



# PJM – SERTP

## Regional Transmission Plan Review

*Order 1000 Biennial Regional Transmission  
Plan Review Meeting – Presentation 2 of 2*

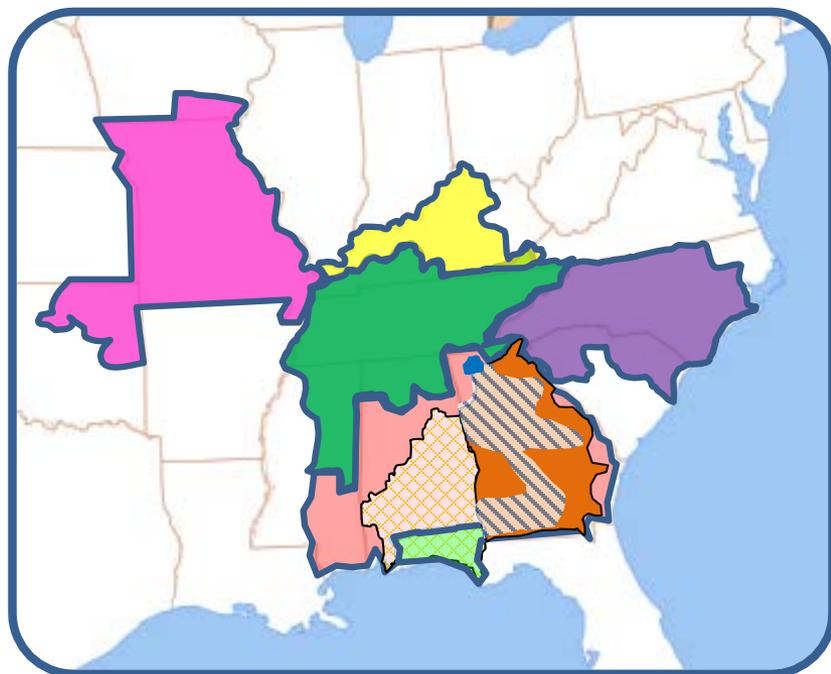
May 7<sup>th</sup>, 2020

# Agenda

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- Final 2020 SERTP Regional Transmission Plan – PJM Seam
- SERTP Modeling Input Assumptions

