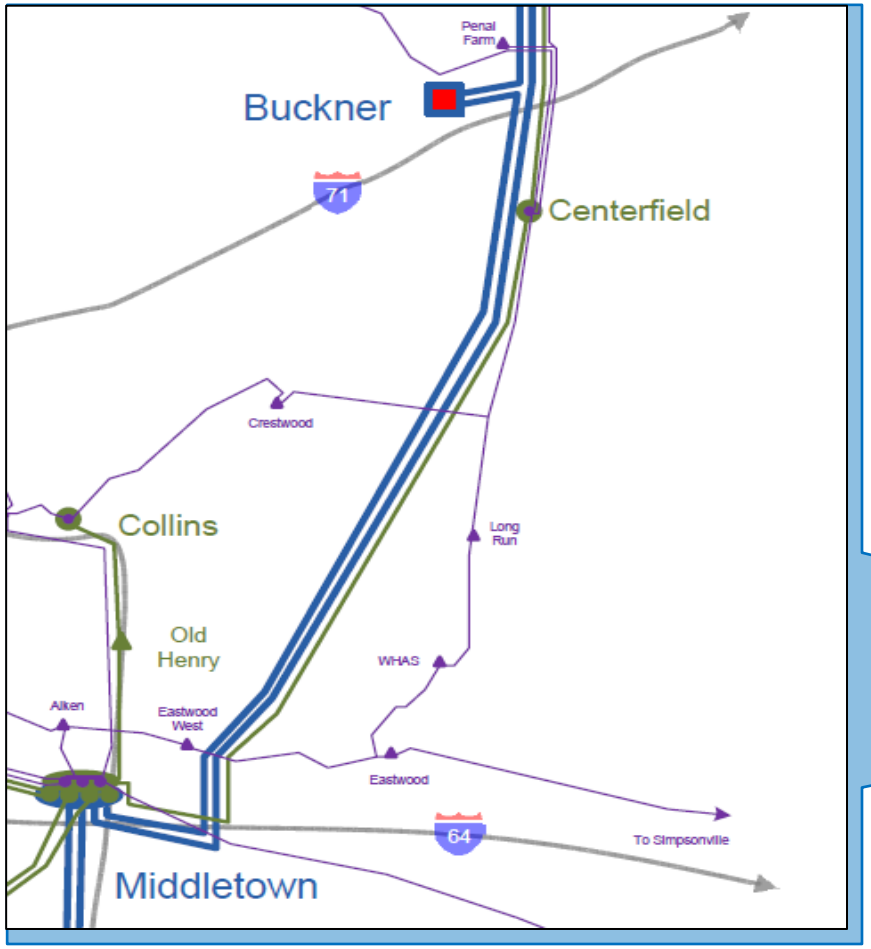


LG&E/KU Balancing Authority Area

LG&E/KU - 1

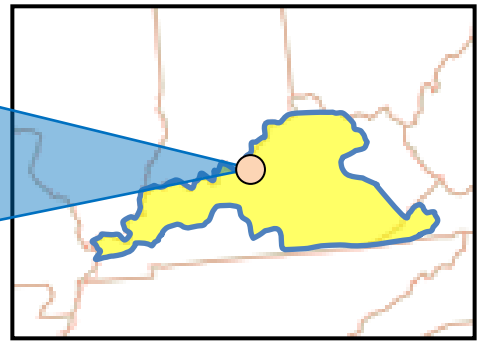
- **2025**

MIDDLETOWN – BUCKNER 345 KV



- **DESCRIPTION:**
  - Replace the 345kV 2000A breakers associated with the Middletown – Buckner 345kV line with 3000A breakers.

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

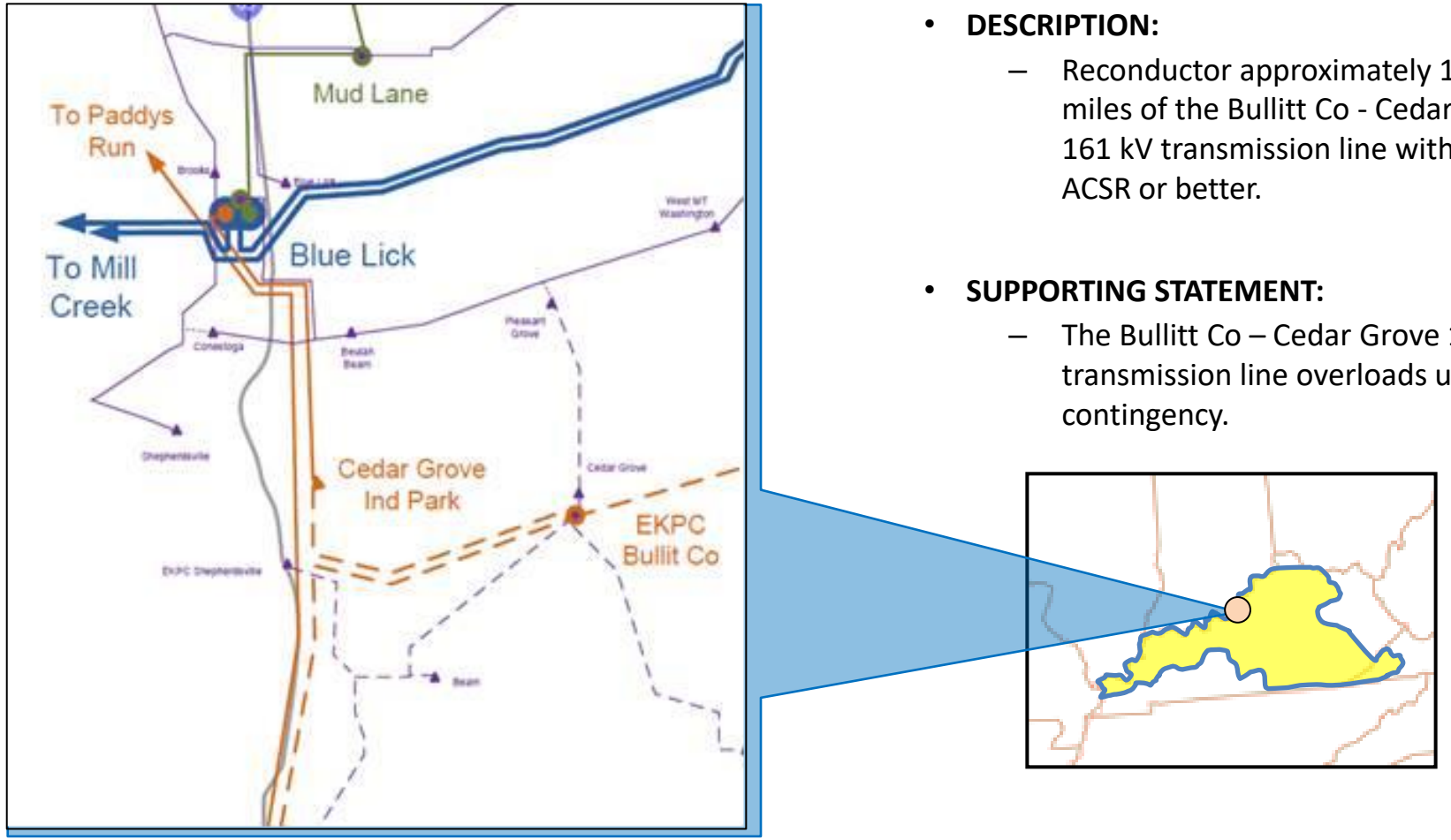


LG&E/KU Balancing Authority Area

LG&E/KU - 2

- **2028**

BULLITT CO – CEDAR GROVE 161 KV



- **DESCRIPTION:**
  - Reconductor approximately 1.6 miles of the Bullitt Co - Cedar Grove 161 kV transmission line with 795 ACSR or better.

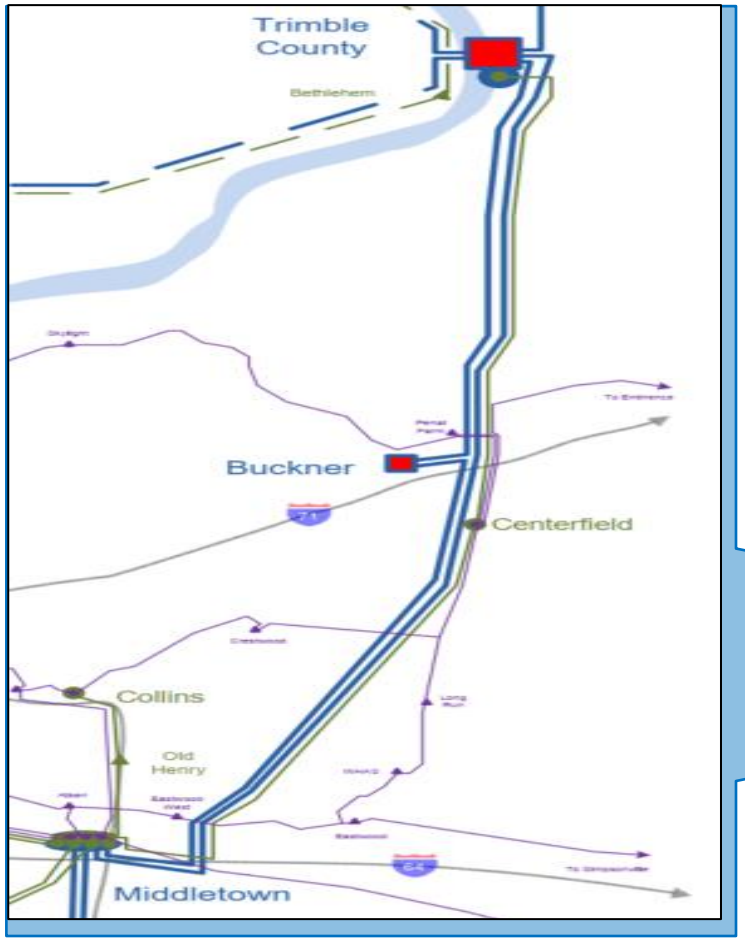
- **SUPPORTING STATEMENT:**
  - The Bullitt Co – Cedar Grove 161 KV transmission line overloads under contingency.

LG&E/KU Balancing Authority Area

LG&E/KU - 3

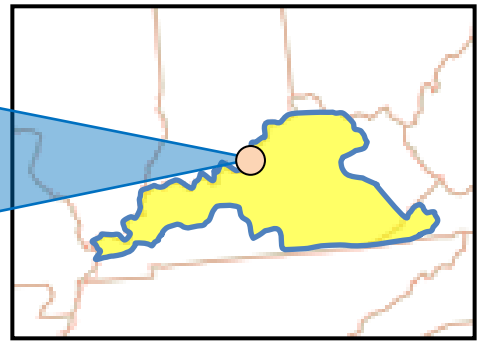
- **2034**

MIDDLETOWN – TRIMBLE COUNTY 345 KV



- **DESCRIPTION:**
  - Replace the 345kV 2000A breakers associated with the Middletown – Trimble County 345kV line with 3000A breakers.

- **SUPPORTING STATEMENT:**
  - The Middletown – Trimble County 345 KV transmission line overloads under contingency.



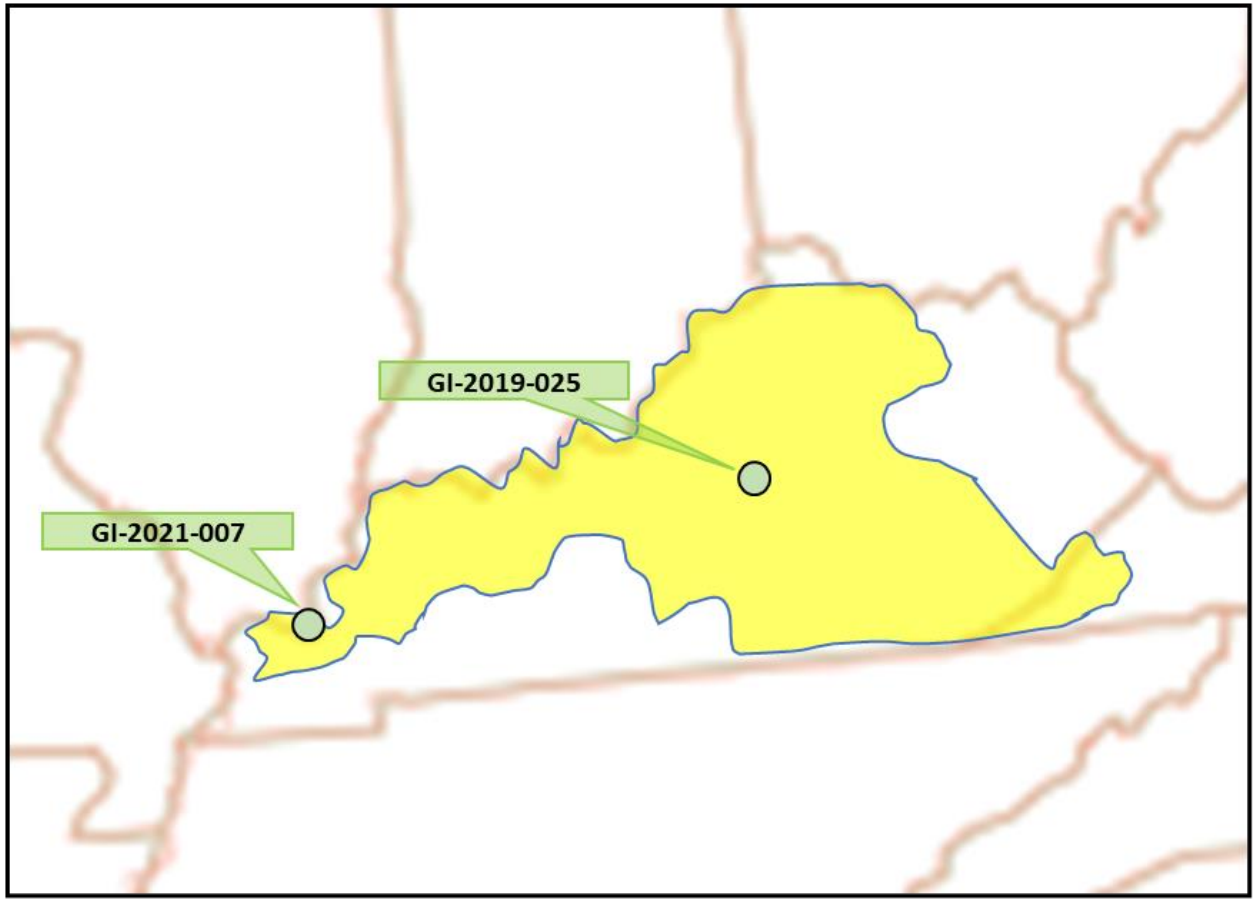
LG&E/KU Balancing Authority Area

Preliminary 2025 Generation Assumptions

LG&E/KU Balancing Authority Area

LG&E/KU - Preliminary Generation Assumptions

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



LG&E/KU Balancing Authority Area

LG&E/KU – Preliminary Generation Assumptions

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
GI-2021-007	Solar	120	120	120	120	120	120	120	120	120	120
GI-2019-025	Solar	120	120	120	120	120	120	120	120	120	120

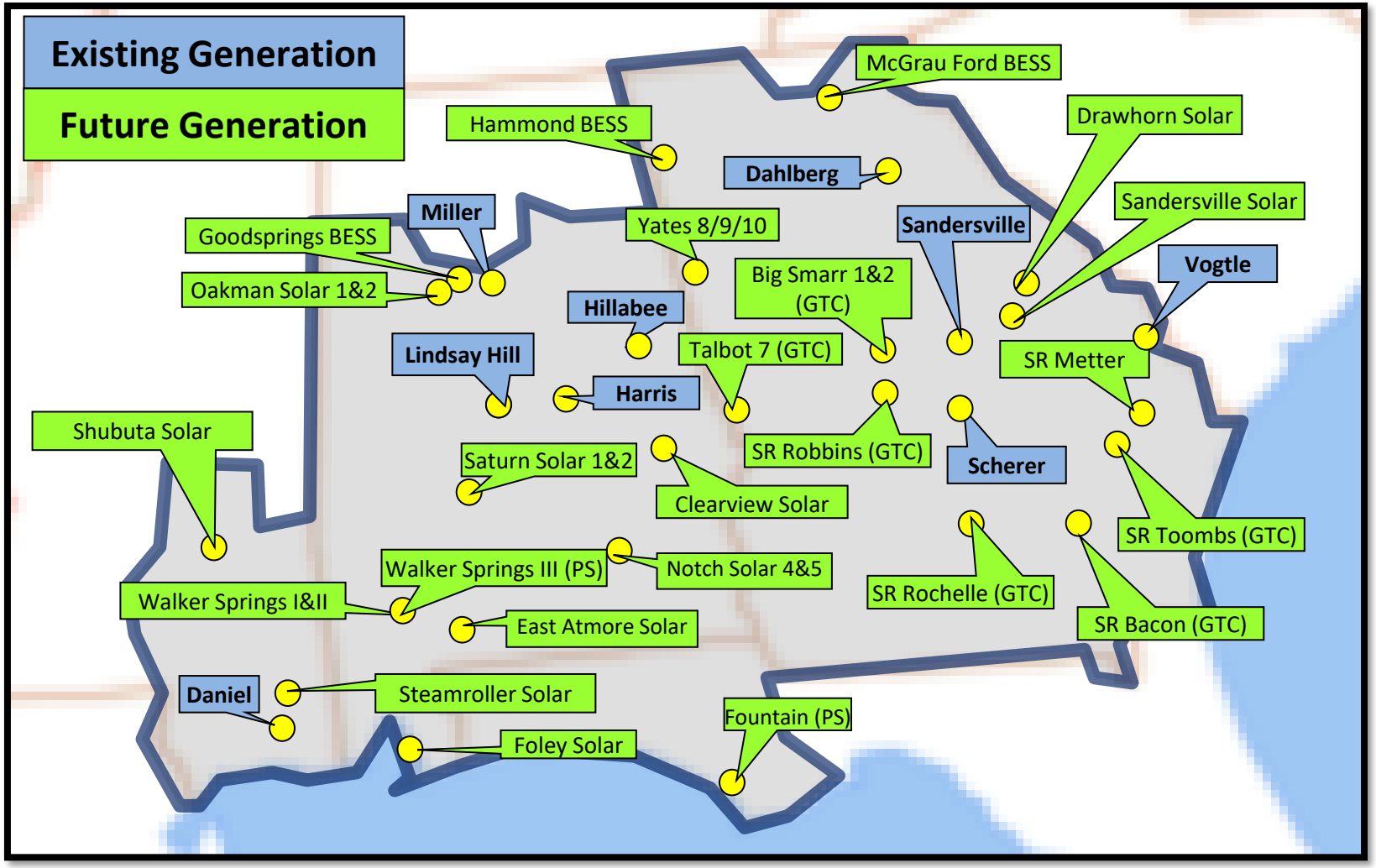
SOUTHERN Balancing Authority Area

2024 Generation Assumptions

SOUTHERN Balancing Authority Area

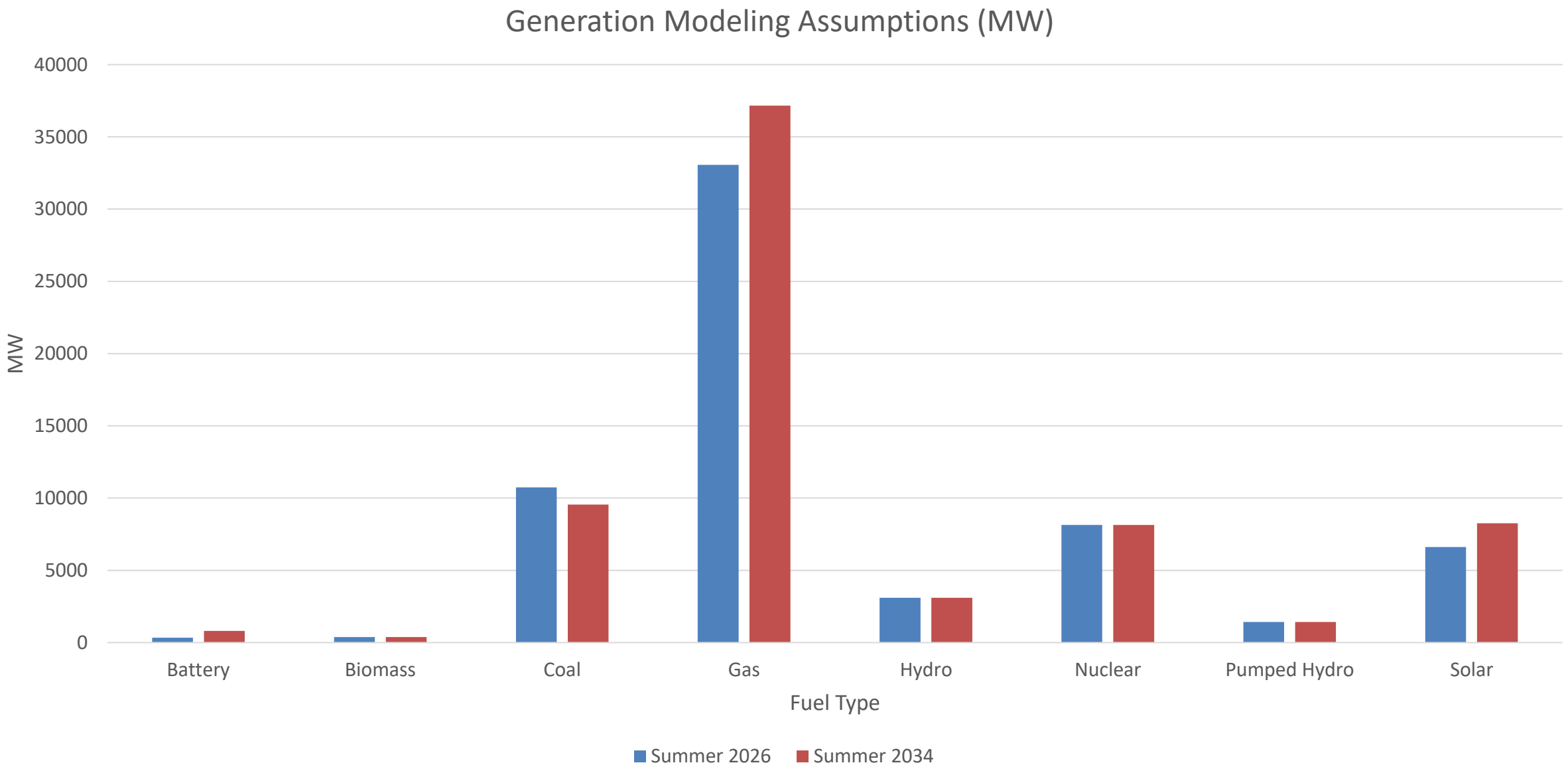
SOUTHERN – Generation Assumptions

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 <u>that change</u> throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
YATES 8, 9 & 10	GAS	--	--	1224	1224	1224	1224	1224	1224	1224	1224
LINDSAY HILL[1]	GAS	--	--	--	--	850	850	850	850	850	850
EAST ATMORE SOLAR	SOLAR	80	80	80	80	80	80	80	80	80	80
FOLEY SOLAR	SOLAR	80	80	80	80	80	80	80	80	80	80
NOTCH 4&5	SOLAR	--	160	160	160	160	160	160	160	160	160
SATURN SOLAR 1&2	SOLAR	--	--	160	160	160	160	160	160	160	160
SR METTER	SOLAR	--	80	80	80	80	80	80	80	80	80
WALKER SPRINGS I&II SOLAR	SOLAR	160	160	160	160	160	160	160	160	160	160
SANDERSVILLE SOLAR	SOLAR	--	--	--	50	50	50	50	50	50	50

[1] 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 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
DRAWHORN SOLAR	SOLAR	--	--	--	80	80	80	80	80	80	80
CLEARVIEW SOLAR	SOLAR	--	--	--	200	200	200	200	200	200	200
OAKMAN SOLAR 1&2	SOLAR	--	--	--	--	160	160	160	160	160	160
STEAMROLLER SOLAR	SOLAR	--	--	--	--	150	150	150	150	150	150
SHUBUTA SOLAR	SOLAR	--	--	--	--	156	156	156	156	156	156
GOODSPRINGS BESS	BESS	--	--	--	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
MCGRAU FORD BESS	BESS	--	265	530	530	530	530	530	530	530	530

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	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
DAHLBERG	44	44	44	44	44	44	44	44	44	44
DANIEL	100	100	100	100	100	100	100	100	100	100
HARRIS	71	71	71	71	71	71	71	71	71	71
HILLABEE	210	210	210	210	210	210	210	210	210	210
LINDSAY HILL[1]	220	220	220	220	0	--	--	--	--	--
MILLER[2]	1400	1500	1233	1500	1500	1500	1500	1500	1500	1500
SANDERSVILLE	--	--	267	--	292	292	292	292	292	292
SCHERER	210	210	210	210	0	--	--	--	--	--
VOGTLE	206	206	206	206	206	206	206	206	206	206

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.

SOUTHERN Balancing Authority Area

GTC – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SR BACON	SOLAR	--	100	200	300	300	300	300	300	300	300
SR ROBBINS	SOLAR	--	--	175	250	250	250	250	250	250	250
SR ROCHELLE	SOLAR	--	--	90	140	140	140	140	140	140	140
SR TOOMBS	SOLAR	250	250	250	250	250	250	250	250	250	250
BIG SMARR 1 & 2	GAS	--	--	--	--	--	1200	1200	1200	1200	1200
TALBOT 7	GAS	--	--	--	--	250	250	250	250	250	250

MEAG – Generation Assumptions

The following table depicts the generation assumptions <u>that change</u> throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
NO KNOWN UPDATES AT THIS TIME											

DALTON – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
NO KNOWN UPDATES AT THIS TIME											

POWERSOUTH – Generation Assumptions

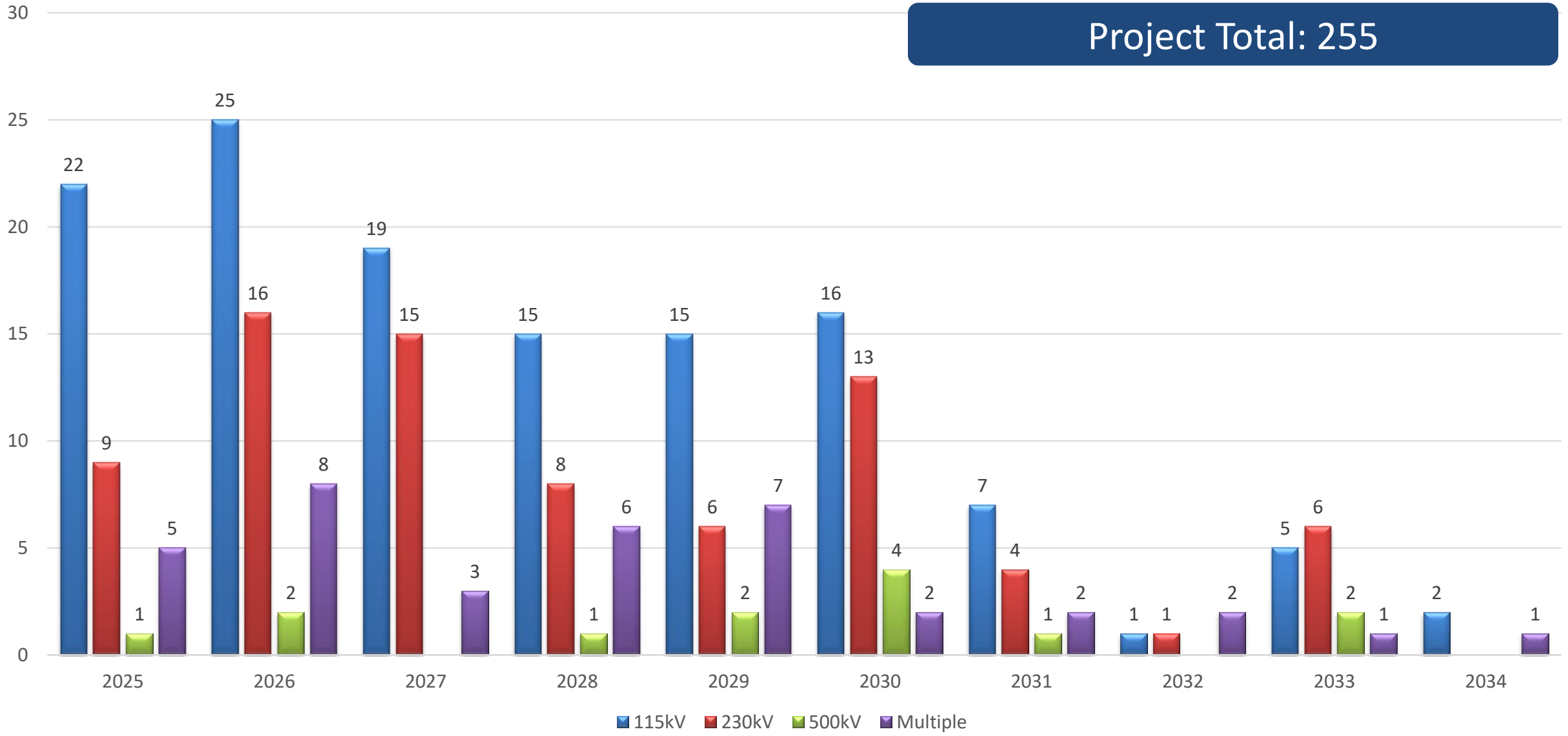
The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fountain	Solar	75	75	75	75	75	75	75	75	75	75
Walker Springs III	Solar	--	80	80	80	80	80	80	80	80	80

Southeastern Regional TRANSMISSION PLANNING

SBAA Project Summary

Project Total: 255



SOUTHERN Balancing Authority Area

SOUTHERN (WEST) Balancing Authority Area

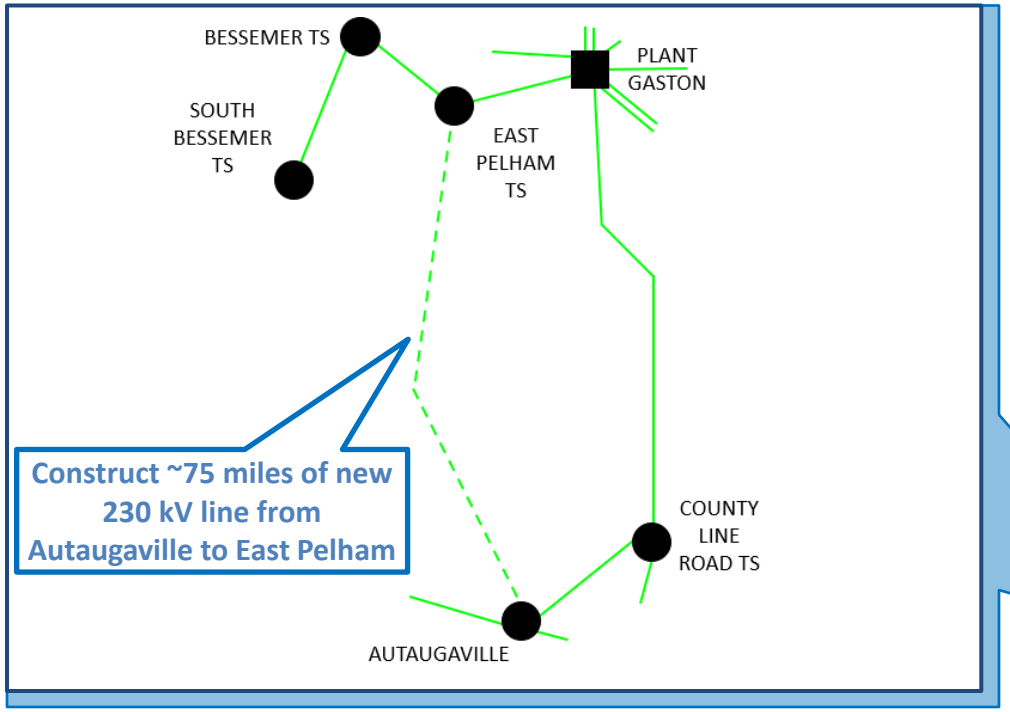
Transmission Expansion Plan

SOUTHERN Balancing Authority Area

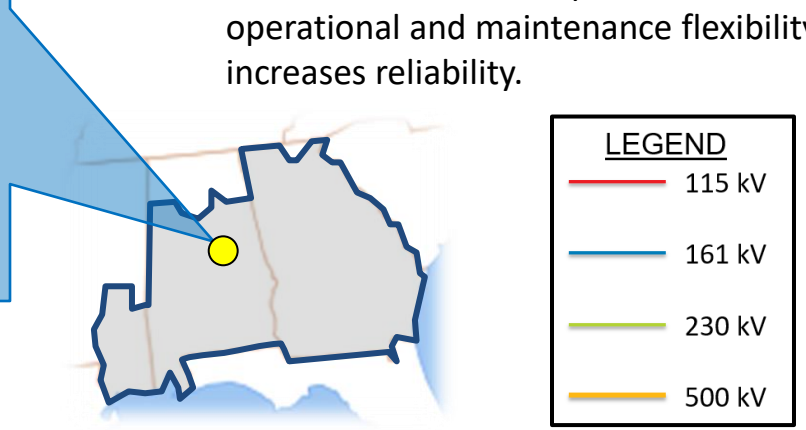
SOUTHERN – 1W

• **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.

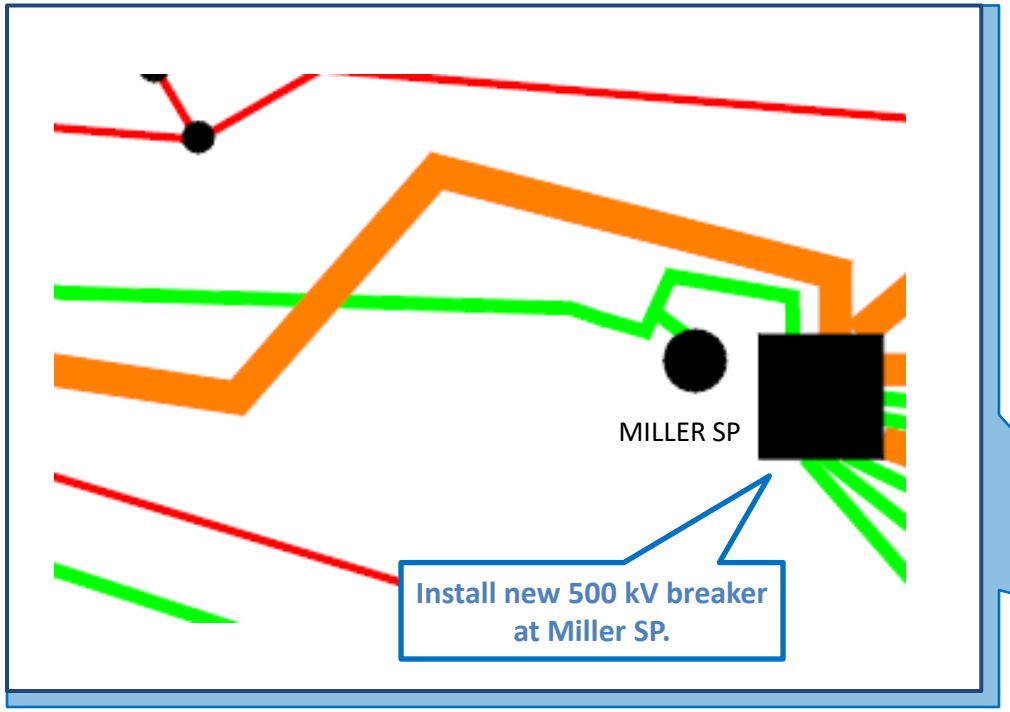


SOUTHERN Balancing Authority Area

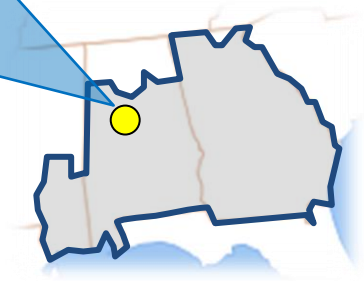
SOUTHERN – 2W

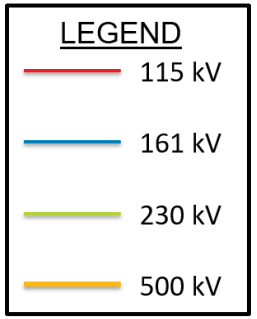
• **2028**

MILLER SP 500 KV SERIES BREAKER



- **DESCRIPTION:**
  - Install a 500 kV series breaker at Miller SP.
- **SUPPORTING STATEMENT:**
  - The Boyles - Miller 230 kV transmission line and many other transmission lines overload under contingency.



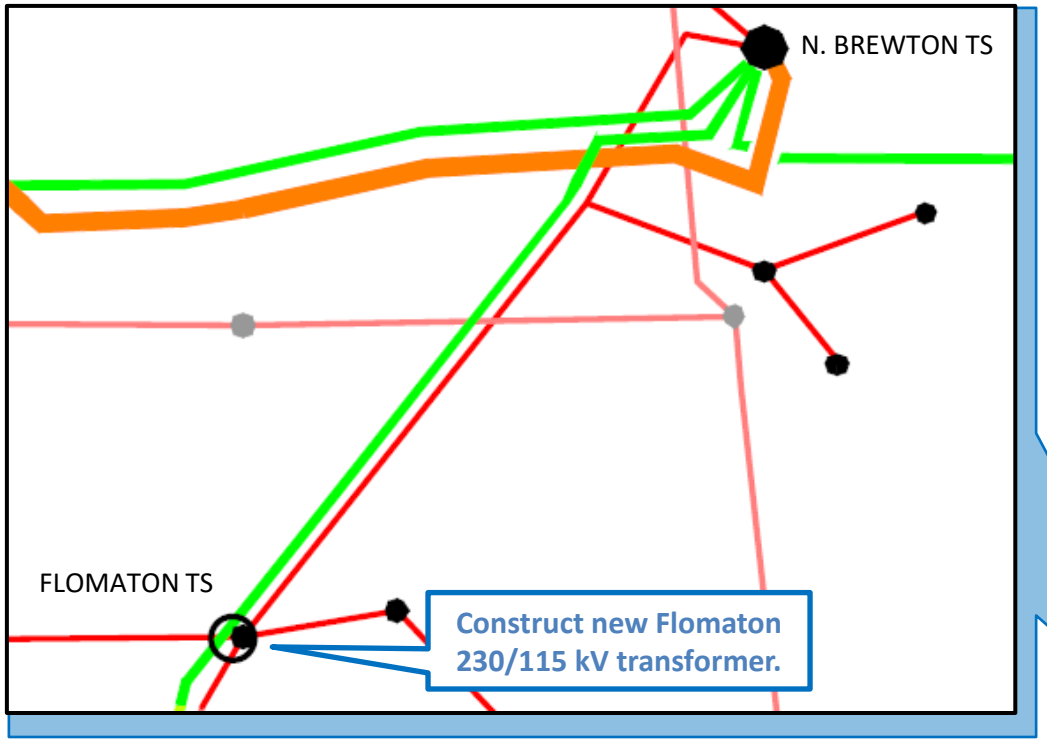


SOUTHERN Balancing Authority Area

SOUTHERN – 3W

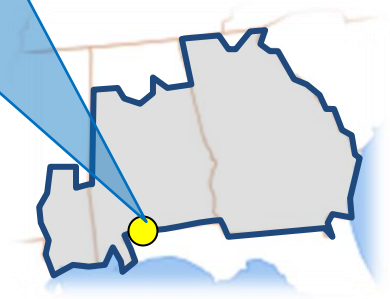
• **2029**

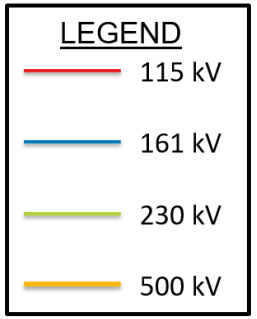
FLOMATON 230/115 KV SUBSTATION



- **DESCRIPTION:**
  - Construct a new Flomaton 230/115 kV, 480 MVA transformer at Flomaton TS.

- **SUPPORTING STATEMENT:**
  - Provides additional operational and maintenance flexibility which then increases reliability. This project also provides voltage support under contingency scenarios.



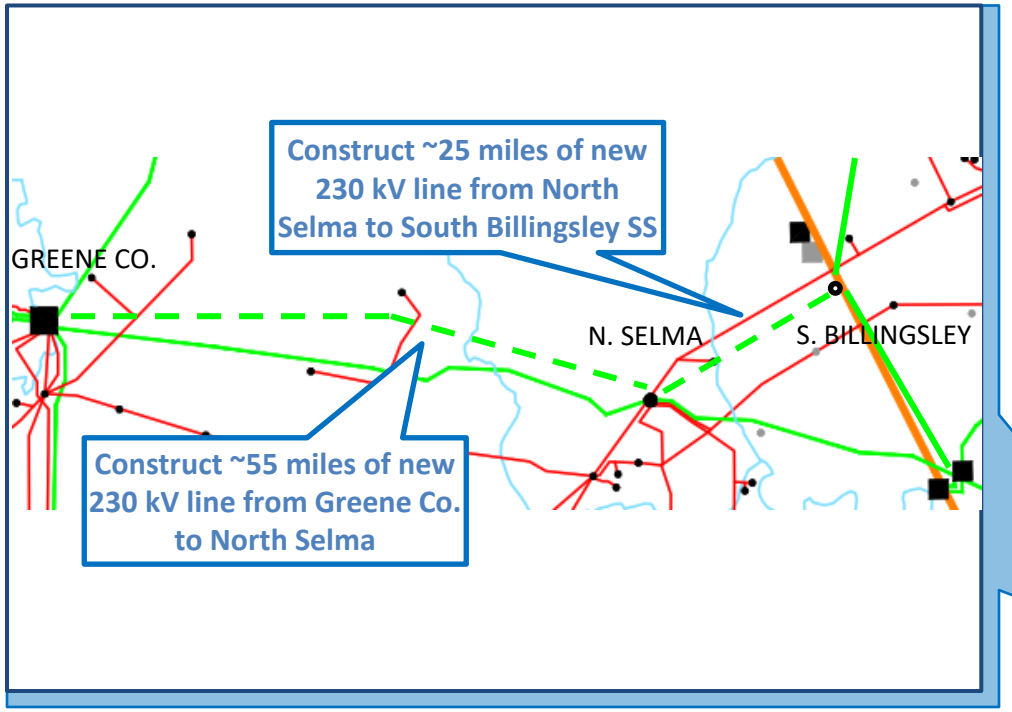


SOUTHERN Balancing Authority Area

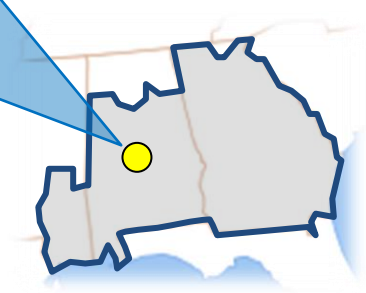
SOUTHERN – 4W

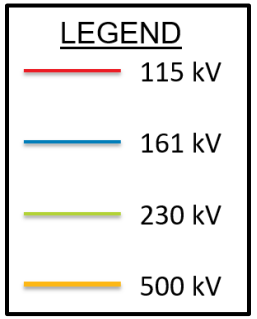
• **2032**

WESTERN AREA SOLUTION



- **DESCRIPTION:**
  - Construct ~55 miles of new 230 kV TL of bundled (2) 1351 ACSR or equivalent from Greene Co to North Selma and ~25 miles from North Selma to a new South Billingsley 230 kV SS.
- **SUPPORTING STATEMENT:**
  - The Greene County - North Selma 230 kV transmission line overloads under contingency. Reduces multiple 115 kV and 230 kV line loadings and provides additional operational and maintenance flexibility, which increases reliability.





