SERTP – 2014 2nd Quarter Meeting

Preliminary Expansion Plan Meeting

June 27th, 2014

GTC Headquarters

Tucker, GA

Process Information

- **The SERTP process is a transmission planning process.**

- **Please contact the respective transmission provider for questions related to real-time operations or OATT transmission service.**

Purposes & Goals of Meeting

- **Overview of Order No. 1000**
  - Implementation
  - SERTP Expansion
- **Modeling Assumptions**
  - Load Forecast
  - Generation Assumptions
- **Preliminary 10 Year Transmission Expansion Plans**
- **Regional Model Update**
- **Next Meeting Activities**

FERC ORDER 1000

IMPLEMENTATION OVERVIEW

FERC Order 1000 – Implementation Overview

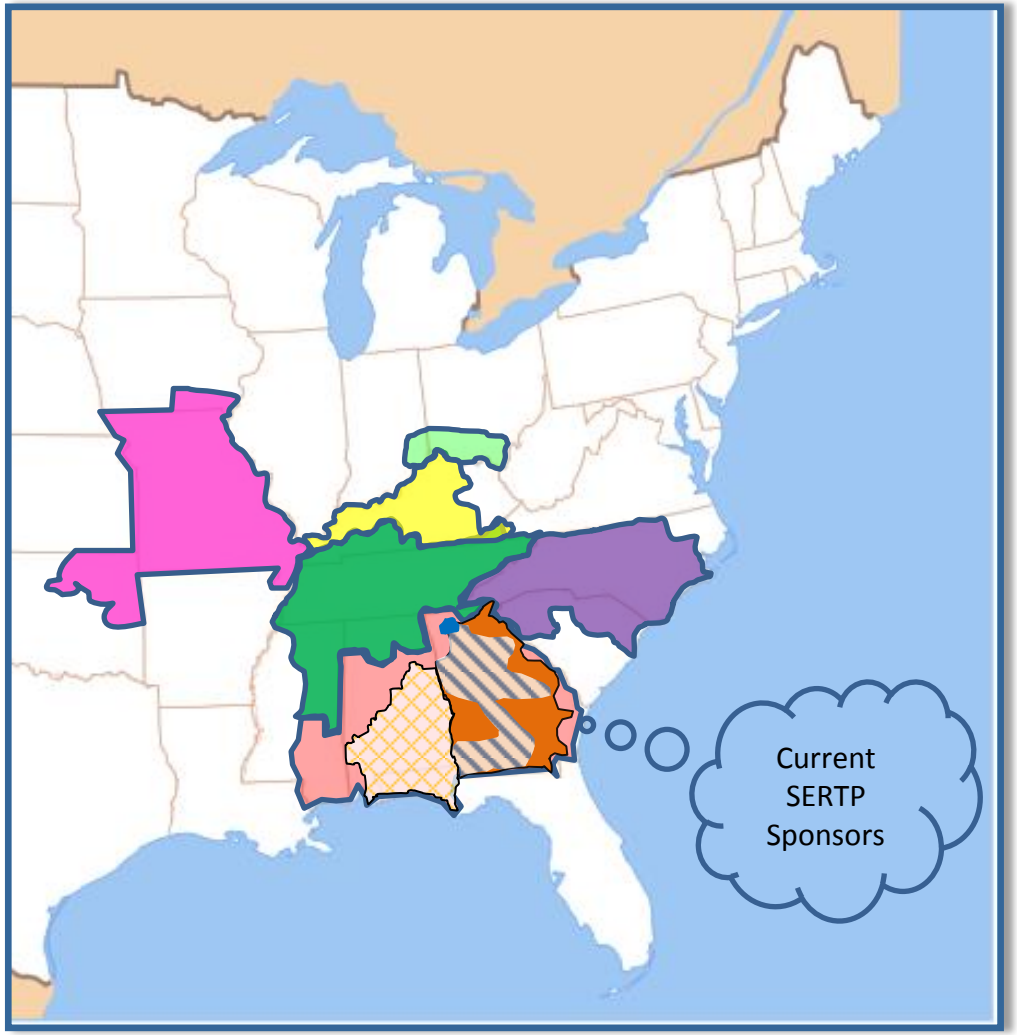
- **SERTP Background**
- **SERTP Process**
- **Key Order 1000 Regional Additions to SERTP**
  - Regional Models
  - Proposal Process for Regional Cost Allocation
  - Merchant Transmission Developer Projects
  - Transmission Needs Driven by Public Policy Requirements
- **2014 SERTP – Meetings & Additional Updates**

SERTP Background

- Southern
- GTC
- MEAG
- Dalton
- PowerSouth
- SMEPA

Spans portions of 14 states
≈84,500 miles of transmission lines

SERTP Background



- Southern
- GTC
- MEAG
- Dalton
- PowerSouth
- TVA
- AECI
- LG&E / KU
- OVEC
- Duke Energy

Spans portions of 14 states
≈84,500 miles of transmission lines

SERTP Background

❖ FERC Order 1000 – Where are we today?

- **7/21/2011** – FERC issues Order 1000
- **2/8/2013** – Jurisdictional SERTP Sponsors file regional compliance filings
- **7/18/2013** – FERC issues 1st Order on SERTP regional filings
- **1/14/2014**, **2/10/2014** – Jurisdictional SERTP Sponsors file revised regional compliance filings
- **6/19/2014** – FERC issues 2nd Order on SERTP regional filings

❖ **On June 1st, the SERTP Sponsors initiated implementation of the SERTP process additions outlined in the Jan 14th and Feb 10th 2014 filings.**

❖ **The SERTP Sponsors are currently reviewing the 2nd Regional Compliance Order. Any modifications to the SERTP process will be incorporated into the implementation of the FERC Order 1000 regional additions as appropriate.**

What is the SERTP Process?

- **A coordinated, open, and transparent transmission planning process**
- **Quarterly meetings are held at key milestones during the transmission planning process**
  - **March** – 1st RPSG Meeting & Interactive Training Session
  - **June** – Preliminary Expansion Plan Meeting
  - **September** – 2nd RPSG Meeting
  - **December** – Annual Transmission Planning Summit & Assumptions Input Meeting
- **Information is posted to the SERTP website**
  - www.southeasternrtp.com

2014 SERTP Process Overview

- **1st Quarter Meeting** – "First RPSG Meeting & Interactive Training Session"
  - Form Regional Planning Stakeholder Group (RPSG)
  - Select Up To Five Economic Planning Studies
  - Interactive Training Session

- **2nd Quarter Meeting** – "Preliminary Expansion Plan Meeting"
  - Overview of Order 1000 Implementation & SERTP Expansion
  - Review Modeling Assumptions (Expanded SERTP Region)
  - Discuss Preliminary 10 Year Expansion Plans
  - Stakeholder Input & Feedback Regarding the Plans

2014 SERTP Process Overview

- **3rd Quarter Meeting** – "Second RPSG Meeting"
  - Discuss the Preliminary Results of the Economic Studies
  - Stakeholder Input & Feedback Regarding the Study Results
  - Discuss Previous Stakeholder Input on the Expansion Plans

- **4th Quarter Meeting** – "Annual Transmission Planning Summit & Assumptions Input Meeting"
  - Discuss Final Results of the Economic Studies
  - Discuss the Regional Transmission Plan
  - Obtain Initial Stakeholder Input on the Transmission Modeling Assumptions Used in Developing Next Year's Plan

Key Order 1000 Regional Additions to SERTP

- Regional Models
- Proposal Process for Regional Cost Allocation
- Merchant Transmission Developer Projects
- Transmission Needs Driven by Public Policy Requirements

Key Order 1000 Regional Additions to SERTP

❖ Regional Models

- Available* on the secure area of the SERTP website
- Marked as Critical Energy Infrastructure Information (CEII)
- Reflect current transmission planning modeling information within the SERTP region

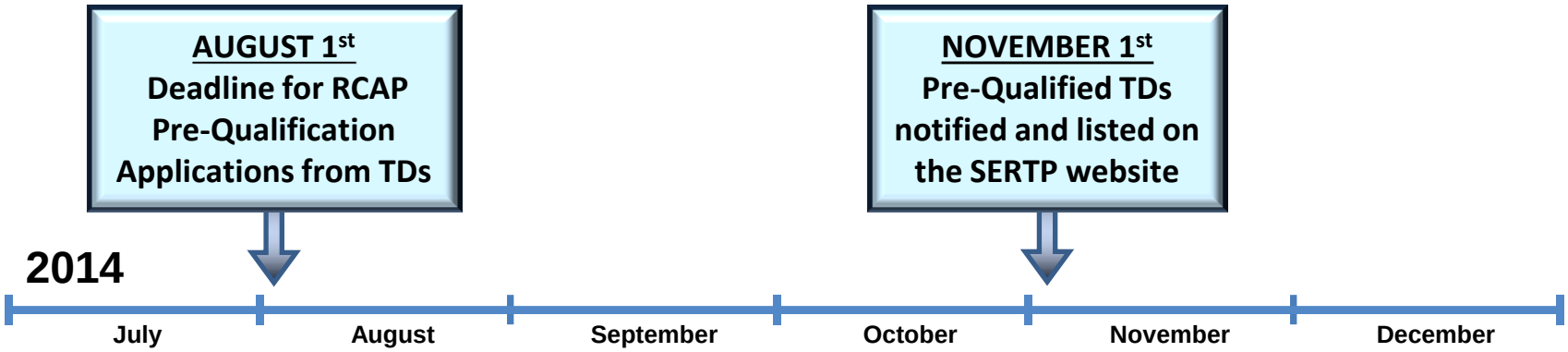
No.	Season	Year
1	SUMMER	2015
2		2017
3		2019
4		2020
5		2022
6		2024
7	SHOULDER	2019
8		2022
9		2024
10	WINTER	2019
11		2024
12	LIGHT LOAD	2015

* Upon satisfying access requirements

Key Order 1000 Regional Additions to SERTP

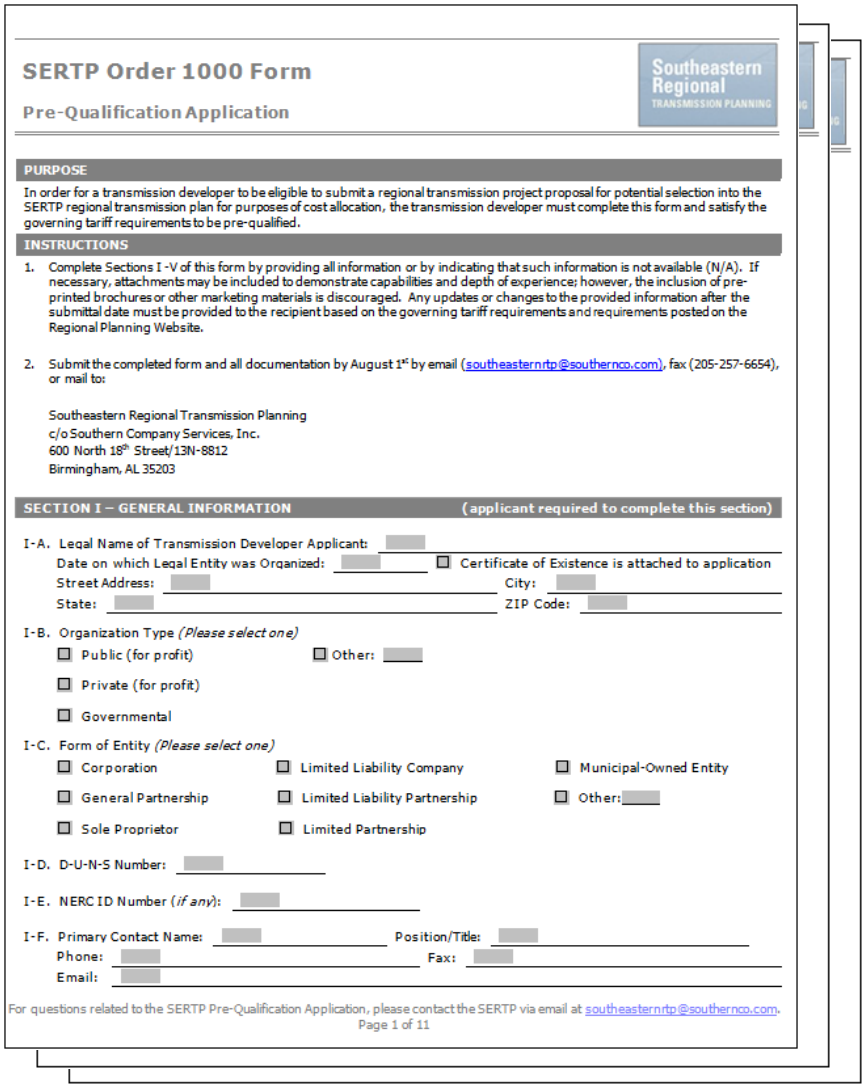
❖ Proposal Process for Regional Cost Allocation ("RCAP")

- A transmission developer, to be eligible to submit a transmission project for consideration for selection in the regional plan for RCAP, must become prequalified.
- Transmission developers have the opportunity to submit pre-qualification applications annually.
- Pre-Qualified transmission developers must submit a full pre-qualification application at least once every 3 years.