## SERTP Regional Modeling Assumptions

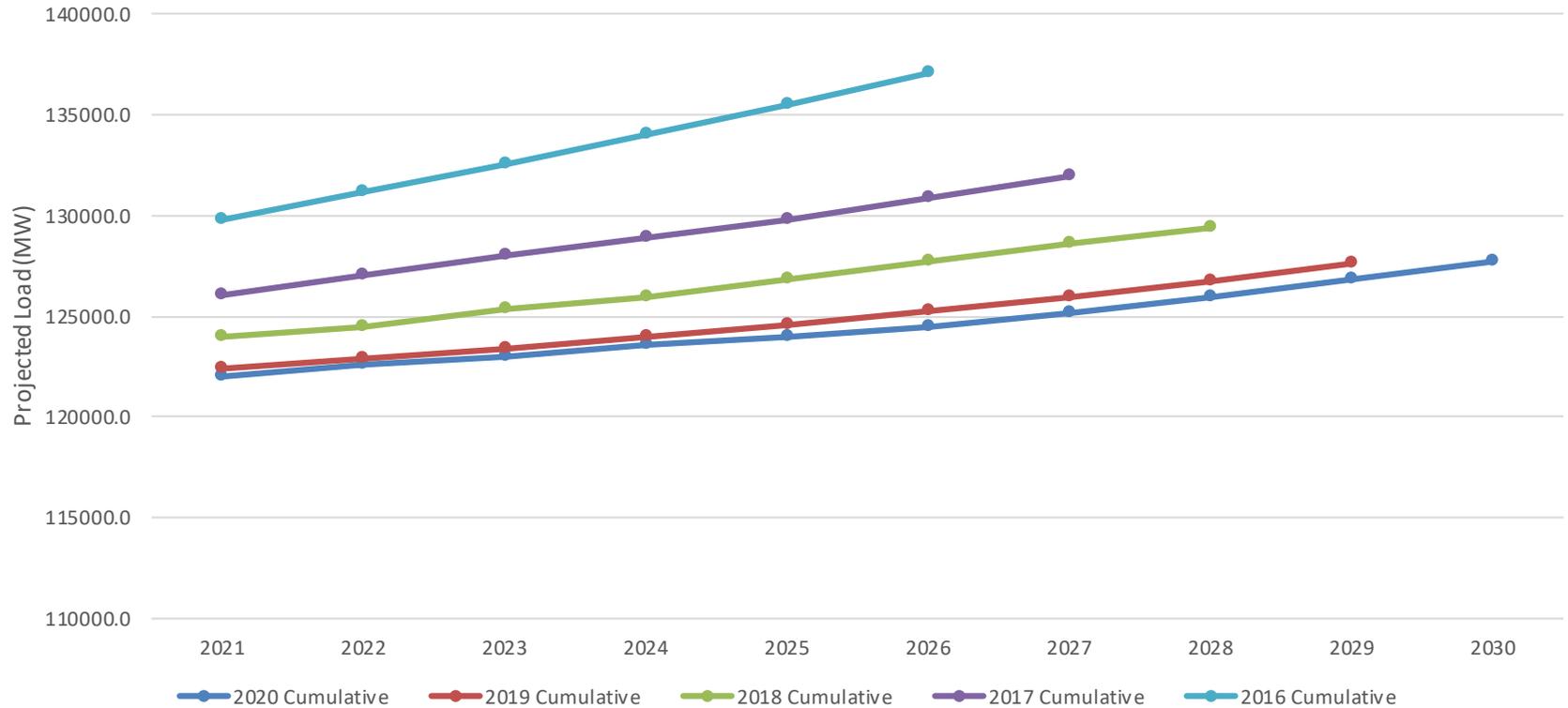


### SERTP

-  Associated Electric Cooperative Inc.
-  Dalton Utilities
-  DUKE ENERGY
-  GeorgiaTransmission
-  Gulf Power
-  LGE KU
-  MEAGPOWER
-  POWERSOUTH ENERGY COOPERATIVE
-  Southern Company
-  TVA

# SERTP Cumulative Summer Peak Load Forecast

SERTP Region - Cumulative Summer Peak Load Forecast



LG&E/KU Balancing Authority

# SERTP REGIONAL TRANSMISSION EXPANSION PLAN

## LG&E/KU - 1

• 2021

### BLUE LICK 345/161 KV TRANSFORMER

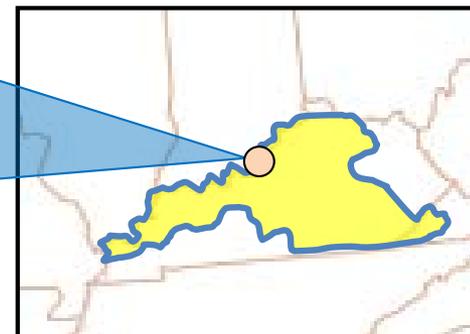


• **DESCRIPTION:**

- Replace the Blue Lick 345/161 kV, 240 MVA transformer with a 345/161 KV, 450 MVA transformer, reset/replace any CTs less than 2000A and increase the loadability of relays.