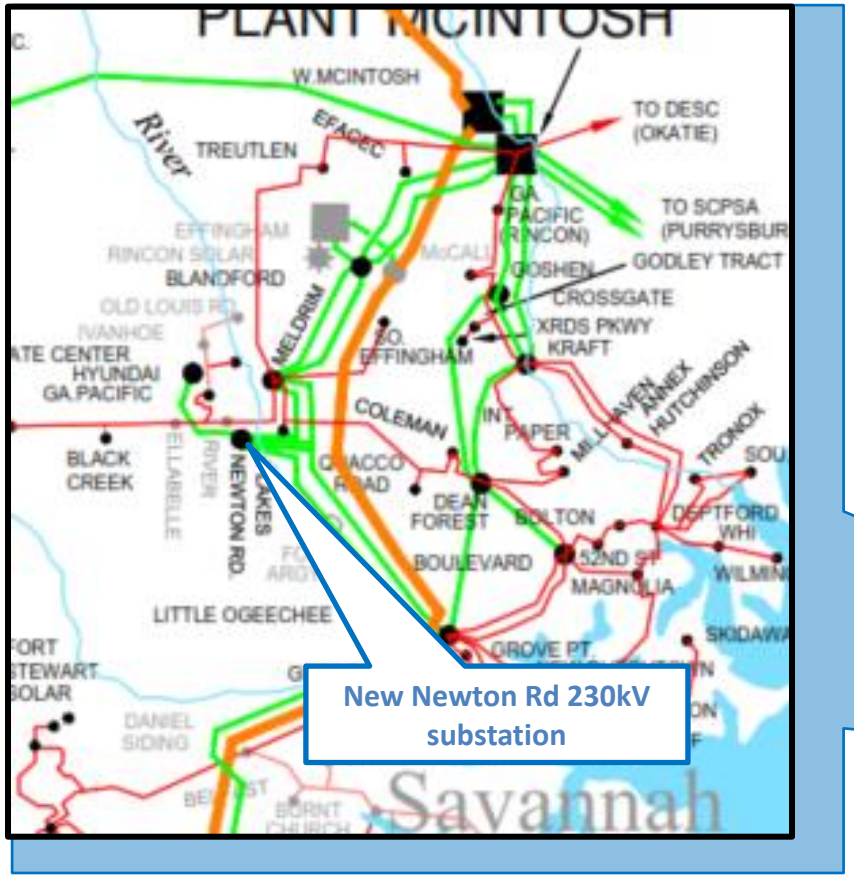
SOUTHERN (EAST) Balancing Authority Area

Transmission Expansion Plan

SOUTHERN – 1E

• **2025**

SAVANNAH AREA TRANSMISSION NETWORK UPGRADES

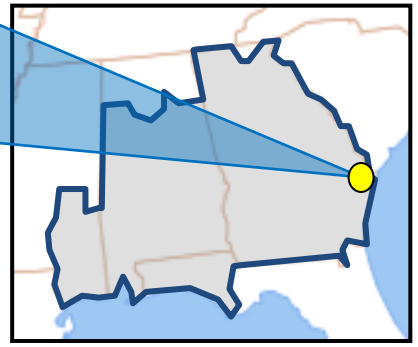


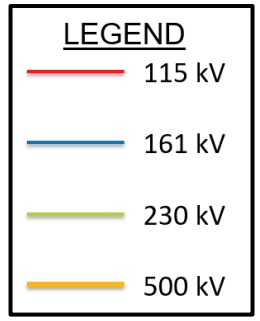
DESCRIPTION:

- Construct a new 230kV customer substation. Construct a new Newton Rd 230kV substation and loop through the Little Ogeechee - Meldrim Black and White 230kV lines. Build two new 230kV lines connecting from customer station to Newton Rd (12 miles) and from customer station to Meldrim (10 miles). At Meldrim, add a breaker to accommodate for the new customer line. Install a 115/25kV bank at Interstate Centre and build a new 115kV line from Interstate Centre to customer station (2.3 miles) for bridge power.

SUPPORTING STATEMENT:

- The new 230kV switching station and two 230kV lines are needed to serve large load additions in the area.



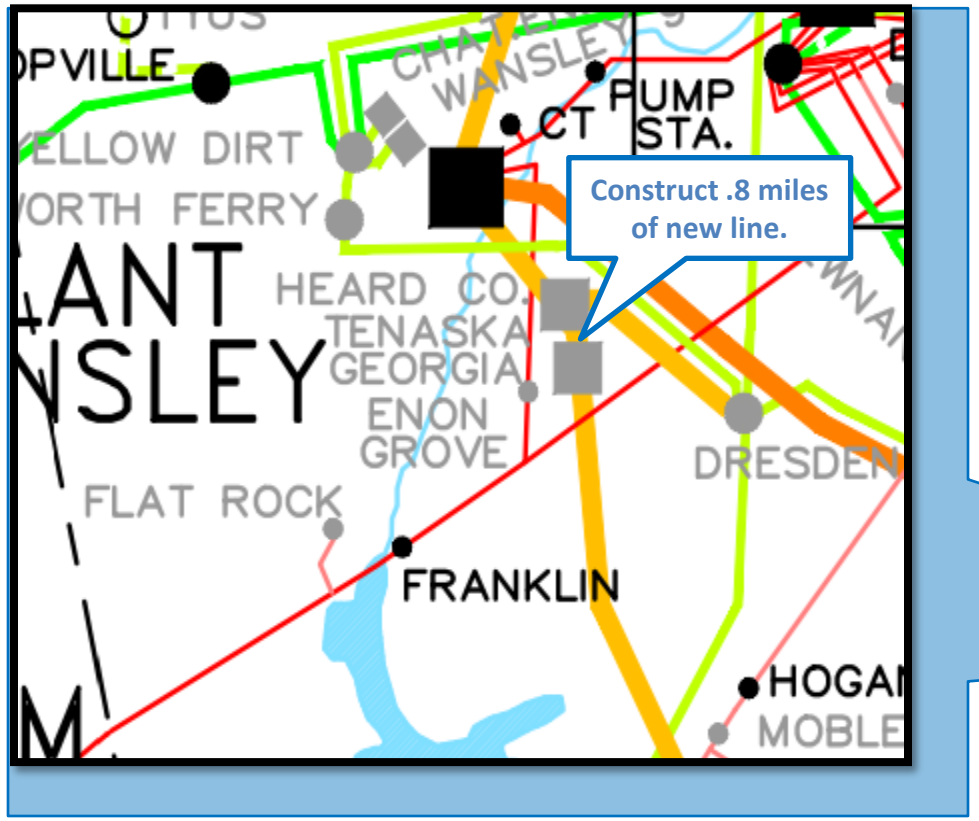


SOUTHERN Balancing Authority Area

SOUTHERN – 2E

• **2025**

HEARD COUNTY-TENASKA 500KV (SECOND LINE)

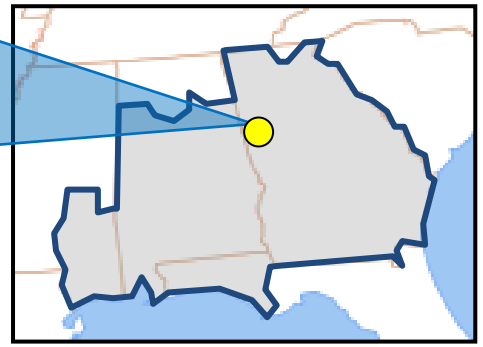


DESCRIPTION:

- GTC: Build a second Heard County –Tenaska 500kV line, 0.8 miles with 100°C (3) 1113 ACSR conductor. Add 500kV breaker at Heard County.
- GPC: Add a 500kV breaker at Tenaska.

SUPPORTING STATEMENT:

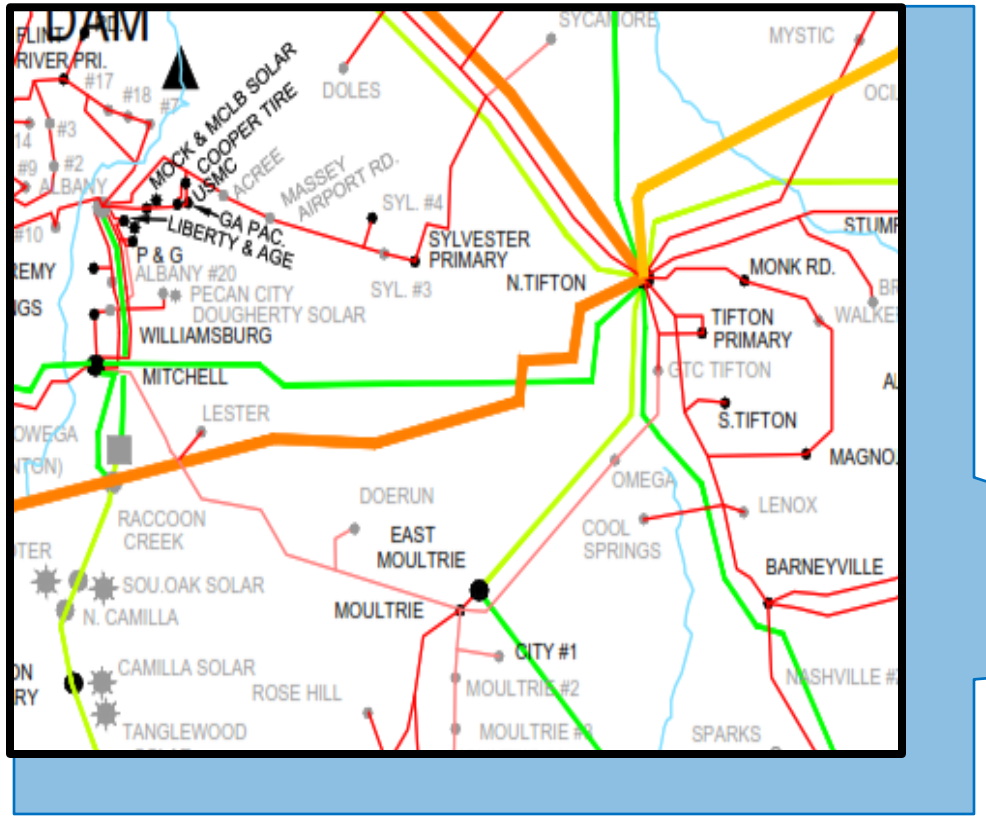
- This project resolves multiple overloads under contingency and improves system reliability.



SOUTHERN – 3E

• **2025**

MITCHELL – NORTH TIFTON 230KV

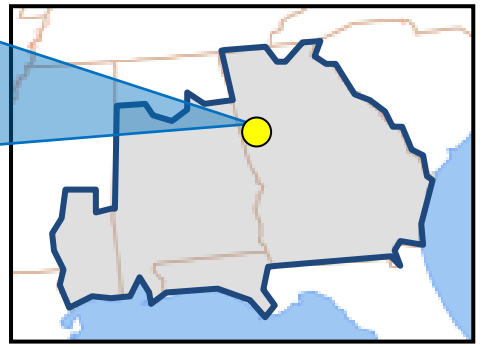


DESCRIPTION:

- Rebuild approximately 35.21 miles of the Mitchell - North Tifton 230kV line with 100C 1351 ACSR.

SUPPORTING STATEMENT:

- The Mitchell - North Tifton 230kV line overloads under contingency.

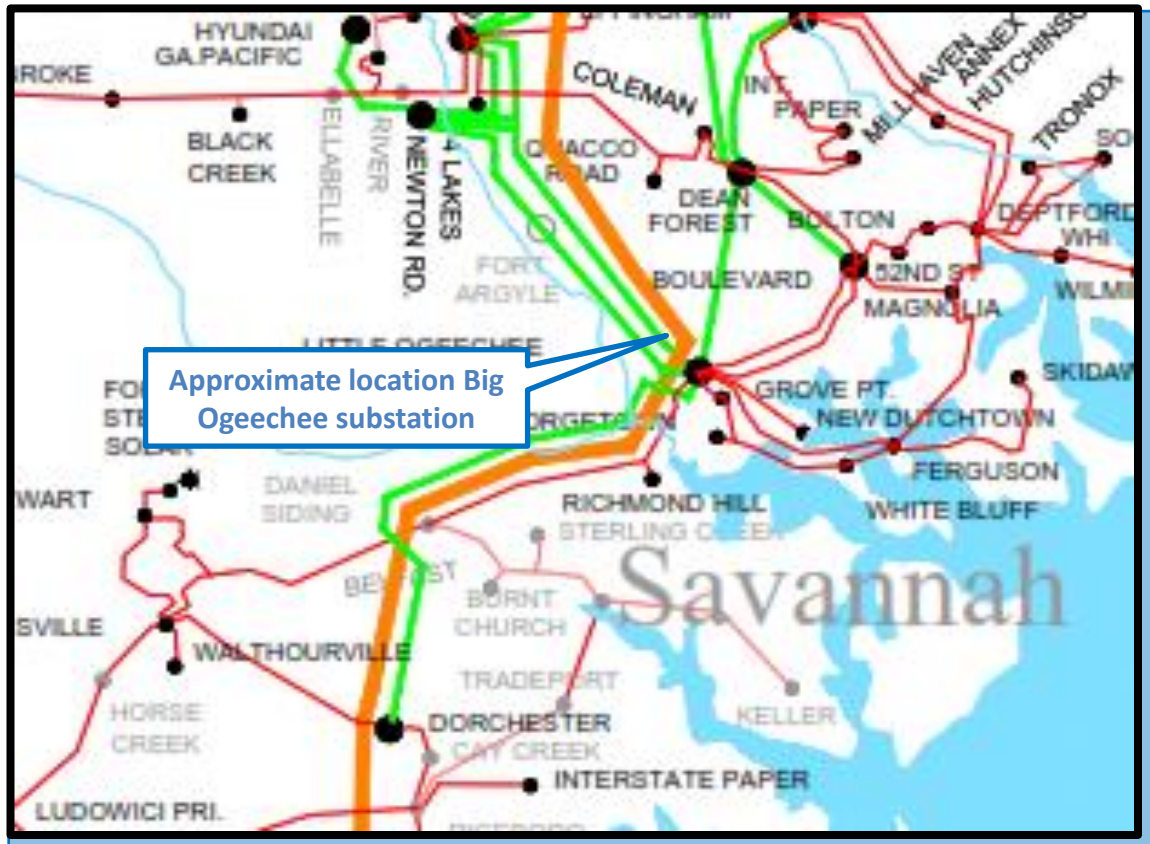


SOUTHERN Balancing Authority Area

SOUTHERN – 4E

• **2026**

BIG OGEECHEE 500/230KV STATION

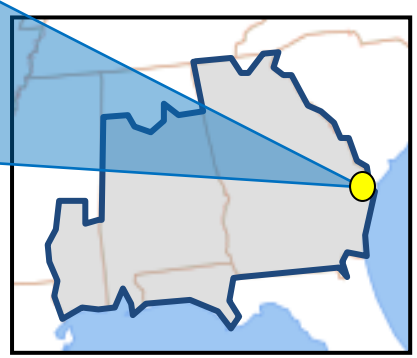


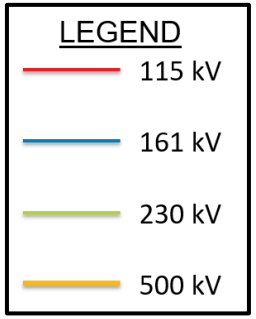
DESCRIPTION:

- Construct a new 500/230kV substation near Little Ogeechee substation, loop in the nearby 500kV and 230kV lines, and construct a new 230kV line to Little Ogeechee substation.

SUPPORTING STATEMENT:

- The West McIntosh 500/230kV autotransformers overload under contingency.



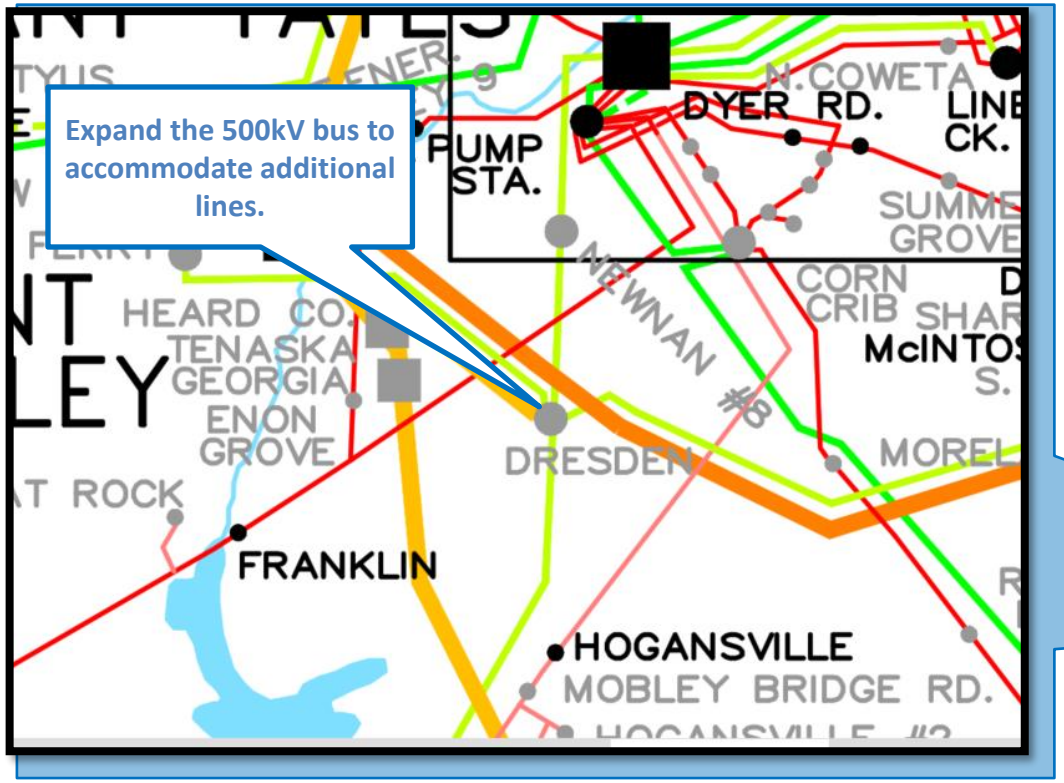


SOUTHERN Balancing Authority Area

SOUTHERN – 5E

• **2026**

GTC: DRESDEN 500KV BUS EXPANSION

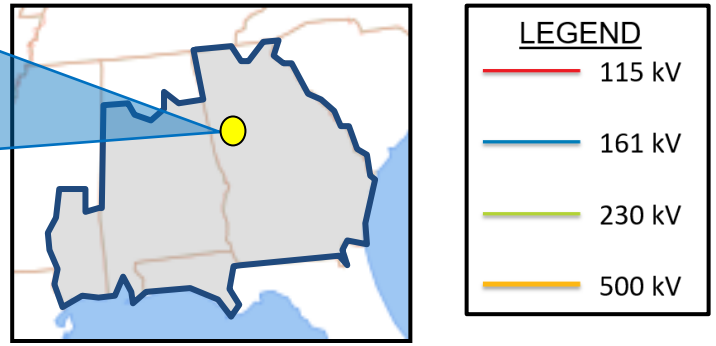


DESCRIPTION:

- Expand the Dresden 500kV bus to bring additional 500kV lines into the station.

SUPPORTING STATEMENT:

- This project resolves multiple thermal constraints by eliminating a contingency.

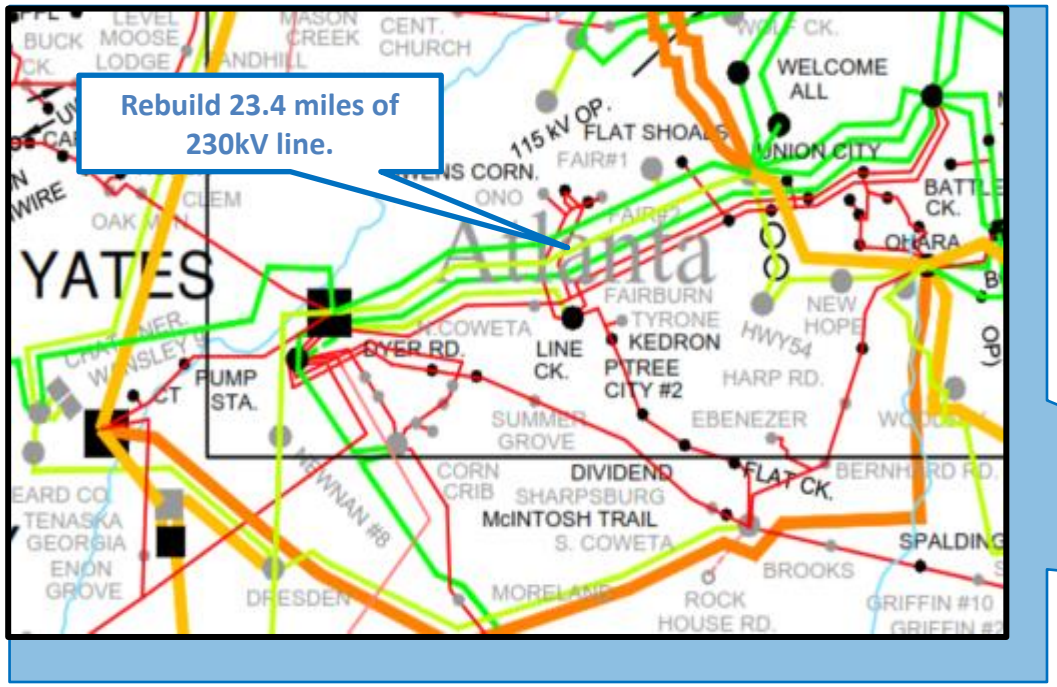


SOUTHERN Balancing Authority Area

SOUTHERN – 6E

• **2026**

UNION CITY-YATES (WHITE) 230KV

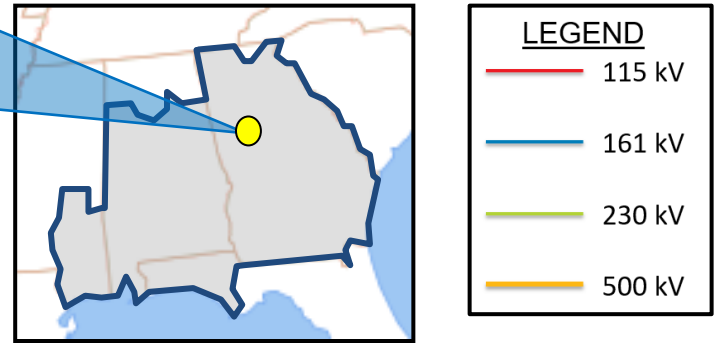


DESCRIPTION:

- Rebuild the entire Union City - Yates 230kV White line with higher rated conductor (23.4 miles).

SUPPORTING STATEMENT:

- The Union City - Yates (White) 230kV line overloads under contingency.

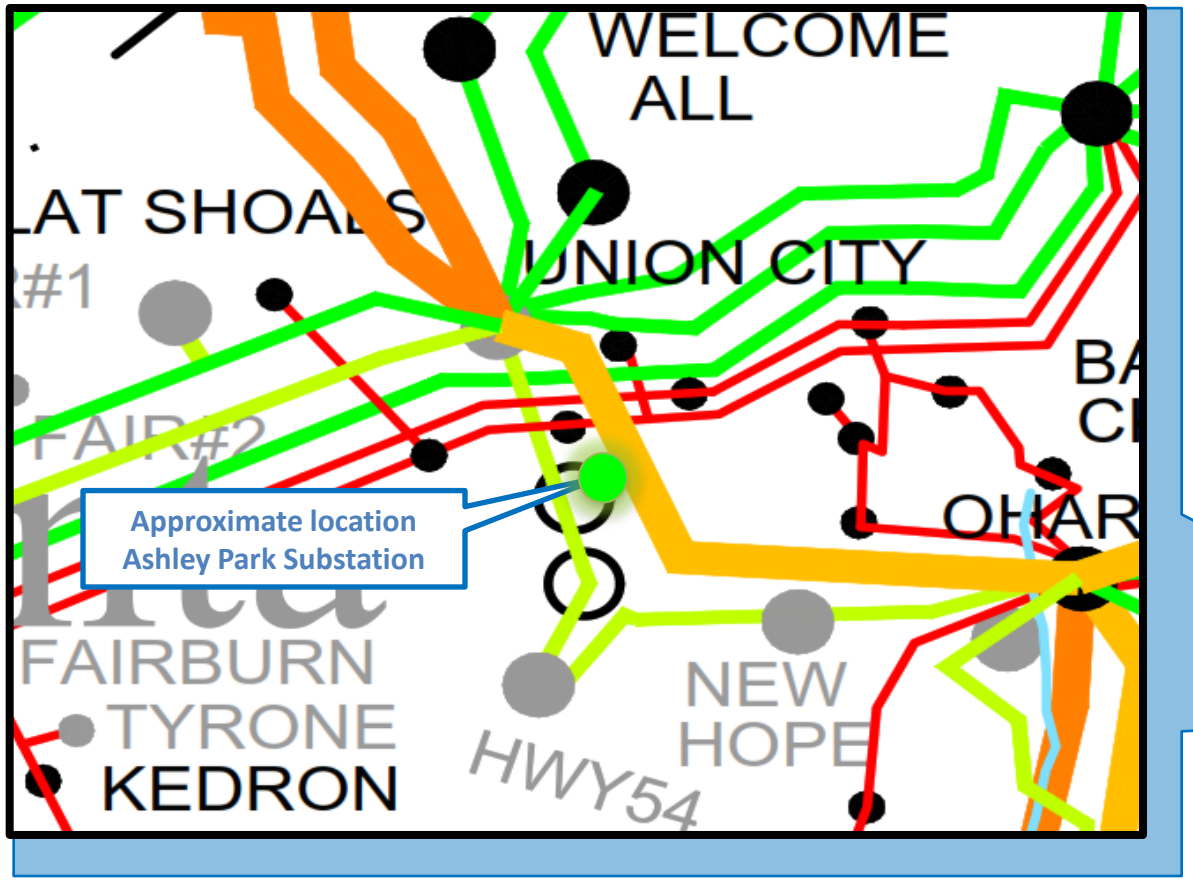


SOUTHERN Balancing Authority Area

SOUTHERN – 7E

• **2026**

ASHLEY PARK 500/230KV SUBSTATION

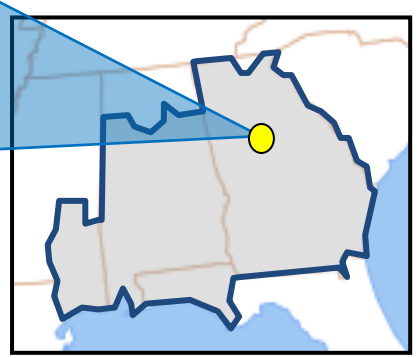


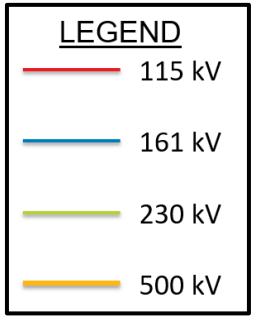
DESCRIPTION:

- Construct a 500/230kV substation with two autotransformers.
- Build two new 230kV lines from the new 500/230kV station to serve customer load.

SUPPORTING STATEMENT:

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

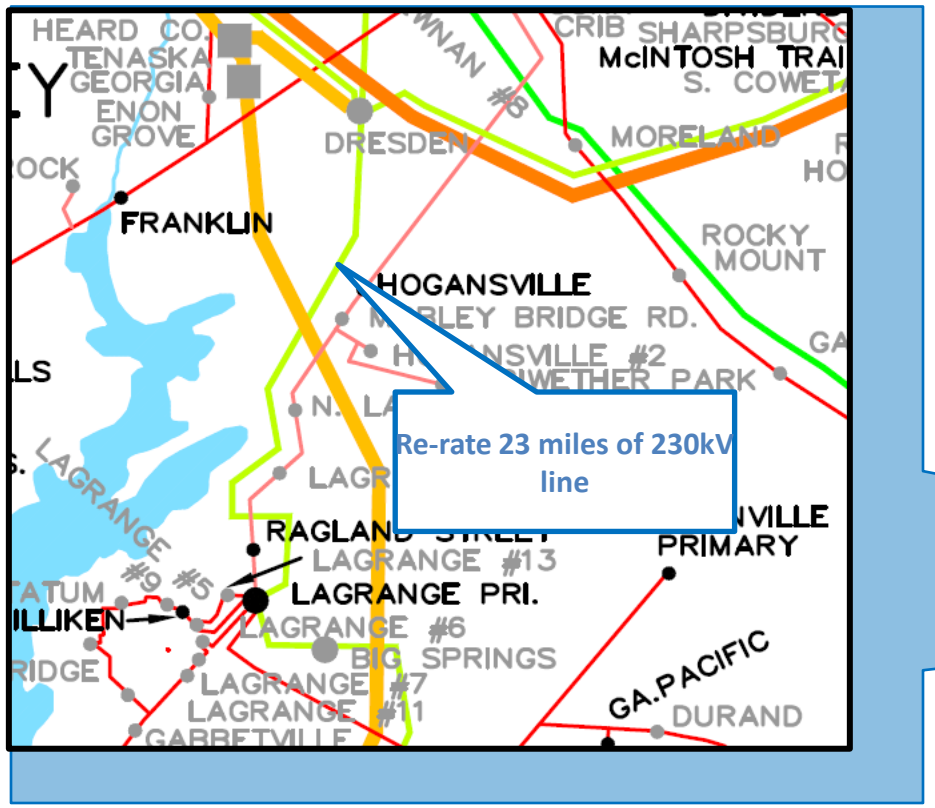




SOUTHERN – 8E

• **2026**

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

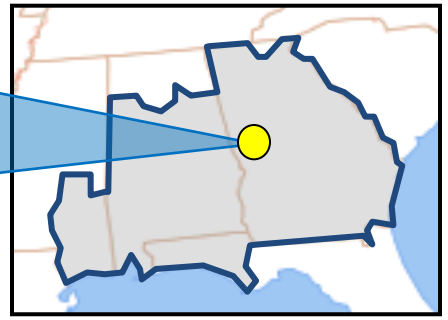


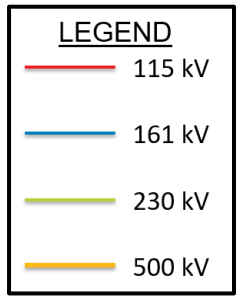
DESCRIPTION:

- Re-rate the 23 miles of the Dresden - LaGrange Primary 230kV line and upgrade limiting elements at substations along the line.

SUPPORTING STATEMENT:

- The Dresden – Lagrange Primary 230kV line overloads under contingency.

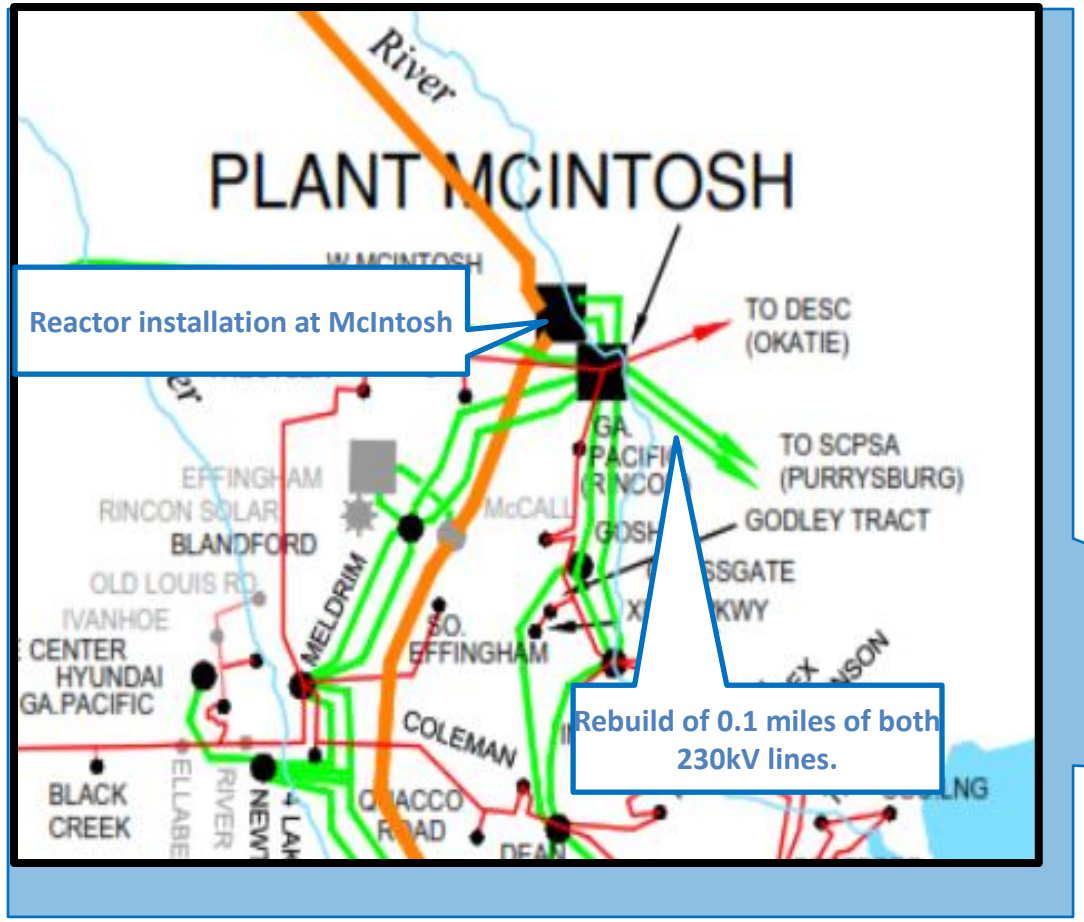




SOUTHERN – 9E

• 2026

MCINTOSH – PURRYSBURG 230KV REACTORS AND REBUILDS

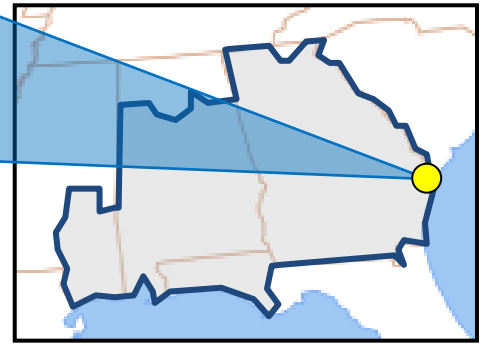


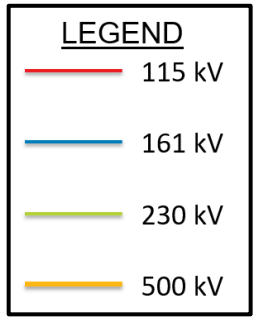
Description:

- Install reactors on the McIntosh - Purrysburg (Black and White) 230kV tie lines at McIntosh. Rebuild 0.1 miles (GPC portion) for both lines to (2) 200C 1351 ACSS conductor.

Supporting Statement:

- The McIntosh - Purrysburg 230kV (Black & White) tie lines overload under contingency and supports transfer capability

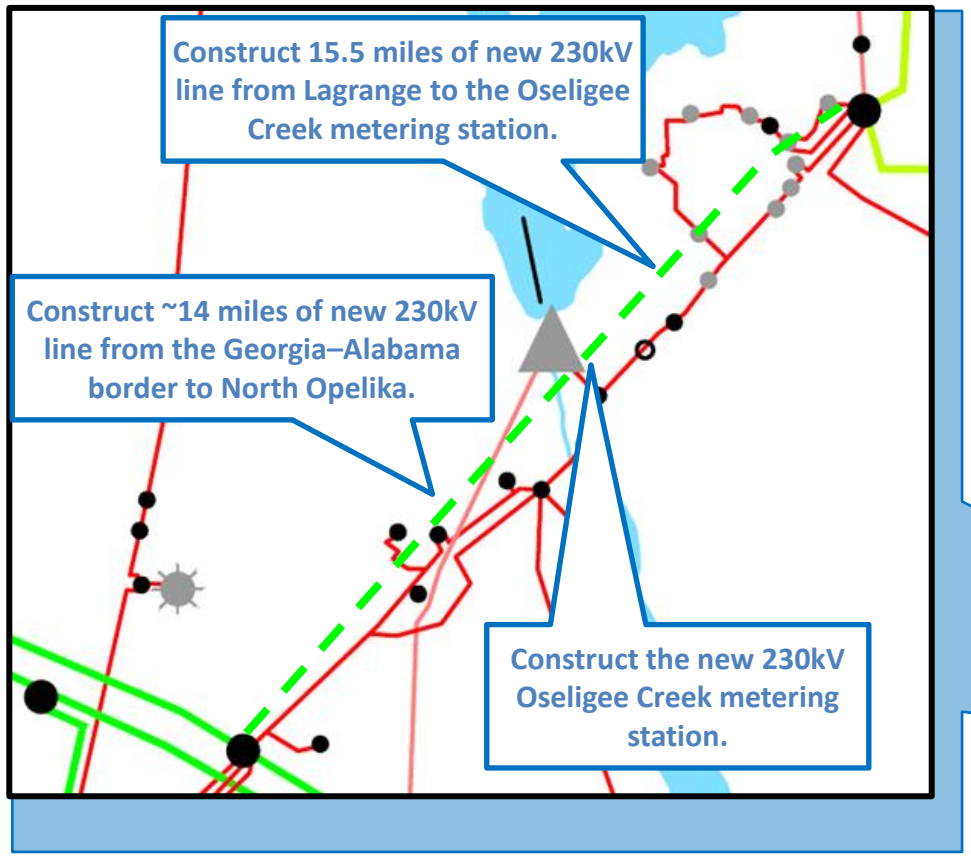




SOUTHERN – 10E

• 2026

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

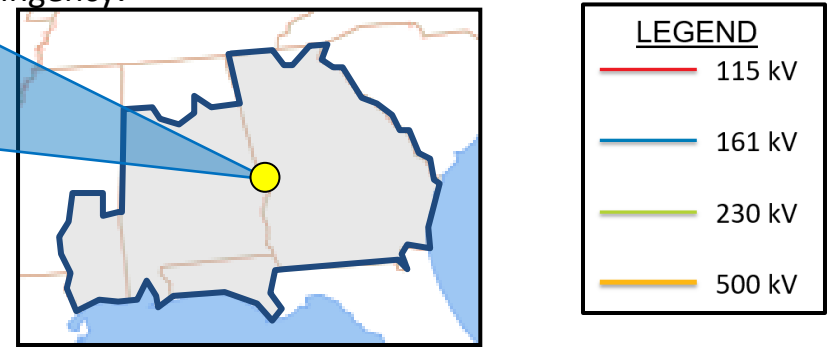


Description:

- APC: Construct ~14 miles of new 230 kV transmission line utilizing 1351 ACSR @ 100°C from a new metering point, located at the Georgia-Alabama border, to North Opelika TS.
- GTC: Construct the Oseligee Creek 230kV metering station near the Georgia-Alabama state line. Construct the 230kV line section (15.5 miles) from Lagrange Primary to Oseligee Creek.
- GPC: Construct the 230kV line section from Oseligee Creek to the Georgia-Alabama state line (~1 mile). Extend the 230kV bus at Lagrange Primary to terminate the new line.

Supporting Statement:

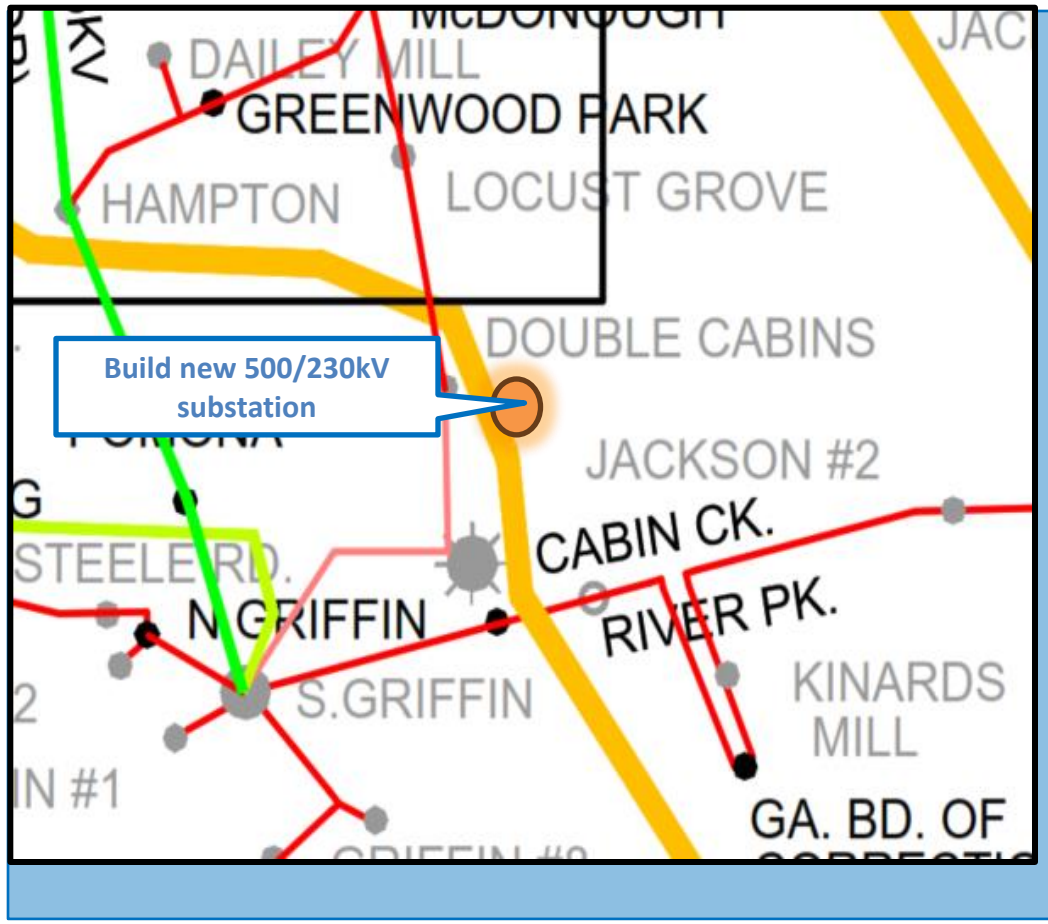
- The project addresses multiple thermal overloads that occur under contingency.