Pre-Qualification Application

- **SERTP Website Location**
  - Reference Library → Forms → Pre-Qualification
- **Target Posting Date**
  - 1st week of July
- **Instructions**
  - Complete the pre-qualification form and submit the form and any applicable fees as specified in the application
- **Submittal Date**
  - August 1st, 2014



SERTP Order 1000 Form

Pre-Qualification Application

Southeastern Regional TRANSMISSION PLANNING

PURPOSE

In order for a transmission developer to be eligible to submit a regional transmission project proposal for potential selection into the SERTP regional transmission plan for purposes of cost allocation, the transmission developer must complete this form and satisfy the governing tariff requirements to be pre-qualified.

INSTRUCTIONS

1. Complete Sections I -V of this form by providing all information or by indicating that such information is not available (N/A). If necessary, attachments may be included to demonstrate capabilities and depth of experience; however, the inclusion of pre-printed brochures or other marketing materials is discouraged. Any updates or changes to the provided information after the submittal date must be provided to the recipient based on the governing tariff requirements and requirements posted on the Regional Planning Website.

2. Submit the completed form and all documentation by August 1st by email (southeasternrtp@southernco.com), fax (205-257-6654), or mail to:

   Southeastern Regional Transmission Planning
   c/o Southern Company Services, Inc.
   600 North 18th Street/13N-8812
   Birmingham, AL 35203

SECTION I – GENERAL INFORMATION (applicant required to complete this section)

I-A. Legal Name of Transmission Developer Applicant:
Date on which Legal Entity was Organized: ☐ Certificate of Existence is attached to application
Street Address: City:
State: ZIP Code:

I-B. Organization Type *(Please select one)*
☐ Public (for profit) ☐ Other:
☐ Private (for profit)
☐ Governmental

I-C. Form of Entity *(Please select one)*
☐ Corporation ☐ Limited Liability Company ☐ Municipal-Owned Entity
☐ General Partnership ☐ Limited Liability Partnership ☐ Other:
☐ Sole Proprietor ☐ Limited Partnership

I-D. D-U-N-S Number:

I-E. NERC ID Number *(if any)*:

I-F. Primary Contact Name: Position/Title:
Phone: Fax:
Email:

For questions related to the SERTP Pre-Qualification Application, please contact the SERTP via email at southeasternrtp@southernco.com.
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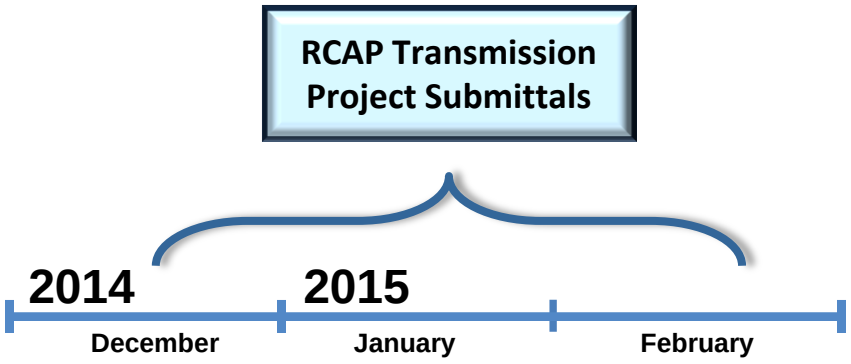
Key Order 1000 Regional Additions to SERTP

❖ Proposal Process for Regional Cost Allocation ("RCAP")

- Pre-Qualified Transmission Developers can submit projects for consideration for selection in the regional plan for RCAP within 60 days after the SERTP Summit
- RCAP project submittal form and instructions will be posted prior to the 2014 SERTP Summit



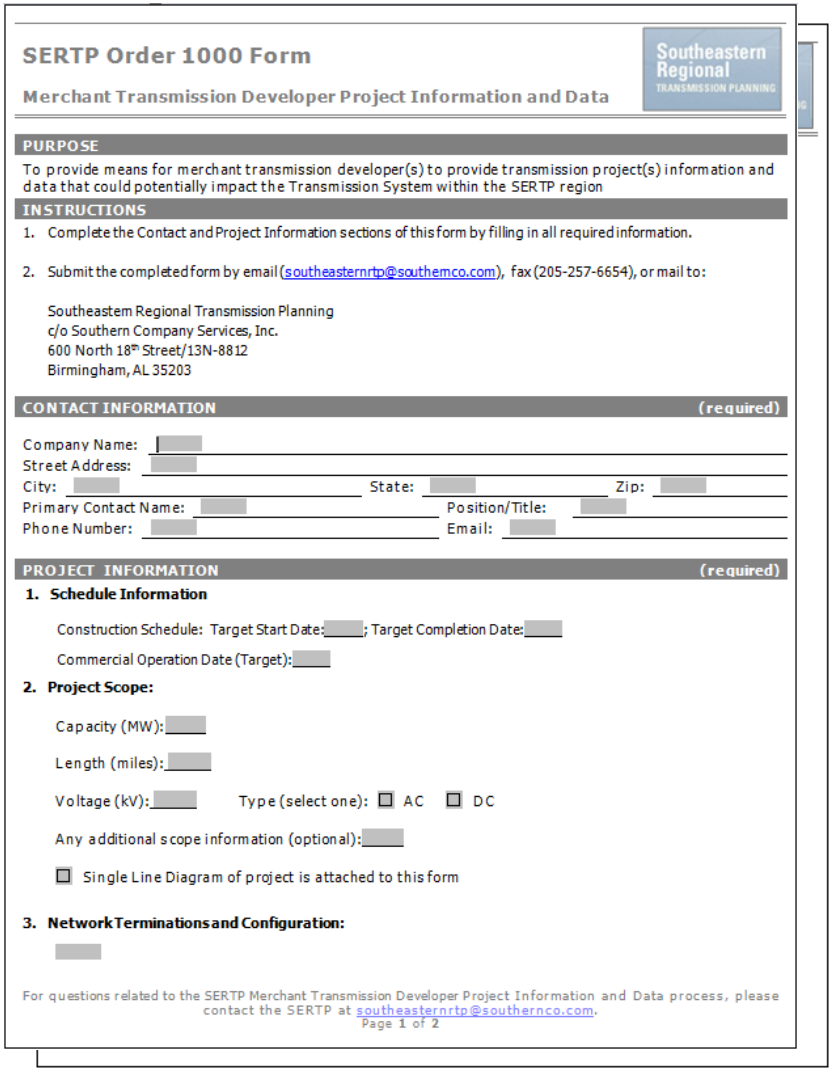
Key Order 1000 Regional Additions to SERTP

❖ Merchant Transmission Developers

- A new form will be available on the SERTP website for Merchant Transmission Developers to be able to provide information and data related to their proposed transmission projects that may potentially impact the SERTP region

Merchant Transmission Developer Form

- **SERTP Website Location**
  - Reference Library → Forms → Merchant Transmission Developers
- **Target Posting Date**
  - 1st week of July
- **Instructions**
  - Complete the merchant transmission developer project information and data form and submit with the required project information as specified



SERTP Order 1000 Form

Merchant Transmission Developer Project Information and Data

Southeastern Regional TRANSMISSION PLANNING

PURPOSE

To provide means for merchant transmission developer(s) to provide transmission project(s) information and data that could potentially impact the Transmission System within the SERTP region

INSTRUCTIONS

1. Complete the Contact and Project Information sections of this form by filling in all required information.
2. Submit the completed form by email (southeasternrtp@southernco.com), fax (205-257-6654), or mail to:

Southeastern Regional Transmission Planning
c/o Southern Company Services, Inc.
600 North 18th Street/13N-8812
Birmingham, AL 35203

CONTACT INFORMATION (required)

Company Name:
Street Address:
City: State: Zip:
Primary Contact Name: Position/Title:
Phone Number: Email:

PROJECT INFORMATION (required)

1. **Schedule Information**

Construction Schedule: Target Start Date: ; Target Completion Date:
Commercial Operation Date (Target):

2. **Project Scope:**

Capacity (MW):
Length (miles):
Voltage (kV): Type (select one): ☐ AC ☐ DC
Any additional scope information (optional):
☐ Single Line Diagram of project is attached to this form

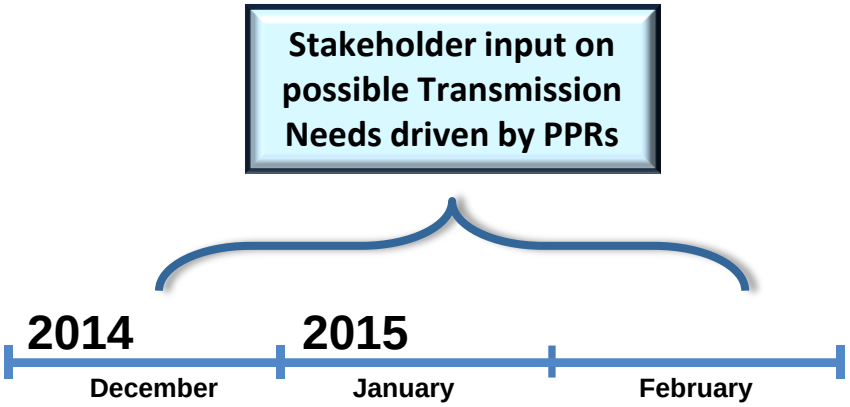
3. **Network Terminations and Configuration:**

For questions related to the SERTP Merchant Transmission Developer Project Information and Data process, please contact the SERTP at southeasternrtp@southernco.com.
Page 1 of 2

Key Order 1000 Regional Additions to SERTP

❖ Transmission Needs driven by Public Policy Requirements

- Stakeholders may propose possible Transmission Needs driven by Public Policy Requirements for consideration in the upcoming transmission planning process within 60 days after the SERTP Summit
- Stakeholder submittal form and instructions will be posted prior to the 2014 SERTP Summit



2014 SERTP Upcoming Meetings

- **June 27th**
  - Overview of FERC Order 1000 Implementation
  - Discuss the preliminary 10 year transmission expansion plans
  - Stakeholder input and feedback regarding the plans
- **September**
  - Discuss the Preliminary Results of the Economic Studies
    - Selected by the RPSG on March 26th
    - Studies and Scope Document can be found on the SERTP website
  - Discuss Previous Stakeholder Input on the Preliminary Expansion Plans
  - FERC Order 1000 Implementation Update