• **SUPPORTING STATEMENT:**

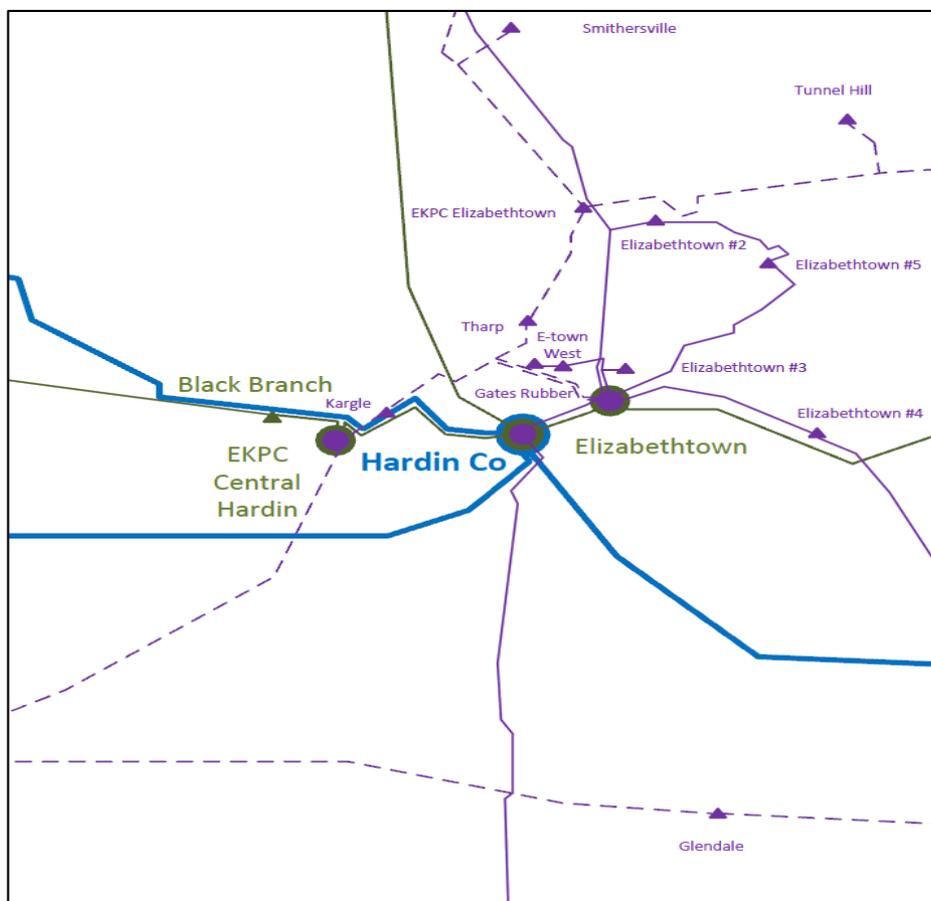
- The existing Blue Lick 345/161 kV transformer overloads under contingency.



## LG&E/KU - 2

• 2022

### HARDIN CO SUBSTATION ADDITIONS

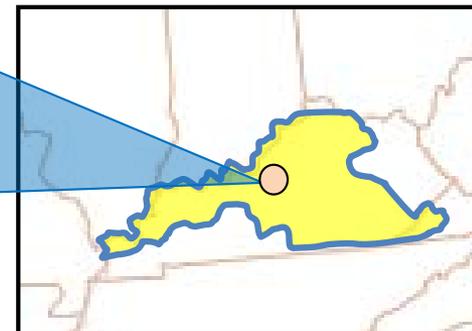


• **DESCRIPTION:**

- Install a second 345/138 kV, transformer at Hardin County.
- Install a second 138/69 kV, transformer at Hardin County
- Install a second 69 kV line Elizabethtown – Hardin County

• **SUPPORTING STATEMENT:**

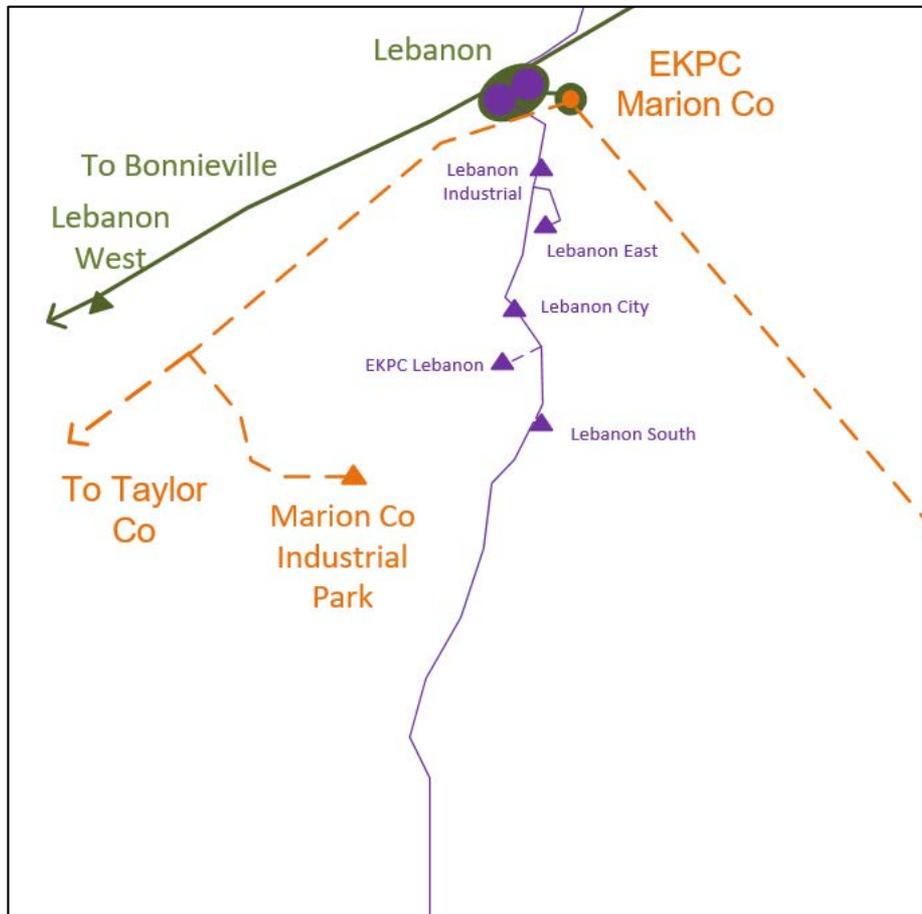
- Additional voltage support is needed in the Hardin Co/Elizabethtown area under contingency.