SOUTHERN – 11E

• **2027**

TOMOCHICHI 500/230KV SUBSTATION

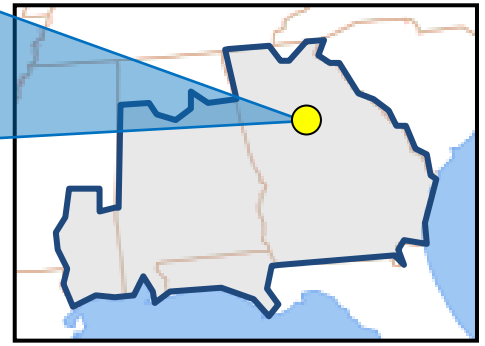


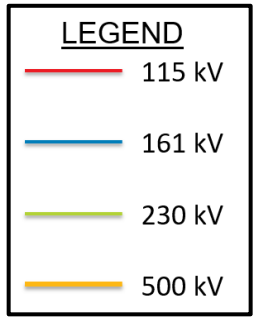
Description:

- Build the new Tomochichi 500/230kV switching station along with two new 230kV lines.

Supporting Statement:

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

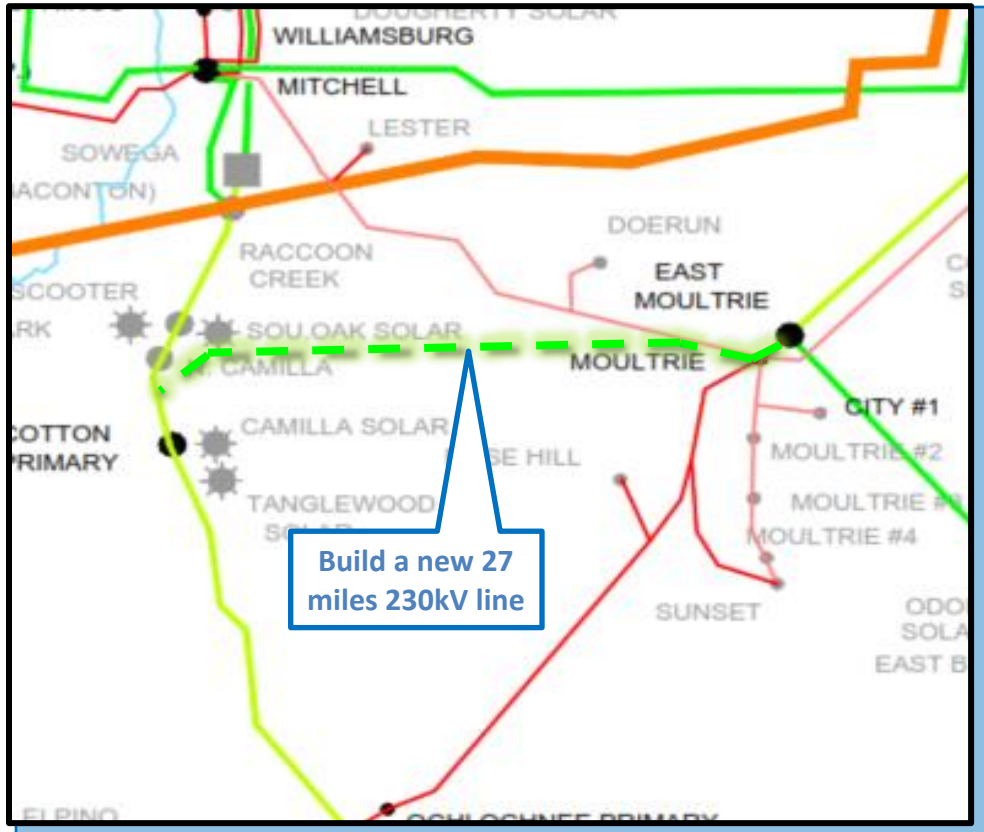




SOUTHERN – 12E

• **2027**

GTC: EAST MOULTRIE-HIGHWAY 112 230KV

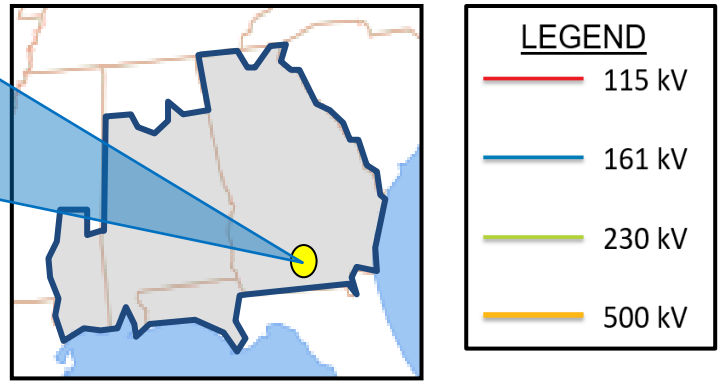


DESCRIPTION:

- Build approximately 27 miles of new 230kV line between HWY 112 and East Moultrie substations.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.

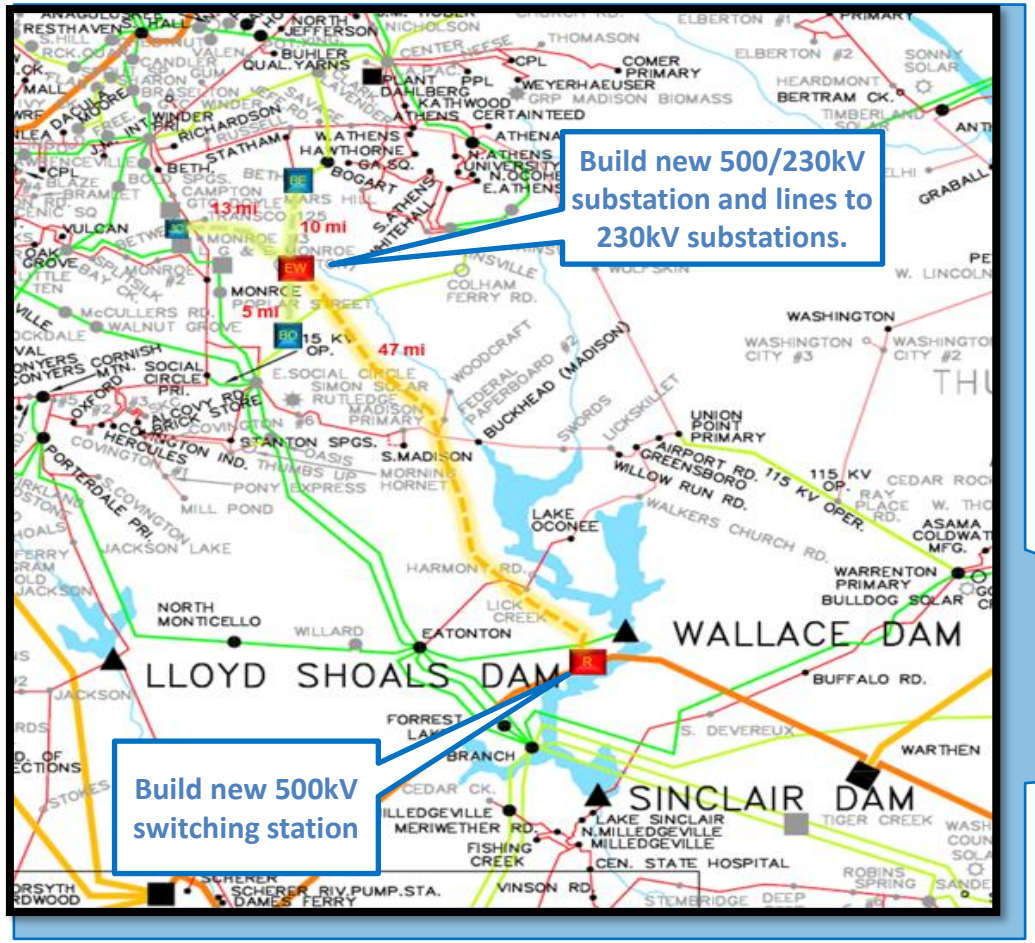


SOUTHERN Balancing Authority Area

SOUTHERN – 13E

• **2027**

GTC: EAST WALTON 500/230KV AREA PROJECT

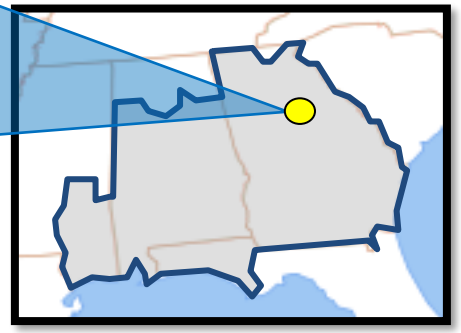


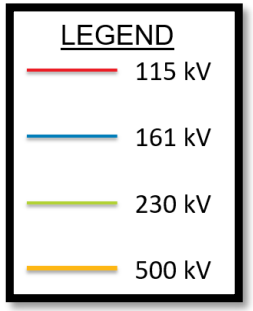
DESCRIPTION:

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

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.



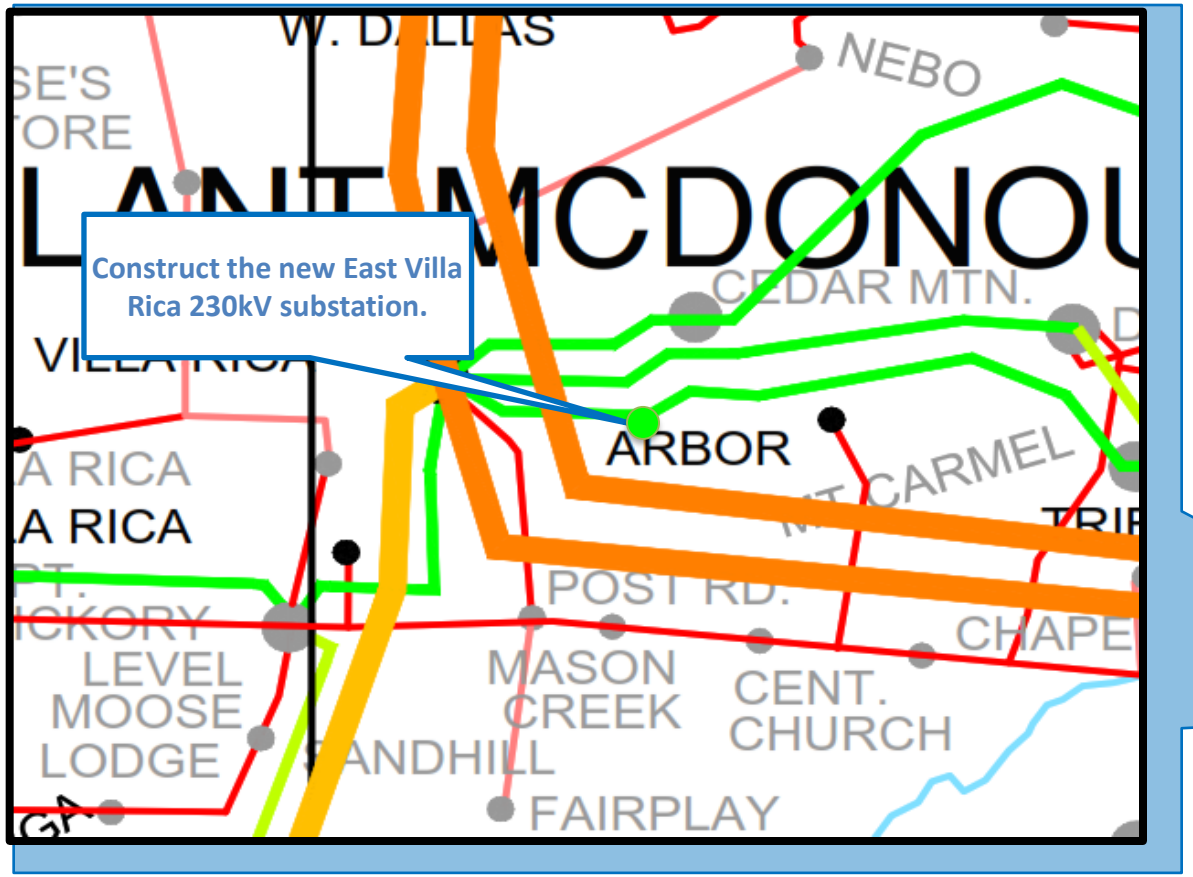


SOUTHERN Balancing Authority Area

SOUTHERN – 14E

• **2028**

EAST VILLA RICA 230KV SUBSTATION

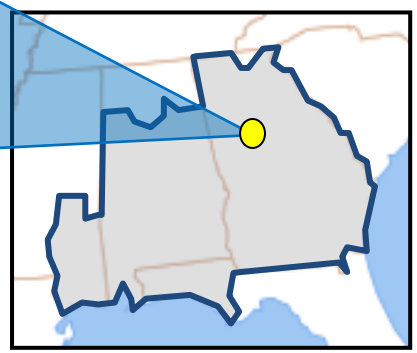


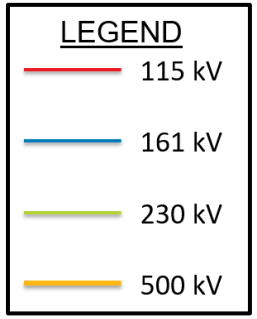
DESCRIPTION:

- Build a 230kV breaker and a half switching station and terminate (3) adjacent 230kV lines.

SUPPORTING STATEMENT:

- This project is required to reliably serve large loads in the area.



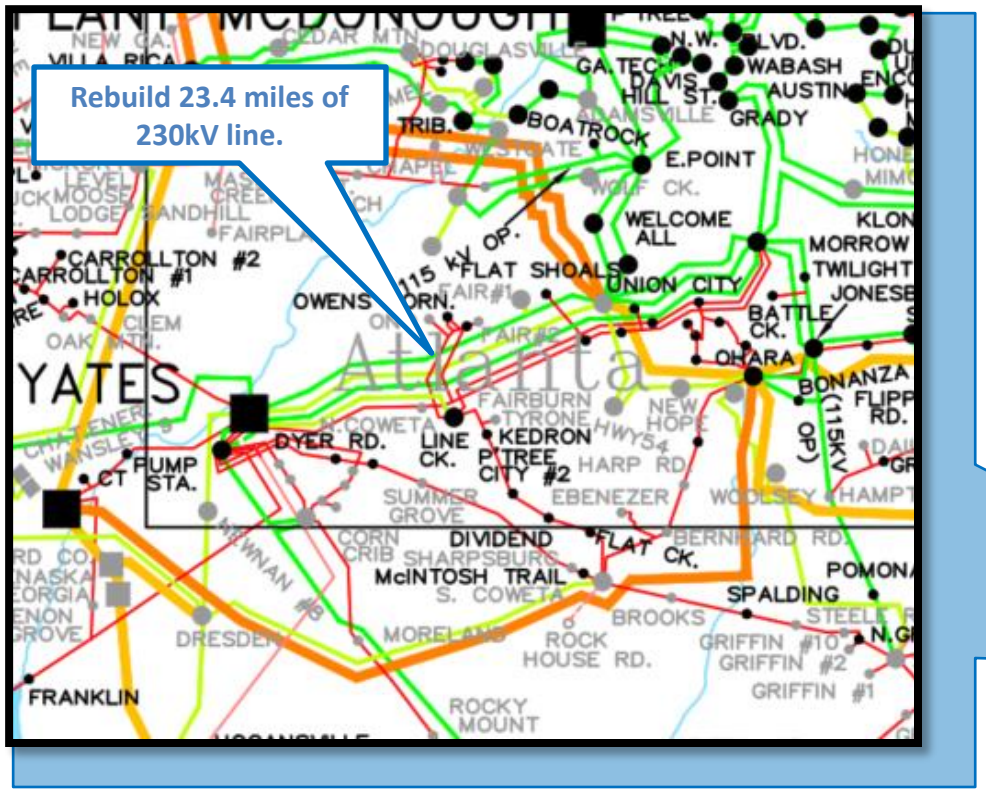


SOUTHERN Balancing Authority Area

SOUTHERN – 15E

• **2028**

UNION CITY – YATES (BLACK) 230KV LINE REBUILD

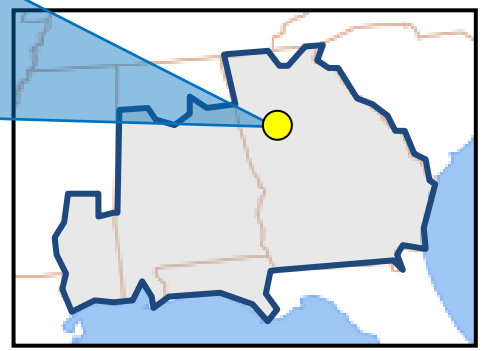


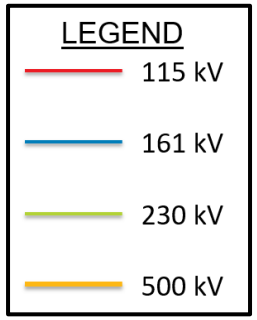
DESCRIPTION:

- Rebuild the entire Union City - Yates (Black) 230kV line (approximately 23.4 miles) and upgrade limiting elements at substations along the line.

SUPPORTING STATEMENT:

- The Union City - Yates (Black) 230kV line overloads under contingency.

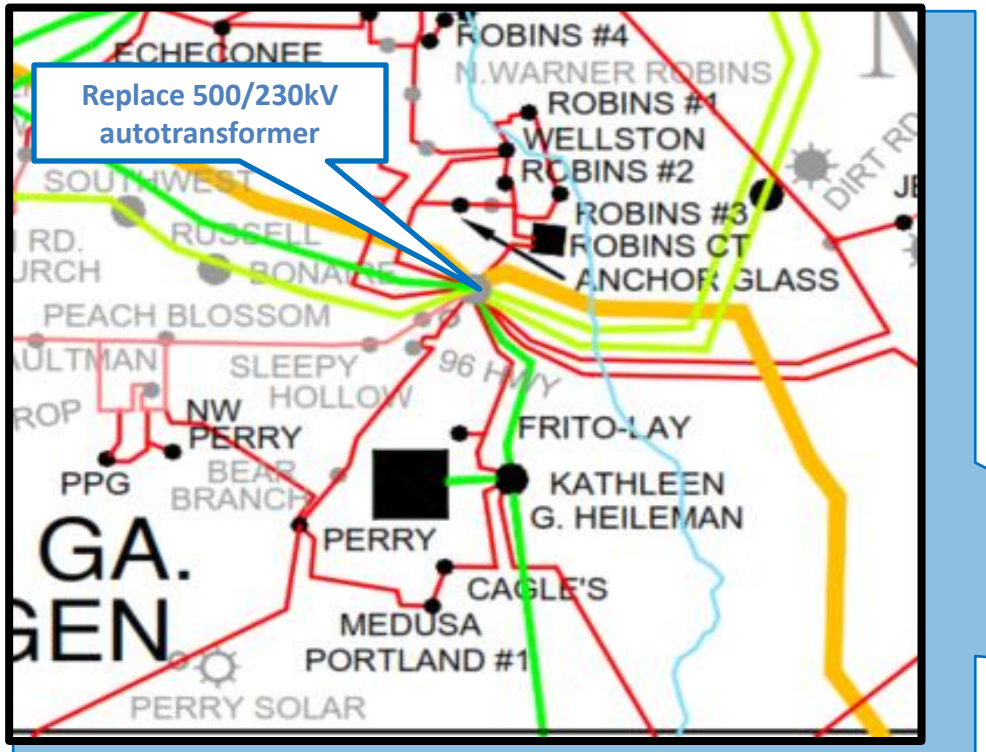




SOUTHERN – 16E

• 2028

GTC: BONAIRE PRIMARY 500/230KV AUTOTRANSFORMER REPLACEMENT

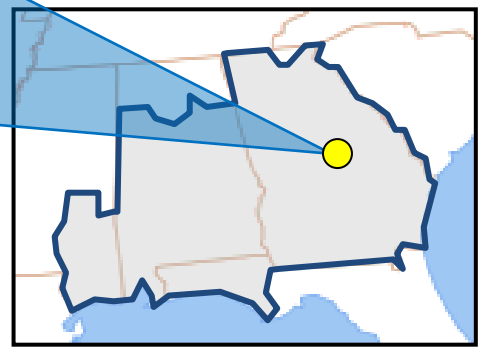


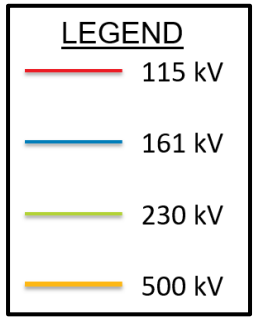
DESCRIPTION:

- Replace 500/230 kV autotransformer with a new transformer and replace obsolete protective relay panels.

SUPPORTING STATEMENT:

- Due to ongoing maintenance issues, replacement of major equipment along with obsolete relays is required.

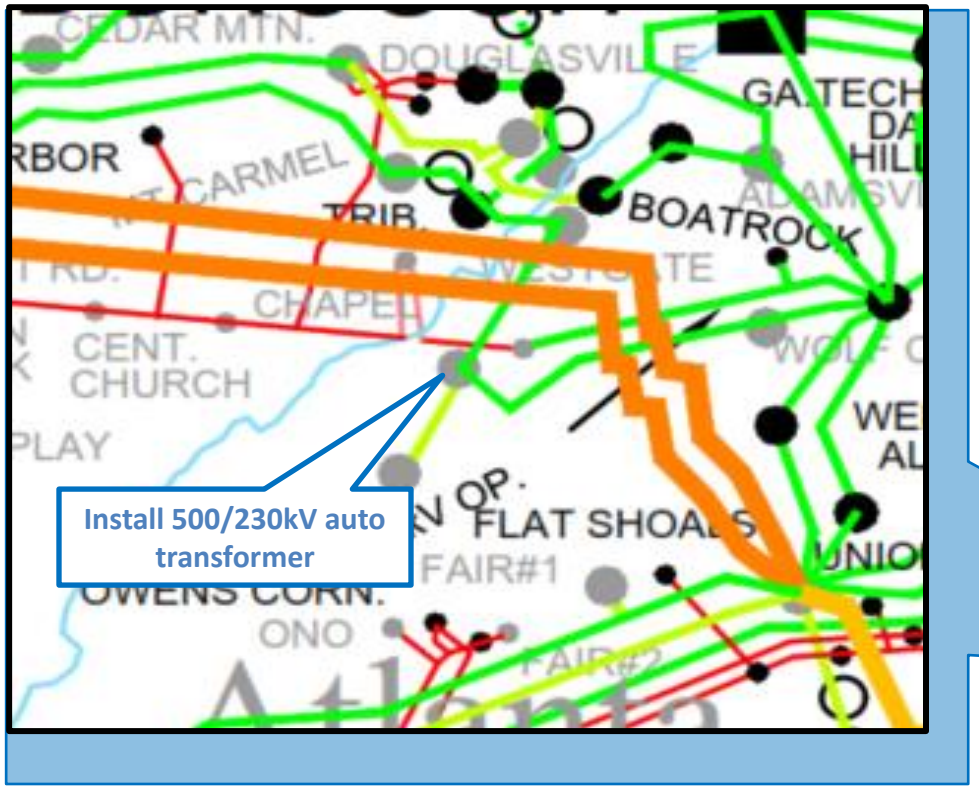




SOUTHERN – 17E

• 2028

GTC: CAVENDER DRIVE 500/230KV AUTOTRANSFORMER INSTALLATION

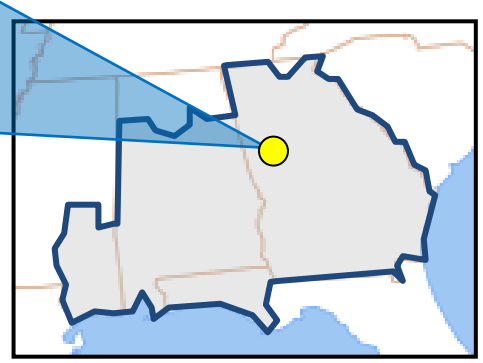


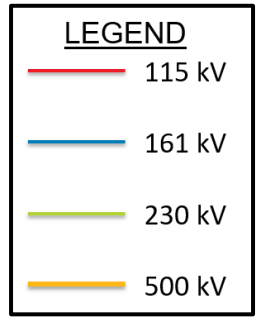
DESCRIPTION:

- Install a 500/230kV autotransformer at Cavender Drive station and loop in the Villa Rica - Union City 500kV line.

SUPPORTING STATEMENT:

- The project resolves multiple thermal overloads in the area under contingency.

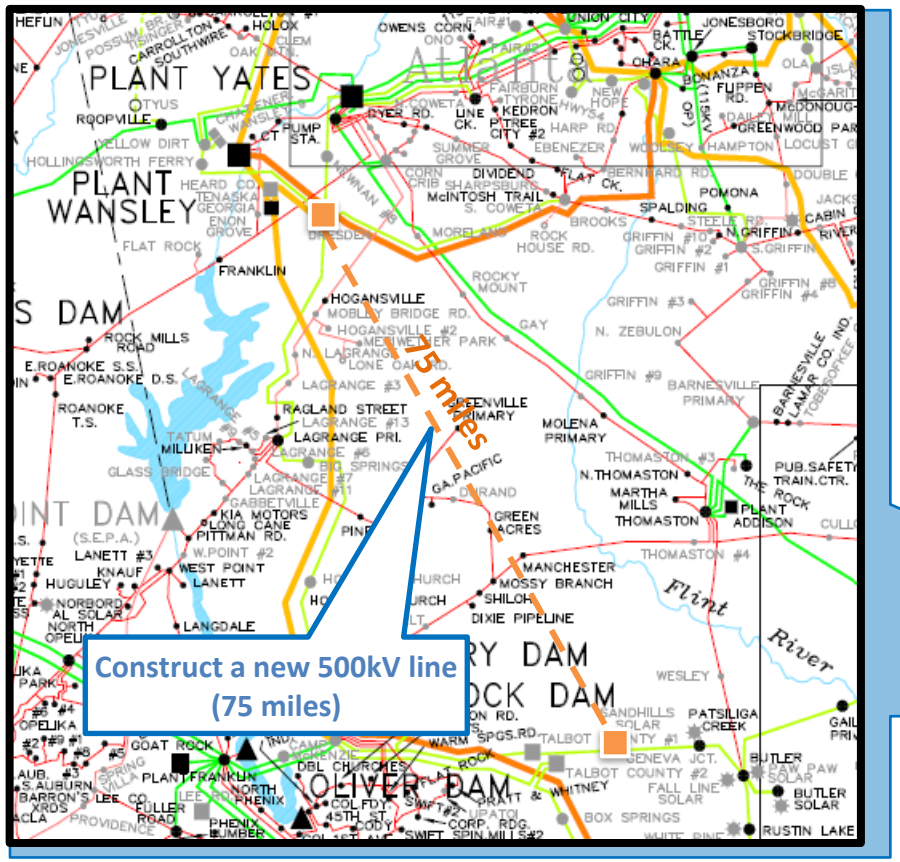




SOUTHERN – 18E

• **2029**

GTC: DRESDEN – TALBOT 500KV LINE

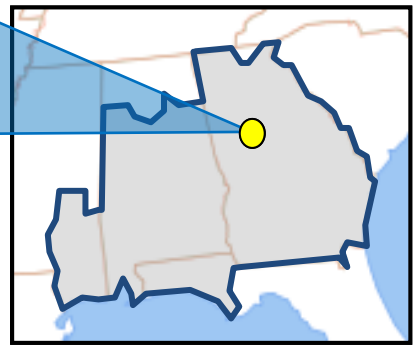


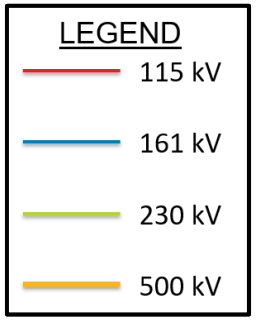
DESCRIPTION:

- Build the new Talbot 500/230kV substation.
- Build a 75-mile 500kV line from the Talbot substation to Dresden.

SUPPORTING STATEMENT:

- The project addresses multiple thermal overloads that occur under contingency.

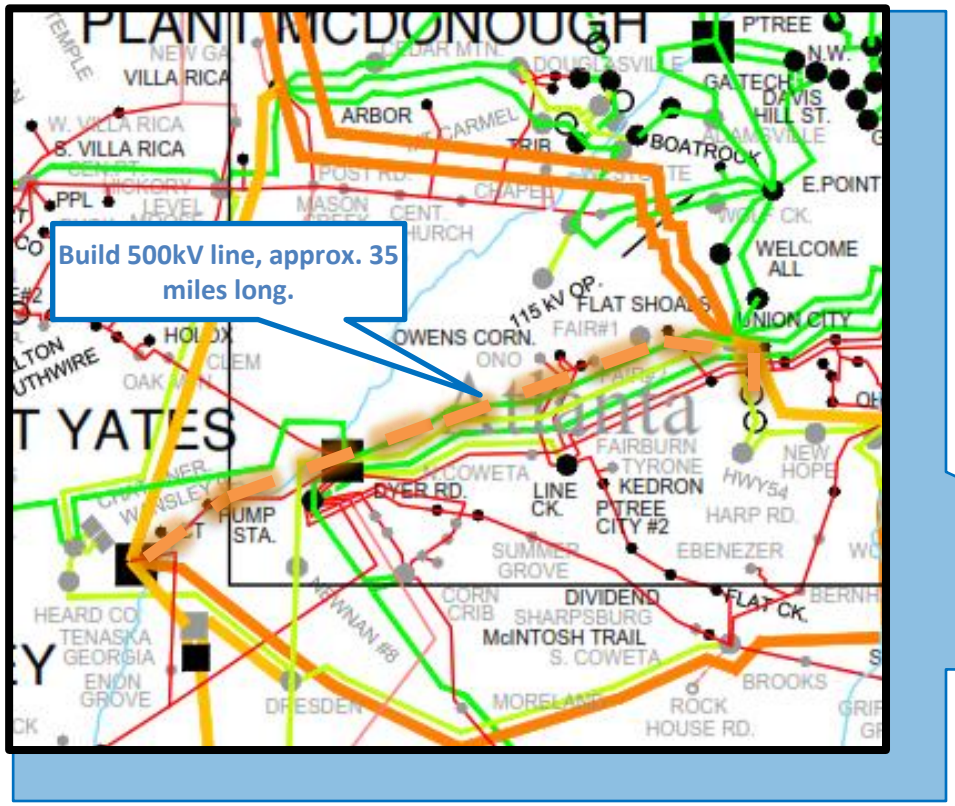




SOUTHERN – 19E

• 2029

ASHLEY PARK – WANSLEY 500KV

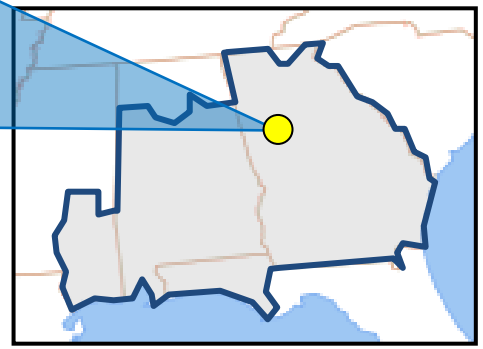


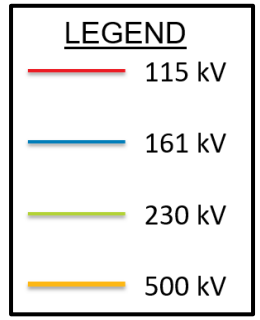
DESCRIPTION:

- Construct a new 500kV line from Ashley Park to Wansley, approximately 35 miles long.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.



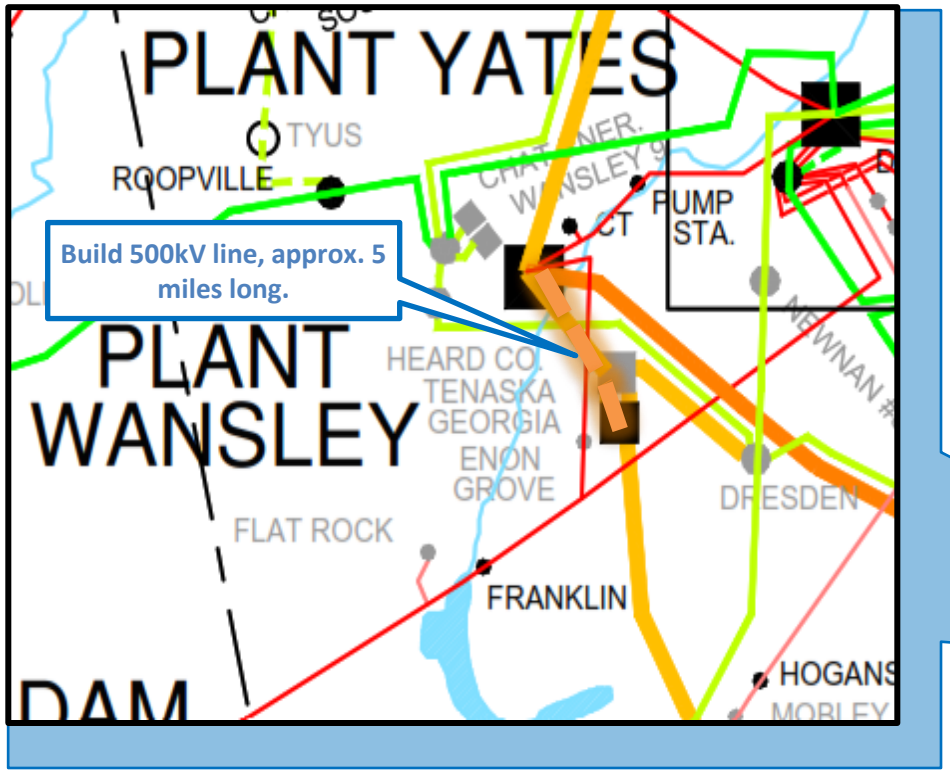


SOUTHERN Balancing Authority Area

SOUTHERN – 20E

• **2029**

GTC: TENASKA – WANSLEY 500KV

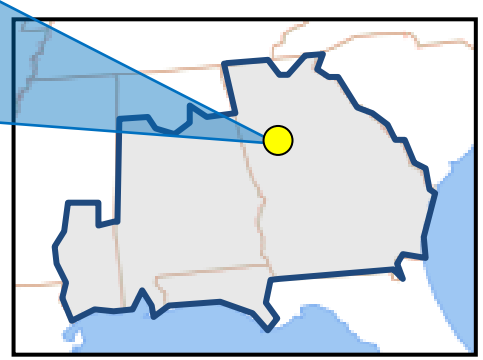


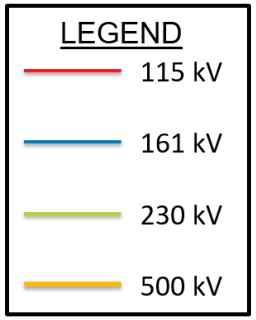
DESCRIPTION:

- Construct a new 500kV line from Tenaska to Wansley, approximately 5 miles long.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.

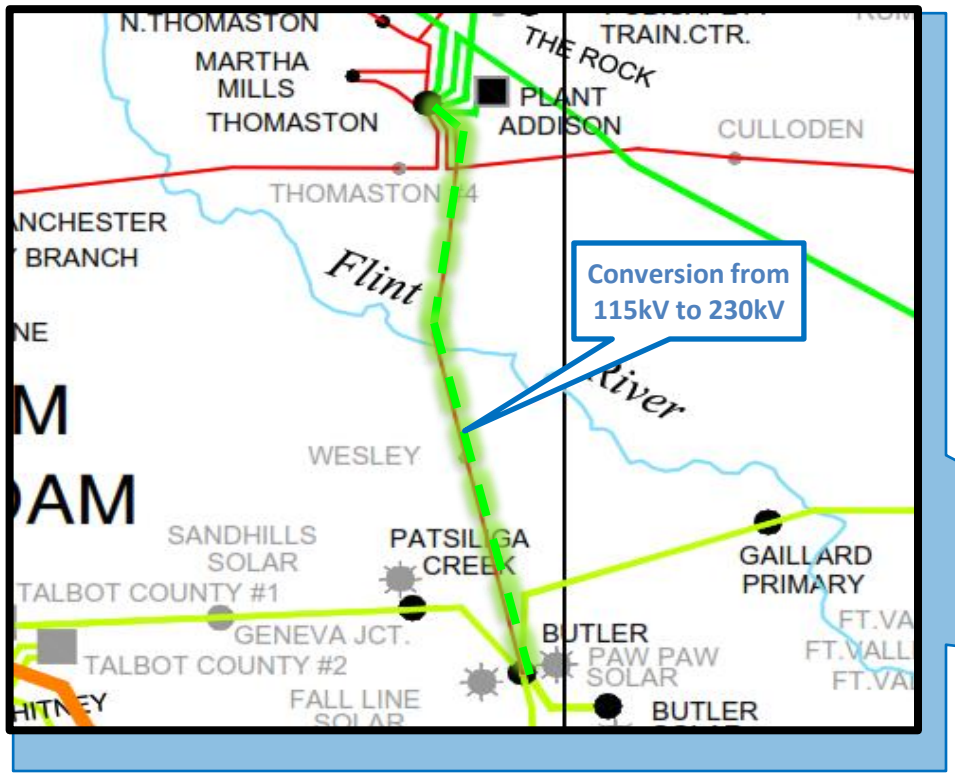




SOUTHERN – 21E

• 2029

BUTLER – THOMASTON 230KV CONVERSION

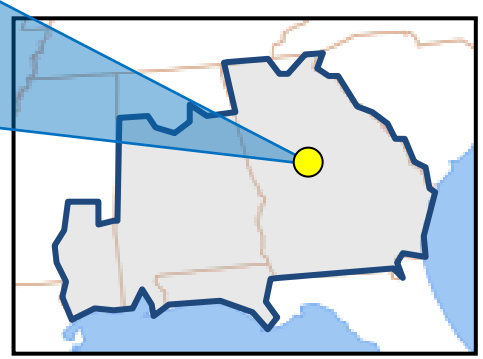


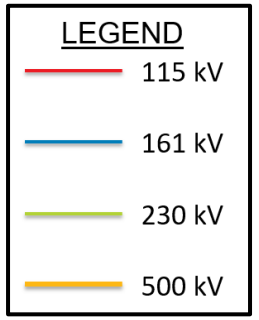
DESCRIPTION:

- Rebuild the 23-mile Butler – Thomaston 115kV line to 230kV voltage operation.
- Make all necessary upgrades and accommodations in substations along the line.

SUPPORTING STATEMENT:

- Line conversion reduces multiple 230 kV thermal loadings and provides additional operational and maintenance flexibility, which increases reliability.

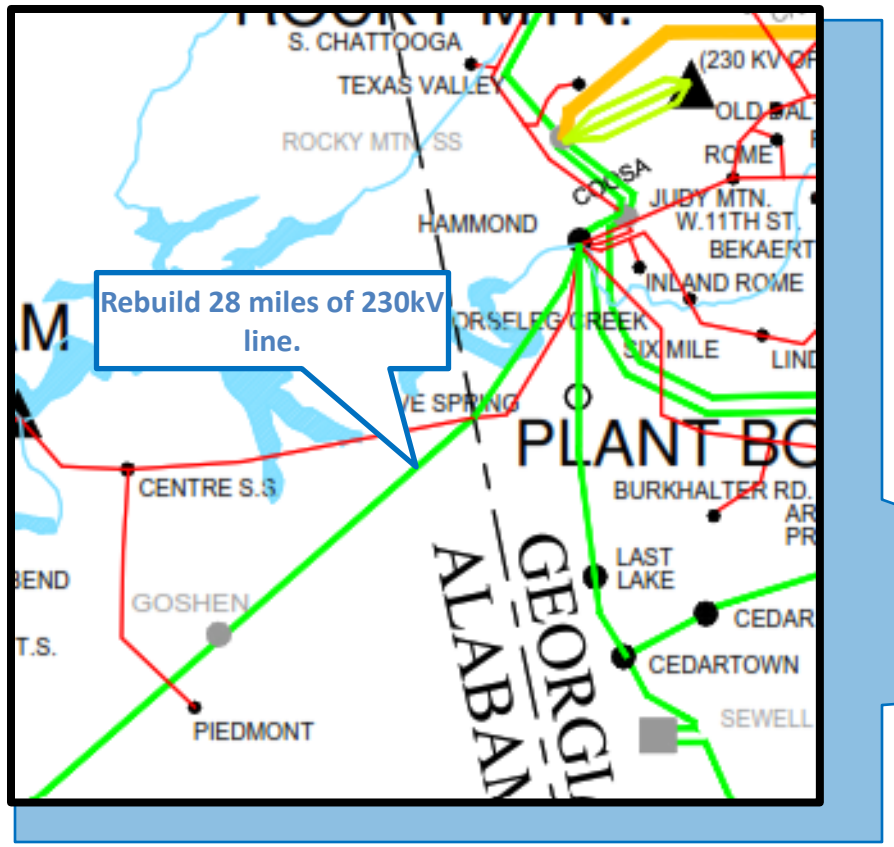




SOUTHERN – 22E

• 2030

ANNISTON – HAMMOND 230KV LINE REBUILD

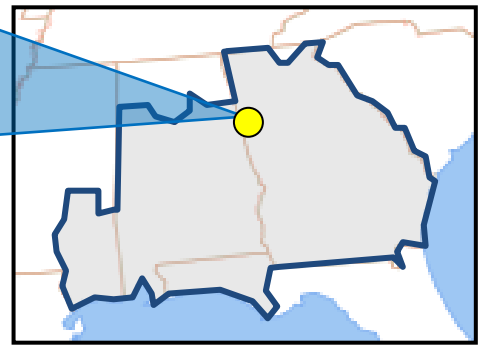


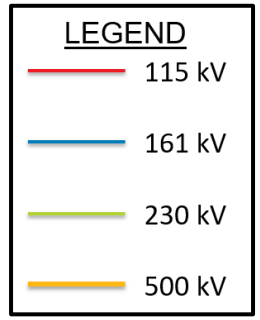
DESCRIPTION:

- Rebuild the 28-mile section between Hammond and the Goshen tap with 200C 1351 ACSS Martin conductor.

SUPPORTING STATEMENT:

- The Anniston - Hammond 230kV line overloads under contingency.