2014 SERTP Upcoming Meetings

❖ December

- Discuss Final Results of the Economic Studies
- Discuss the Regional Transmission Plan
- Obtain Initial Stakeholder Input on the Transmission Modeling Assumptions Used in Developing the 2015 Transmission Plan
- FERC Order 1000 Implementation Update
  - RCAP Project Submittal Process
  - Process for Stakeholder Input on Possible Transmission Needs Driven by PPRs

2014 SERTP Additional Updates

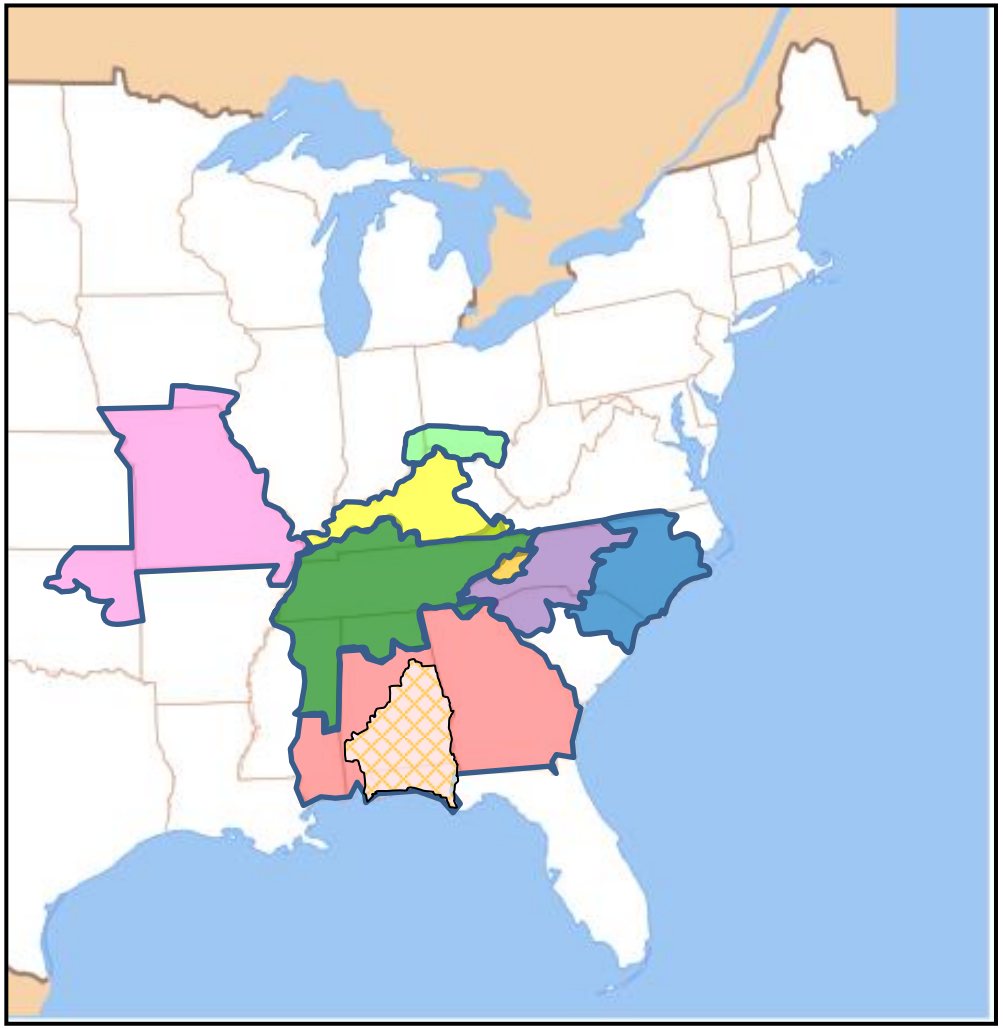
- The secure area of the SERTP website will be upgraded to increase ease-of-use and download capabilities
- Transition to the new secure area is expected in the July timeframe
- The process to access the secure area will remain the same
  - **SERTP Website → Secure Area**
- Existing users with secure area access will be contacted with instructions on how to retain access and obtain new log-in information

Questions?

SERTP

Regional Modeling Assumptions

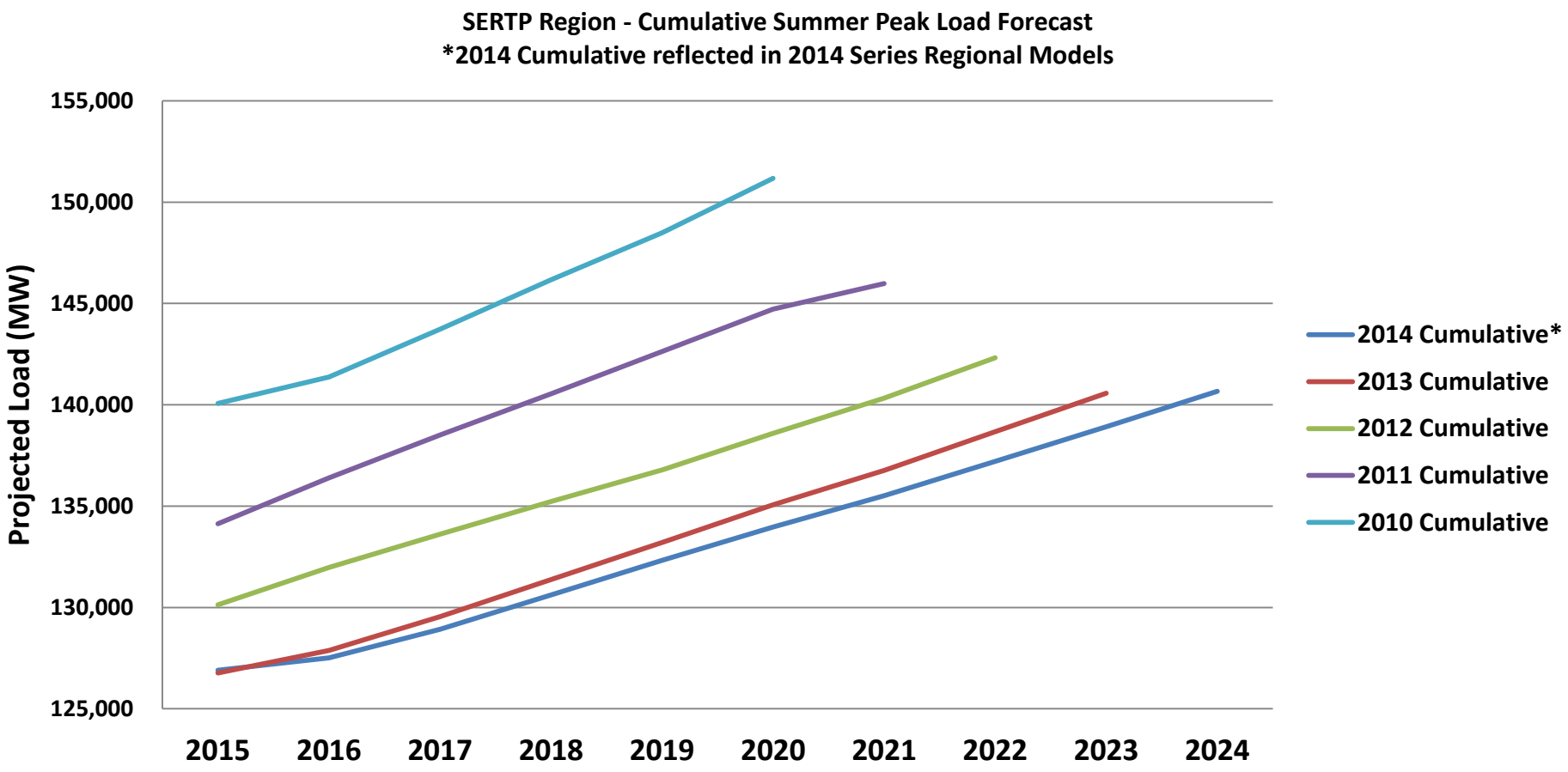
SERTP Regional Modeling Assumptions



Balancing Authority Areas

- AECI
- DUKE – Carolinas
- DUKE – Progress East
- DUKE – Progress West
- LG&E/KU
- OVEC
- PowerSouth
- Southern
- TVA

SERTP Cumulative Summer Peak Load Forecast

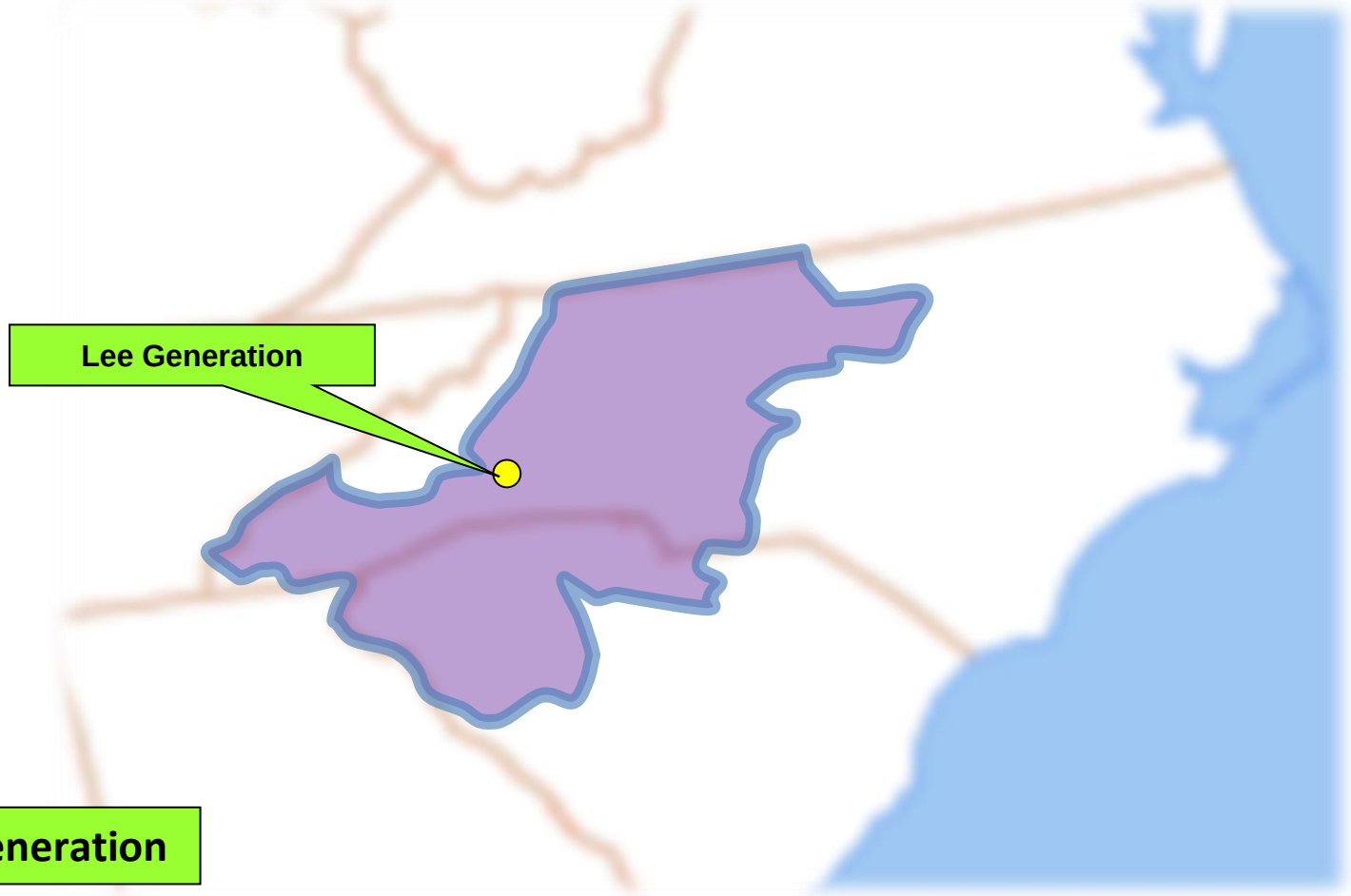


DUKE CAROLINAS Balancing Authority

Generation Assumptions

DUKE CAROLINAS – Generation Assumptions

The following diagram depicts the location of generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process.