## LG&E/KU - 3

• 2022

### LEBANON TO LEBANON SOUTH 69KV LINE

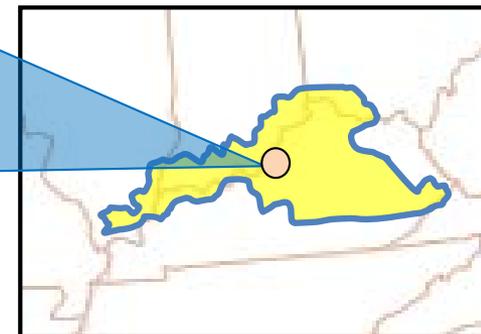


• **DESCRIPTION:**

- Construct 4.07 mile 69kV line from Lebanon to Lebanon South using 556.5 MCM ACSR.
- Construct 4 breaker ring bus at Lebanon South.

• **SUPPORTING STATEMENT:**

- Additional voltage support is needed in the Lebanon area under contingency.
- The Campbellsville Tap to Taylor County 69kV line overloads under contingency.



## LG&E/KU - 4

• 2023

### WEST LEXINGTON 345/138 KV #2 TRANSFORMER

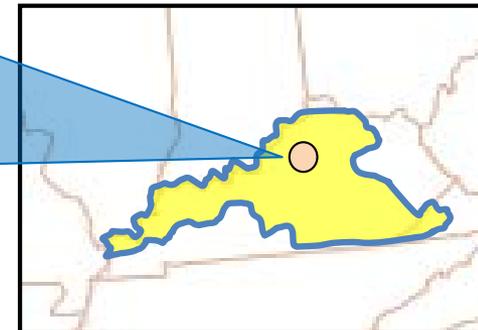


• **DESCRIPTION:**

- Install a second West Lexington 450 MVA, 345/138 kv transformer.
- Create 345kv ring bus, configured such that the two transformers do not share a single breaker.

• **SUPPORTING STATEMENT:**

- The West Lexington 345/138 kv Transformer #1 overloads under contingency.
- Additional voltage support needed in the Lexington area under contingency.



## LG&E/KU Balancing Authority

# UPCOMING 2020

# GENERATION ASSUMPTIONS

# LG&E/KU - Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2020 SERTP Process. The years shown represent Summer Peak conditions.

SITE	FUEL TYPE	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Zorn	Gas	14	0	0	0	0	0	0	0	0	0
Ashwood	Solar	0	0	86	86	86	86	86	86	86	86