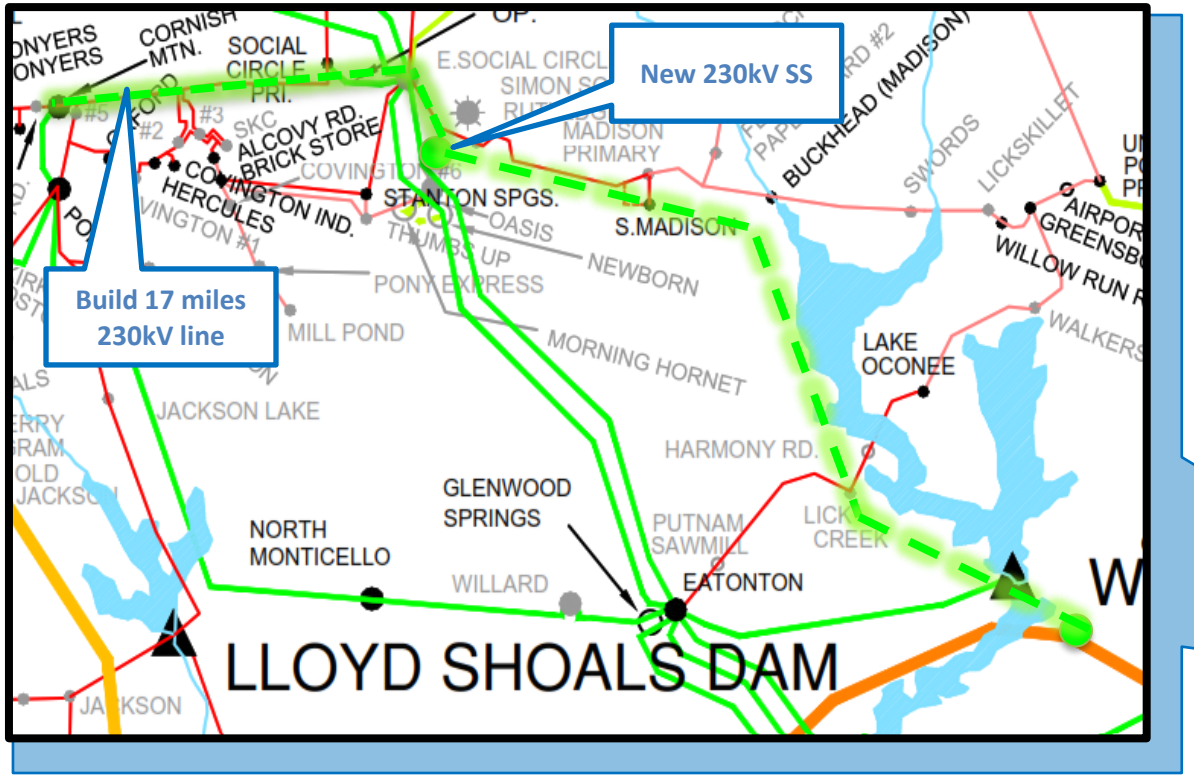


SOUTHERN Balancing Authority Area

SOUTHERN – 23E

• **2030**

NORTH SPA 230KV AREA SOLUTION

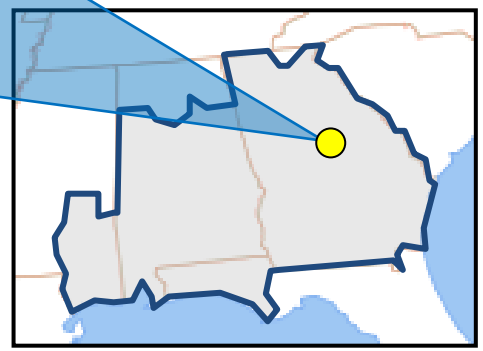


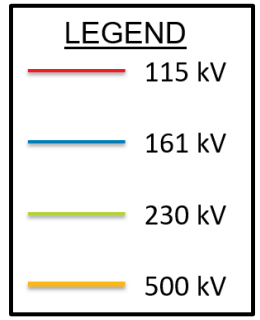
DESCRIPTION:

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

SUPPORTING STATEMENT:

- This projects addresses multiple thermal overloads that occur under contingency.



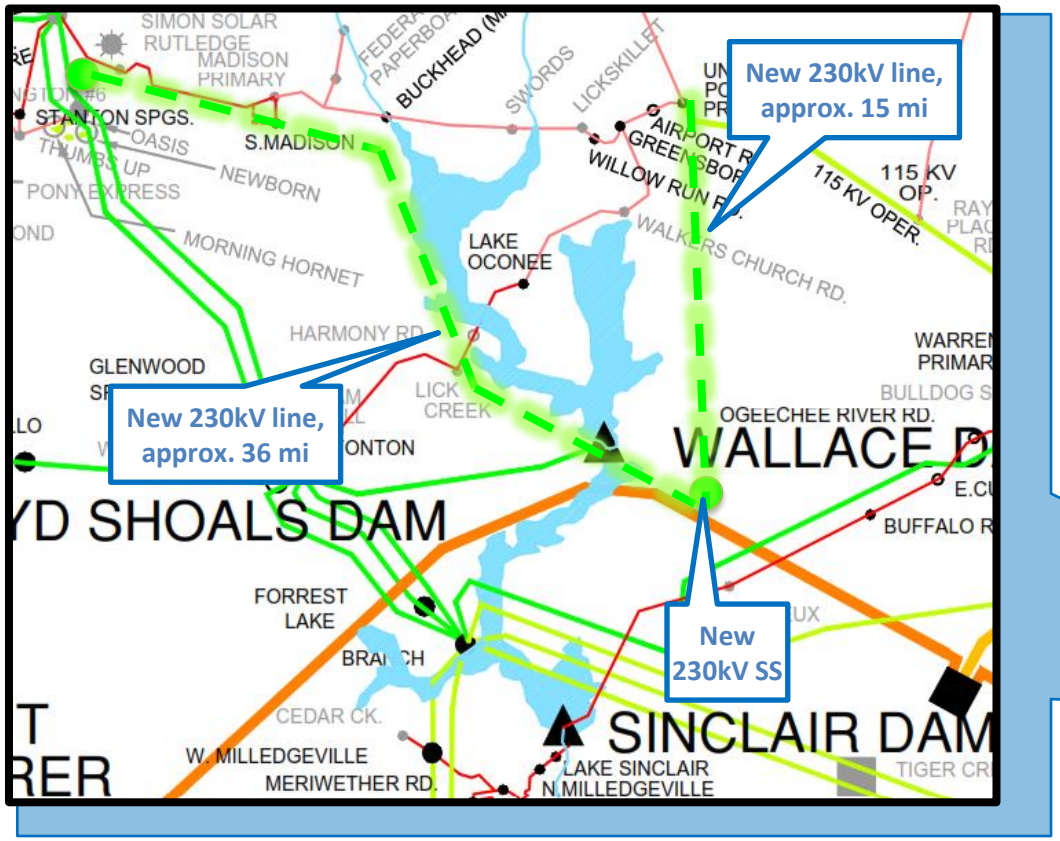


SOUTHERN Balancing Authority Area

SOUTHERN – 24E

• **2030**

GTC: TIGER CREEK - ROCKVILLE - NORTH SPA 230KV

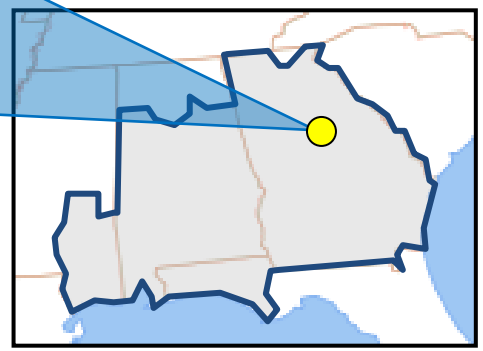


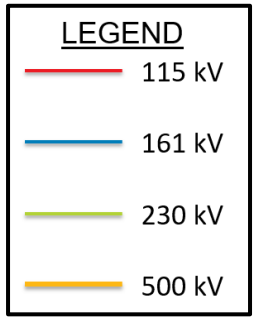
DESCRIPTION:

- Build a new 4-breaker 230kV ring bus at Rockville substation with no autotransformer.
- Loop in the Eatonton Primary #2 - Wallace Dam 230kV line. Build a new line 230kV line to Tiger Creek.
- Build a new 230kV line to North Spa.
- Build a new 230kV line from Wallace Dam to Union Point.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.



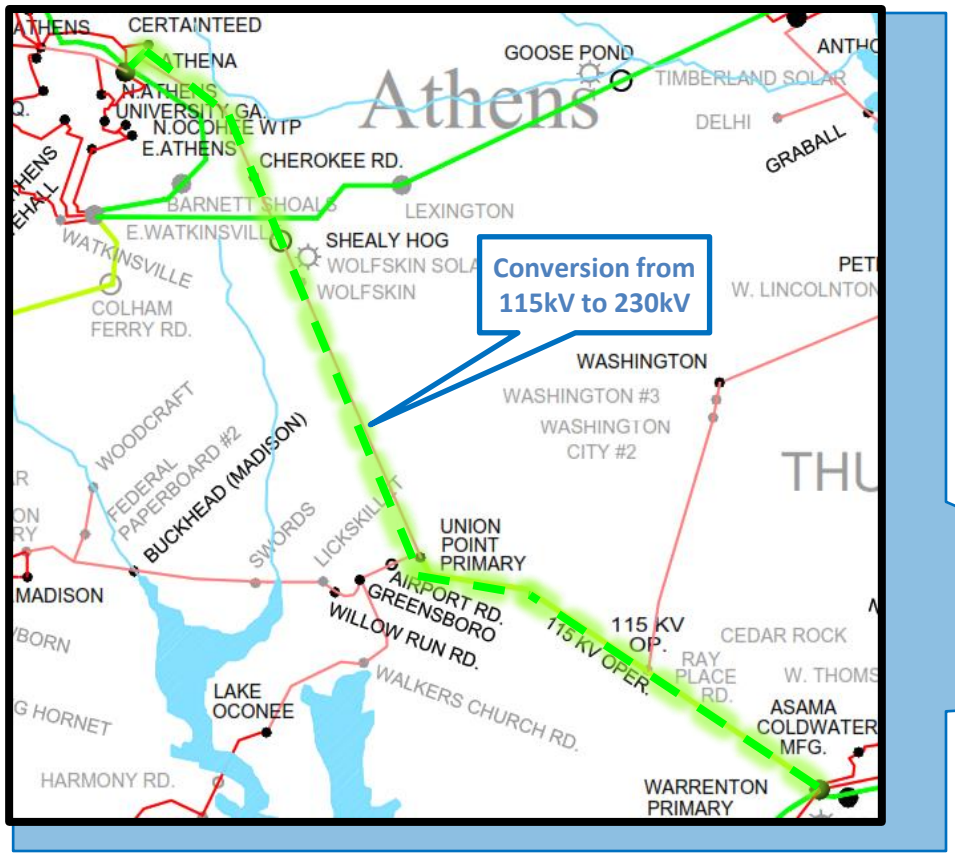


SOUTHERN Balancing Authority Area

SOUTHERN – 25E

• 2030

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

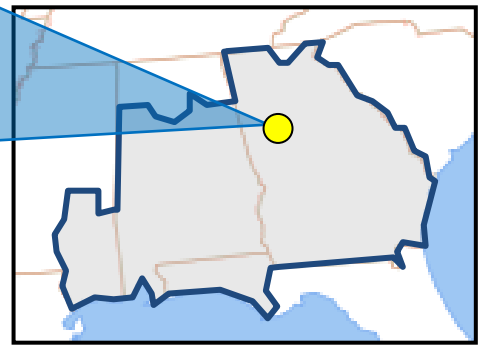


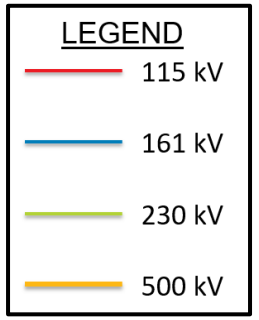
DESCRIPTION:

- Convert the 115kV lines from Athena - Union Point - Ray Place Road - Warrenton Primary to 230kV 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.

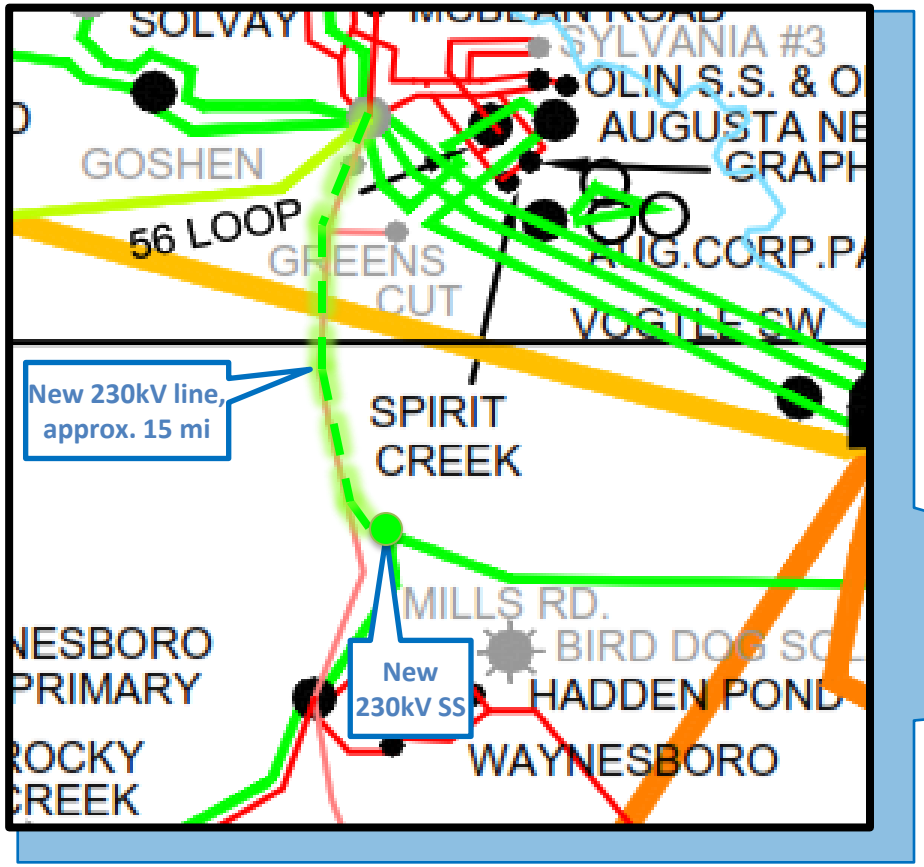




SOUTHERN – 26E

• 2030

GOSHEN AREA 230KV SOLUTION

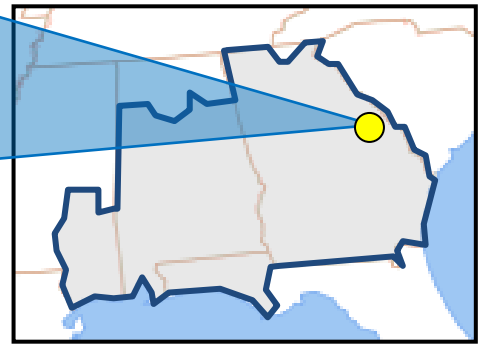


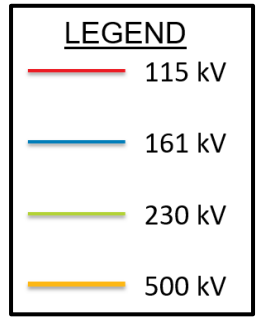
DESCRIPTION:

- Construct a 230kV switching station on the Waynesboro-Wilson 230kV line and a new 230kV line between the switching station and Goshen, approximately 12 miles.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.

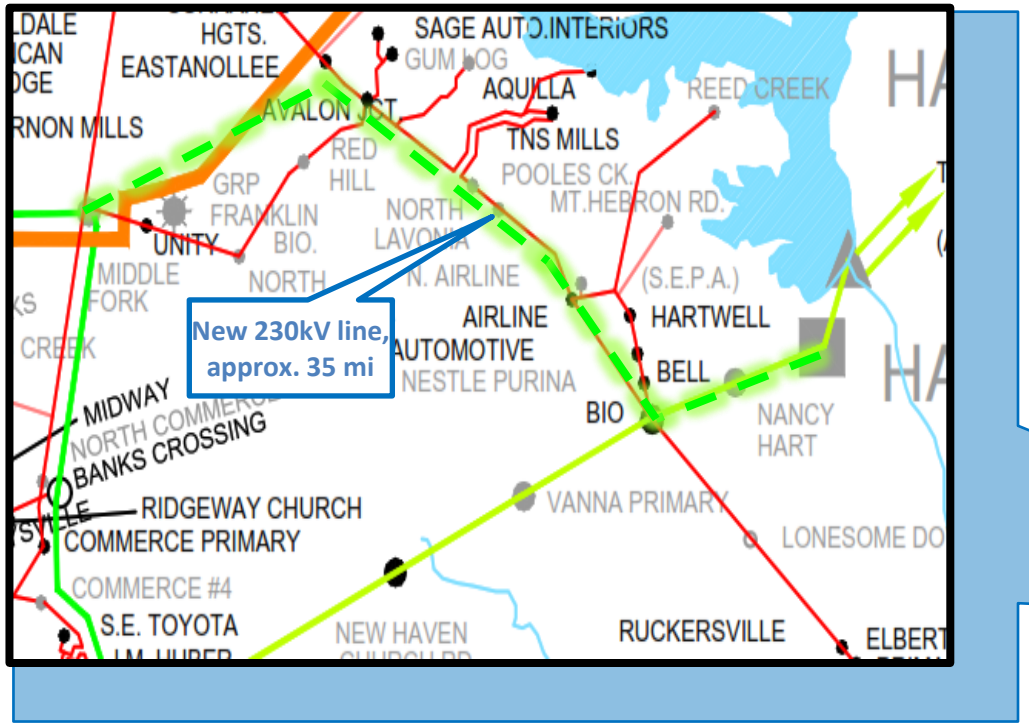




SOUTHERN – 27E

• 2030

GTC: HARTWELL ENERGY – MIDDLE FORK 230KV LINE

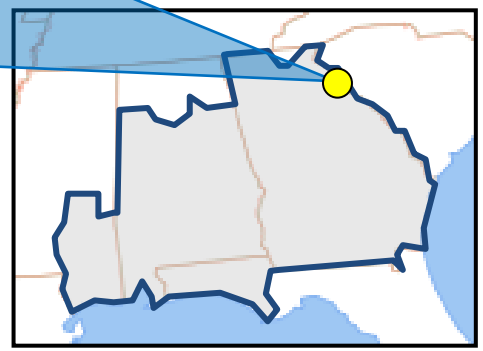


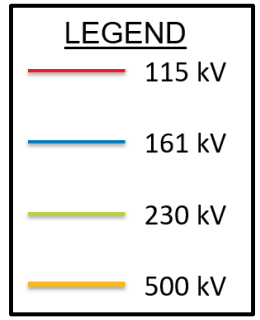
DESCRIPTION:

- Construct a new 230kV line, approximately 35 miles, from Hartwell Energy to Middle Fork.
- Expand Hartwell Energy 230kV and Middle Fork 230kV as necessary to install breakers for the new line termination.

SUPPORTING STATEMENT:

- This new line will address overloads under contingency and supports transfer capability

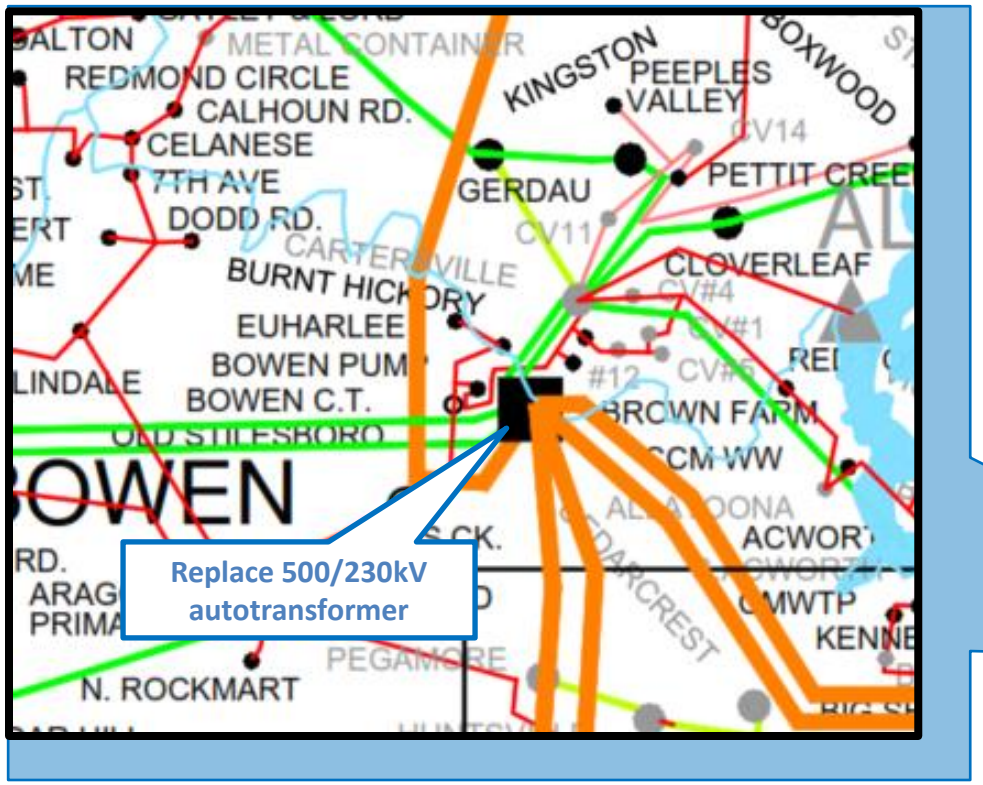




SOUTHERN – 28E

• 2030

BOWEN #10 500/230KV AUTOTRANSFORMER REPLACEMENT

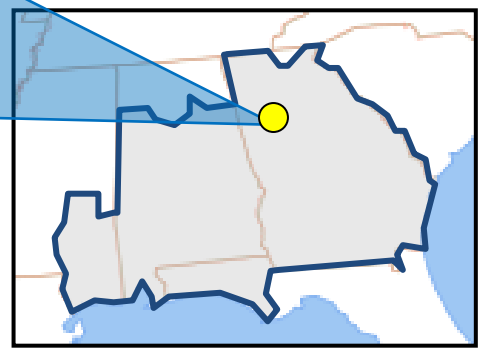


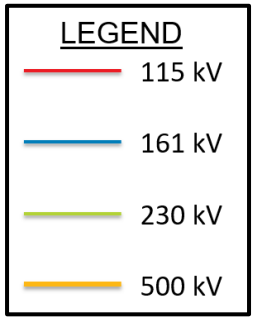
DESCRIPTION:

- Replace the Bowen #10 500/230kV autotransformer with a higher rated autotransformer.

SUPPORTING STATEMENT:

- The Bowen #10 500/230kV autotransformer overloads under contingency.

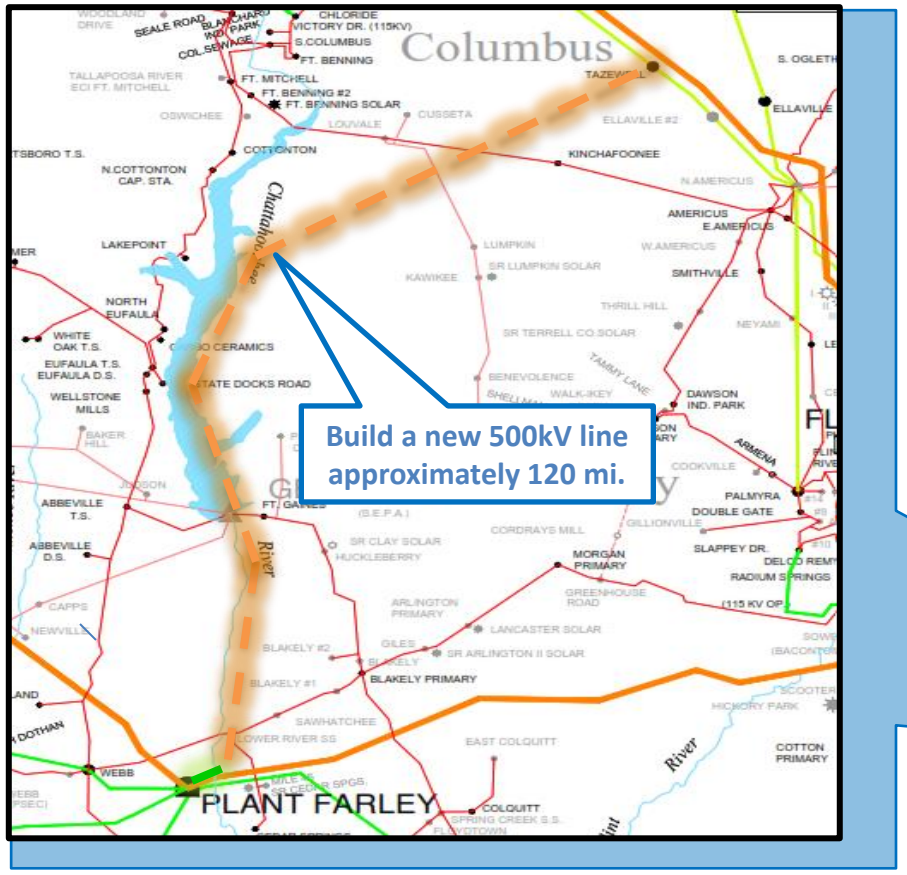




SOUTHERN – 29E

• 2030

FARLEY – TAZEWELL 500KV LINE

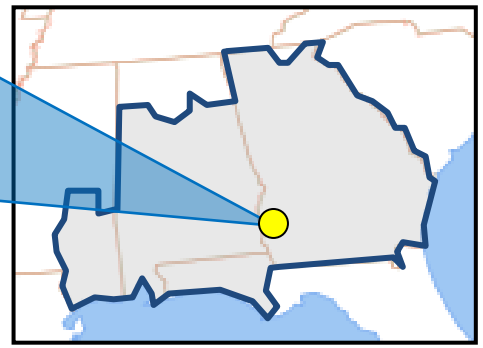


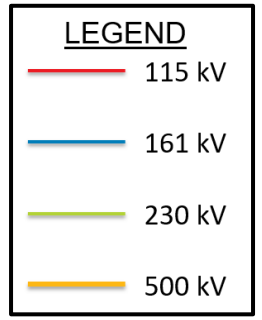
DESCRIPTION:

- Build a 500kV line from Farley to Tazewell.
- Build a 500kV, 5-breaker ring bus at Tazewell and install a 500/230kV autotransformer to connect to the existing 230kV switchyard.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.

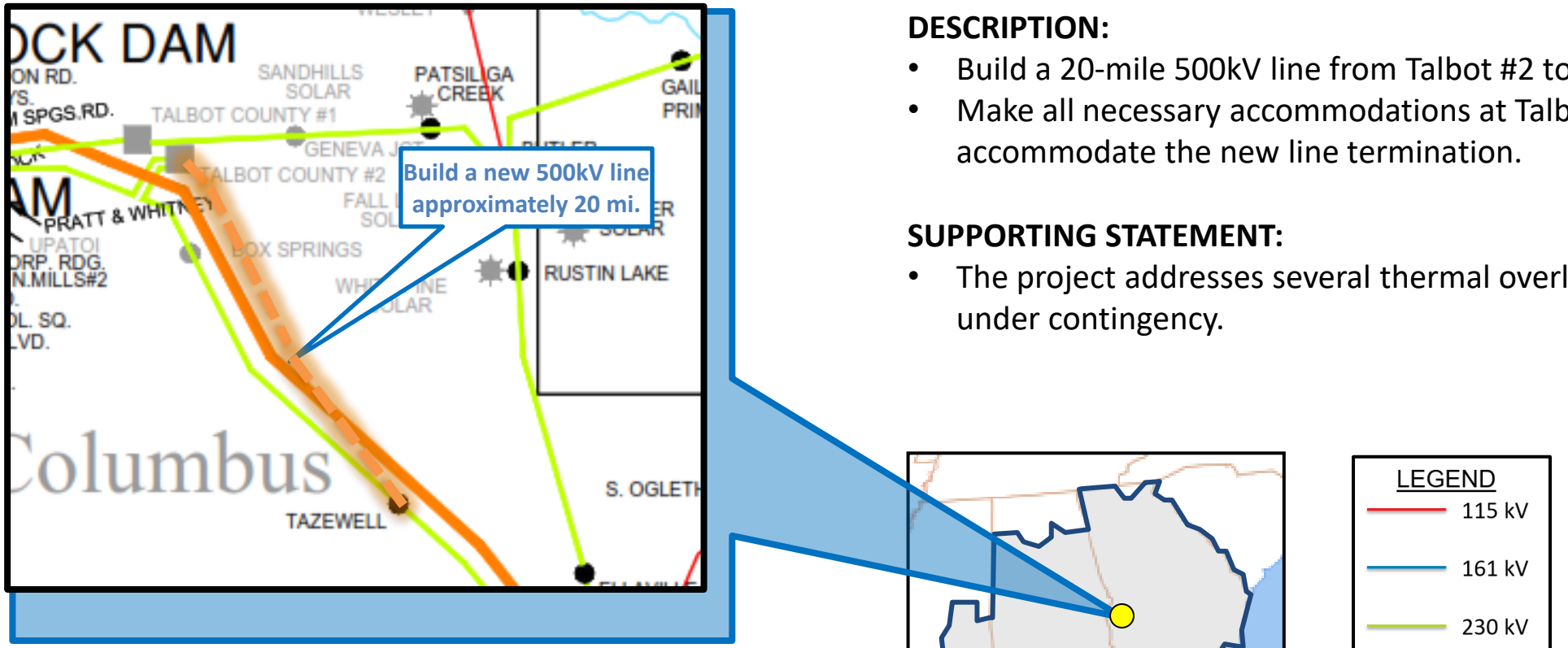




SOUTHERN – 30E

• 2030

GTC: TALBOT #2 - TAZEWELL 500KV LINE



DESCRIPTION:

- Build a 20-mile 500kV line from Talbot #2 to Tazewell.
- Make all necessary accommodations at Talbot #2 to accommodate the new line termination.

SUPPORTING STATEMENT:

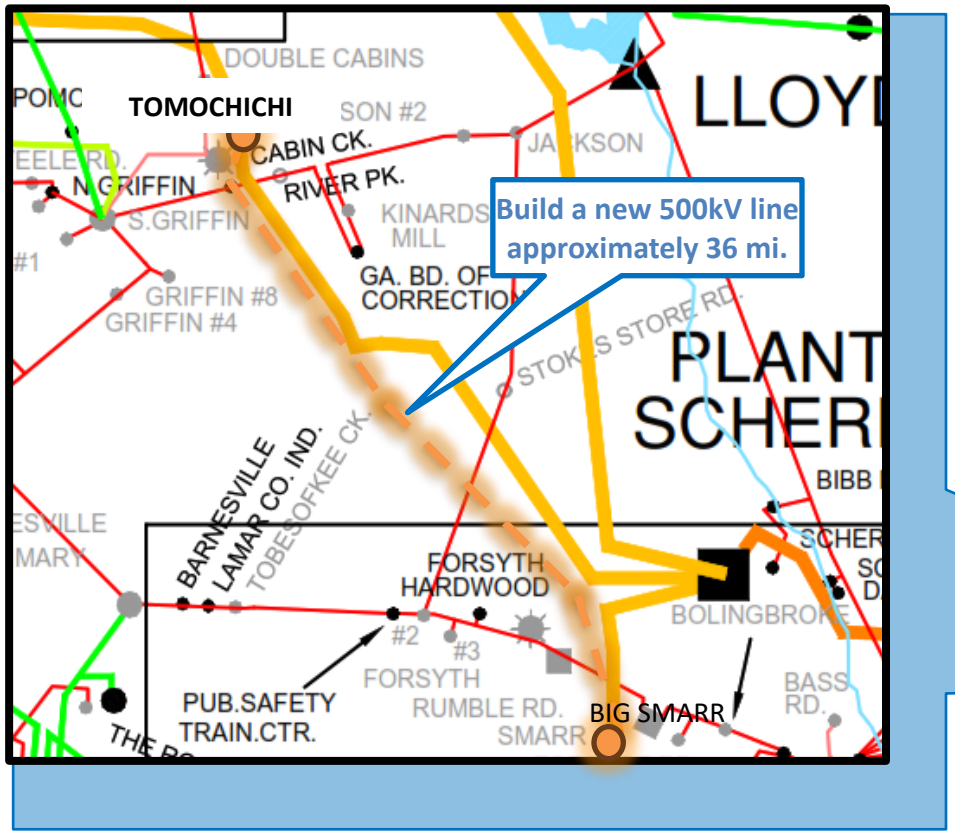
- The project addresses several thermal overloads that occur under contingency.

SOUTHERN Balancing Authority Area

SOUTHERN – 31E

• 2030

GTC: BIG SMARR – TOMOCHICHI 500KV

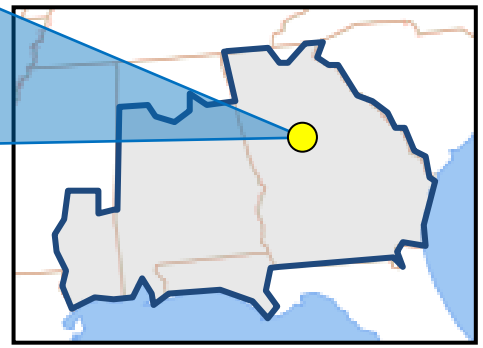


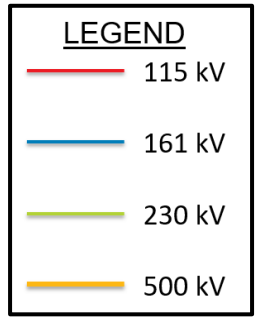
DESCRIPTION:

- Construct a 500kV line from Big Smarr to Tomochichi, approximately 36 miles long.
- 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.

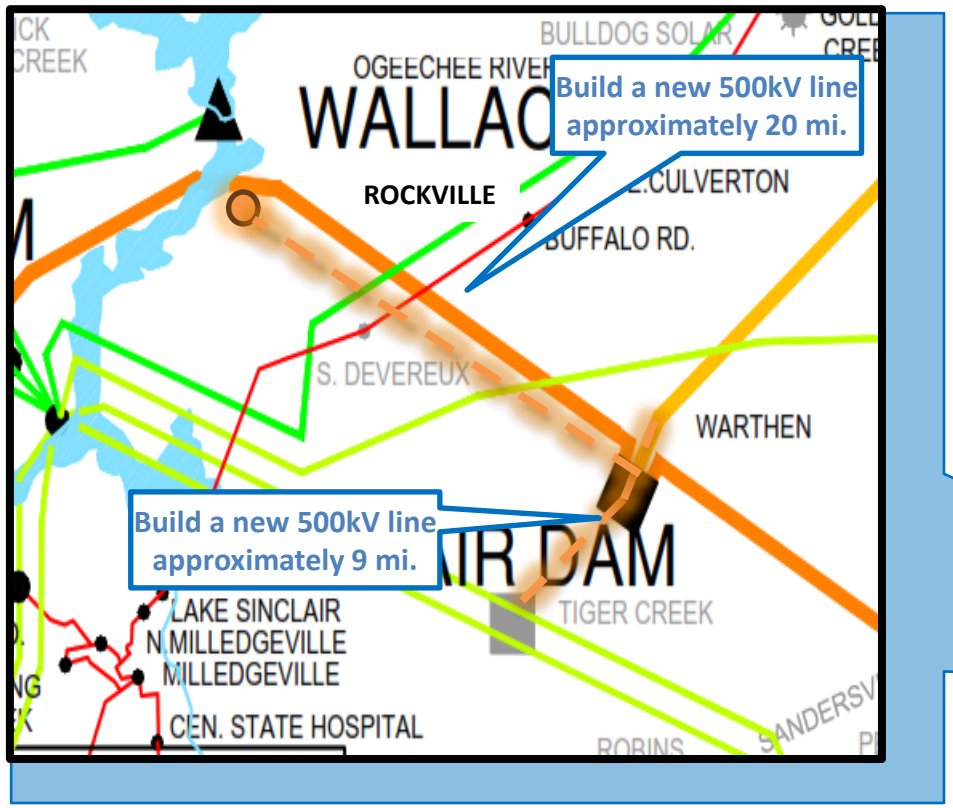




SOUTHERN – 32E

• 2030

GTC: ROCKVILLE – TIGER CREEK – WARTHERN 500KV LINES

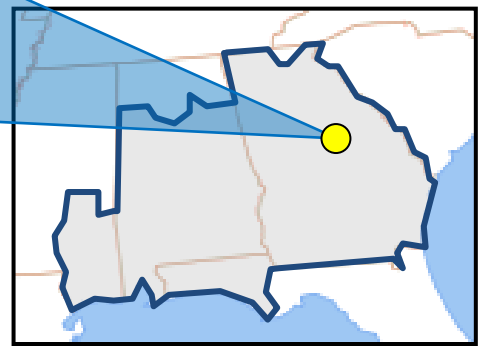


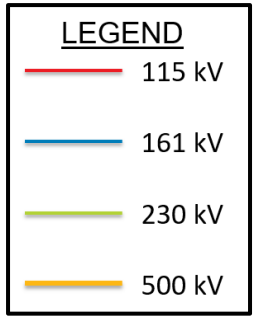
DESCRIPTION:

- Build the new 500kV line from Rockville to Tiger Creek and Tiger Creek to Warthen, approximately 20 miles and 9 miles long respectively.
- Build a 500kV yard at Tiger Creek and install a 500/230kV autotransformer.
- Make all necessary accommodations at Warthen and Rockville for the new 500kV breakers and line termination.

SUPPORTING STATEMENT:

- This project addresses multiple thermal overloads that occur under contingency.

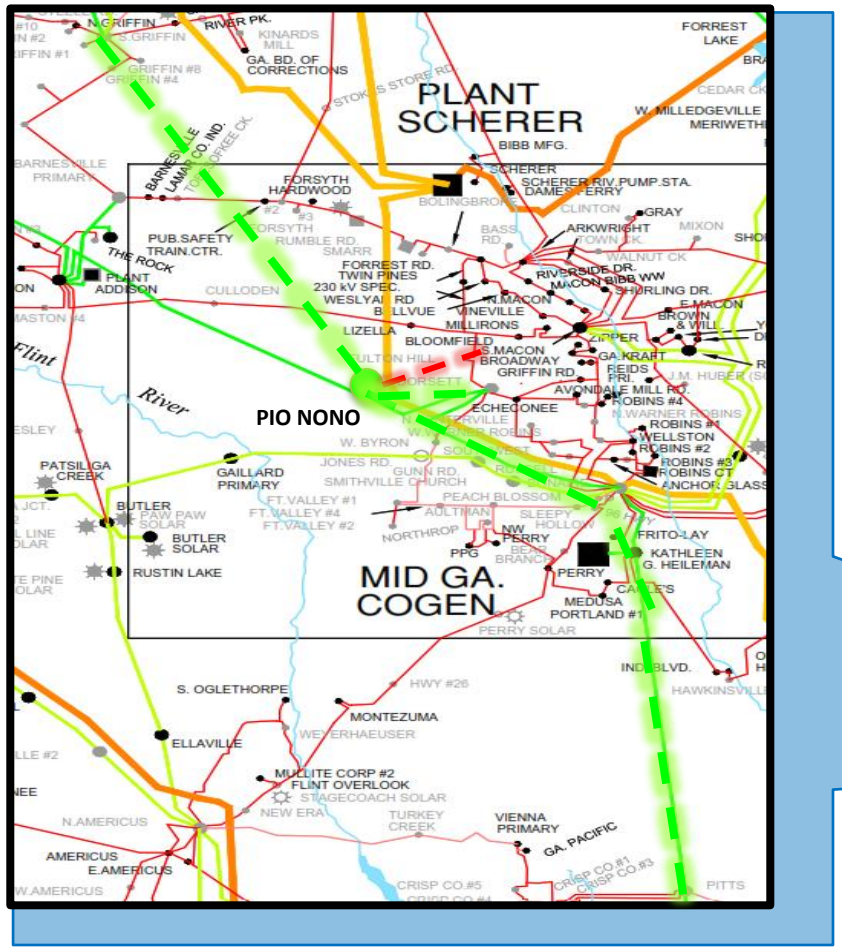




SOUTHERN – 33E

• **2031**

MEAG: PIO NONO 230/115KV AREA SOLUTION

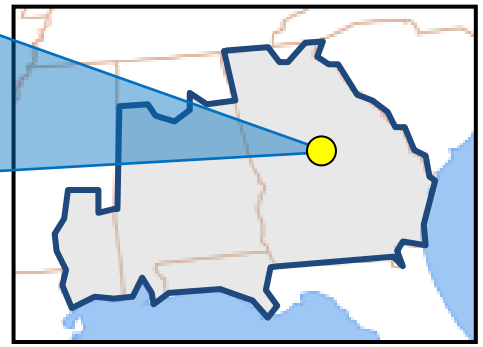


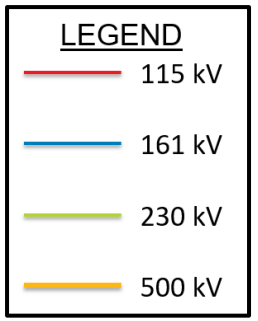
DESCRIPTION:

- Build a 4 - breaker 230kV ring bus to terminate lines from Dorsett, South Griffin, and Pitts. Install a 400MVA autotransformer and build a 115kV yard to terminate a line from Broadway.
- Make all necessary modifications to accommodate all the 230kV and 115kV lines terminations.

SUPPORTING STATEMENT:

- This projects addresses 230kV and 115kV thermal overloads that occur under contingency.