DUKE CAROLINAS – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
LEE 1	0	--	--	--	--	--	--	--	--	--
LEE 2	0	--	--	--	--	--	--	--	--	--
LEE CC	--	--	--	777	777	777	777	777	777	777

DUKE CAROLINAS – Generation Assumptions (Point-to-Point)

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

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ROWAN	150	150	150	150	150	150	150	150	150	150
BROAD RIVER	850	850	850	850	850	850	850	850	850	850

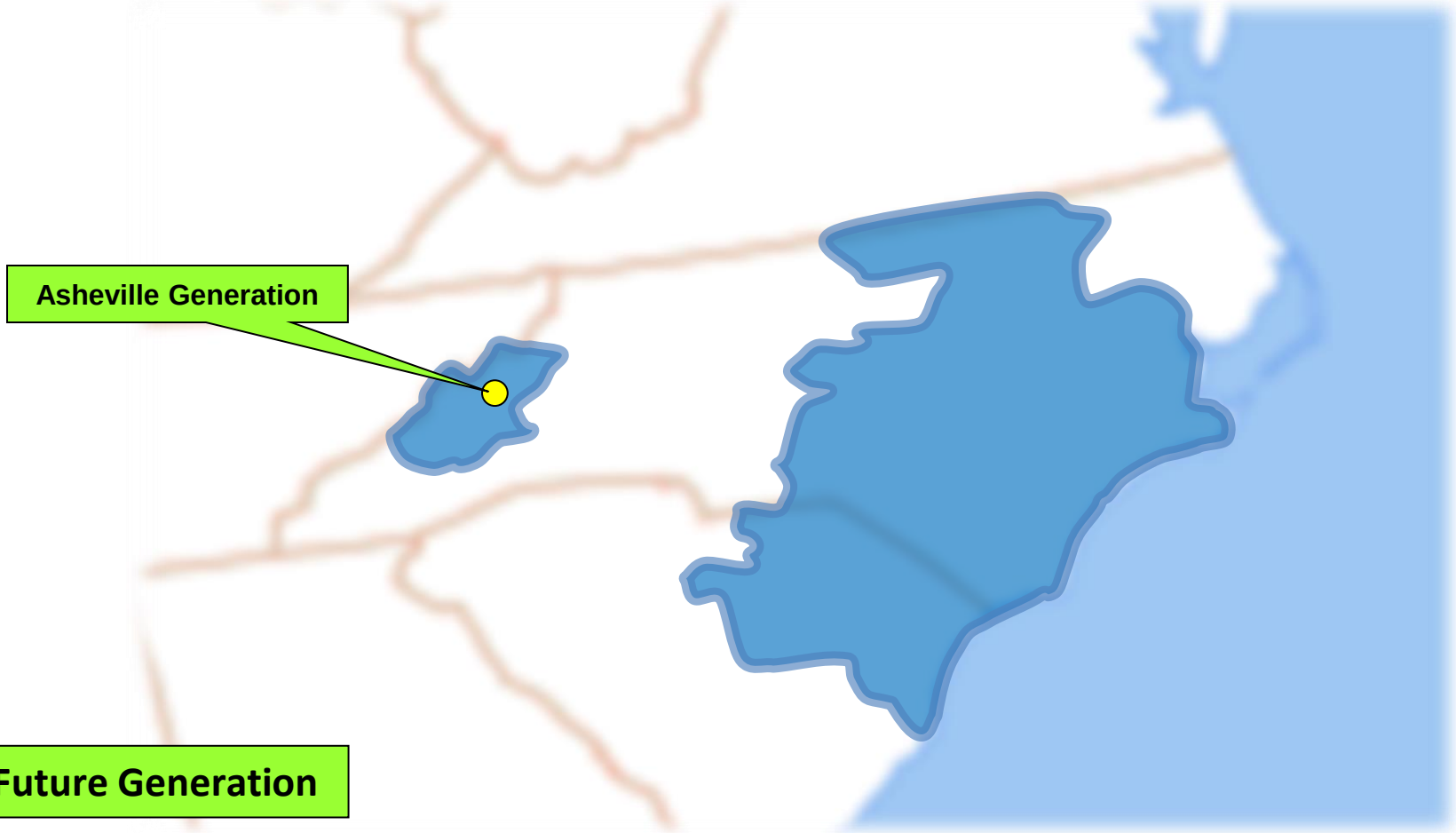
DUKE PROGRESS EAST/WEST

Balancing Authorities

Generation Assumptions

DUKE PROGRESS – Generation Assumptions

The following diagram depicts the location of generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process.



DUKE PROGRESS – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ASHEVILLE FS UNIT	--	--	130	130	130	130	130	130	130	130

DUKE PROGRESS – Generation Assumptions (Point-to-Point)

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

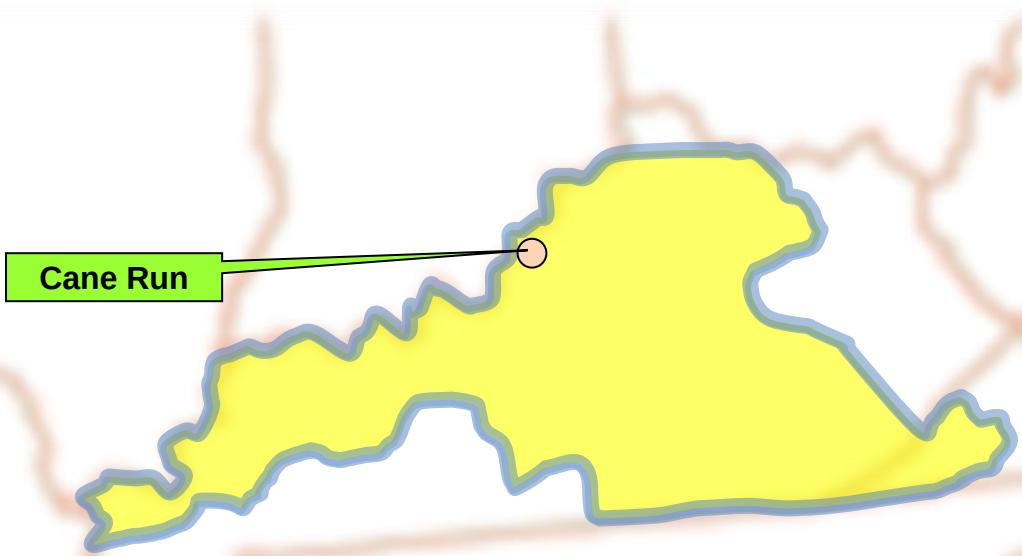
SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
HAMLET #1	55	55	55	55	55	55	55	55	55	55
HAMLET #2	55	55	55	55	55	55	55	55	55	55
HAMLET #3	55	55	55	55	55	55	55	55	55	55
HAMLET #4	55	0	--	--	--	--	--	--	--	--

LG&E/KU Balancing Authority

Generation Assumptions

LG&E/KU – Generation Assumptions

The following diagram depicts the location of generation assumptions <u>that change</u> throughout the ten year planning horizon for the 2014 SERTP Process.



Future Generation

LG&E/KU – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
GREEN RIVER	0	--	--	--	--	--	--	--	--	--
CANE RUN 4-6	0	--	--	--	--	--	--	--	--	--
CANE RUN 7	660	660	660	660	660	660	660	660	660	660
OHIO FALLS	64	64	64	64	64	64	64	64	64	64

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

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

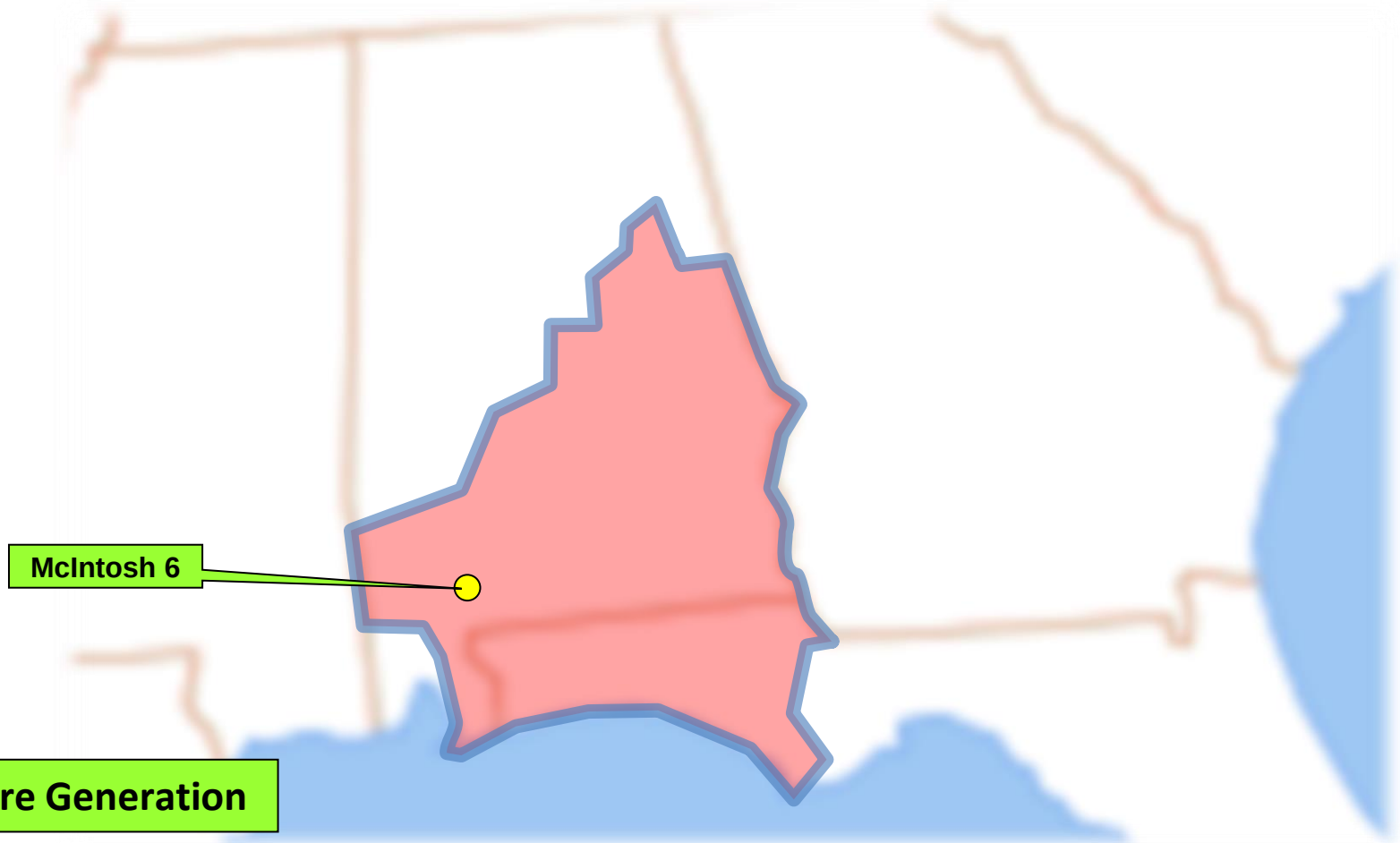
SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TRIMBLE COUNTY	324	324	324	324	324	324	324	324	324	324

POWERSOUTH Balancing Authority

Generation Assumptions

POWERSOUTH – Generation Assumptions

The following diagram depicts the location of generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process.