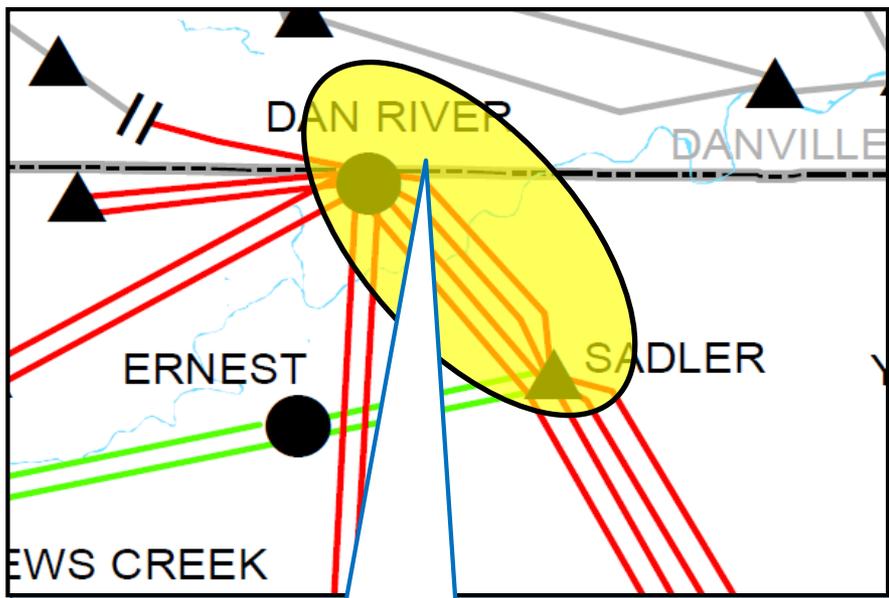
Duke Carolinas Balancing Authority

# SERTP REGIONAL TRANSMISSION EXPANSION PLAN

## DUKE CAROLINAS- 2

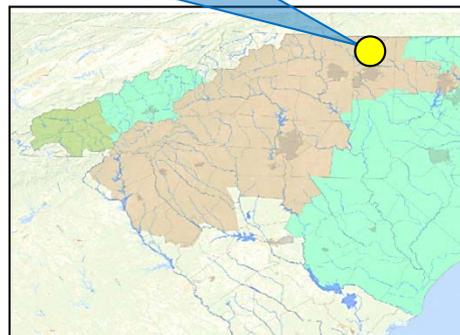
• 2023

### SADLER TIE – DAN RIVER 100 KV TRANSMISSION LINE



Construct 9.2 miles of new 100 kV T.L.

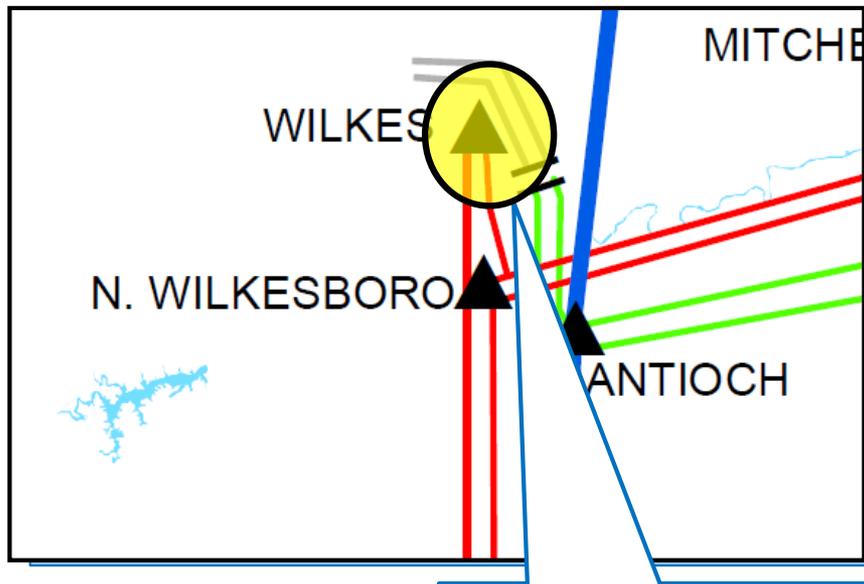
- **DESCRIPTION:**
  - Construct approximately 9.2 miles of new 100 kV transmission line between Dan River Steam Station and Sadler Tie with 954 AAC at 120°C.
- **SUPPORTING STATEMENT:**
  - Thermal overloads occur around Dan River Steam Station and Dan River Combined Cycle Station under contingency.



# DUKE CAROLINAS- 3

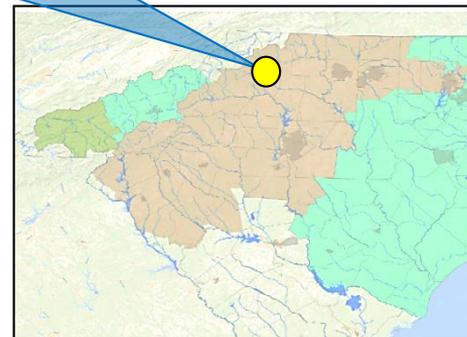
• 2023

## WILKES TIE 230 KV SUBSTATION



Construct a new 230/100 kV Station at Wilkes Tie

- **DESCRIPTION:**
  - Install a new 230/100 kV, 448 MVA transformer at Wilkes Tie.
- **SUPPORTING STATEMENT:**
  - Thermal overloads occur near North Wilkesboro Tie and additional voltage support is needed in the area under contingency.



# QUESTIONS?

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