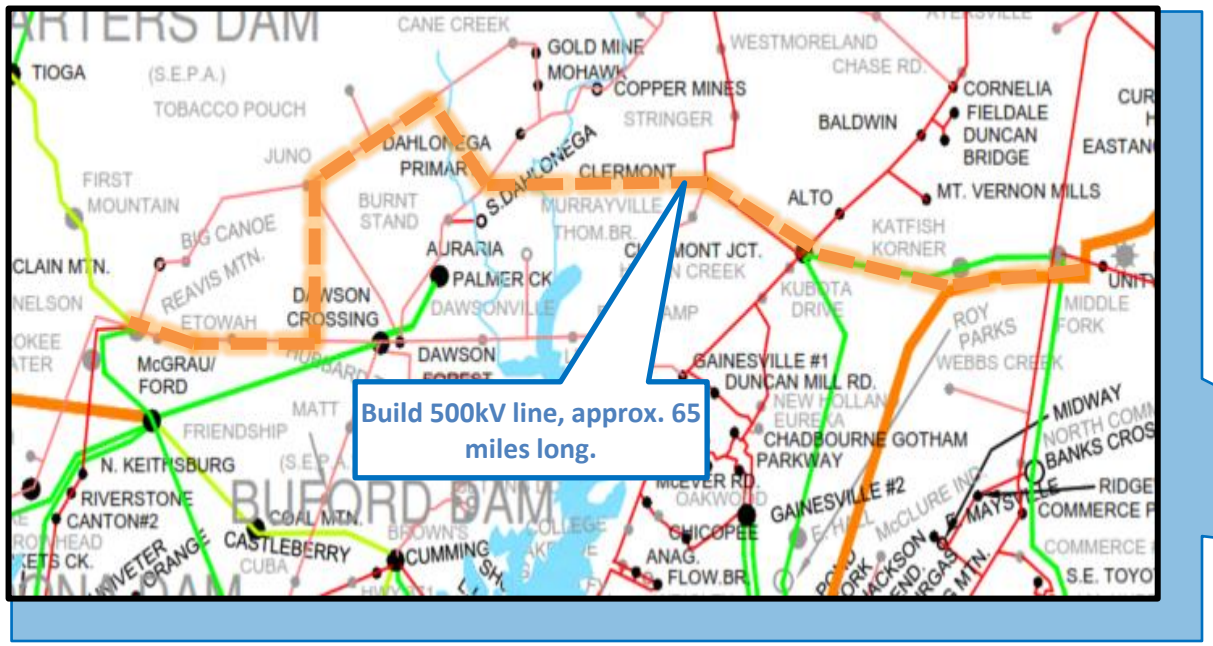




SOUTHERN – 34E

• 2033

MCGRAU FORD – MIDDLE FORK 500KV

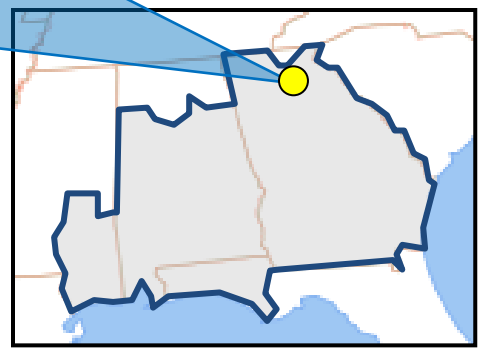


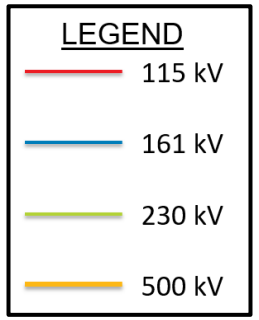
DESCRIPTION:

- Build a 65 miles long, 500kV line from McGrau Ford to Middle Fork.
- Add 2-500kV breakers at McGrau Ford and create a ring bus configuration.
- GTC: Build a new 500kV switchyard at Middle Fork to terminate the new line.

SUPPORTING STATEMENT:

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

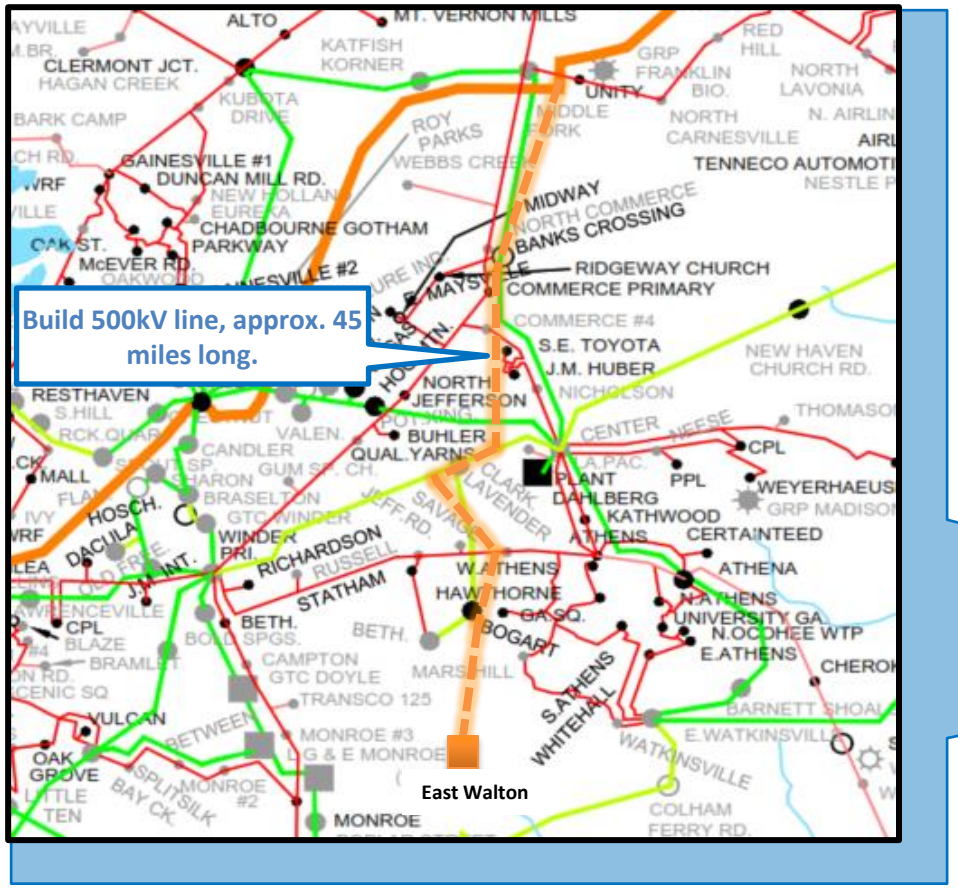




SOUTHERN – 35E

• 2033

GTC: EAST WALTON – MIDDLE FORK 500KV

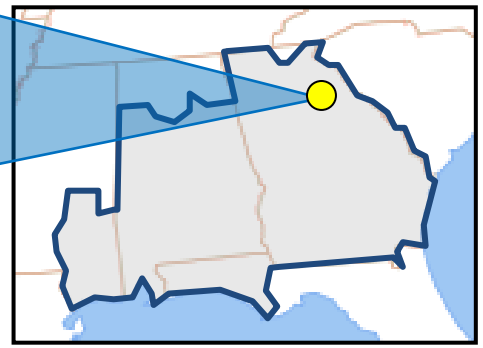


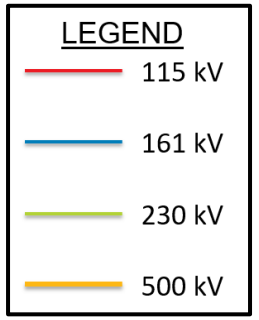
DESCRIPTION:

- Build a 45-mile long, 500kV line from East Walton to Middle Fork.
- 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

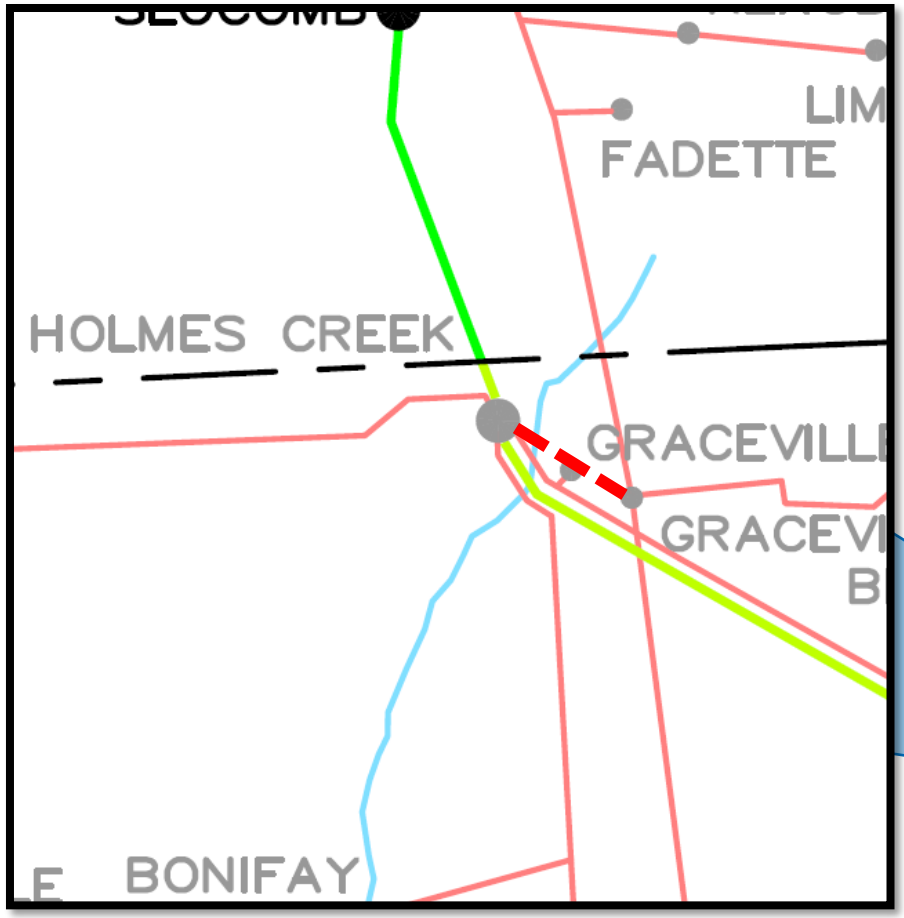
Transmission Expansion Plan

SOUTHERN Balancing Authority Area

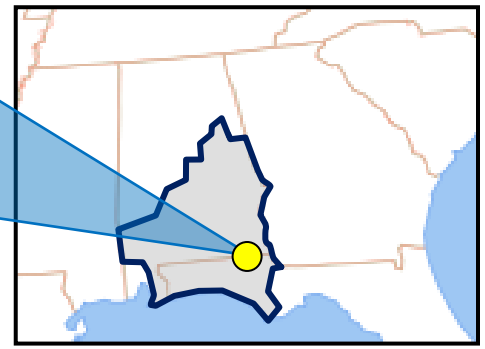
POWERSOUTH - 1

• **2025**

Graceville – Holmes Creek 115 KV Transmission Tie Line



- **DESCRIPTION:**
  - Construct approximately 1.08 miles of new 115 kV transmission line from Graceville Switching Station to FPL's Homes Creek Station with 795 ACSR at 100°C.
- **SUPPORTING STATEMENT:**
  - Improves voltage support on PowerSouth system in the area



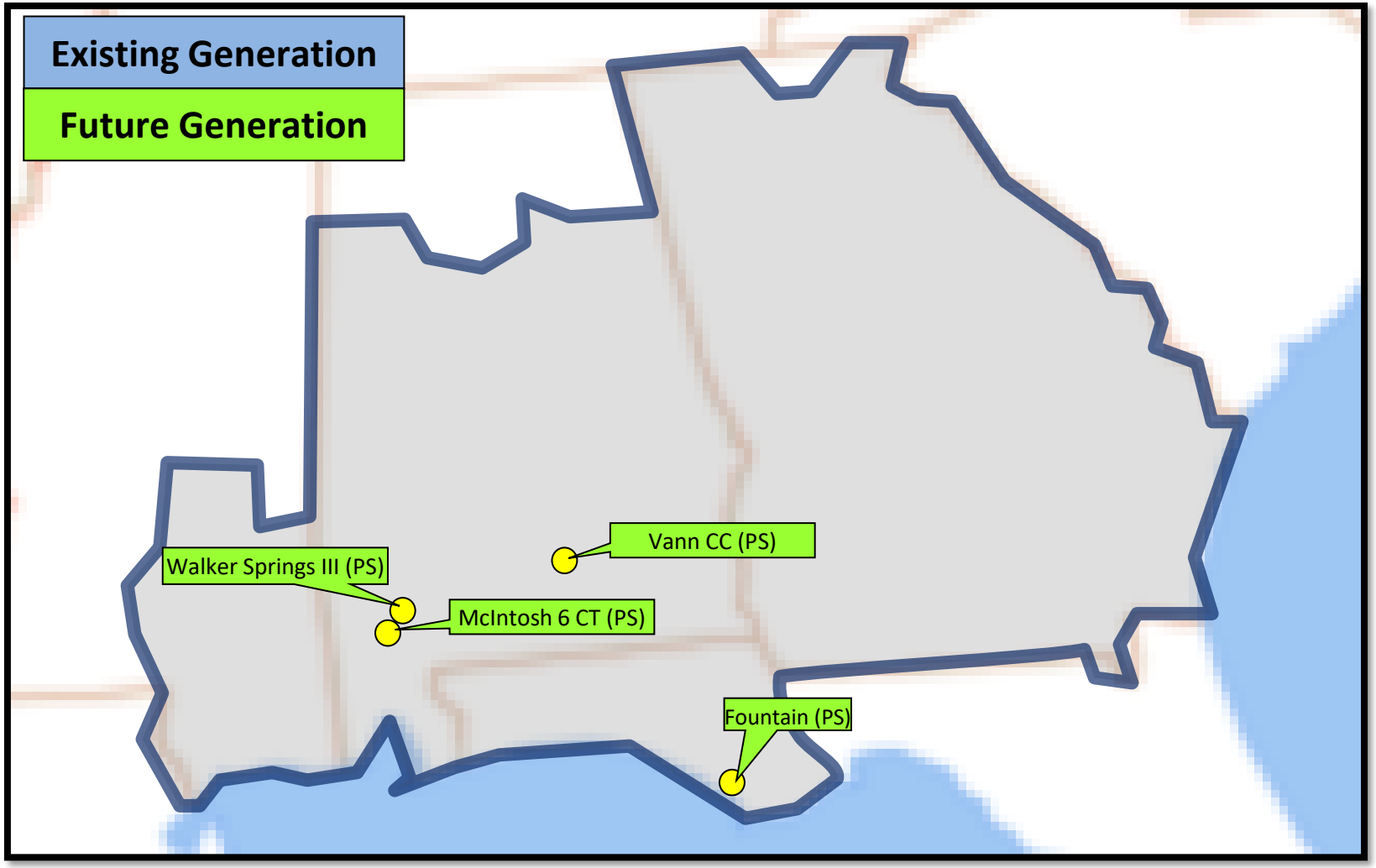
SOUTHERN Balancing Authority Area

Preliminary 2025 Generation Assumptions

SOUTHERN Balancing Authority Area

SOUTHERN – Generation Assumptions

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



Southern Company – Preliminary Generation Assumptions

The following table depicts the 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
NO KNOWN UPDATES AT THIS TIME											

GTC – Preliminary Generation Assumptions

The following table depicts the 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
NO KNOWN UPDATES AT THIS TIME											

MEAG – Preliminary Generation Assumptions

The following table depicts the 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
NO KNOWN UPDATES AT THIS TIME											

Dalton – Preliminary Generation Assumptions

The following table depicts the 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
NO KNOWN UPDATES AT THIS TIME											

POWERSOUTH – Preliminary Generation Assumptions

The following table depicts the 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
Fountain	Solar	75	75	75	75	75	75	75	75	75	75
Walker Springs III	Solar	80	80	80	80	80	80	80	80	80	80
Vann CC	Gas	522	579	579	579	579	579	579	579	579	579
McIntosh 6 CT	Gas	--	--	--	240	240	240	240	240	240	240

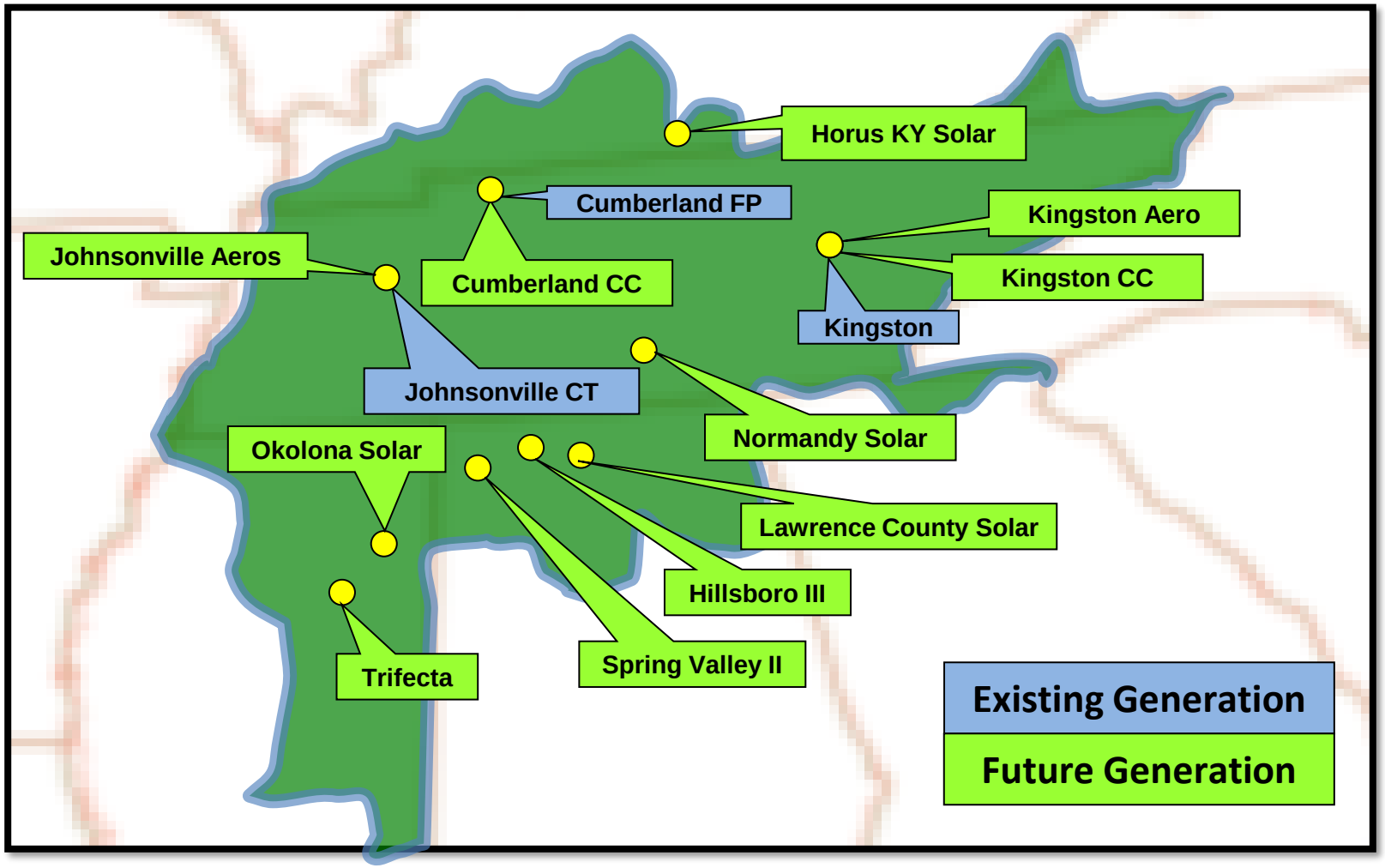
TVA Balancing Authority Area

2024 Generation Assumptions

TVA Balancing Authority Area

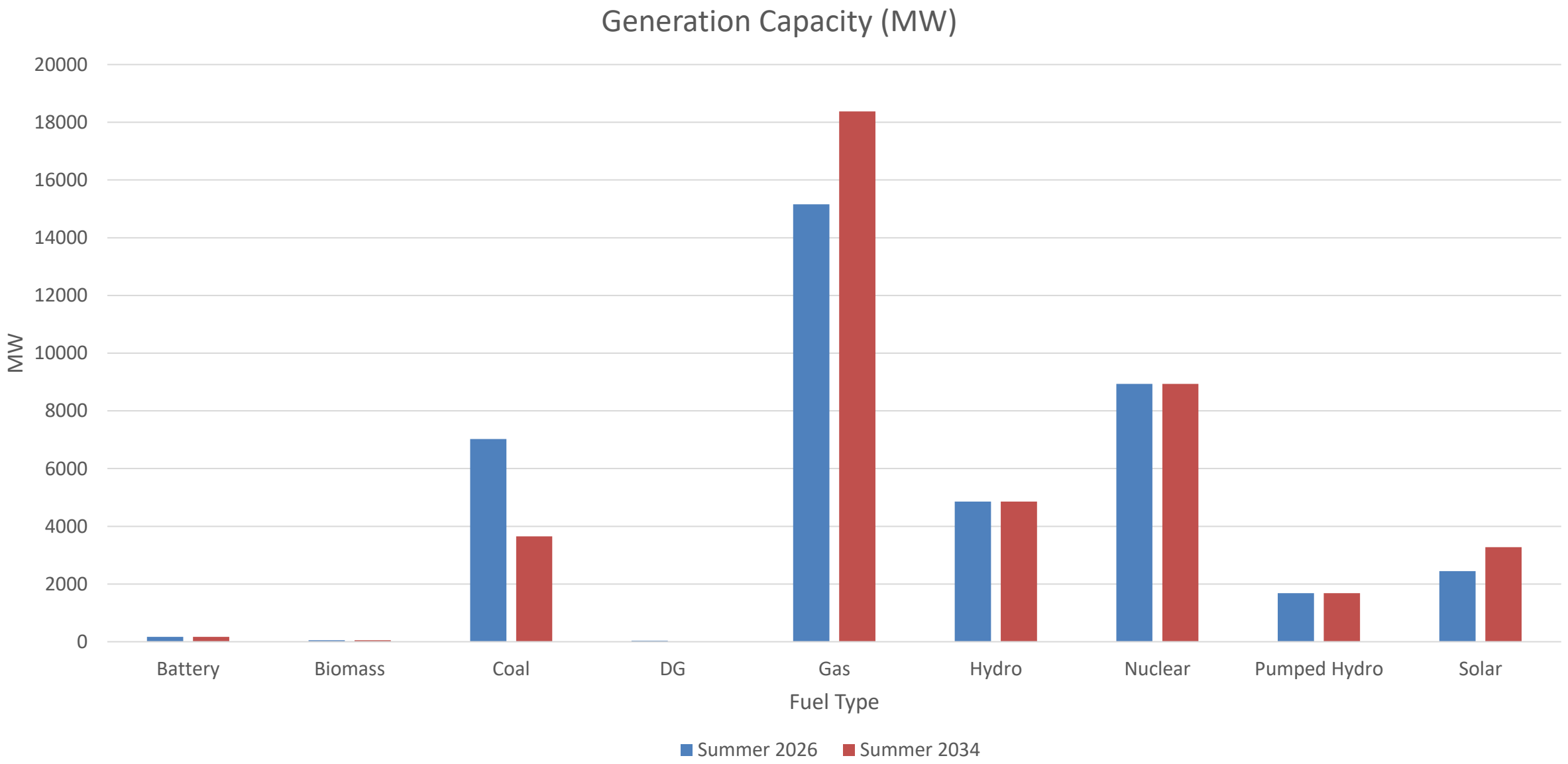
TVA – Generation Assumptions

The following diagram depicts the location of generation assumptions that change throughout the ten-year planning horizon for the 2024 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 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
JOHNSONVILLE CT	GAS	0	--	--	--	--	--	--	--	--	--
CUMBERLAND FP UNIT 2	COAL	1130	1130	0	--	--	--	--	--	--	--
CUMBERLAND FP UNIT 1	COAL	1130	1130	1130	1130	0	--	--	--	--	--
KINGSTON FP	COAL	1157	1157	1157	0	--	--	--	--	--	--
JOHNSONVILLE AEROS	GAS	530	530	530	530	530	530	530	530	530	530
CUMBERLAND CC	GAS	--	--	1346	1346	1346	1346	1346	1346	1346	1346
KINGSTON CC	GAS	--	--	--	715	715	715	715	715	715	715
KINGSTON AERO	GAS	--	--	--	848	848	848	848	848	848	848

TVA – Generation Assumptions Continued

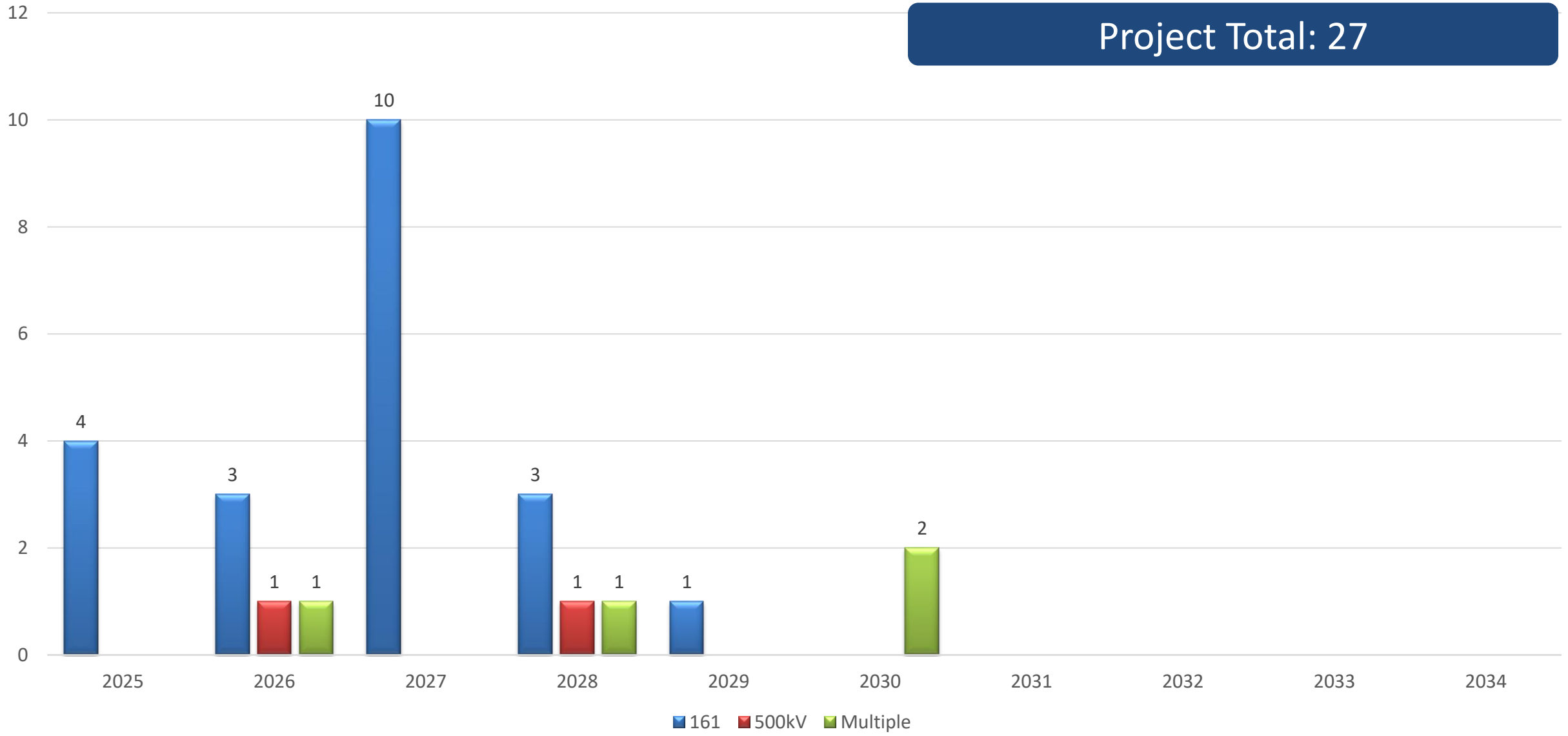
The following table depicts the generation assumptions that change throughout the ten-year planning horizon for the 2024 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
TRIFECTA	SOLAR	--	--	68	68	68	68	68	68	68	68
HILLSBORO III	SOLAR	--	--	200	200	200	200	200	200	200	200
SPRING VALLEY II	SOLAR	--	--	200	200	200	200	200	200	200	200
LAWRENCE COUNTY	SOLAR	--	100	100	100	100	100	100	100	100	100
OKOLONA	SOLAR	--	--	145	145	145	145	145	145	145	145
NORMANDY	SOLAR	--	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

Southeastern Regional TRANSMISSION PLANNING

TVA Project Summary

Project Total: 27



TVA Balancing Authority Area

TVA Balancing Authority Area

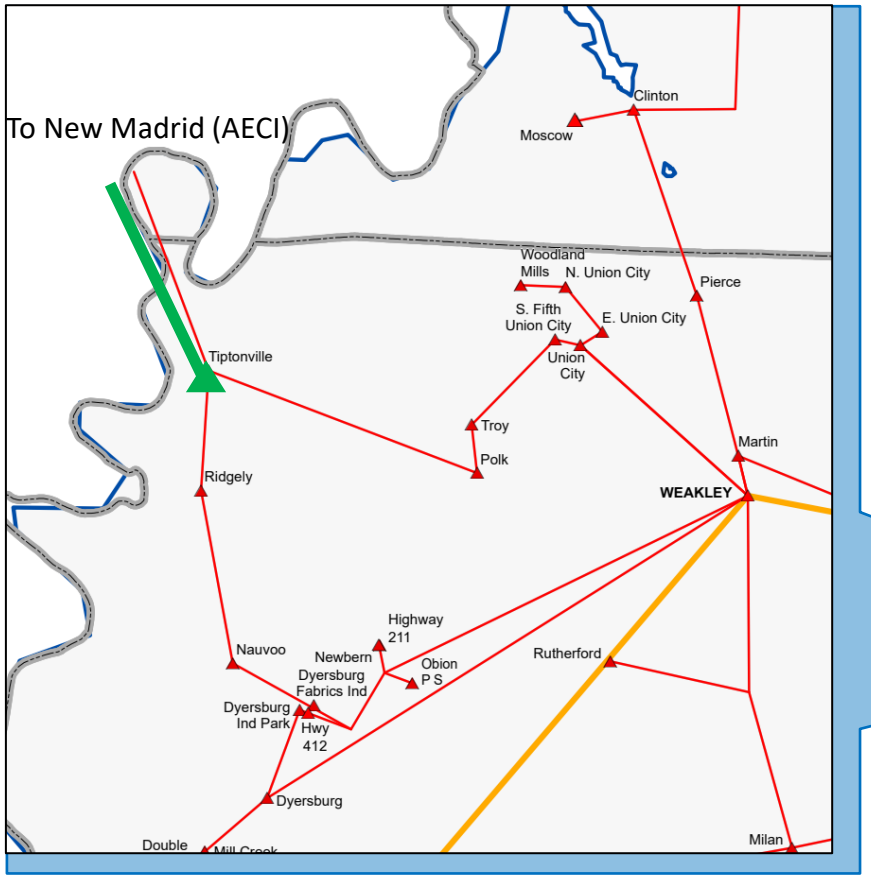
Transmission Expansion Plan

TVA Balancing Authority Area

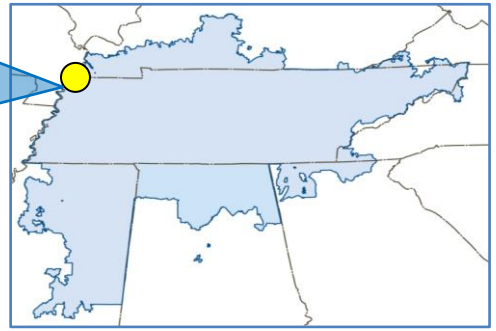
TVA – 1

• **2025**

TIPTONVILLE-NEW MADRID #2 TIE LINE



- **DESCRIPTION:**
  - Construct approximately 5.3 miles of new 161 kV transmission line from Tiptonville to New Madrid to form the second circuit, and reconductor approximately 5.3 miles of the Tiptonville to New Madrid 161 kV #1 transmission line section with 1590 ACSS at 180°C.
- **SUPPORTING STATEMENT:**
  - Additional thermal capacity on this path is needed.

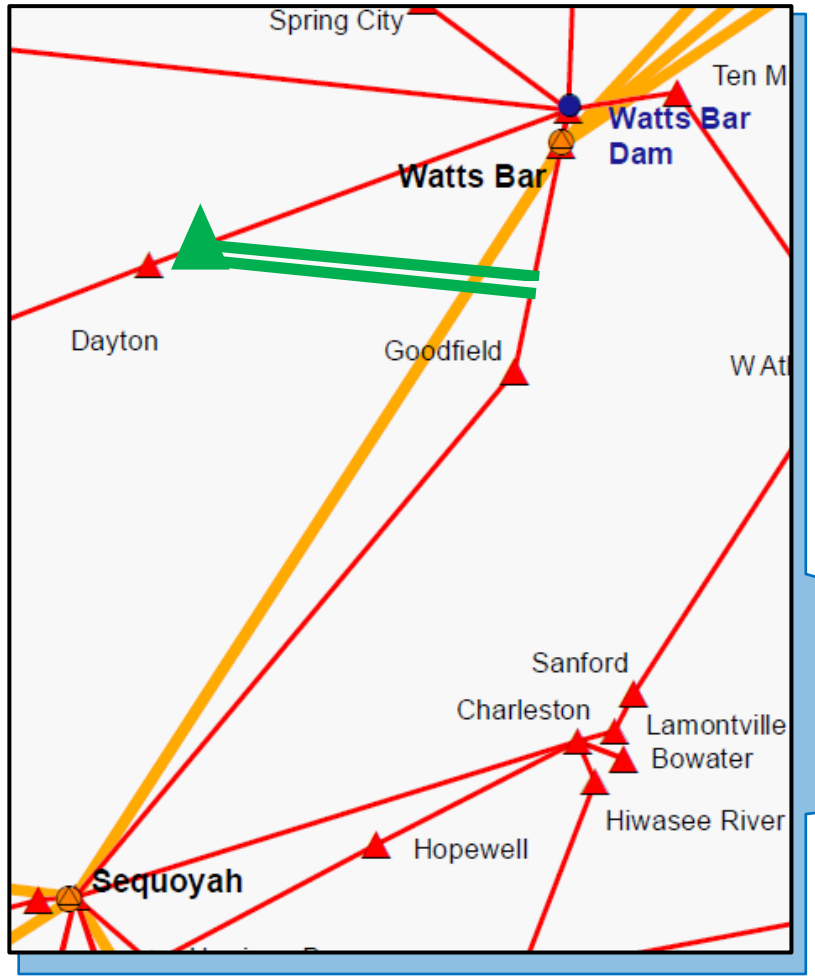


TVA Balancing Authority Area

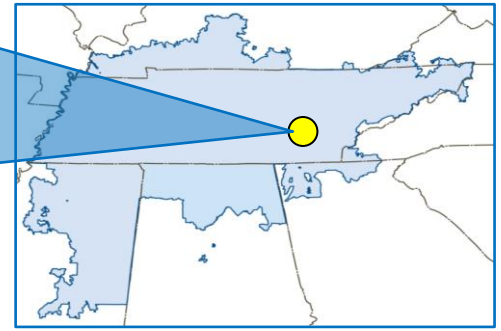
TVA – 2

• **2025**

N. DAYTON SUBSTATION



- **DESCRIPTION:**
  - Construct North Dayton 161 kV substation. Loop in Sequoyah - Watts Bar HP 161 kV transmission line into new substation by constructing approximately 27.0 miles of transmission line using 1351 ACSR.
- **SUPPORTING STATEMENT:**
  - Additional thermal capacity and voltage support is needed in the North Dayton, TN area under contingency.

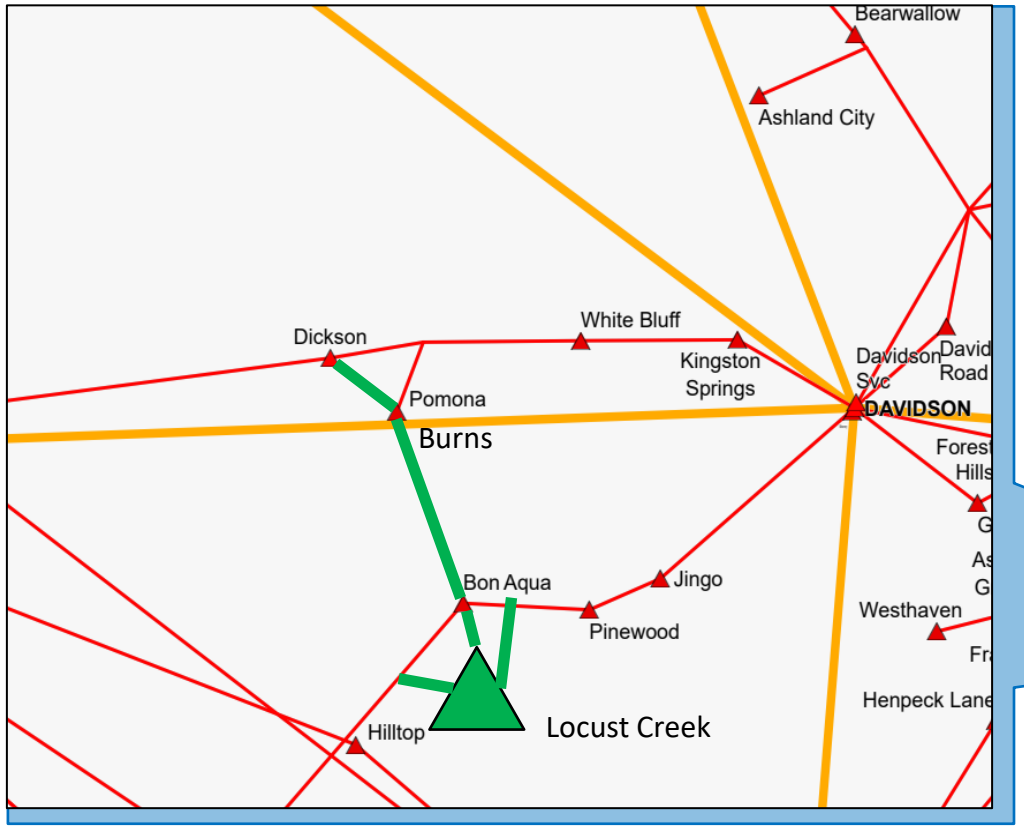


TVA Balancing Authority Area

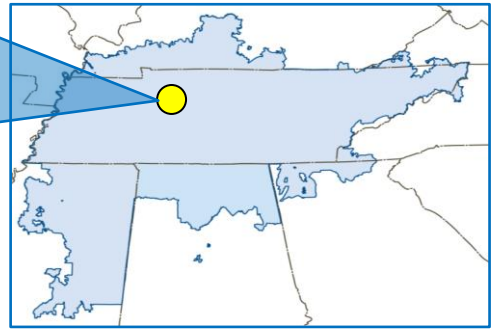
TVA – 3

• **2026**

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 Pomona tap. Build a new switch house at Dickson.
- **SUPPORTING STATEMENT:**
  - Voltage support is needed in the Dickson, TN area under contingency.

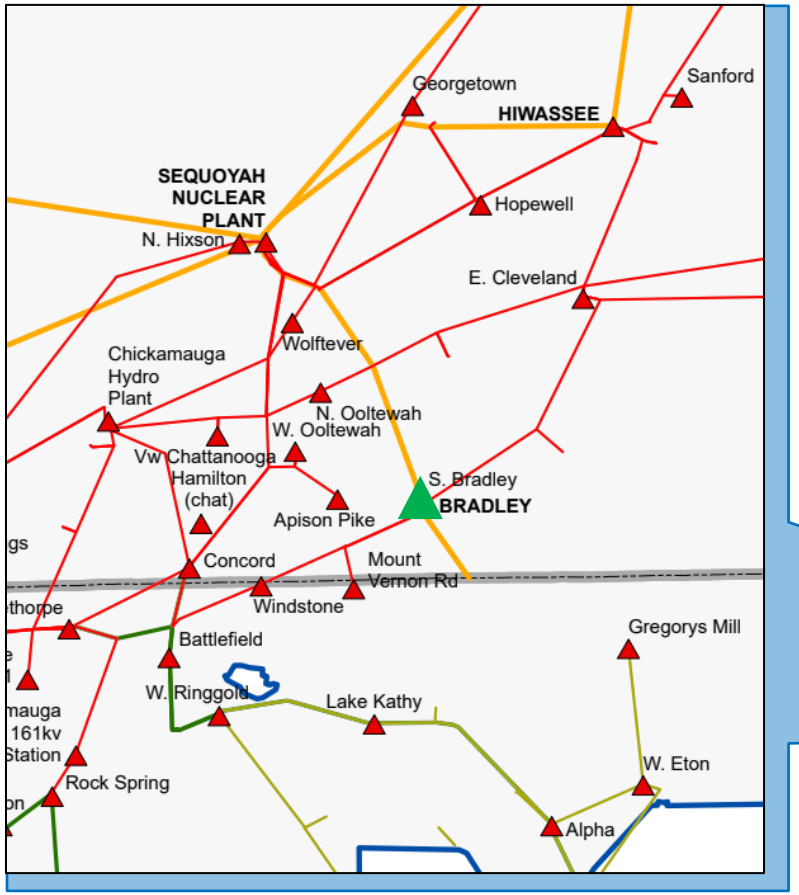


TVA Balancing Authority Area

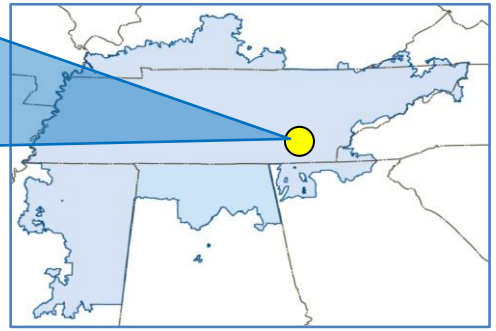
TVA – 4

• **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.