POWERSOUTH – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MCINTOSH	688	688	688	688	688	688	688	882	882	882

SOUTHERN Balancing Authority

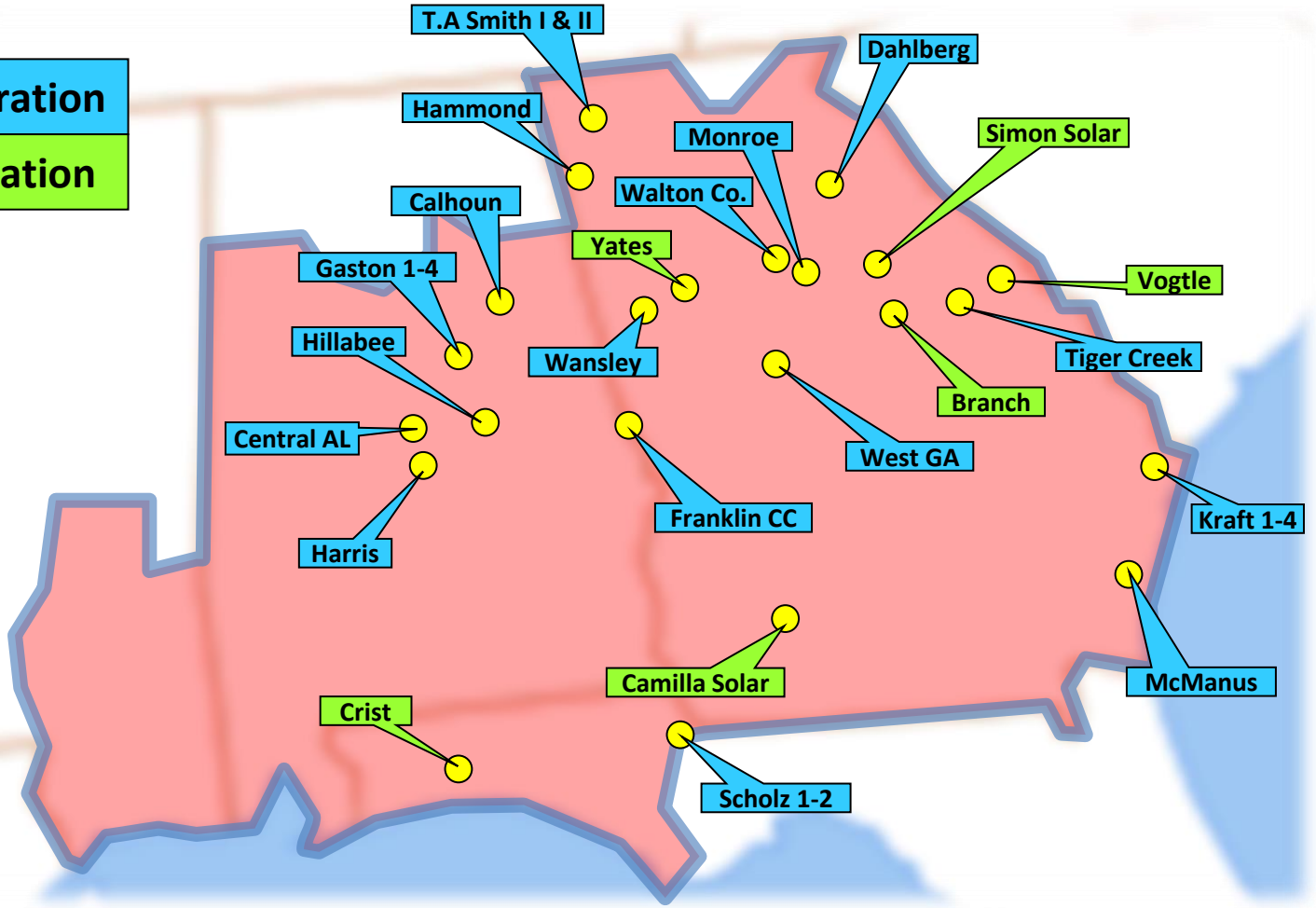
Generation Assumptions

SOUTHERN – Generation Assumptions

The following diagram depicts the location of generation assumptions <u>that change</u> throughout the ten year planning horizon for the 2014 SERTP Process.

Existing Generation

Future Generation



Southern Company – Generation Assumptions

The following table depicts the generation assumptions <u>that change</u> throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DAHLBERG CT	367	367	367	367	367	367	367	367	367	367
BRANCH 1	0	--	--	--	--	--	--	--	--	--
BRANCH 3-4	0	--	--	--	--	--	--	--	--	--
MCMANUS 1-2	0	--	--	--	--	--	--	--	--	--
SCHOLZ 1-2	0	--	--	--	--	--	--	--	--	--
YATES 1-5	0	--	--	--	--	--	--	--	--	--
VOGTLE 2	540	540	540	540	540	540	540	540	540	540
CAMILLA SOLAR	16	16	16	16	16	16	16	16	16	16
SIMON SOLAR	27	27	27	27	27	27	27	27	27	27
FRANKLIN 2 CC	625	0	--	--	--	--	--	--	--	--

Southern Company – Generation Assumptions

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
GASTON 1-4	465	465	465	465	465	465	465	465	465	465
WEST GEORGIA CT	298	298	298	298	298	298	298	298	298	298
YATES 6-7	642	642	642	642	642	642	642	642	642	642
KRAFT 1-4	333	0	--	--	--	--	--	--	--	--
HAMMOND 1	89	110	110	110	110	110	110	110	110	110
HAMMOND 3	89	110	110	110	110	110	110	110	110	110
HARRIS CC 1	--	625	625	625	625	625	625	625	625	625
WANSLEY CC 6	561	561	0	--	--	--	--	--	--	--
VOGTLE 3	--	--	--	504	504	504	504	504	504	504
VOGTLE 4	--	--	--	--	504	504	504	504	504	504
HARRIS CC 2	628	628	628	628	0	--	--	--	--	--

Southern Company – Generation Assumptions

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CENTRAL ALABAMA CC	885	885	885	885	885	885	885	885	0	--
CALHOUN CT 1-4	632	632	632	632	632	632	632	632	0	--
YATES CC	--	--	--	--	--	--	--	--	940	940
TIGER CREEK	313	313	313	313	313	313	313	313	313	0
MONROE	310	310	310	310	310	310	310	310	310	0
WALTON COUNTY	465	465	465	465	465	465	465	465	465	0
BRANCH CC	--	--	--	--	--	--	--	--	--	940
CRIST CT	--	--	--	--	--	--	--	--	--	300

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

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

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VOGTLE	--	--	--	103	206	206	206	206	206	206
LINDSAY HILL	300	92	0	--	--	--	--	--	--	--
HAMMOND	10	10	10	10	10	10	10	10	10	10
MILLER	100	100	0	--	--	--	--	--	--	--
HARRIS	584	0	--	--	--	--	--	--	--	--
HILLABEE	700	700	700	700	700	700	700	700	700	700
FRANKLIN	535	535	535	535	535	535	535	535	535	535
SCHERER	1085	1011	1011	1011	1011	1011	1011	1011	1011	1011
DAHLBERG	176	176	176	176	176	176	176	176	176	176

GTC – Generation Assumptions

The following table depicts the generation assumptions <u>that change</u> throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
EFFINGHAM CC	500	0	--	--	--	--	--	--	--	--
LINDSAY HILL CC	300	0	--	--	--	--	150	150	150	150
FRANKLIN CC 2	0	625	625	625	625	625	375	375	375	375
GASTON 1&2	0	--	--	--	--	--	--	--	--	--
SANTA ROSA	0	--	--	--	--	--	--	--	--	--
MCMANUS CT	0	--	--	--	--	--	--	--	--	--
MITCHELL	0	--	--	--	--	--	--	--	--	--
SCHERER 3	132	132	132	132	132	56	56	56	56	56
WILSON CT	0	--	--	--	--	--	--	--	--	--
YATES	0	--	--	--	--	--	--	--	--	--

GTC – Generation Assumptions

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DAHLBERG CT	262	450	450	450	450	450	450	450	450	450
HILLABEE CC	--	149	149	149	149	149	149	149	149	149
T.A. SMITH I CC	0	620	620	620	620	620	620	620	620	620
T.A. SMITH II CC	0	620	620	620	620	620	620	620	620	620
VOGTLE 3	--	--	--	330	330	330	330	330	330	330
VOGTLE 4	--	--	--	--	330	330	330	330	330	330

MEAG – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VOGTLE 2	248	248	248	248	248	248	248	248	248	248
VOGTLE 3	--	--	--	250	250	250	250	250	250	250
VOGTLE 4	--	--	--	--	250	250	250	250	250	250

DALTON – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

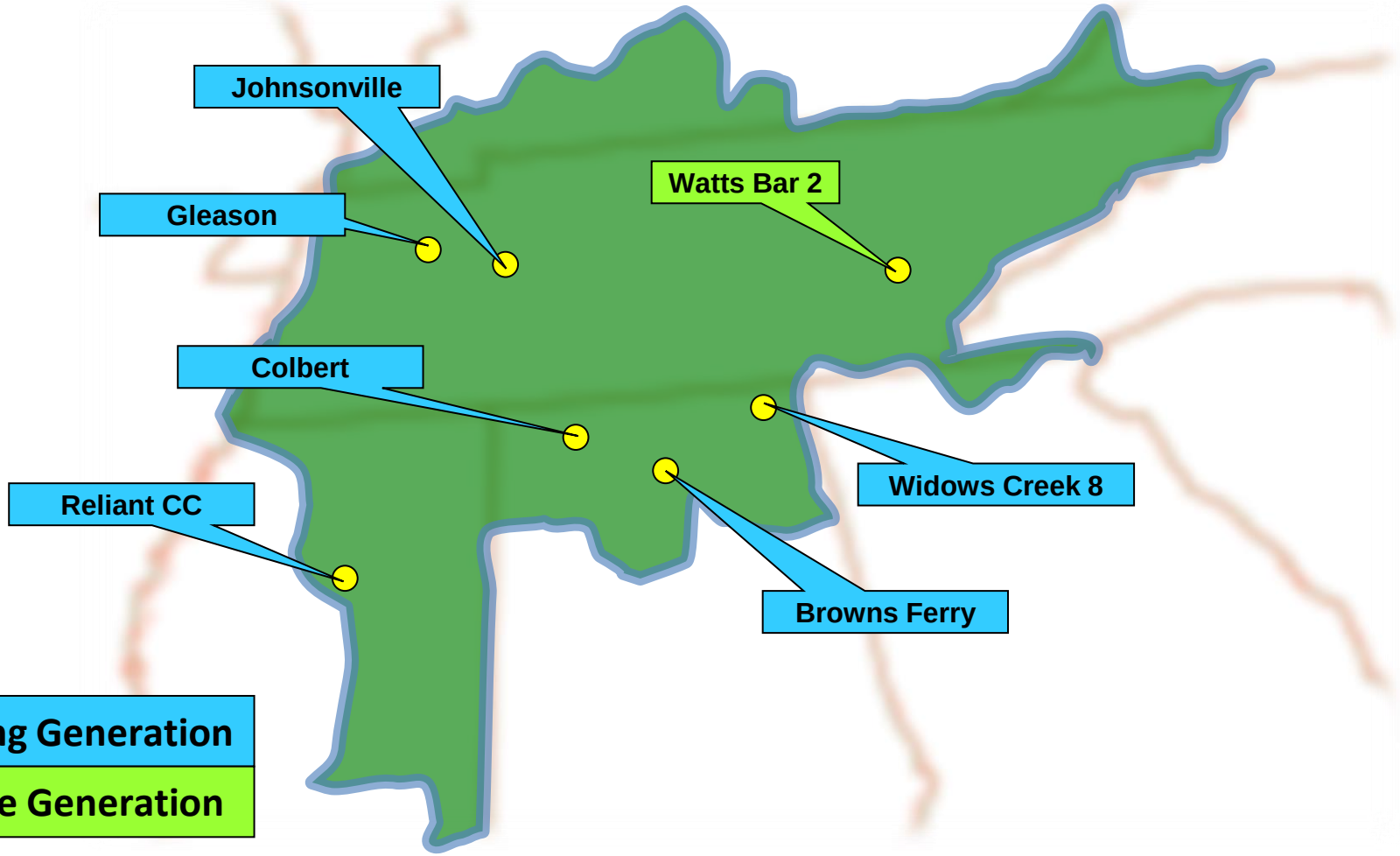
SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VOGTLE 3	--	--	--	16	16	16	16	16	16	16
VOGTLE 4	--	--	--	--	16	16	16	16	16	16

TVA Balancing Authority

Generation Assumptions

TVA – Generation Assumptions

The following diagram depicts the location of generation assumptions <u>that change</u> throughout the ten year planning horizon for the 2014 SERTP Process.