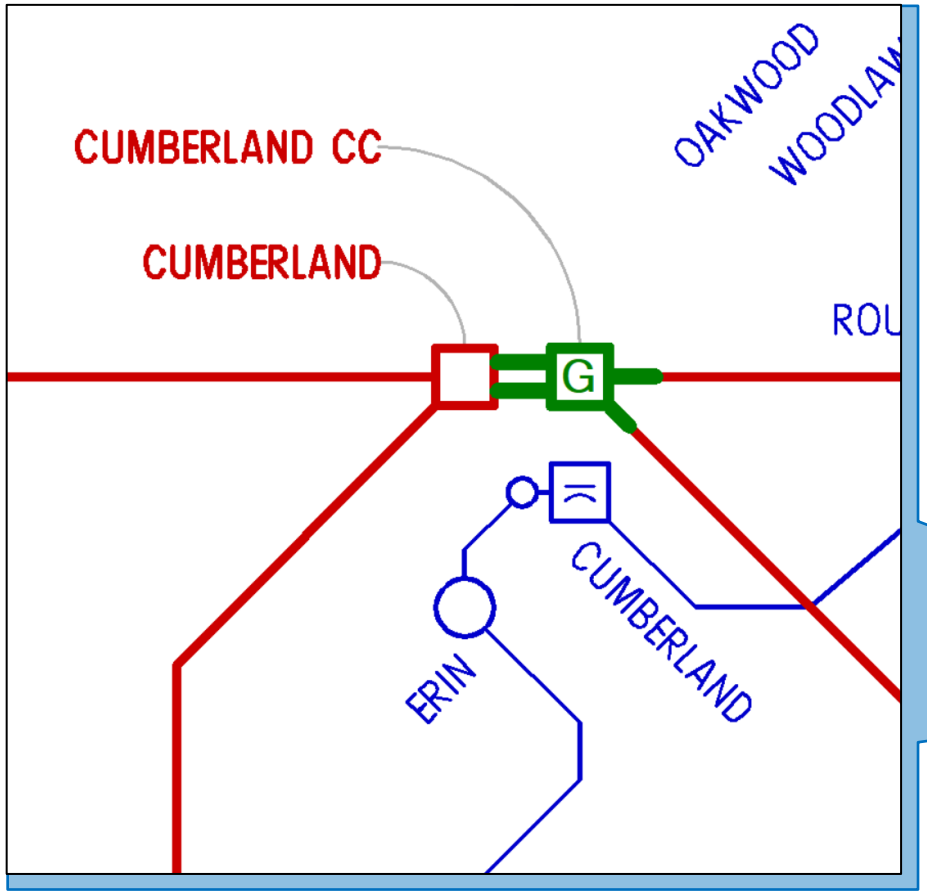


TVA Balancing Authority Area

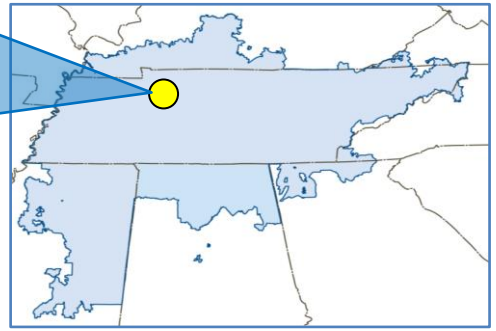
TVA – 5

• **2026**

CUMBERLAND CC GENERATION INTERCONNECTION



- **DESCRIPTION:**
  - Construct new 500kV station to interconnect new natural gas fired CC generation. Loop in two nearby 500kV 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.

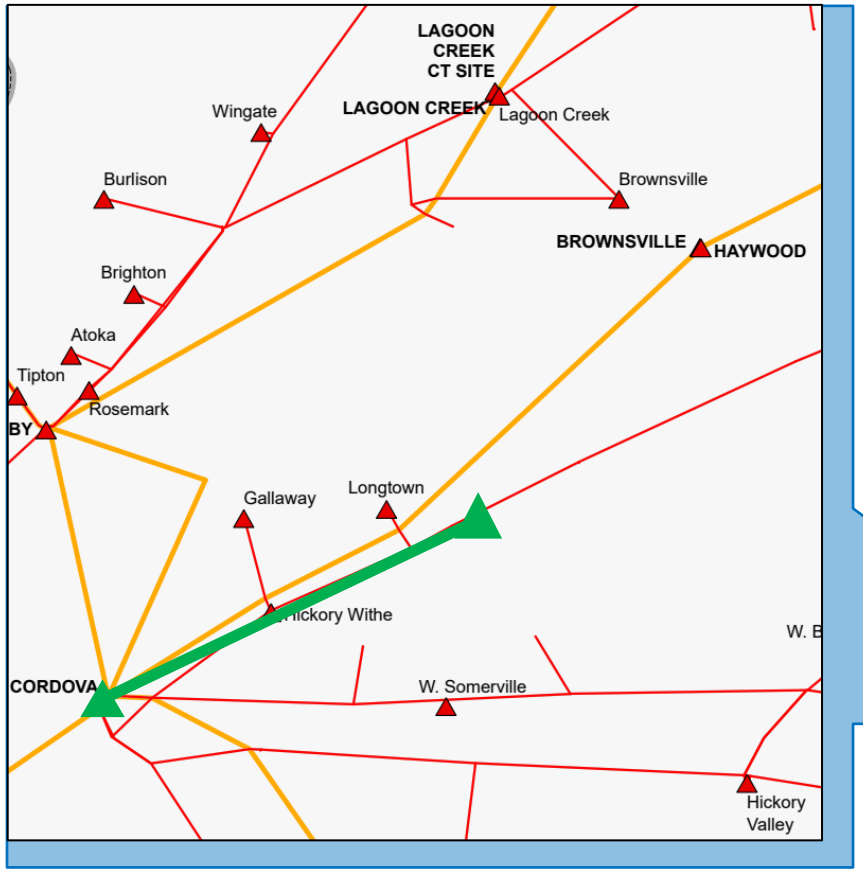


TVA Balancing Authority Area

TVA – 6

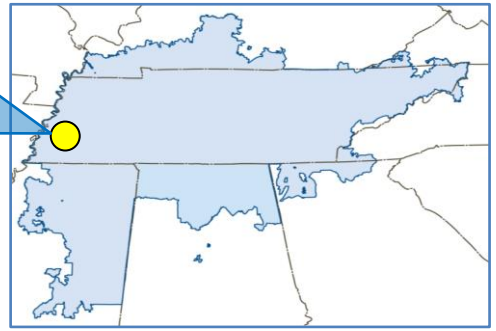
• **2027**

CORDOVA - YUM YUM TL 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

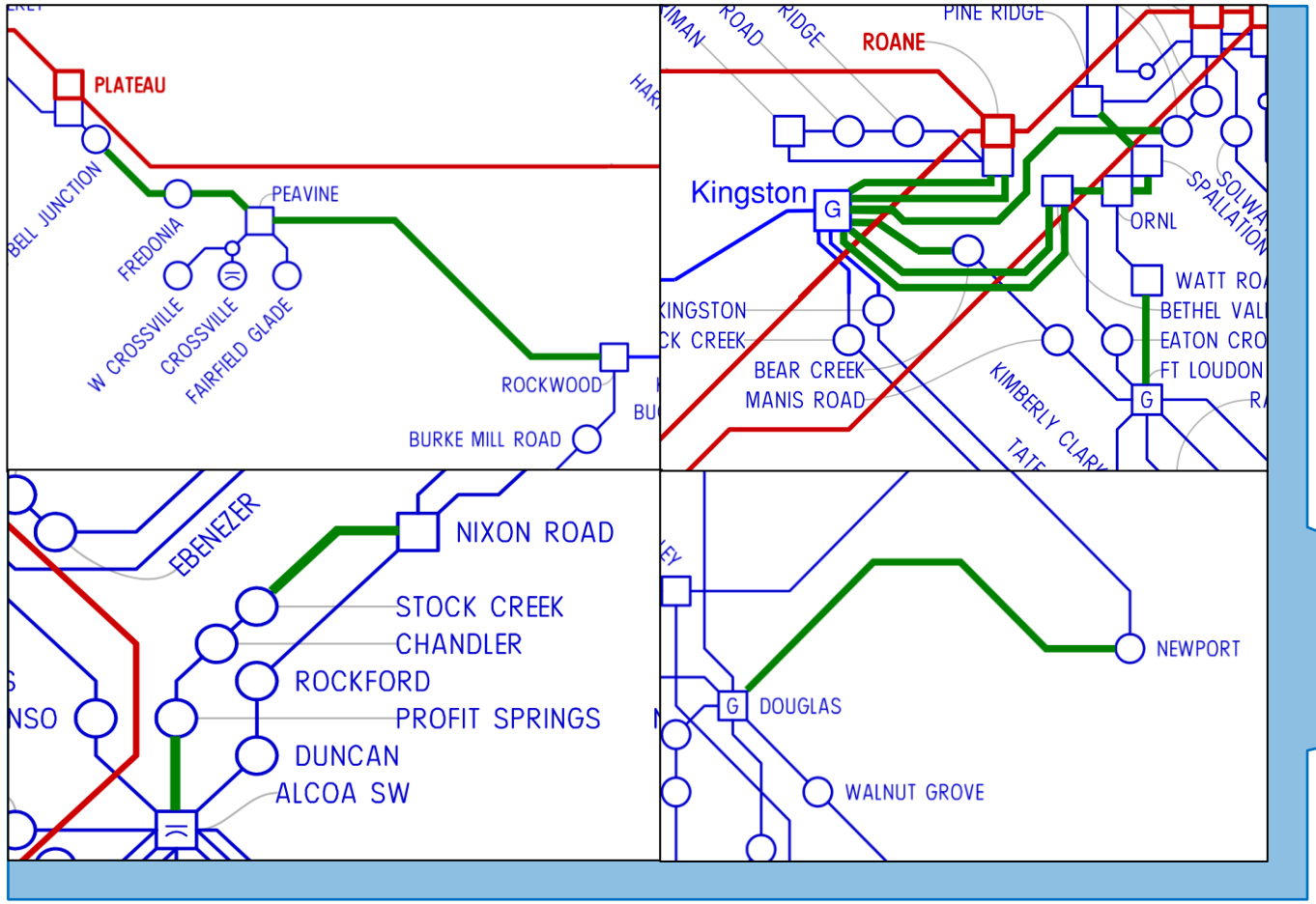


TVA Balancing Authority Area

TVA – 7

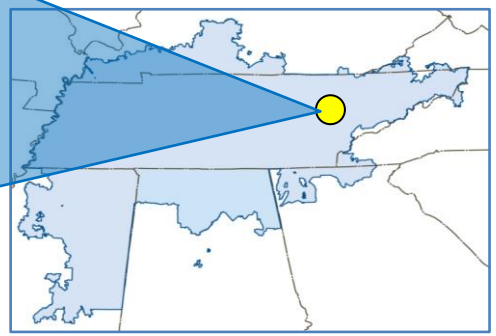
• **2027**

KINGSTON CC & AERODERIVATIVE CT GENERATION INTERCONNECTION



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

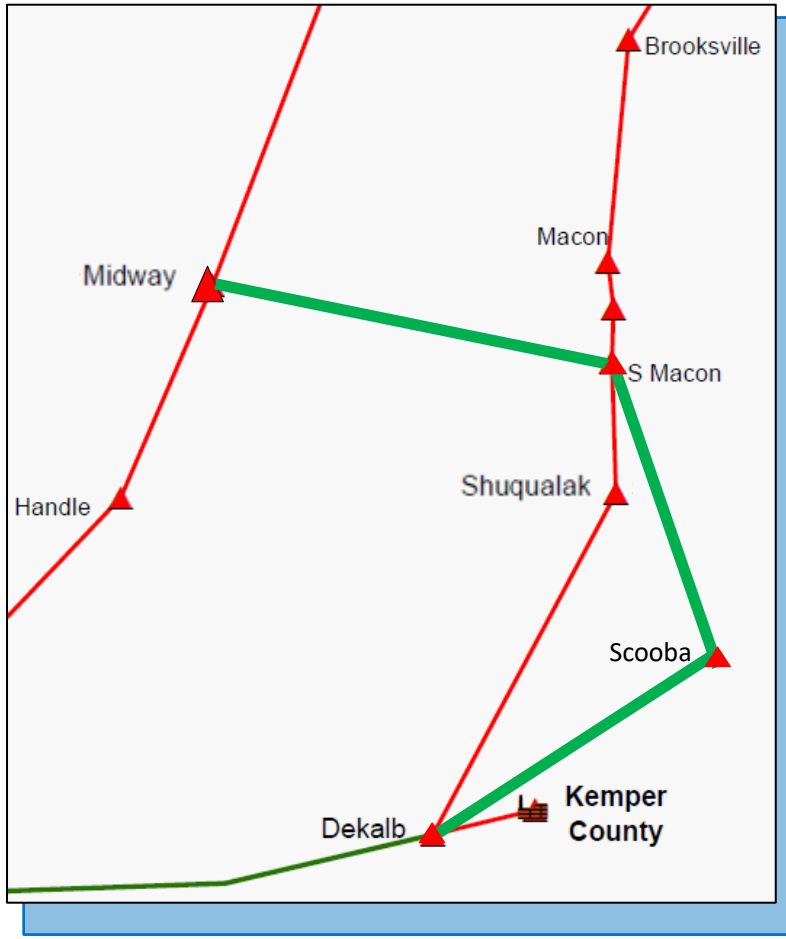


TVA Balancing Authority Area

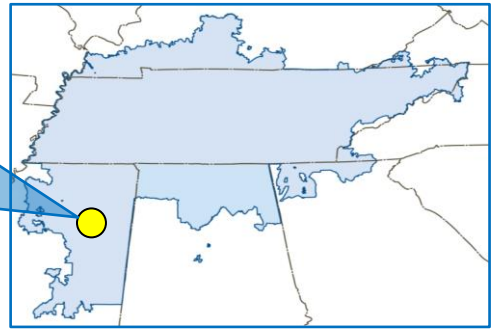
TVA – 8

- **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.

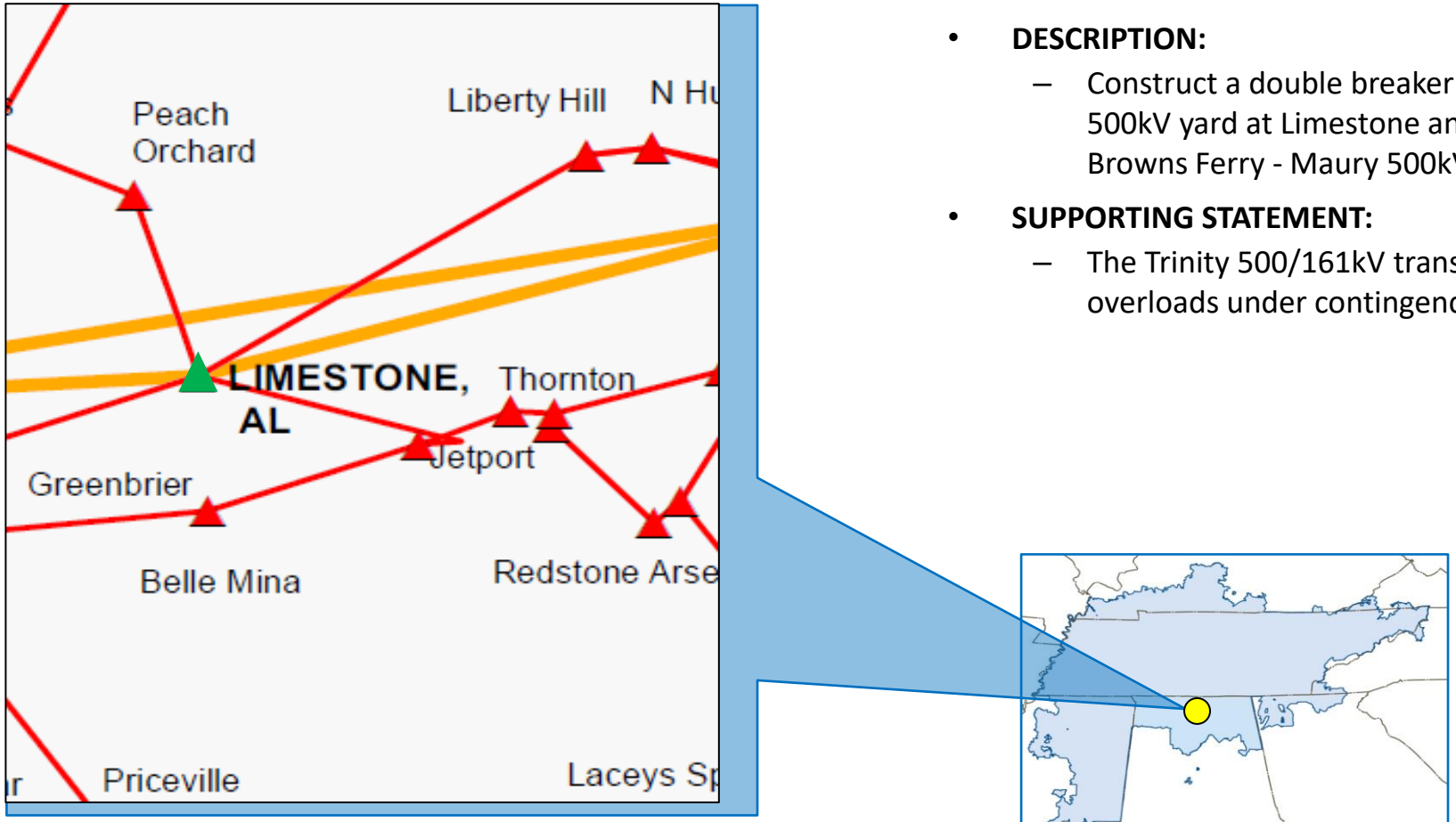


TVA Balancing Authority Area

TVA – 9

- **2028**

LIMESTONE 500KV DOUBLE BREAKER AND LOOP



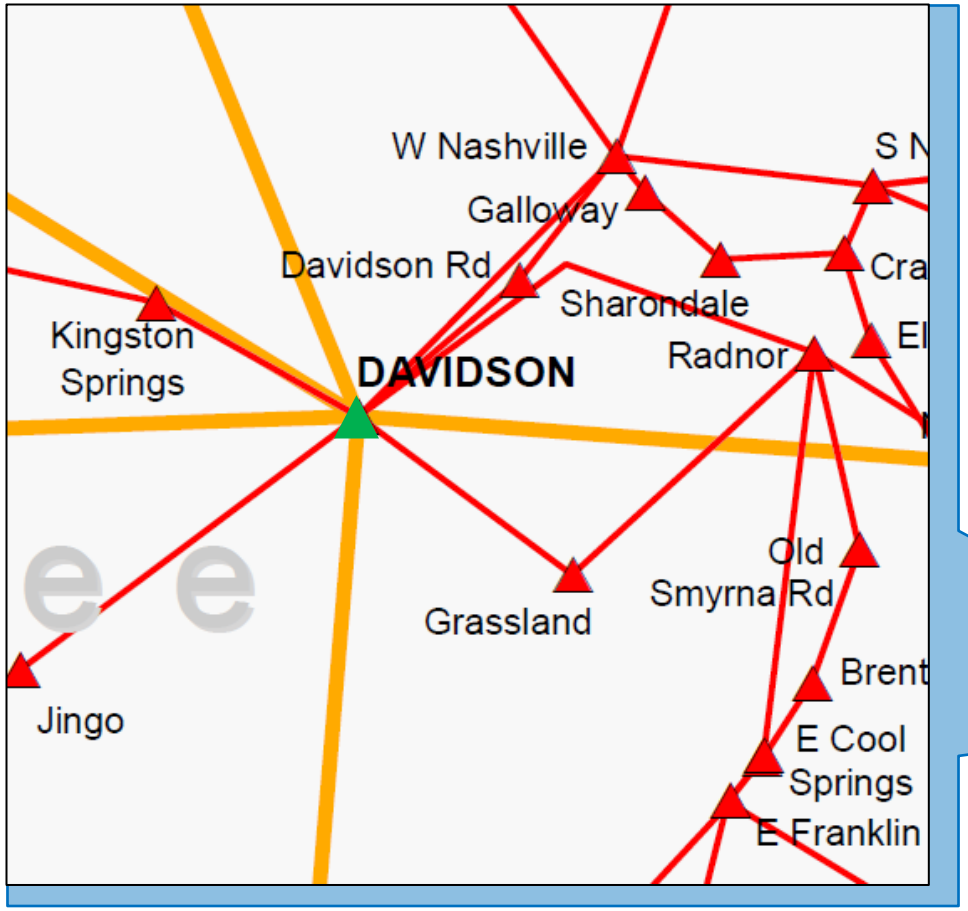
- **DESCRIPTION:**
  - Construct a double breaker station in the 500kV yard at Limestone and loop in the Browns Ferry - Maury 500kV TL.
- **SUPPORTING STATEMENT:**
  - The Trinity 500/161kV transformer overloads under contingency.

TVA Balancing Authority Area

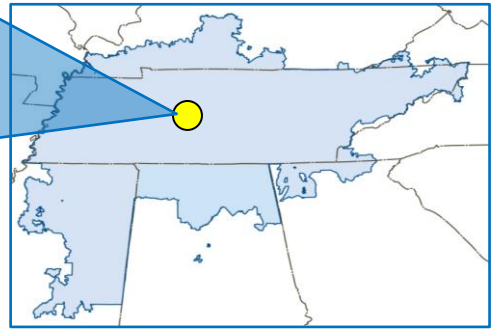
TVA – 10

- **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.

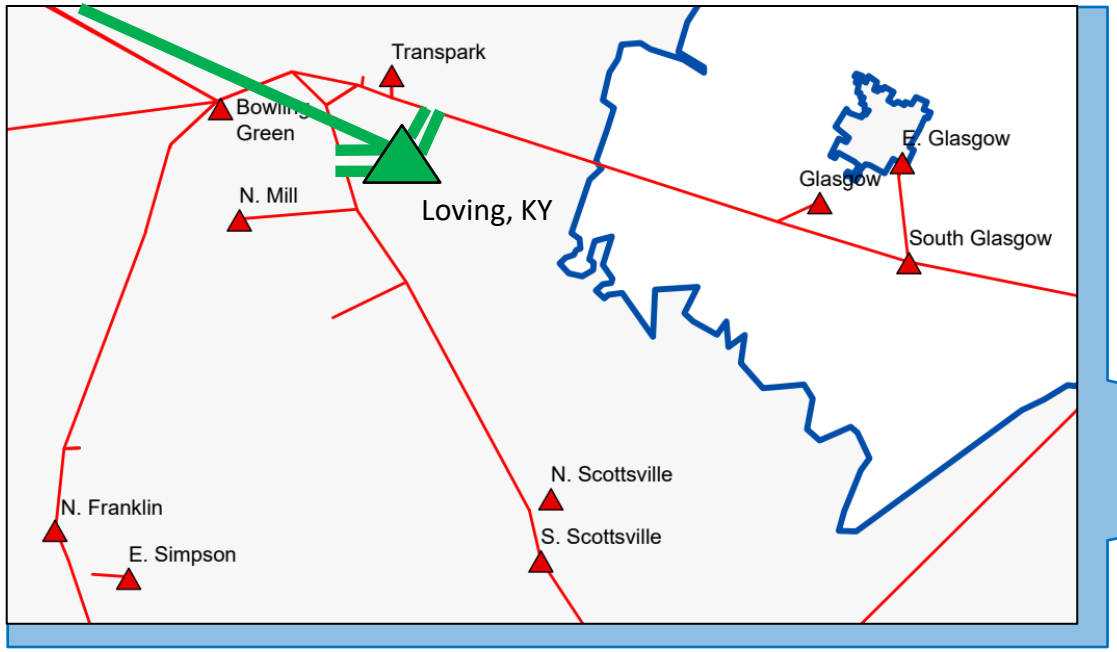


TVA Balancing Authority Area

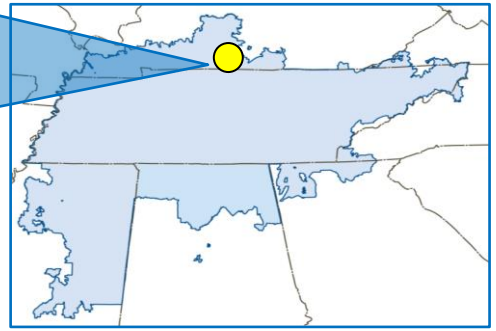
TVA – 11

- **2028**

LOVING, KY 161KV STATION



- **DESCRIPTION:**
  - Construct the Loving, KY 161kV 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 capacity is needed in the Bowling Green area for economic development.

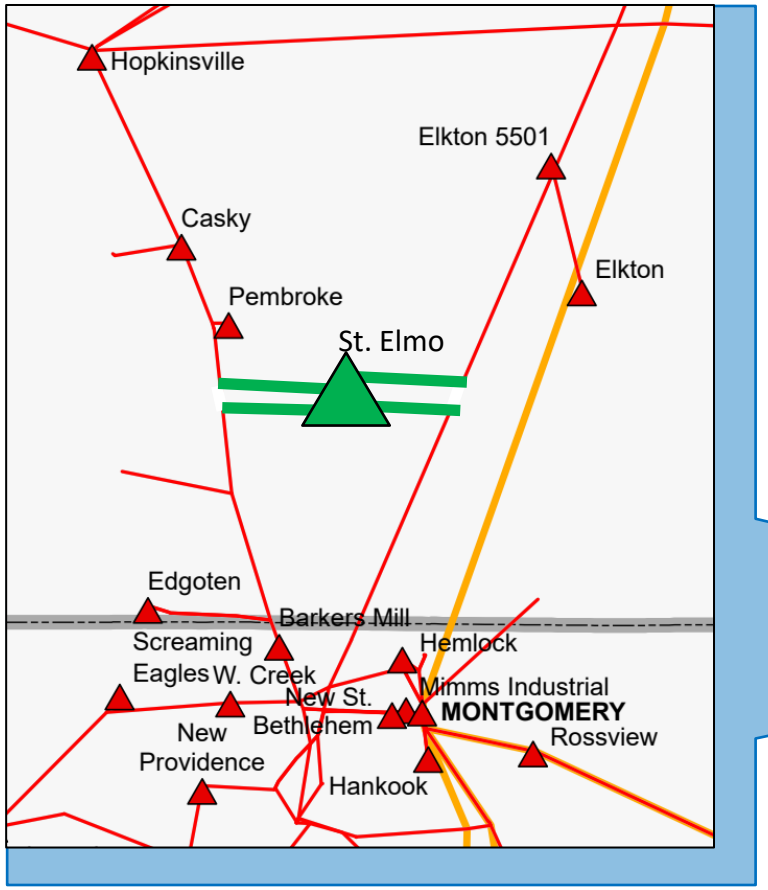


TVA Balancing Authority Area

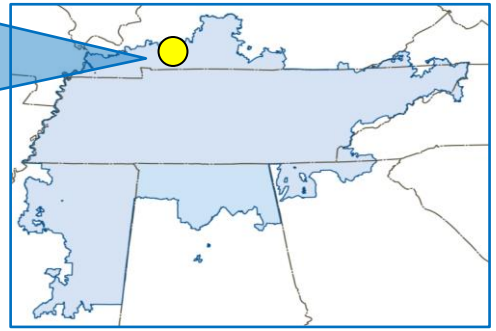
TVA – 12

- **2028**

ST. ELMO, KY 161 KY SUBSTATION



- **DESCRIPTION:**
  - Construct new 161kV substation. Loop in Edgoten-Casky 161kV transmission line (approximately 0.6 miles from station to loop point). Loop in Paradise-Clarksville 161kV transmission line (approximately 10 miles from station to loop point).
- **SUPPORTING STATEMENT:**
  - Voltage support and additional capacity is needed for economic development in the Bowling Green area.

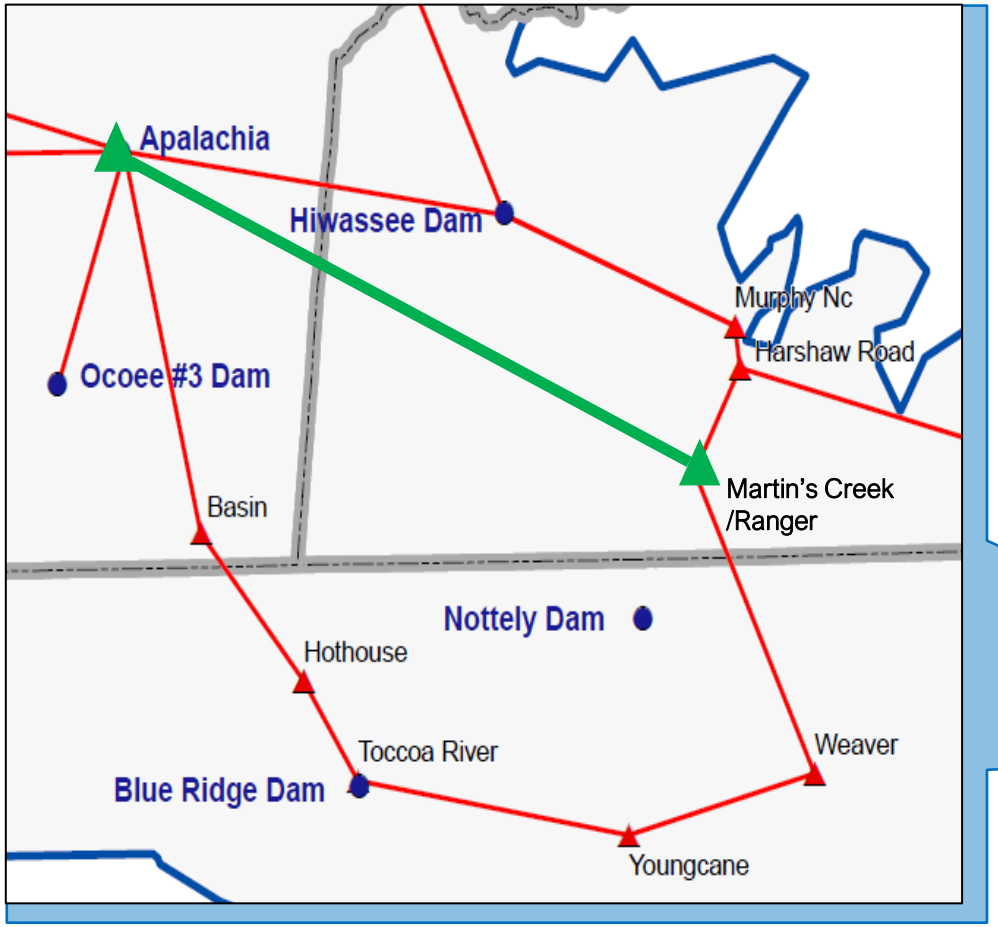


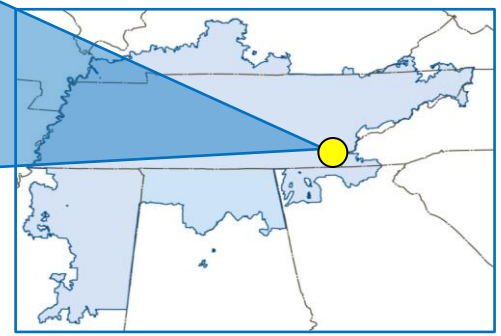
TVA Balancing Authority Area

TVA – 13

- **2029**

APALACHIA AREA IMPROVEMENT PLAN





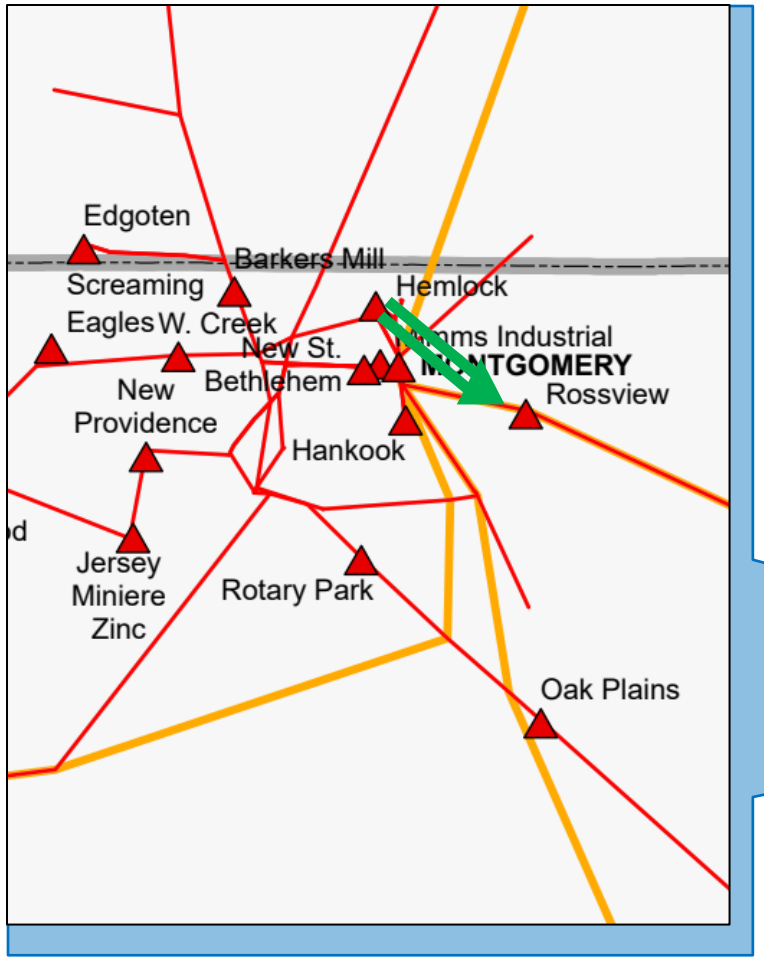
- **DESCRIPTION:**
  - Construct Martin's Creek 161 kV substation. Construct approximately 25 miles of new TL from Apalachia 161 kV substation to Ranger 161 kV switching station.
- **SUPPORTING STATEMENT:**
  - The Apalachia - Basin 161 kV transmission line overloads under contingency.

TVA Balancing Authority Area

TVA – 14

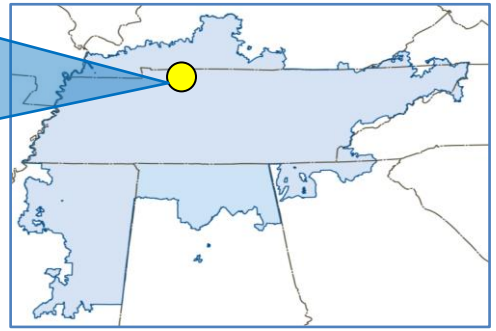
• **2030**

HAMPTON 500 KV STATION



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

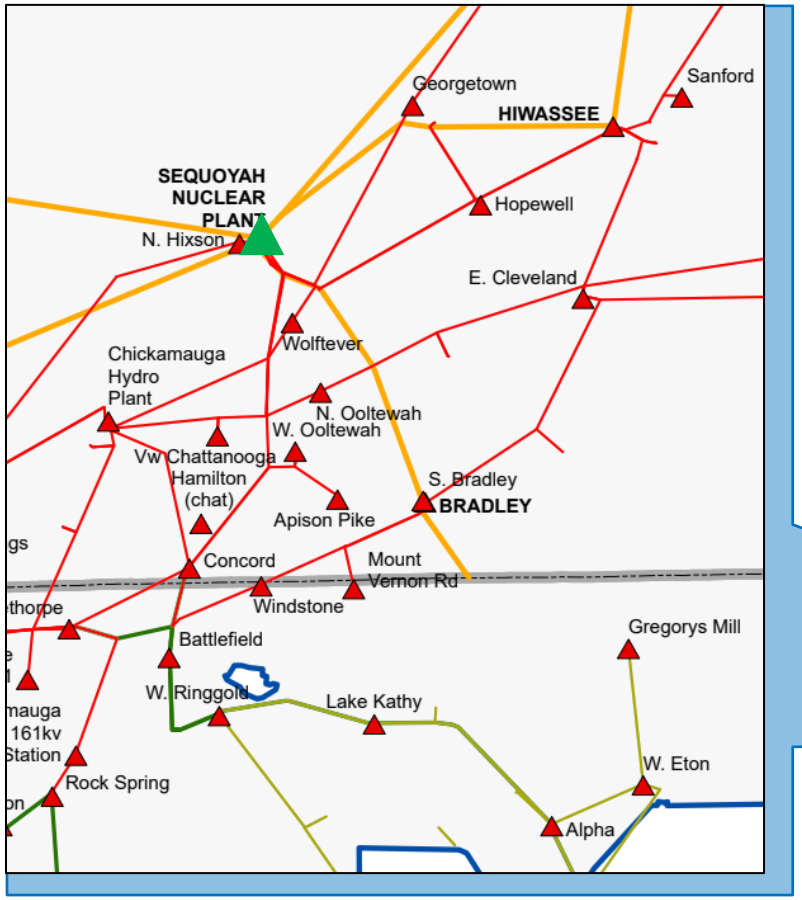


TVA Balancing Authority Area

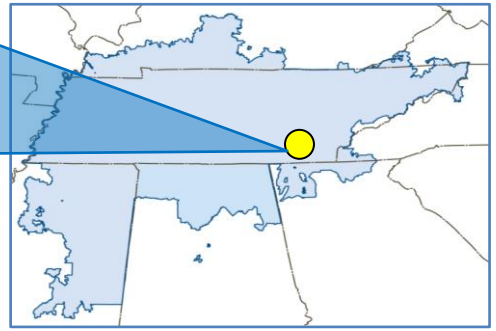
TVA – 15

• **2030**

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:**
  - Additional thermal capacity and voltage support is needed in the Hamilton County, TN area under contingency.



TVA Balancing Authority Area

TVA Balancing Authority Area

Preliminary 2025 Generation Assumptions

* TVA has no known generation changes throughout the ten-year planning horizon for the 2025 SERTP Process.

Economic Planning Studies

Economic Planning Studies

Economic Planning Studies Process

- Economic Planning Studies were chosen by the Regional Planning Stakeholder Group “RPSG” in March at the 2024 SERTP 1st Quarter Meeting.
- Key study criteria, methodologies, and input assumptions were finalized in May.
- These studies represent analyses of hypothetical scenarios requested by the stakeholders and **do not** represent an actual transmission need or commitment to build.

Economic Planning Studies

Economic Planning Studies Process

- **SERTP Sponsors identify the transmission requirements needed to move large amounts of power above and beyond existing long-term, firm transmission service commitments**
  - Analysis are consistent with company-specific planning criteria

- **1898 & Co. was contracted to perform the analysis and, along with sponsors, develop potential strategic solutions for these studies**

- **Models used to perform the analysis incorporate the load forecasts and resource decisions as provided by LSEs**
  - Power flow models are made available to stakeholders to perform additional screens or analysis

Economic Planning Studies

Economic Planning Studies & Cases

1) **MISO South/FRCC to SOCO**
   1) 4,000 MW (2029 Summer Peak)
2) **PJM to DEC/DEP**
   - 2,000 MW (2026 Summer Peak)
3) **MISO North to SOCO**
   - 10,000 MW (2034 Summer Peak)
4) **SPP/MISO North to AECI**
   - 2,500 MW (2029 Summer Peak)
5) **DEC/SOCO to Santee Cooper**
   - 2,400 MW (2034 Winter Peak)

- **Load Flow Cases Utilized:**
  - 2024 Series Version 1 SERTP Regional Models
    - 2026 Summer Peak
    - 2029 Summer Peak
    - 2034 Summer Peak
    - 2034 Winter Peak

Economic Planning Studies

Preliminary Report Components

- **The SERTP reported, at a minimum, results for monitored transmission elements within the SERTP footprint based on:**
  - Thermal loadings greater than 90% for facilities that are negatively (+5%) impacted by the proposed transfers
  - Voltages appropriate to each participating transmission owner's planning criteria
  - Overloaded facilities that had a low response to the requested transfer were excluded and issues identified that are local in nature were also excluded
- **For each economic planning study request, the results of that study include:**
  1. Limit(s) to the transfer
  2. Potential transmission enhancement(s) to address the limit(s)
  3. Planning-level cost estimates and in-service dates for the potential transmission enhancement(s)

Economic Planning Studies

Preliminary and Final Results Comparison

Study	# Project Removed	# Project Added	Preliminary Costs	Final Costs
1) MISO South/FRCC to SOCO	1	0	$1,921,000	$321,000
2) PJM to DEC/DEP	0	0	$7,000,000	$7,000,000
3) MISO North to SOCO	3	8	$4,607,934,000	$4,641,461,000
4) SPP/MISO North to AECI	0	0	$0	$0
5) DEC/SOCO to Santee Cooper	1	0	$24,275,000	$10,225,000

Economic Planning Studies

Process Information

- The following information depicts potential enhancements for the proposed transfer levels above and beyond existing, firm commitments. Therefore, this information does not represent a commitment to proceed with the recommended enhancements nor implies that the recommended enhancements could be implemented by the study dates.

- These potential solutions only address constraints identified within the SERTP Sponsors' areas that are associated with the proposed transfers. Other Balancing Areas were not monitored which could result in additional limitations and required system enhancements.