TVA – Generation Assumptions

The following table depicts the generation assumptions that change throughout the ten year planning horizon for the 2014 SERTP Process. The years shown represent Summer Peak conditions.

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BROWNS FERRY UNIT 1	1103	1103	1103	1103	1237	1237	1237	1237	1237	1237
BROWNS FERRY UNIT 2	1108	1108	1108	1108	1242	1242	1242	1242	1242	1242
BROWNS FERRY UNIT 3	1108	1108	1108	1242	1242	1242	1242	1242	1242	1242
WATTS BAR UNIT 2	0	1155	1155	1155	1155	1155	1155	1155	1155	1155
COLBERT 1 - 4	712	0	--	--	--	--	--	--	--	--
COLBERT 5	0	--	--	--	--	--	--	--	--	--
JOHNSONVILLE 1-4	428	0	--	--	--	--	--	--	--	--
WIDOWS CREEK 8	0	--	--	--	--	--	--	--	--	--
GLEASON 1	120	173	173	173	173	173	173	173	173	173
GLEASON 2	100	173	173	173	173	173	173	173	173	173
GLEASON 3	140	174	174	174	174	174	174	174	174	174

TVA – Generation Assumptions (Point-to-Point)

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

SITE	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
RELIANT CC	287	525	525	525	525	525	525	525	525	525

Generation Assumptions

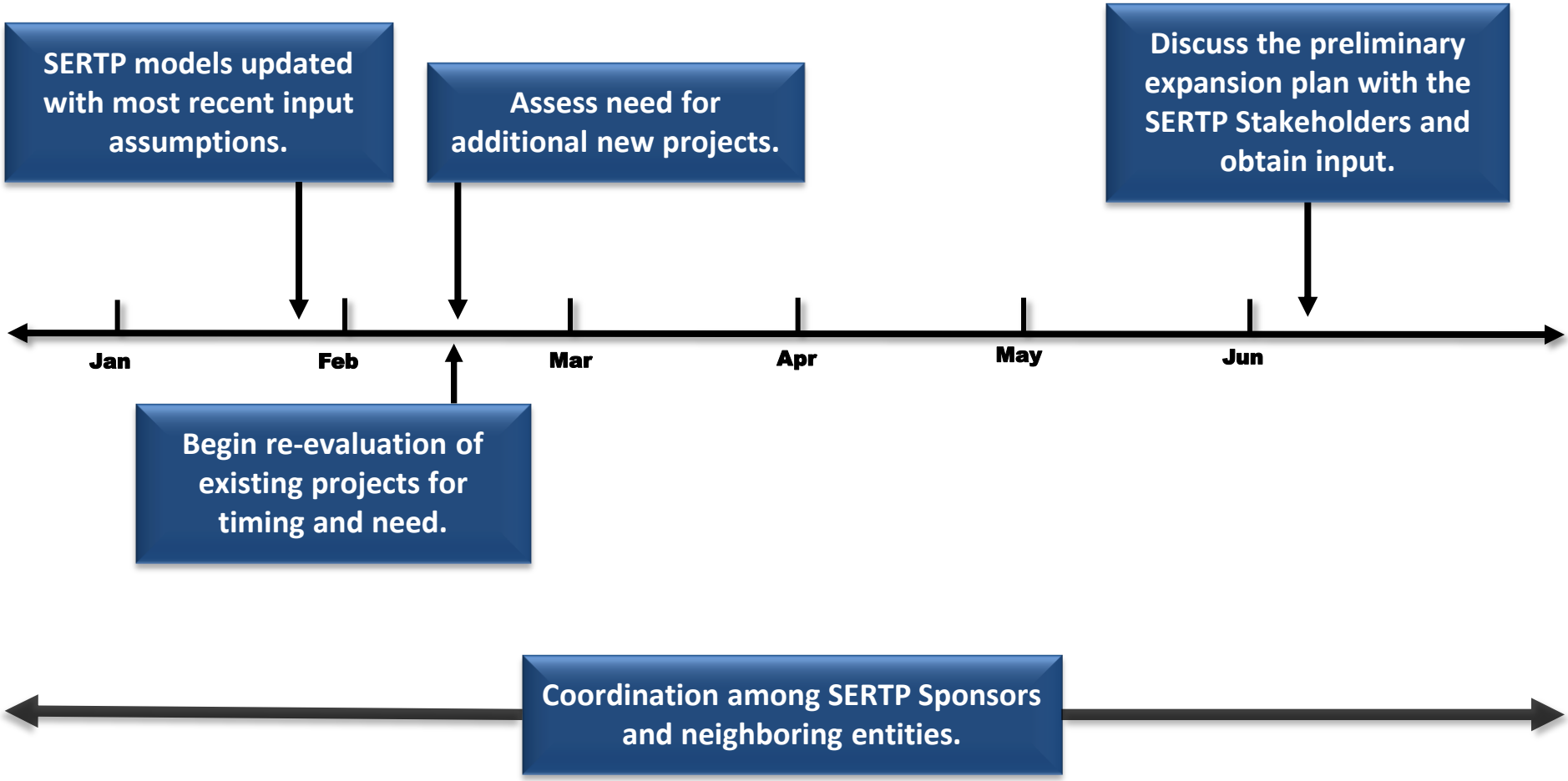
- **The following SERTP Sponsors did not have any generation assumptions that change throughout the ten year planning horizon.**
  - **AECI**
  - **OVEC**

AECI Balancing Authority

SERTP

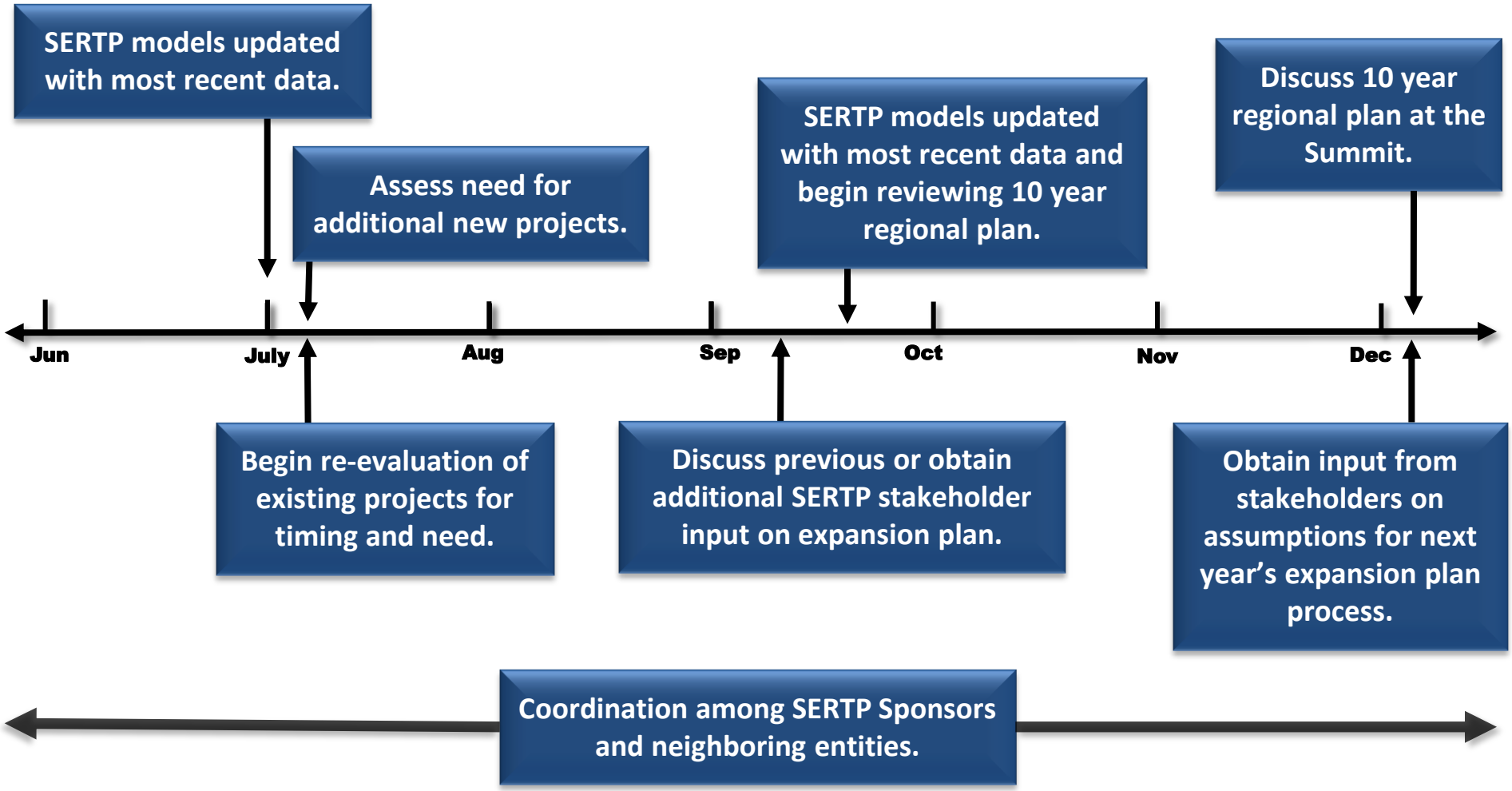
Preliminary 10 Year Transmission Expansion Plans

Approximate 10 Year Transmission Expansion Plan Timeline



2014 SERTP

Approximate 10 Year Transmission Expansion Plan Timeline



Preliminary Transmission Expansion Plans

The projects described in this presentation represent the preliminary ten (10) year transmission expansion plans. The transmission expansion plans are 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.