Economic Planning Studies

Economic Planning Studies

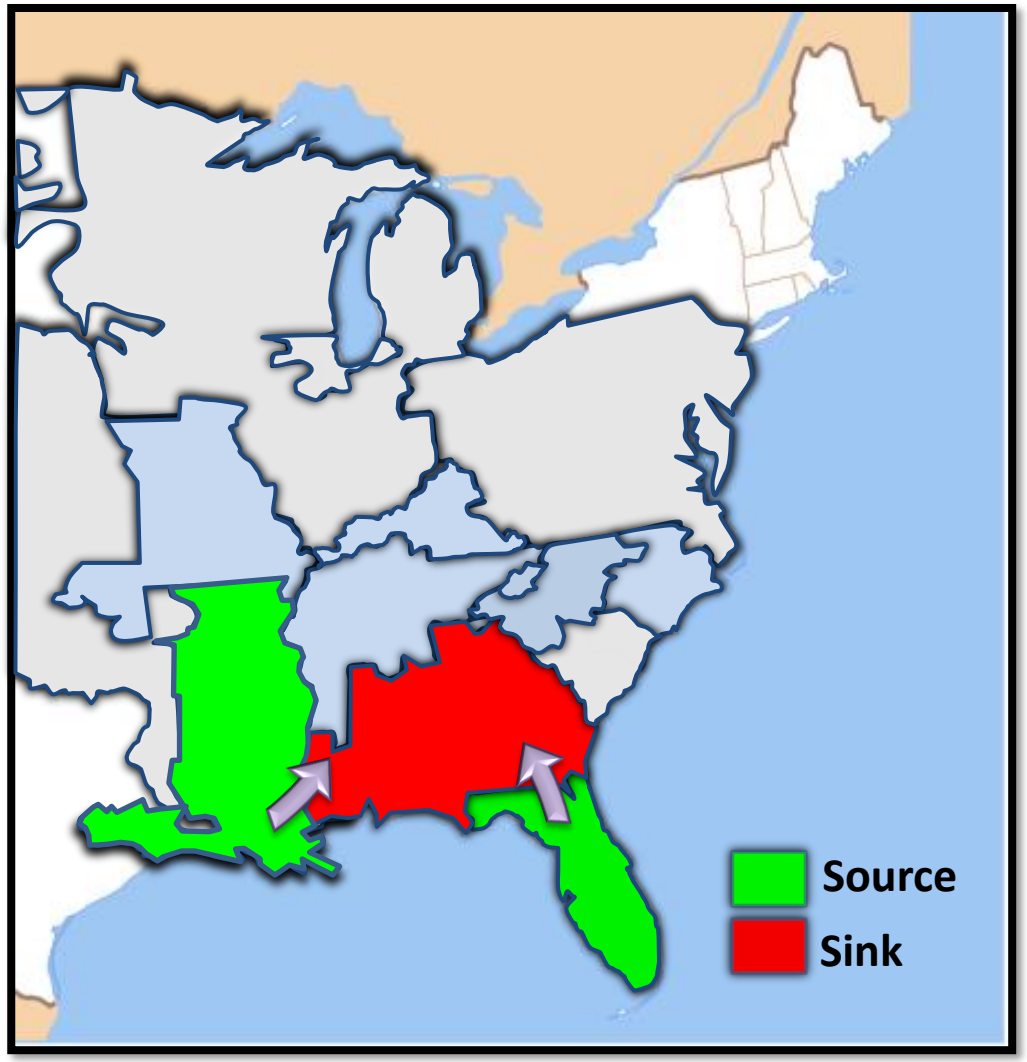
MISO South/FRCC to SOCO – 4,000 MW

Southeastern Regional TRANSMISSION PLANNING

MISO S/FRCC to SOCO – 4,000 MW

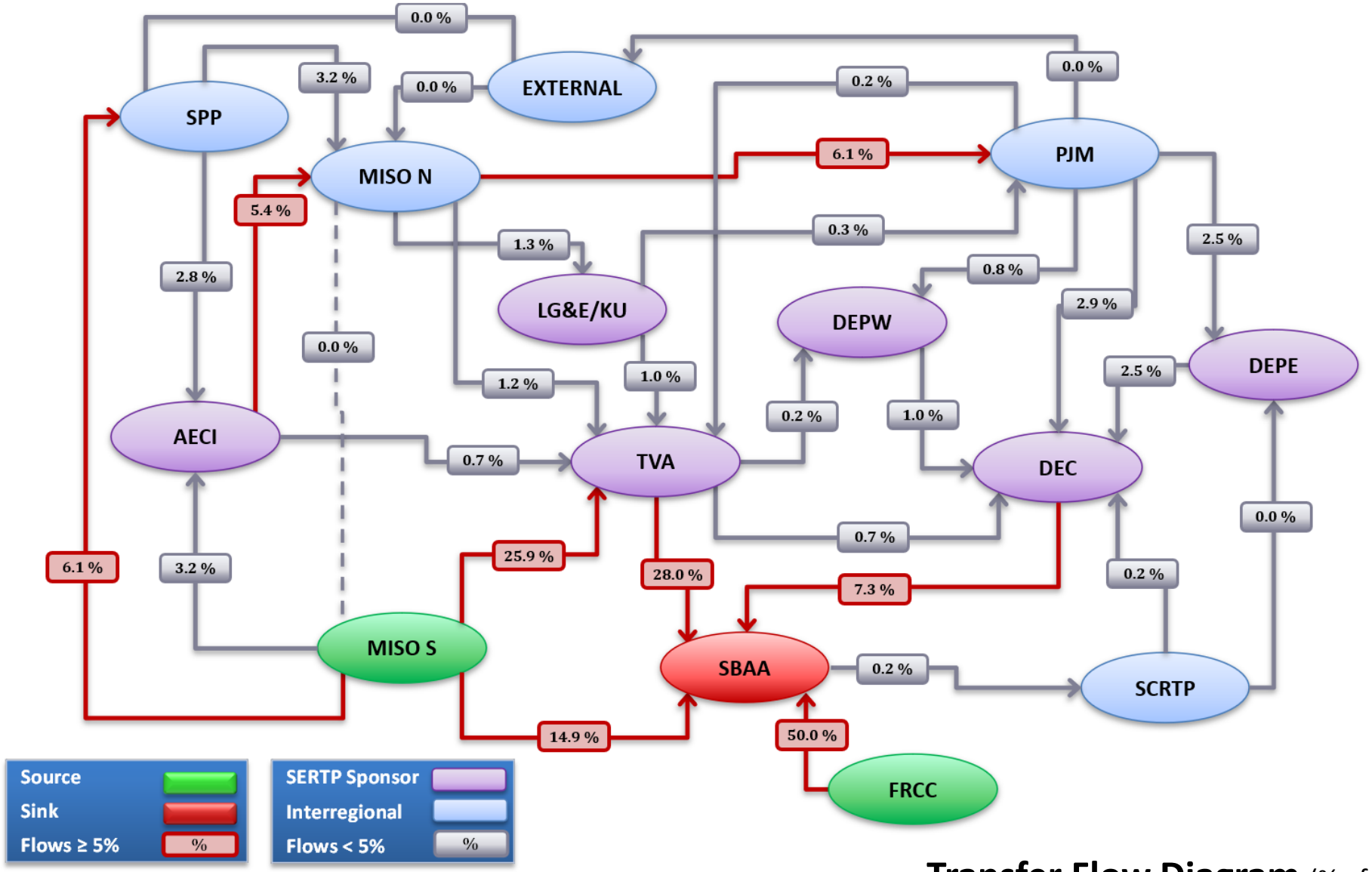
Study Assumptions

- **Source:** Generation within MISO South (2,000) and FRCC (2,000)
- **Sink:** Generation within SOCO
- **Transfer Type:** Generation to Generation
- **Year:** 2029
- **Load Level:** Summer Peak



Southeastern Regional
TRANSMISSION PLANNING

MISO S/FRCC to SOCO – 4,000 MW

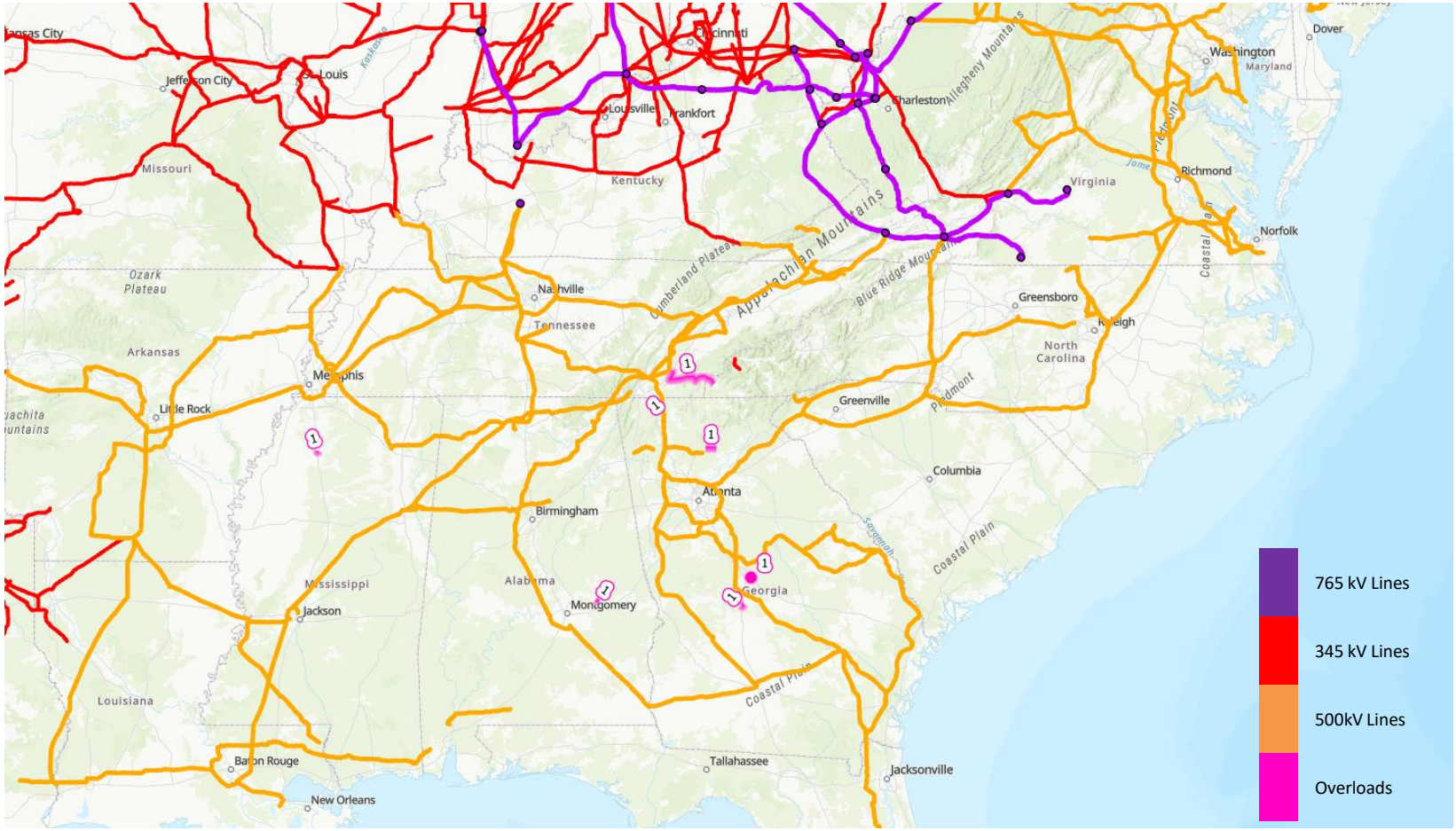


Transfer Flow Diagram (% of Total Transfer)

Southeastern Regional TRANSMISSION PLANNING

MISO S/FRCC to SOCO – 4,000 MW

Transmission System Impacts - *SERTP*



Facility Violations:
115 kV – 2
161 kV – 1

Potential Enhancements Identified: 1

Violations Addressed by Existing Projects: 2

SERTP TOTAL ($2024) = $321,000

Southeastern Regional TRANSMISSION PLANNING

MISO S/FRCC to SOCO – 4,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate
P1	**Uprate the jumper at the Charleston 161kV substation.**	**TVA**	**$321,000**
TOTAL ($2024)			**$321,000**(1)

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Economic Planning Studies

Economic Planning Studies

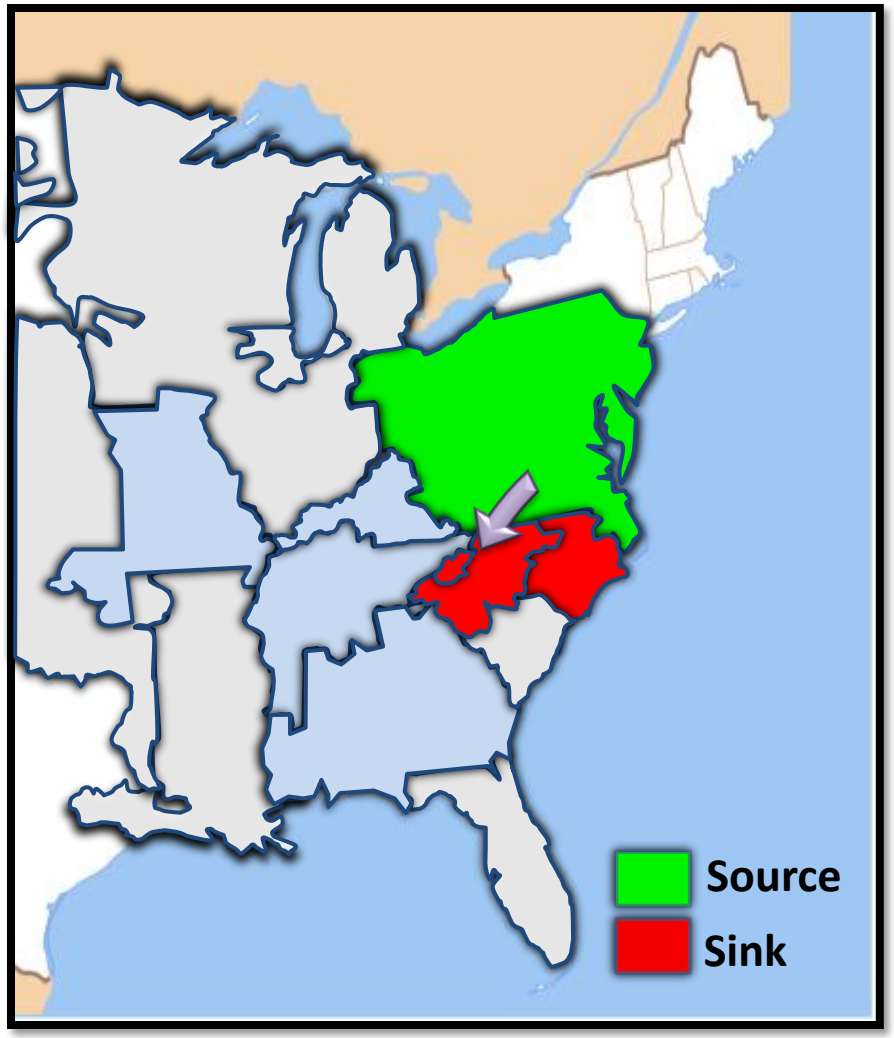
PJM to DEC/DEP – 2,000 MW

Southeastern Regional TRANSMISSION PLANNING

PJM – DEC/DEP 2,000 MW

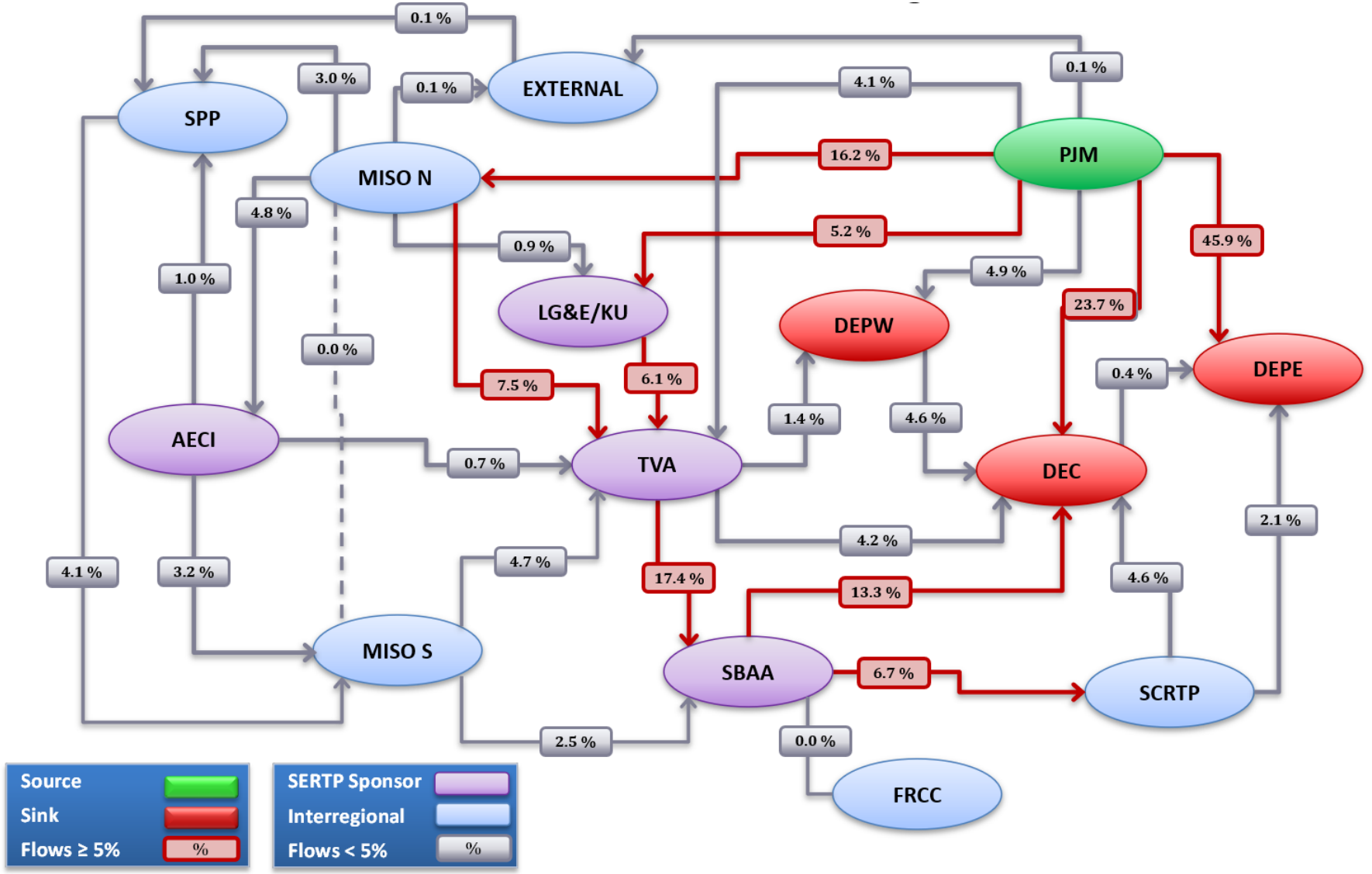
Study Assumptions

- **Source:** Generation Scale within PJM
- **Sink:** Generation Scale within DEC (1,000) and DEP (1,000)
- **Transfer Type:** Generation to Generation
- **Year:** 2026
- **Load Level:** Summer Peak



Southeastern Regional
TRANSMISSION PLANNING

PJM – DEC/DEP 2,000 MW

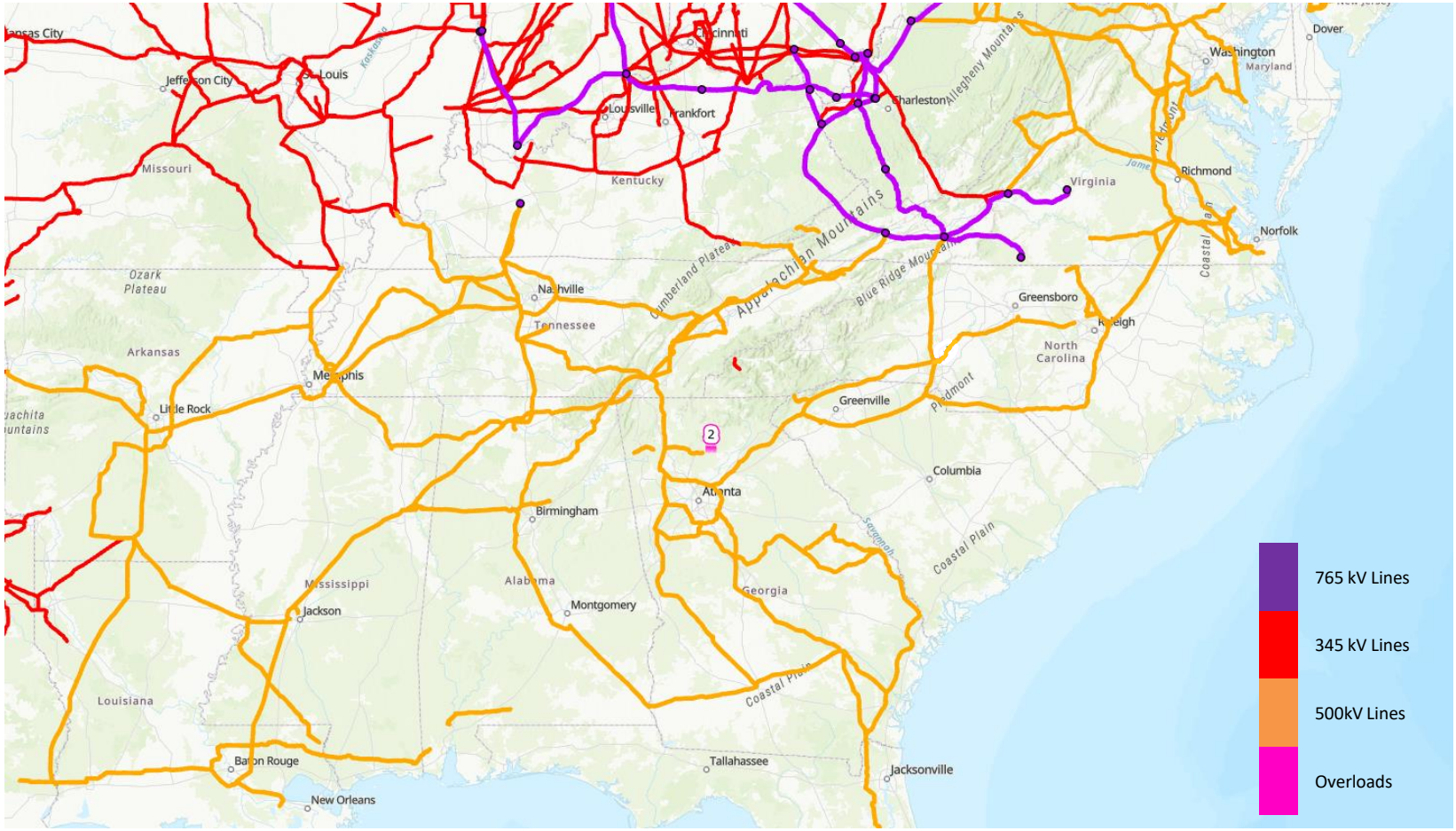


Transfer Flow Diagram (% of Total Transfer)

Southeastern Regional TRANSMISSION PLANNING

PJM – DEC/DEP 2,000 MW

Transmission System Impacts - *SERTP*



Facility Violations:
115 kV – 1

Potential Enhancements Identified: 1

Violations Addressed by Existing Projects: 0

SERTP TOTAL ($2024) = $7 Million

PJM – DEC/DEP 2,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate
P1	**Advancement of Existing Project: (DU) Rebuild the Dawson Crossing-Nelson (White) 115kV line from Dawson Crossing-Etowah-Reavis Mountain with 200C 1351 ACSS conductor and replace limiting elements in substations along the line.**	**SBAA**	**$7,000,000**
TOTAL ($2024)			**$7 Million**(1)

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Economic Planning Studies

Economic Planning Studies

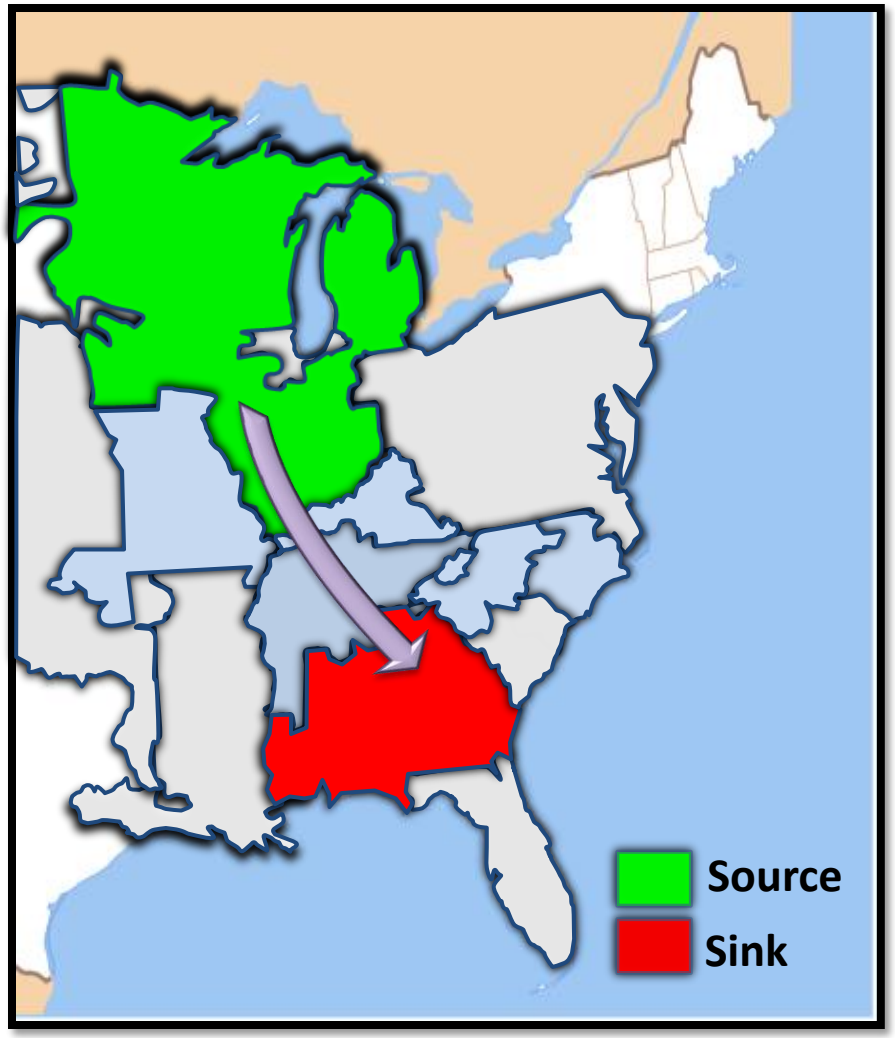
MISO N to SOCO – 10,000MW

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

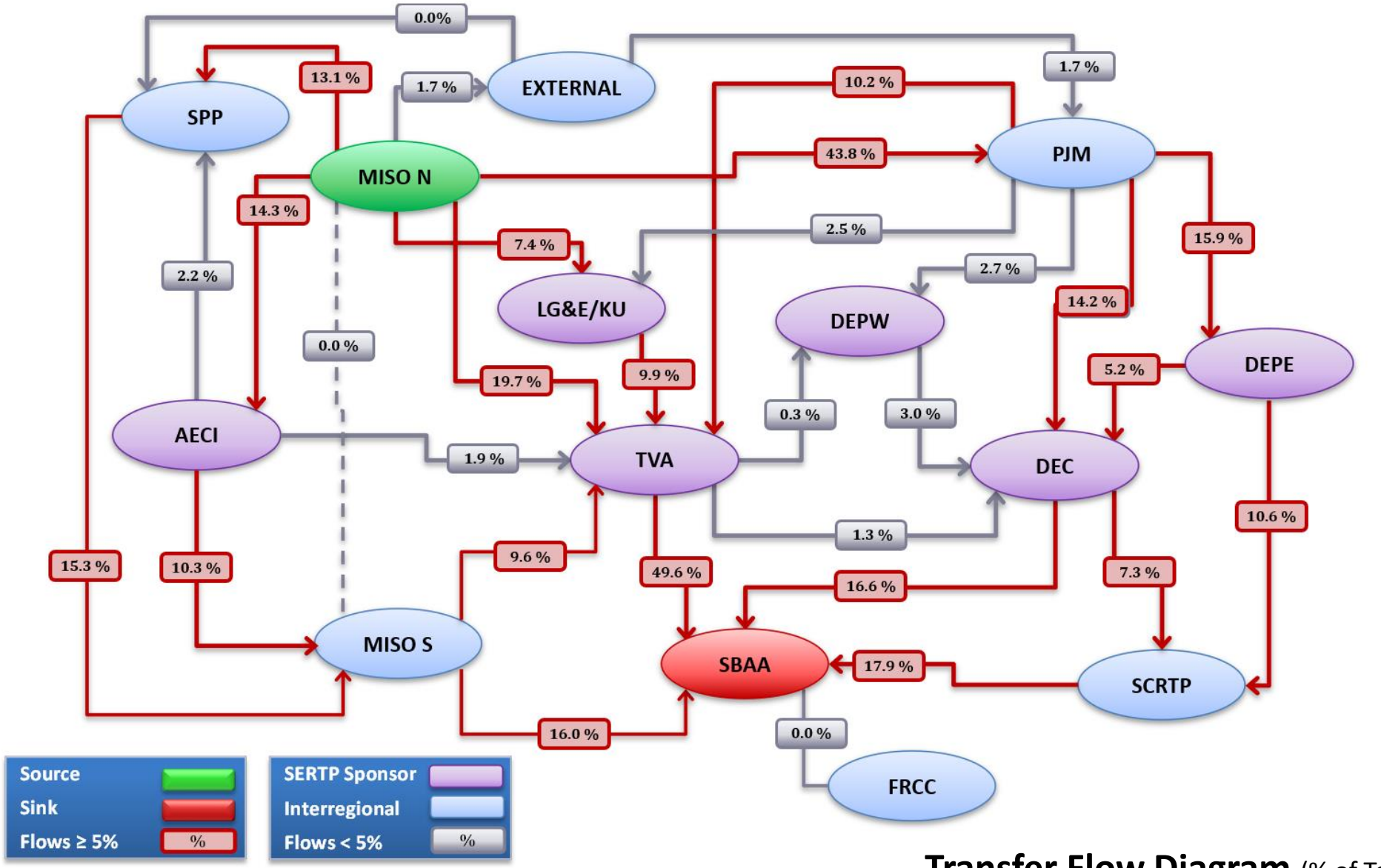
Study Assumptions

- **Source:** Generation Scale within MISO North
- **Sink:** Generation within SOCO
- **Transfer Type:** Generation to Generation
- **Year:** 2034
- **Load Level:** Summer Peak



Southeastern Regional
TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

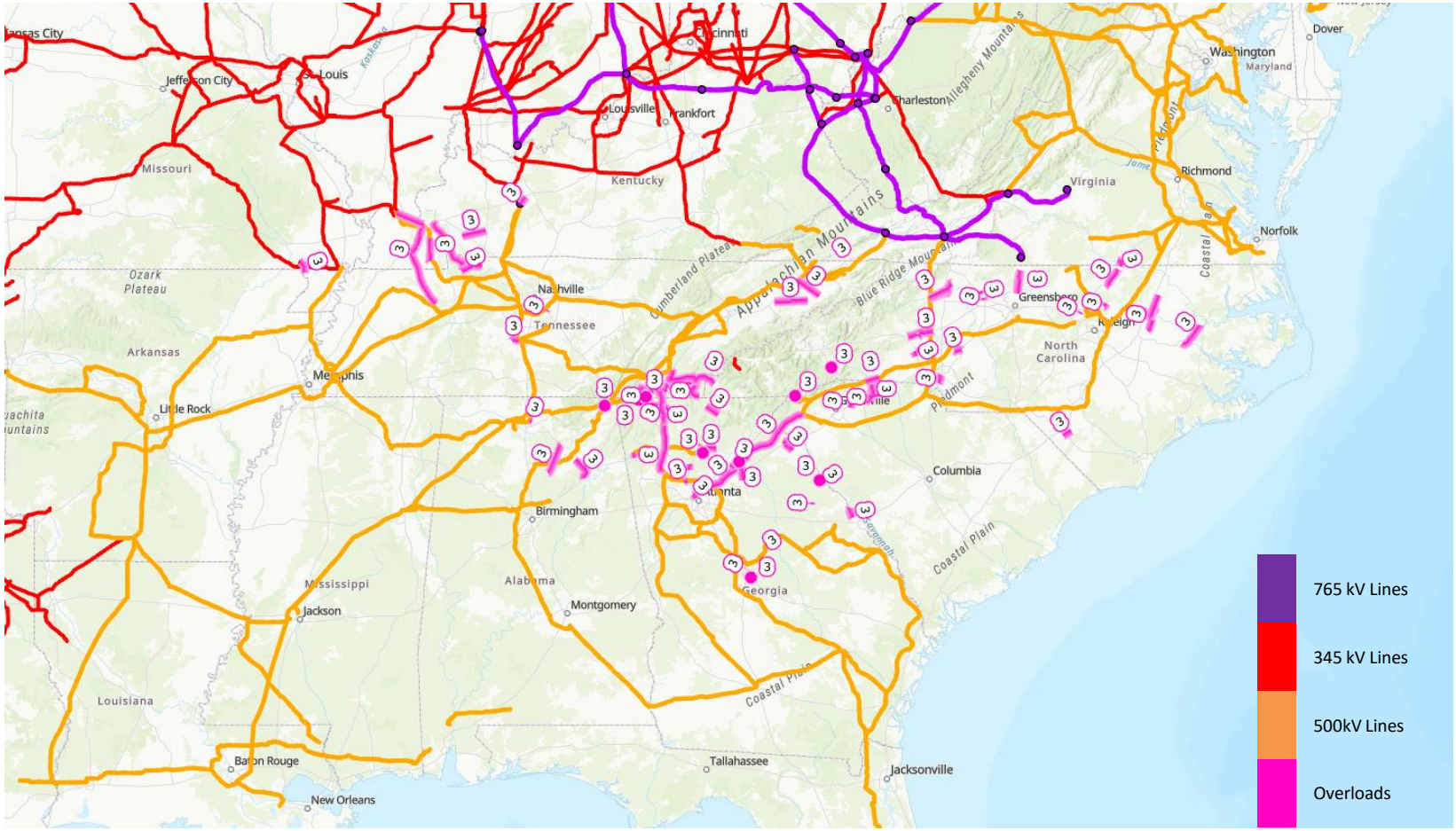


Transfer Flow Diagram (% of Total Transfer)

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Transmission System Impacts - *SERTP*



Facility Violations:
100 kV – 20
115 kV – 37
138 kV – 1
161 kV – 38
230 kV – 34
500 kV – 6
230/115 kV – 5
230/161 kV – 3
500/230 kV - 3

Potential Enhancements Identified: 47

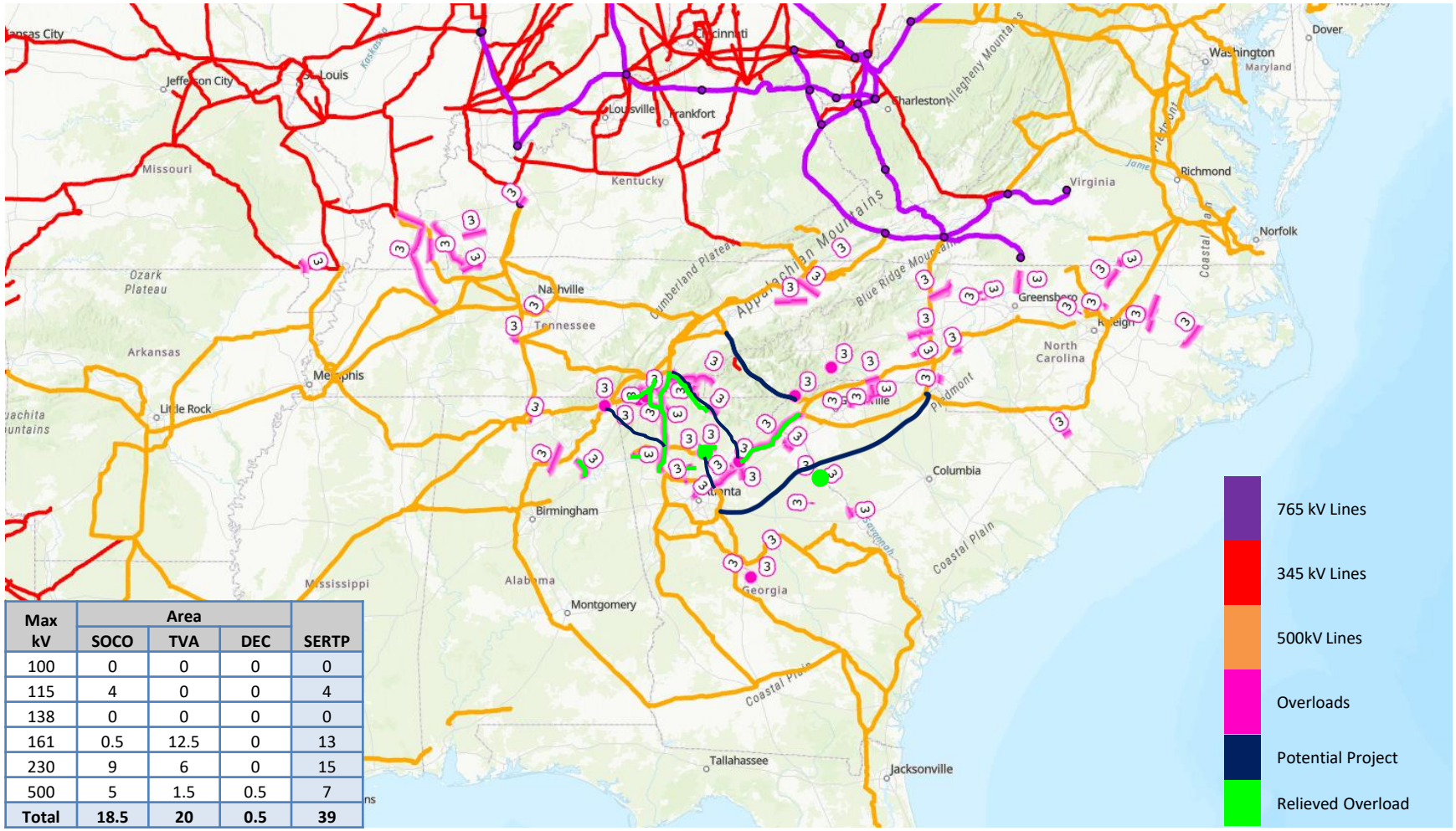
Violations Addressed by Existing Projects: 26

SERTP TOTAL ($2024) = $4,641 Million

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Strategic Solution 1 – P1



Max kV	Area			SERTP
	SOCO	TVA	DEC	
100	0	0	0	0
115	4	0	0	4
138	0	0	0	0
161	0.5	12.5	0	13
230	9	6	0	15
500	5	1.5	0.5	7
Total	**18.5**	**20**	**0.5**	**39**

Potential Solution Description

- New Bad Creek – Alcoa 500kV line (125 miles)
- New South Hall – Hiwassee 500kV (110 miles)
- New Widows Creek – Mosteller Springs 500kV (75 miles)
- New Newport - East Walton 500kV (220 miles)
- New Klondike – East Walton 500 kV line (54 miles)
- New McGrau Ford – Norcross 500 kV line (28 miles)

Total Cost: $3,164.6 Million

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Strategic Solution 1 – P1

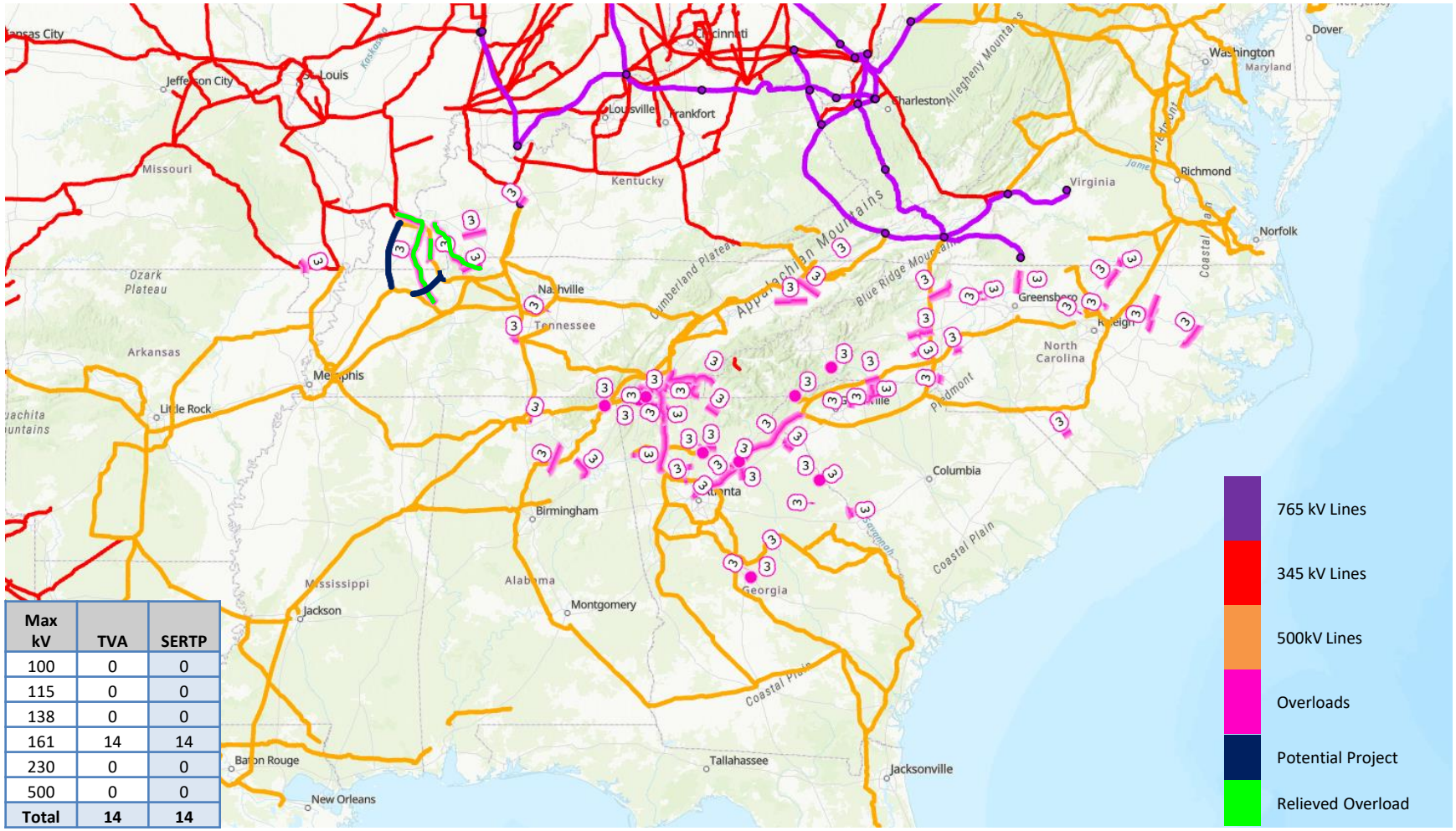
Item	Potential Enhancement	Area	Planning Level Cost Estimate
P1	(1) Build a new 110 mile, 500kV line from New South Hall – Hiwassee 500kV (SBAA – TVA) a. SOCO portion will be 55miles with 3-1113 ACSR rated for 100C b. TVA portion will be 55 miles (2) Build a new 75 miles, 500kV line from Widows Creek – Mosteller Springs 500kV (TVA – SBAA) a. SOCO portion will be 37.5 miles with 3-1113 ACSR rated for 100C b. TVA portion will be 37.5 miles (3) Build a new 220 mile, 500kV line from Newport - East Walton 500kV (DEC – SBAA Portion) a. SOCO portion will be 110 miles with 3-1113 ACSR rated for 100C b. DEC portion will be 110 miles with bundled 2505 ACSR rated at 120°C (4) Build a new 27 mile, 500kV line with 3-1113 ACSR rated for 100C from Klondike – East Walton 500kV (SBAA) (5) Build a new 14 mile, 500kV line with 3-1113 ACSR rated for 100C from McGrau Ford – Norcross 500kV (SBAA)	SBAA DEC TVA Total	$1,530,593,000 $1,207,500,000 $426,500,000 $3,164.6 Million(1)

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Strategic Solution 2 – P35



Max kV	TVA	SERTP
100	0	0
115	0	0
138	0	0
161	14	14
230	0	0
500	0	0
Total	**14**	**14**

Potential Solution Description

- Construct a new Murray 500/161kV station along the Marshall - Cumberland 500 kV line
- New Weakly – Shawnee 500kV line (62.5 miles)
- New Gleason – Murray 500kV line (35 miles)

Total Cost: $534.8 Million

MISO N – SOCO 10,000 MW

Potential Strategic Solution 2 – P35

Item	Potential Enhancement	Area	Planning Level Cost Estimate
P35	**Construct a new Murray 500/161kV station along the Marshall - Cumberland 500 kV line. Construct a new Weakly – Shawnee 500kV line (62.5 miles). Construct a new Gleason – Murray 500kV line (35 miles)**	**TVA**	**$534,762,000**(1)

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified - Summary

Max kV	100kV	115kV	138kV	161kV	230kV	500kV
DEC	11	0	0	0	1	1
DEPE	0	5	0	0	4	0
SBAA	0	6	0	0	6	2
TVA	0	0	1	8	0	0
SERTP	**11**	**11**	**1**	**8**	**11**	**3**
TOTAL ($2024): **$941 Million**(1)						

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P2	Rebuild 2.68 miles of the Tiger Tie to East Greenville Tie 100 kV Transmission Lines with 1272 ACSR rated at 120°C	DEC	$10,720,000
P3	Rebuild 29.62 miles of the Cliffside 5 to Campobello Tie 100 kV Transmission Lines with 954 ACSR rated at 120°C	DEC	$118,480,000
P4	Rebuild 21.16 miles of the Cliffside 5 to Tiger Tie 100 kV Transmission Lines with 954 ACSR rated at 120°C	DEC	$84,640,000
P5	Rebuild 19.20 miles (Full line rebuild) of the Peach Valley to Riverview 230 kV Transmission Lines 1158 ACSS/TW rated at 200°C	DEC	$96,000,000
P6	Rebuild 4.77 miles of the Cliffside 5 to Peach Valley 100 kV Transmission Lines with 954 ACSR rated at 120°C	DEC	$19,080,000
P7	Rebuild 5.43 miles of the Lookout Tie to Stamey Tie 100 kV Transmission Lines with bundled 954 ACSR rated at 120°C	DEC	$21,720,000

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P8	Rebuild 7.88 miles of the Orchard Tie to Lincolnton Tie 100 kV Transmission Lines with 1272 ACSR rated at 120°C	DEC	$31,520,000
P9	Rebuild/Reconductor 1500' of the Woodlawn to Wylie Switching Station 100 kV Transmission Lines with 1272 ACSR rated at 120°C	DEC	$1,200,000
P10	Upgrade the Mitchel River Tie terminals of the Mitchel River Tie to Bannertown Tie 100 kV Transmission Lines	DEC	$1,000,000
P11	Upgrade terminals at customer station along the Shattalon Switching Station to Winston Tie 100 kV Transmission Line to improve the line rating	DEC	$1,000,000
P12	Rebuild 3.26 miles of the Durham Main to Ashe St 100 kV. Because of the configuration of the 100 kV lines in the area, this rebuild will include rebuilds of 1.35 miles of the Durham Main to E Durham Tie and 1.91 miles of the E Durham Tie to Ashe St 100 kV Transmission Lines. Any new conductor will be 1272 ACSR rated at 120°C	DEC	$13,000,000
P13	Upgrade the Oconee Terminal of the Oconee to South Hall 500 kV T.L.	DEC	$10,000,000

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Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P14	Rebuild 5.3 miles of the Winecoff Tie to Conley Switching Station 100 kV Transmission Lines with 1272 ACSR rated at 120°C	DEC	$21,200,000
P16	Rebuild 19.2 DEP miles of the Henderson - VP Kerr Dam 115 kV Line with 795 ACSS/TW (313 MVA) (2)	DEPE	$76,800,000
P17	Rebuild 8.51 DEP miles of the Rocky Mount - VP Battleboro 115 kV Line with 6-795 ACSS/TW (626 MVA) (2)	DEPE	$34,040,000
P18	Rebuild 4.73 DEP miles of the Rocky Mount - VP Hathaway 230 kV East Line with 6-1590 w/ 3kA equipment (1195 MVA) (2)	DEPE	$23,650,000
P19	Rebuild 4.44 DEP miles of the Rocky Mount - VP Hathaway 230 kV West Line with 6-1590 w/ 3kA equipment (1195 MVA) (2)	DEPE	$22,200,000
P20	Rebuild 2.5 miles of the Falls - Franklinton 115 kV West Line with 795 ACSS/TW (313 MVA)	DEPE	$10,000,000

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

(2) Only DEPE miles are listed for tie lines. Neighboring utility may list their own constraints, upgrades, and costs if applicable.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P21	Rebuild 7.11 miles of the Rocky Mount - Spring Hope SS 115kV Line with 795 ACSS/TW (313 MVA)	DEPE	$28,440,000
P22	Rebuild 6.98 miles of the Rocky Mount - Wilson 115kV Line with 6-1272 ASCSR (541 MVA)	DEPE	$27,920,000
P23	Rebuild 12.79 miles of the Rocky Mount - Wilson 230kV Line with 6-1590 w/ 3kA equipment (1195 MVA)	DEPE	$63,950,000
P24	Rebuild 3.8 miles of the Weatherspoon Plant - Marion 115kV Line with 795 ACSS/TW (313 MVA)	DEPE	$15,200,000
P25	Add a second 500/230kV, 2016MVA transformer at the South Hall 500/230kV substation.	SBAA	$32,000,000
P26	Rebuild 3.52 miles between Bull Sluice and Sandy Springs of the Bull Sluice-Powers Ferry 230kV line with 200C 1351 ACSS conductor and replace limiting elements.	SBAA	$12,750,000
P27	Rebuild 3.09 miles between Winder Primary and Winder of the South Hall - Winder Primary 230kV line with 200C 1351 ACSS conductor and replace limiting elements.	SBAA	$14,505,000

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Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P28	Rebuild of the South Hall-Winder Primary 230kV line approximately 17 miles with 200C 1351 ACSS conductor and replace limiting elements along the line.	SBAA	$70,000,000
P29	Rebuild the Evans Primary-Thurmond Dam (USA) #5 115kV line from Evans to Euchee Creek (3.5 miles) with 200C 1351 ACS conductor and replace limiting elements in substations.	SBAA	$6,000,000
P32	Replace the 4000A 230kV bus tie breakers with 5000A at South Hall 230kV.	SBAA	$608,000
P33	Uprate the jumper and bus work at the N Bristol VA 138kV substation	TVA	$449,000
P34	Reconductor 0.46 miles of the BR Tap – Paradise KY 161kV transmission line with 1351 ACSS conductor	TVA	$200,000
P36	Uprate the jumper at the Guntersville, AL Primary 161kV substation	TVA	$321,000
P37	Reconductor 5.1 miles of the Maury, TN – Monsanto, TN 161kV transmission line with 795 ACSS conductor. Uprate the jumper and bus work at the Monsanto, TN 161kV substation	TVA	$2,670,000

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Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P38	Reconductor 3.87 miles of the Interchange City, TN – Hurricane Creek, TN 161kV transmission line with 954 ACSS conductor.	TVA	$1,818,000
P39	Uprate the jumper at the Hopkinsville, KY 161kV substation	TVA	$321,000
P40	Reconductor 5.22 miles of the John Sevier FP – Persia, TN 161kV transmission line with 696 ACSS conductor. Uprate the jumper and secondary equipment and reverse trip settings at the John Sevier FP 161kV substation	TVA	$2,722,000
P41	Reconductor 17.84 miles of the West Green, TN Tap – Greenville Tap 161kV transmission line with 636 ACSS conductor.	TVA	$8,381,000
P42	Reconductor 5.69 miles of the West Green, TN Tap – Greenville Tap 161kV transmission line with 696 ACSS conductor.	TVA	$2,673,000
P43(3)	Install a third 2016 MVA 500/230kV autobank at Norcross	SBAA	$32,000,000

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(3) Additional projects driven by strategic projects.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P44(3)	Rebuild 1.55 mile of line from 100C 636 ACSR to 200C 1351 ACSS on Oakwood GA – Chicopee 115kV	SBAA	$2,700,000
P45(3)	Rebuild 3.16 mile of line from 100C 636 ACSR to 200C 1351 ACSS on Chicopee - Gainesville #2 115kV	SBAA	$5,400,000
P46(3)	Rebuild 1.48 mile of line from 100C 636 ACSR to 200C 1351 ACSS on Gainesville #2 – Eureka J 115kV	SBAA	$2,700,000
P47(3)	Rebuild 1.7 mile of line from 100C 636 ACSR to 200C 1351 ACSS on Parkway Ga – Gainesville #2 115kV	SBAA	$3,000,000
P48(3)	Rebuild 1.7 mile of line from 100C 636 ACSR to 200C 1351 ACSS on Park way GA – South Gainesville	SBAA	$1,300,000

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(3) Additional projects driven by strategic projects.

Southeastern Regional TRANSMISSION PLANNING

MISO N – SOCO 10,000 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate(1)
P49(3)	Replace 2 285 MVA 230\115kV banks with 400 MVA banks at Norcross	SBAA	6,000,000
P50(3)	Replace two 3000A breakers with (2) 4000A at South Hall	SBAA	$1,220,000
TOTAL ($2024)			**$4,641 Million** (1)

(1) Total planning level cost estimate does not include the cost of projects that are included in SERTP Sponsors' expansion plans and are scheduled to be completed by June 1st of the study year. The studied transfer depends on these projects being in-service, and the cost to support the study transfer could be greater than the total shown above if any of these projects are delayed or cancelled.

(3) Additional projects driven by strategic projects.

Economic Planning Studies

Economic Planning Studies

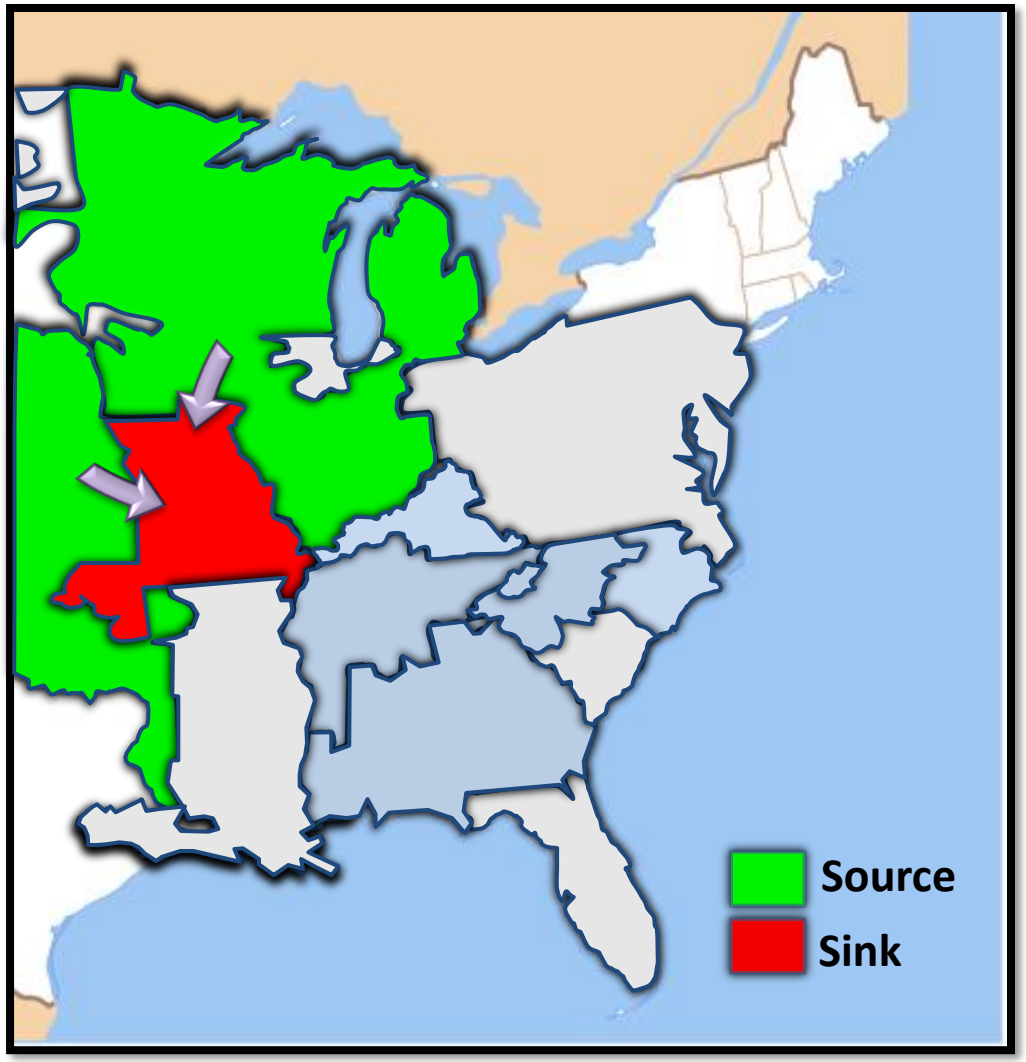
SPP/MISO North to AECI– 2,500MW

Southeastern Regional TRANSMISSION PLANNING

SPP/MISO N to AECI – 2,500 MW

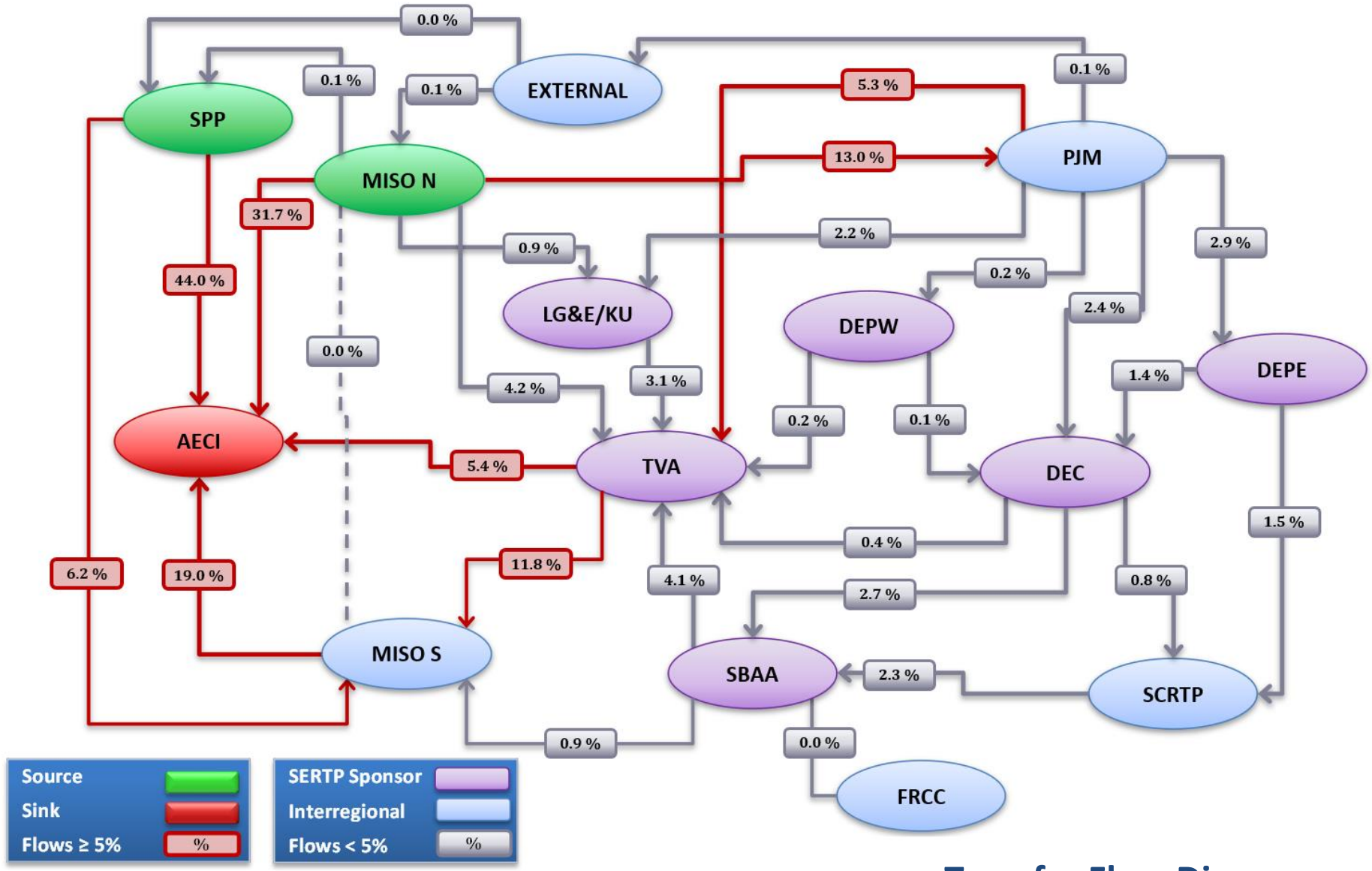
Study Assumptions

- **Source:** Generation Scale within SPP(1,000)/MISO North (1,500)
- **Sink:** Uniform Generation with AECI
- **Transfer Type:** Generation to Generation
- **Year:** 2029
- **Load Level:** Summer Peak



Southeastern Regional
TRANSMISSION PLANNING

SPP/MISO N to AECI – 2,500 MW

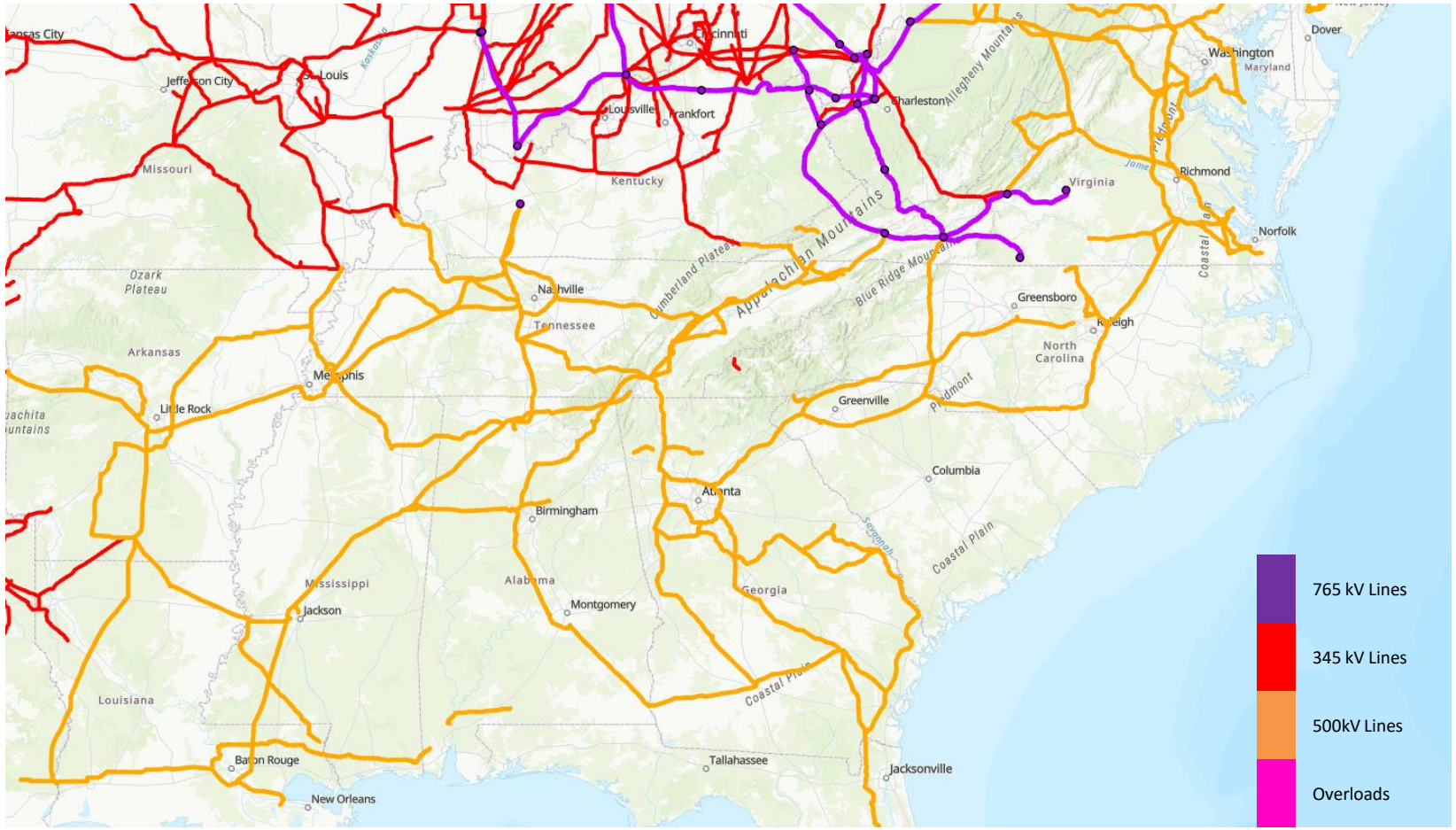


Transfer Flow Diagram (% of Total Transfer)

Southeastern Regional TRANSMISSION PLANNING

SPP/MISO N to AECI – 2,500 MW

Transmission System Impacts - *SERTP*



Facility Violations:
None Identified

Potential Enhancements Identified: 0

SERTP TOTAL ($2024) = $ 0

Economic Planning Studies

Economic Planning Studies

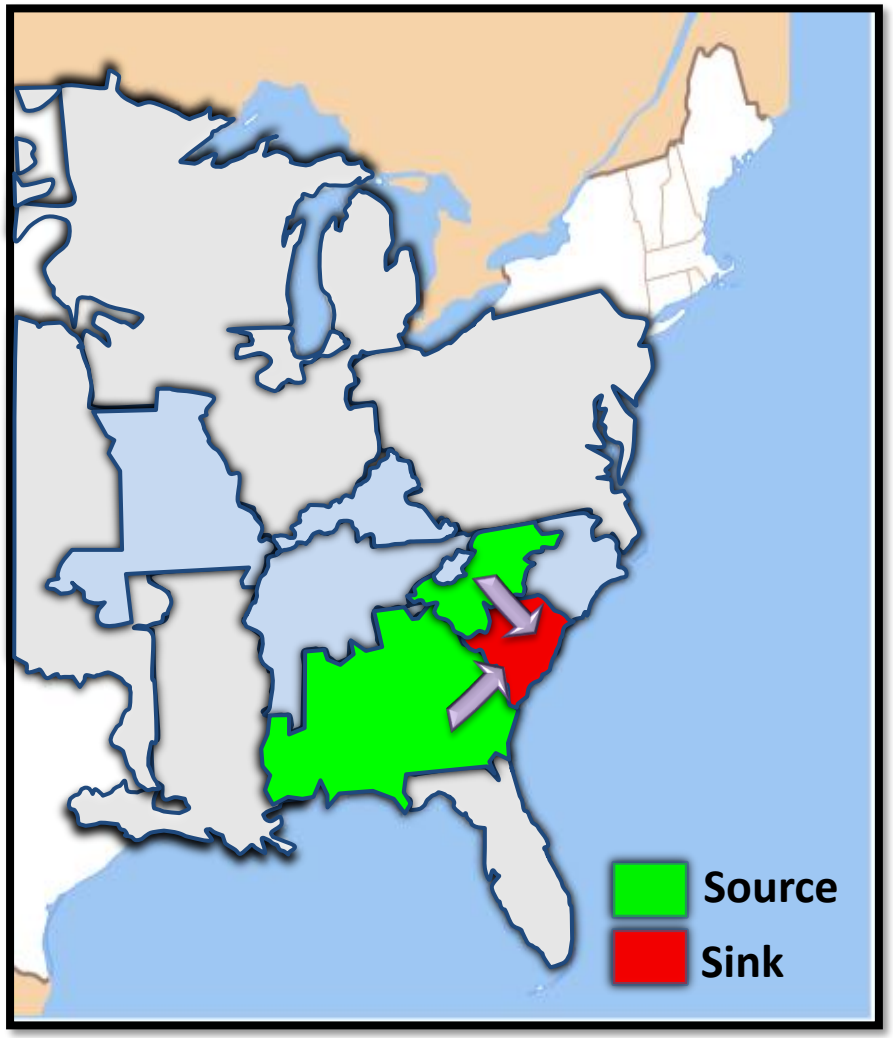
DEC/SOCO to Santee Cooper – 2,400MW

Southeastern Regional TRANSMISSION PLANNING

DEC/SOCO – Santee Cooper 2,400 MW

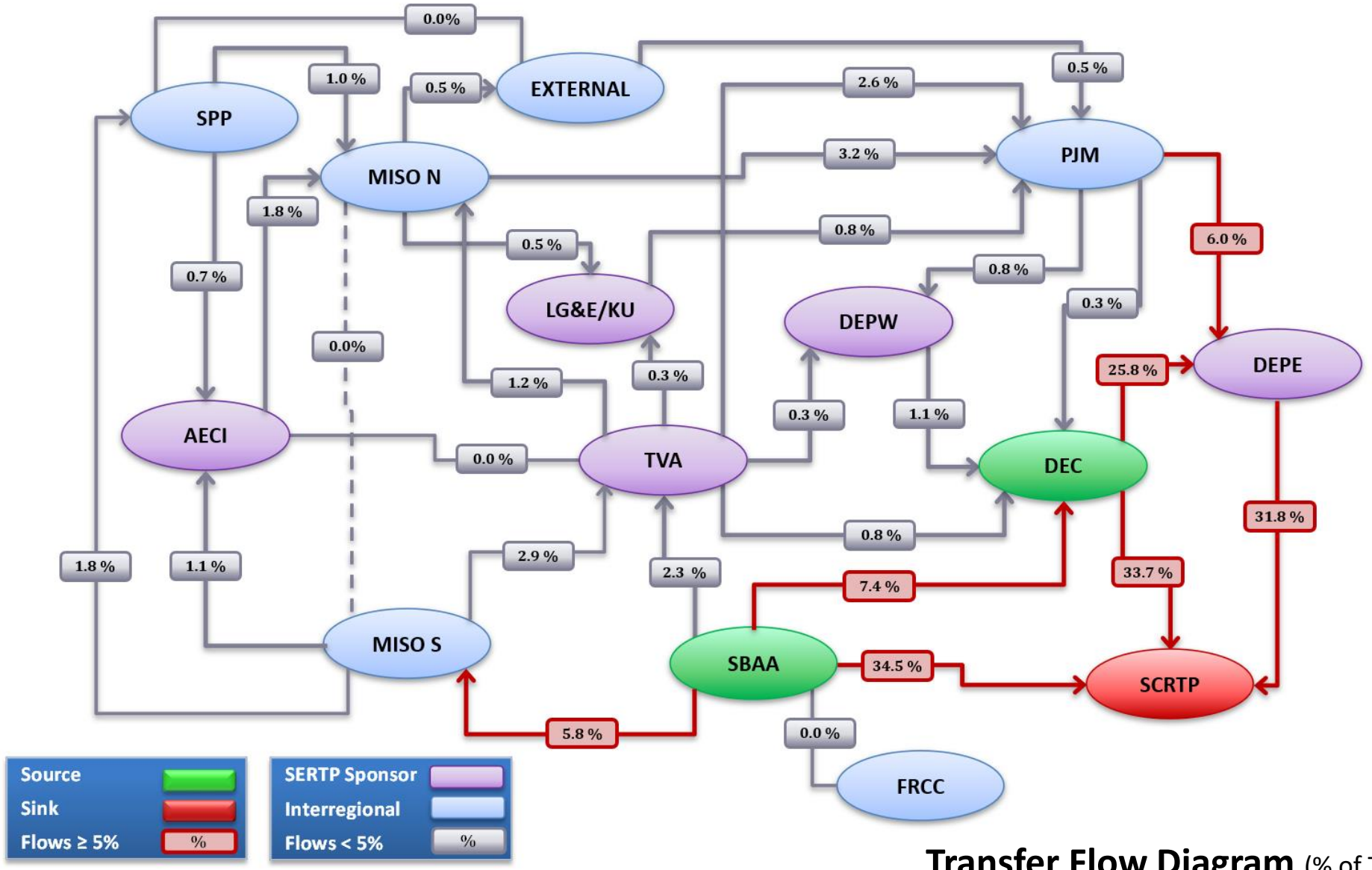
Study Assumptions

- **Source:** Load Scale* within DEC(1,200)/ Generation Scale within SOCO(1,200)
- **Sink:** Uniform Generation with Santee Cooper
- **Transfer Type:** Load/Generation to Generation
- **Year:** 2034
- **Load Level:** Winter Peak



Southeastern Regional
TRANSMISSION PLANNING

DEC/SOCO – Santee Cooper 2,400 MW

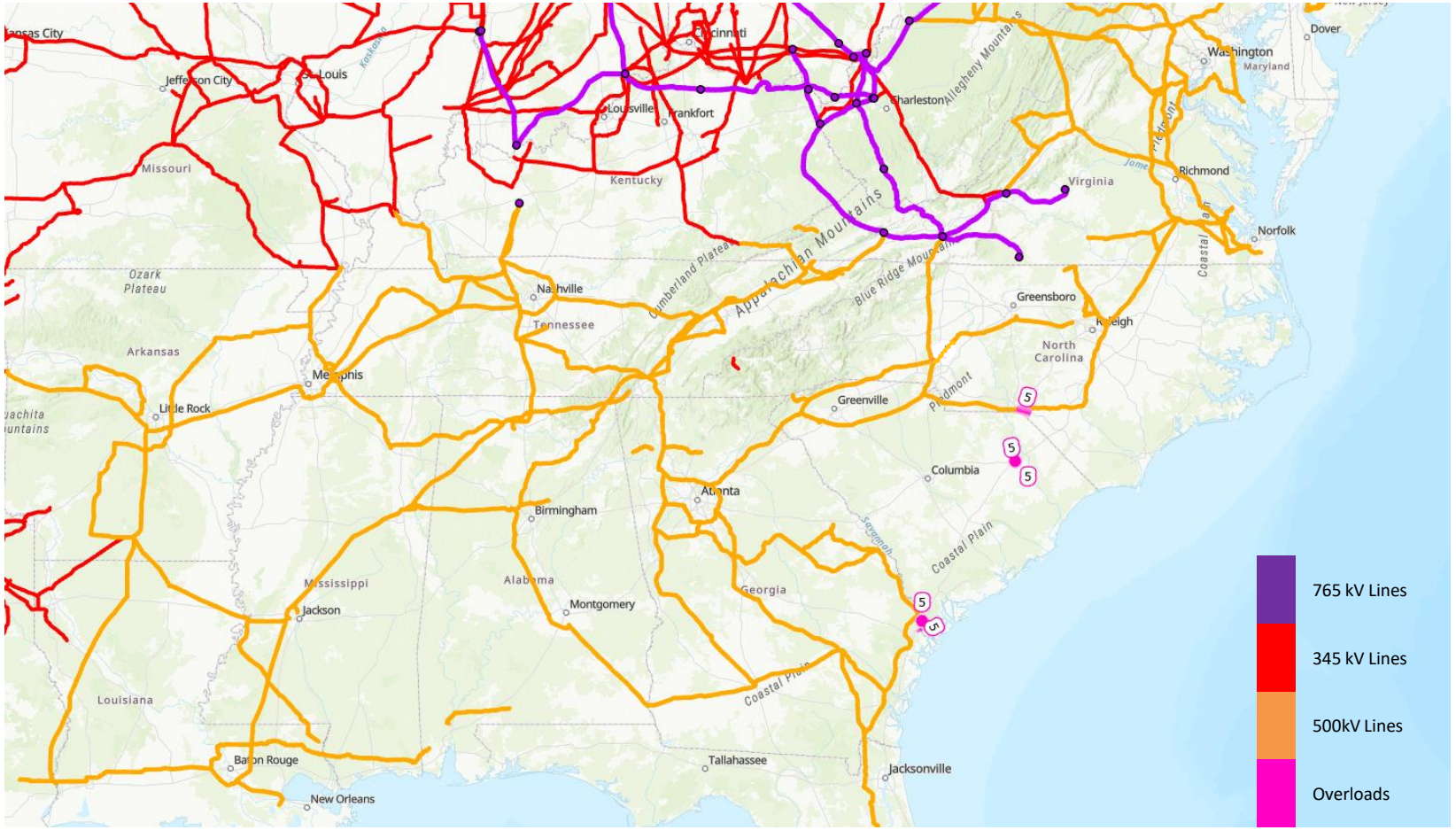


Transfer Flow Diagram (% of Total Transfer)

Southeastern Regional TRANSMISSION PLANNING

DEC/SOCO – Santee Cooper 2,400 MW

Transmission System Impacts - *SERTP*



Facility Violations:
115 kV – 2
230/115 kV – 2

Potential Enhancements Identified: 3

Violations Addressed by Existing Projects: 1

SERTP TOTAL ($2024) = $10.2 Million

Southeastern Regional TRANSMISSION PLANNING

DEC/SOCO – Santee Cooper 2,400 MW

Potential Enhancements Identified

Item	Potential Enhancement	Area	Planning Level Cost Estimate
P2	**Upgrade Florence 230 kV, Sub 115 kV bus tie breaker, including switches and CT ratio**	**DEPE**	**$2,000,000**
P3	**Upgrade relay settings to get 336 MVA rating for Florence 230/115kV transformer #2**	**DEPE**	**$1,000,000**
P4	**Install a second 400MVA 230/115kV auto transformer at McIntosh substation.**	**SBAA**	**$7,225,000**
TOTAL ($2024)			**$10.2 Million**(1)

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Regional Transmission Analyses Overview

Regional Transmission Analysis

Regional Transmission Analyses Overview

- Assess if the then-current regional transmission plan addresses the Transmission Provider's transmission needs

- Assess whether there may be more efficient or cost-effective transmission projects to address transmission needs

Regional Transmission Analysis

SERTP Regional Models

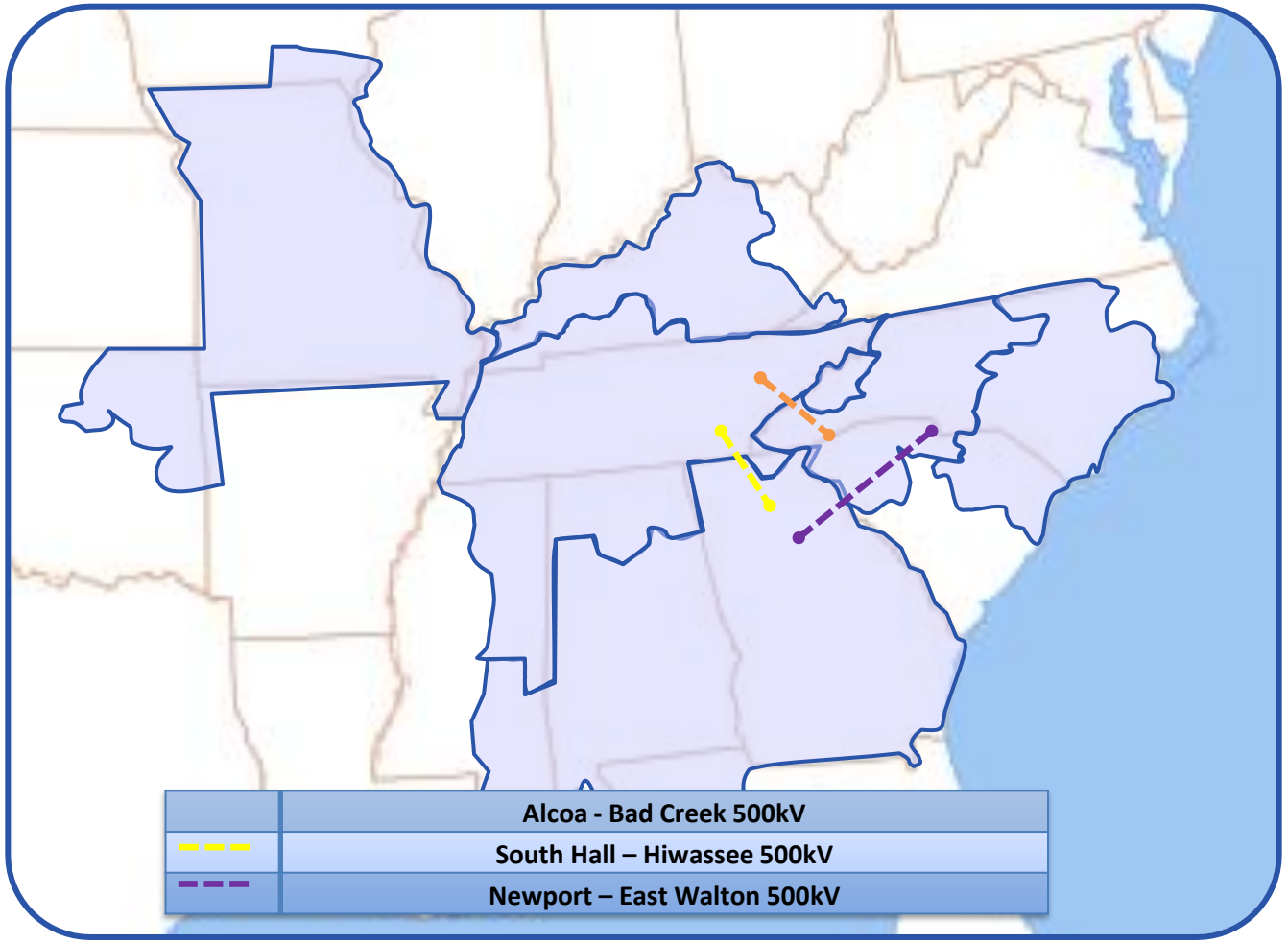
- **SERTP developed 6 regional models***
- **Models include the transmission planning modeling information for the SERTP region**
- **Contingency analysis was performed on version 2 models to identify potential constraints that may result from the regional coordination of input assumptions**

*Available on the secure area of the SERTP website upon satisfying access requirements

No.	Season	Year
1	Summer	2026
2		2029
3		2034
4	Shoulder	2029
5	Winter	2029
6		2034

Regional Transmission Analysis

List of Alternative Regional Transmission Projects



Regional Transmission Analysis

Preliminary List of Alternative Regional Transmission Projects

Alternative Regional Transmission Projects	Miles	From	To
		BAA (State)	BAA (State)
Alcoa - Bad Creek 500kV	125	TVA (TN)	DEC (NC)
South Hall – Hiwassee 500kV	110	SBAA (GA)	TVA (TN)
Newport – East Walton 500kV	220	DEC (NC)	SBAA (GA)

2024 Regional Transmission Analyses

Regional Transmission Analyses Overview

- **No significantly constrained transmission facilities were identified in the assessment of the regional transmission plan.**

- **No evaluated transmission project alternatives were found to be more efficient or cost effective.**
  - Estimated cost of transmission project alternatives significantly outweighed potential benefits.

- **The regional transmission analyses summary is posted on the SERTP website.**

Miscellaneous Updates

Regional Planning Updates

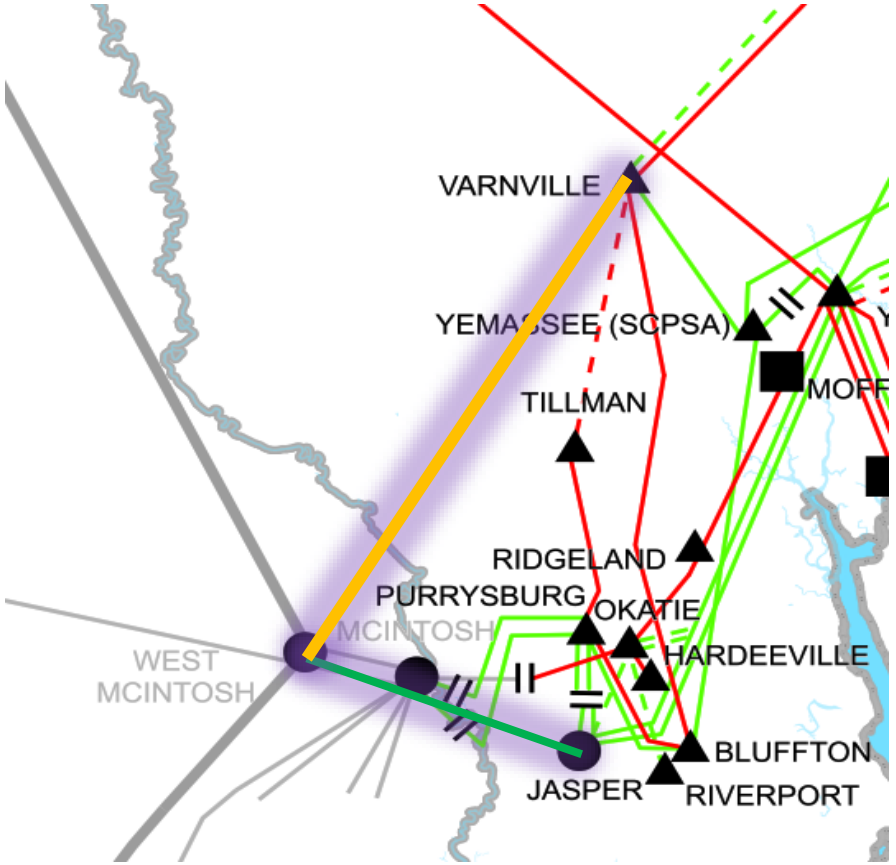
- Version 3 SERTP Regional Models available on the Secure Area of the SERTP Website

- Interregional Data Exchange:
  - Exchanged the latest transmission models for the ten-year planning horizon with all interregional entities

- FRCC Coordination
  - SBAA members (Southern Company, PowerSouth, GTC, and MEAG) met with members of the FRCC on December 5th to review results for the annual Transfer Capability Study.

Regional Planning Updates

- Joint Study between DESC, Santee Cooper, and Southern Company
- Evaluation to determine efficient and cost-effective projects to increase interregional transfer capability, accommodate resource changes, and other operational considerations.
- Planning will continue for the two new tie lines which will be considered for the 2025 preliminary transmission plan.



2025 SERTP Process

Upcoming 2025 SERTP Process

- **SERTP 1st Quarter – *1st RPSG Meeting & Interactive Training Session***

  March 2025

  – Form Regional Planning Stakeholder Group "RPSG"
  – Select Economic Planning Studies
    - RPSG Economic Study Request Form
  – Interactive Training Session

- **SERTP 2nd Quarter – *Preliminary Expansion Plan Meeting***

  June 2025

  – Review Modeling Assumptions
  – Preliminary 10 Year Expansion Plan
  – Stakeholder Input & Feedback Regarding the Plan

Upcoming 2025 SERTP Process

- **SERTP 3rd Quarter – *2nd RPSG Meeting***

  September 2025
  - Preliminary Results of the Economic Studies
  - Stakeholder Input & Feedback Regarding the Study Results
  - Discuss Previous Stakeholder Input on the Expansion Plan

- **SERTP 4th Quarter – *Annual Transmission Planning Summit & Input Assumptions***

  December 2025
  - Final Results of the Economic Studies
  - Regional Transmission Plan
  - Regional Analyses
  - Stakeholder Input on the 2026 Transmission Model Input Assumptions

Stakeholder Reminders

- Stakeholders may begin suggesting Economic Studies for the 2025 planning cycle. The RPSG formed at the 2025 SERTP 1st Quarter Meeting will select up to five economic planning studies. The Economic Study Request Form can be found on the SERTP website.
- Stakeholders may submit possible transmission needs driven by Public Policy Requirements. These PPR requests are due 60 days after the Q4 meeting (2/9/2025). The PPR Form can be found on the SERTP website.
- Any pre-qualified Transmission Developers may submit RCAP Proposals no later than 60 days after the Q4 meeting (2/9/2025).
- Stakeholders can submit suggestions for technical training ideas for the SERTP to present in the Q1 meeting by 1/10/2025.

Questions?

www.southeasternrtp.com

email: southeasternrtp@southernco.com