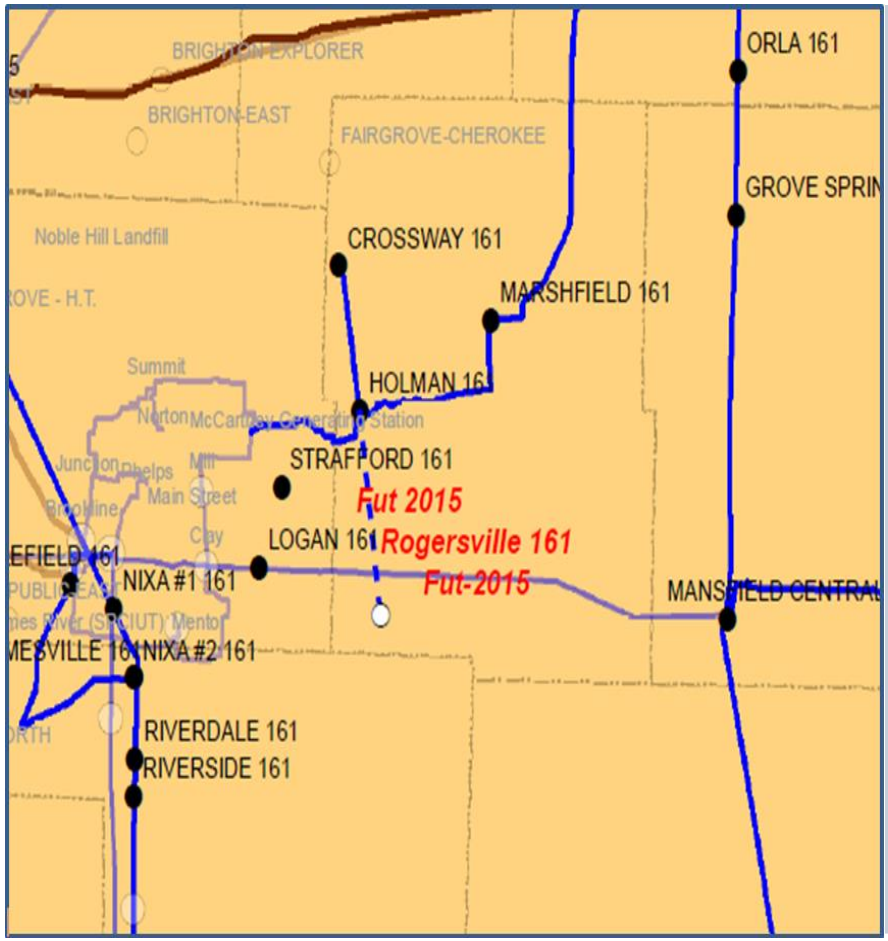
AECI Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

AECI Balancing Authority

AECI – 1 2015

ROGERSVILLE 161 KV SUB, HOLMAN – ROGERSVILLE 161 KV T.L.

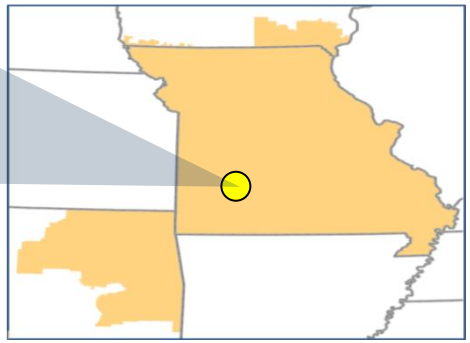


DESCRIPTION:

Construct approximately 7.2 miles of 795 ACSR 161 kV transmission line at 100°C from Holman to Rogersville and install a 56 MVA 161/69 kV transformer at Rogersville.

SUPPORTING STATEMENT:

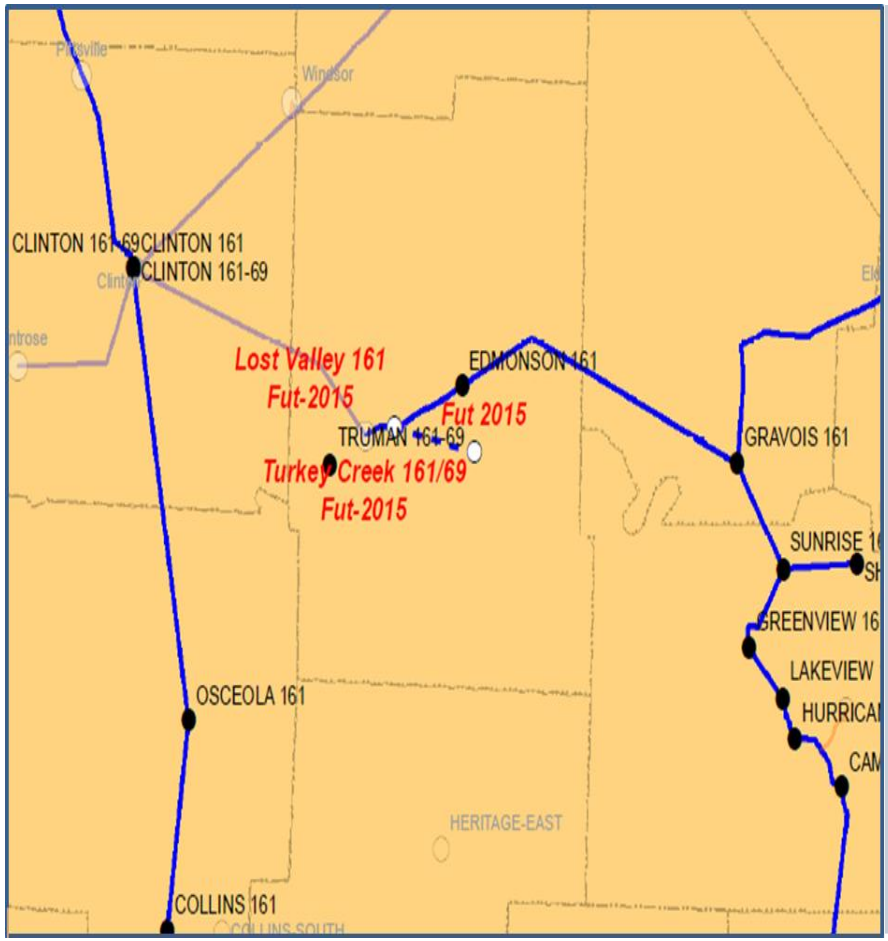
The Cody – Rogersville and Sparta – Rogersville 69 kV transmission lines become overloaded under contingency and voltage support needed at Rogersville under contingency.



AECI Balancing Authority

AECI – 2 2015

LOST VALLEY – TURKEY CREEK 161 KV T.L.

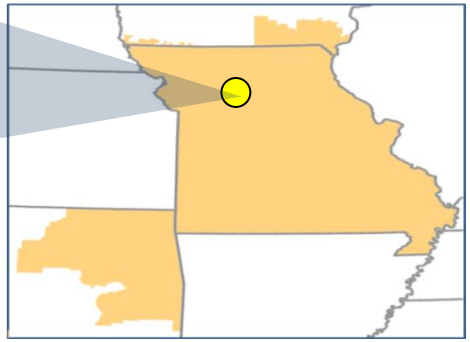


DESCRIPTION:

Construct approximately 7 miles of 161 kV transmission line from Lost Valley to Turkey Creek with 795 ACSR at 100°C and install an 84 MVA 161/69 kV transformer at Turkey Creek on the Warsaw – Knobby 69 kV transmission line.

SUPPORTING STATEMENT:

The Greenview – J-7 69 kV transmission line overloads under contingency. Also, 69 kV voltage support needed in the Iconium area under contingency.

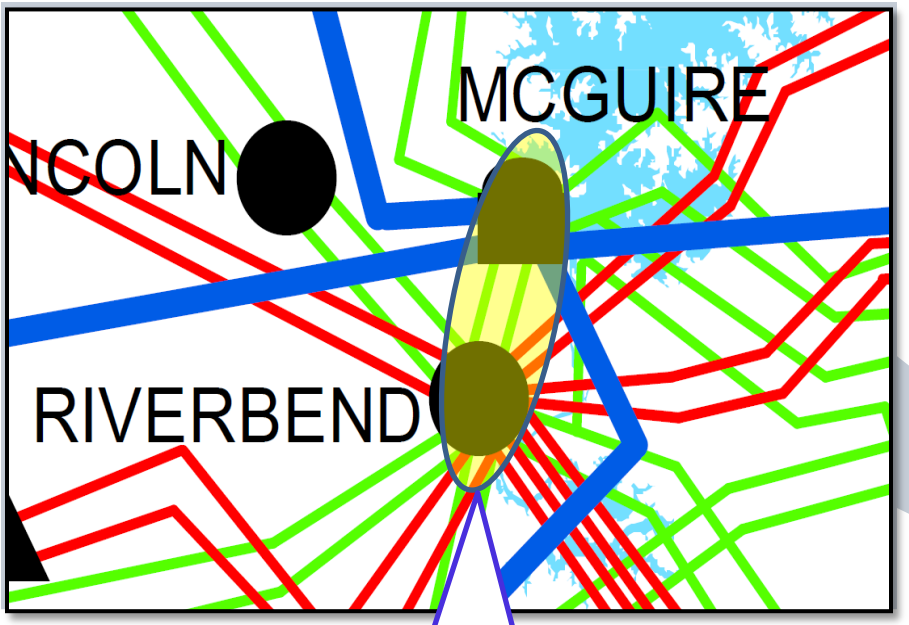


DUKE CAROLINAS Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

DUKE CAROLINAS – 1 2015

MCGUIRE – RIVERBEND 230 KV T.L.

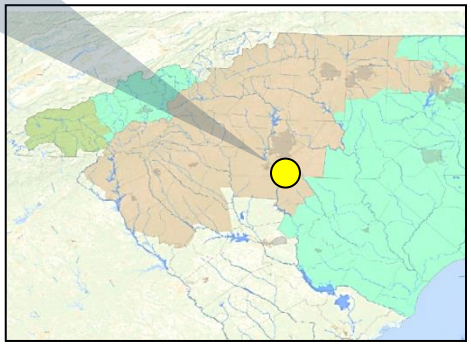


DESCRIPTION:

Reconductor approximately 6 miles of McGuire – Riverbend 230 kV transmission line with 1533 ACSS at 200°C.

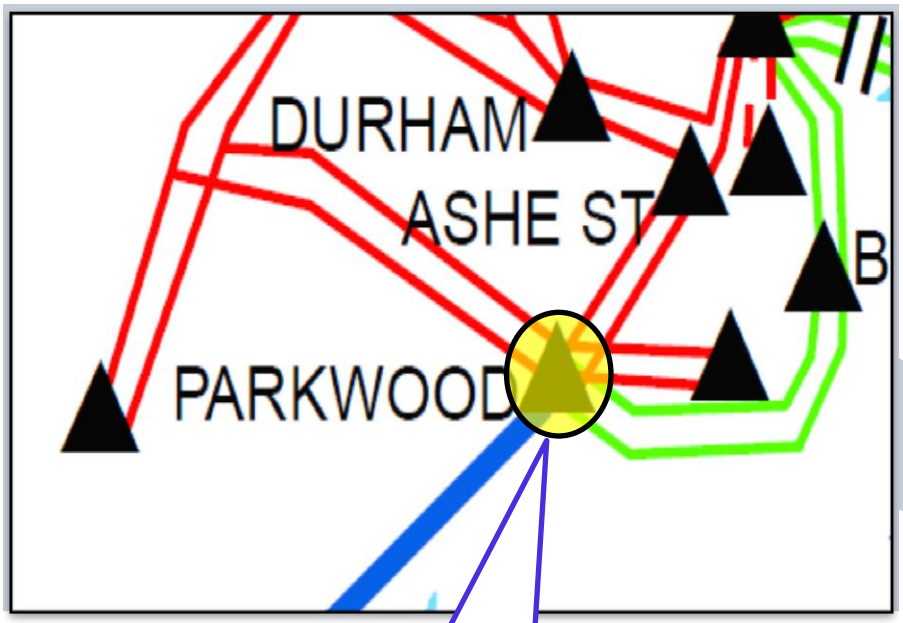
SUPPORTING STATEMENT:

The McGuire – Riverbend 230 kV transmission line overloads under contingency.



DUKE CAROLINAS – 2 2016

PARKWOOD 230/100 KV SUBSTATION

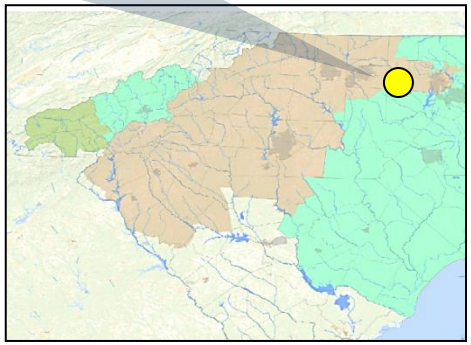


DESCRIPTION:

Add a third 448 MVA 230/100 kV transformer at Parkwood substation.

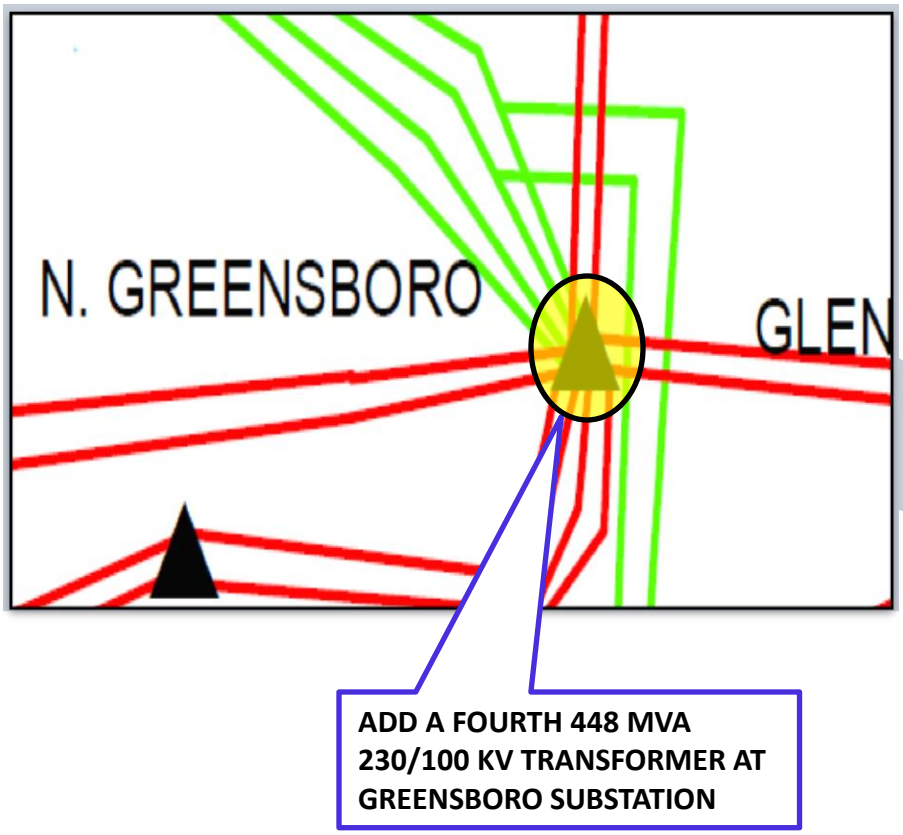
SUPPORTING STATEMENT:

The Parkwood 230/ 100 kV transformer overloads under contingency.



DUKE CAROLINAS – 3 2016

NORTH GREENSBORO 230/100 KV SUBSTATION

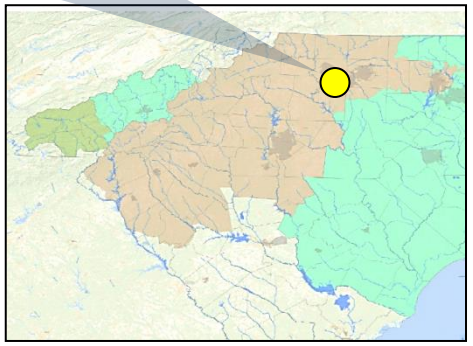


DESCRIPTION:

Add a fourth 448 MVA 230/100 kV transformer at Greensboro substation.

SUPPORTING STATEMENT:

The North Greensboro 230/100 kV transformer overloads under contingency.



DUKE CAROLINAS – 4 2017

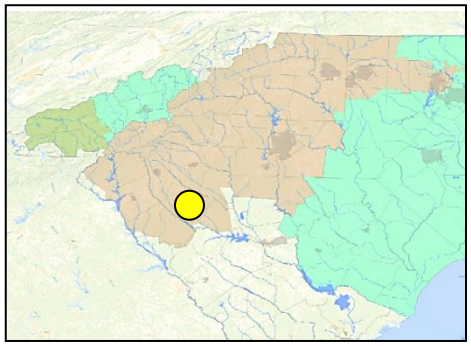
GREENBRIAR AREA IMPROVEMENTS

DESCRIPTION:

- Bundle the Shady Grove – Moonville Retail 100 kV transmission line with 477 ACSR at 120°C. Add 100 kV terminals at Greenbriar Retail making it a 100 kV switching station. Reedy River Tie will also become a breaker swap over station as part of the Greenbriar project.

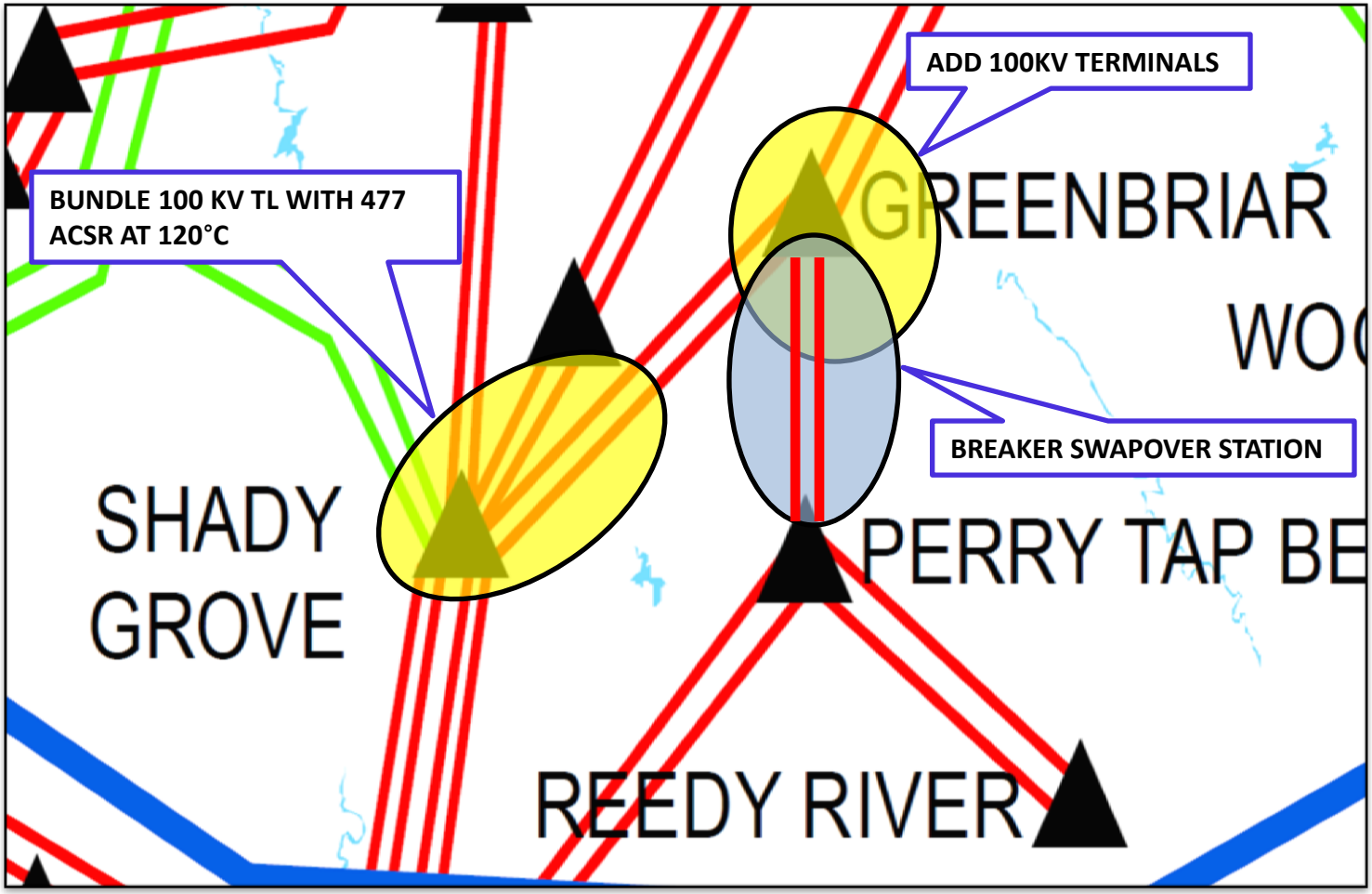
SUPPORTING STATEMENT:

Project required to support new Lee CC project and contingency overloading of 100 kV lines in Lee area.



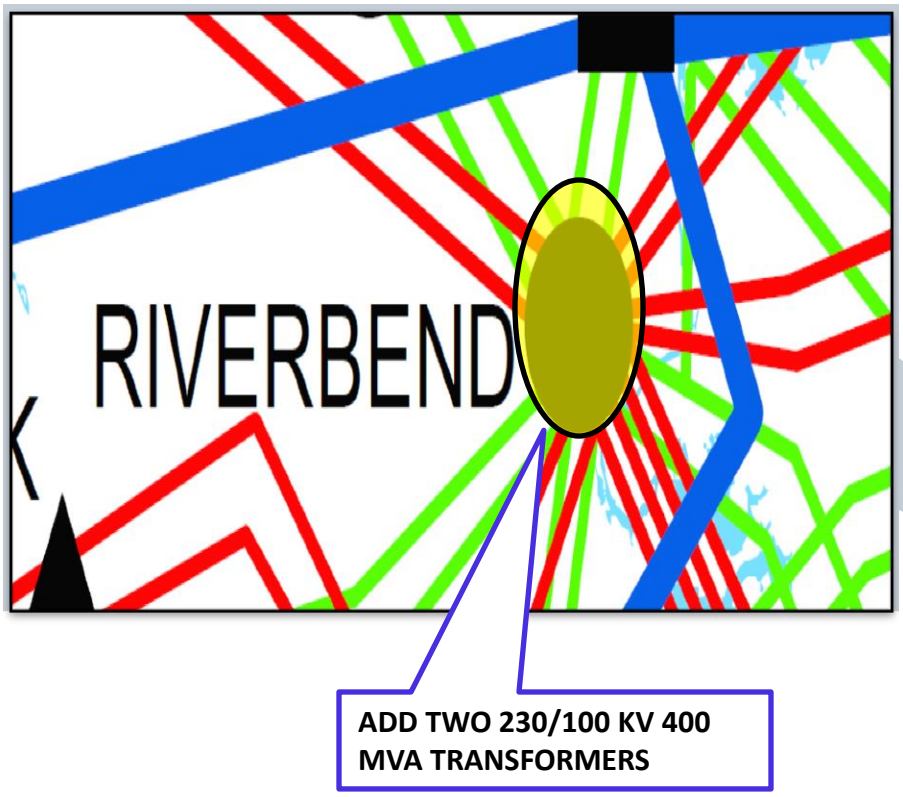
DUKE CAROLINAS – 4 2017

GREENBRIAR AREA IMPROVEMENTS



DUKE CAROLINAS – 5 2017

RIVERBEND STEAM STATION

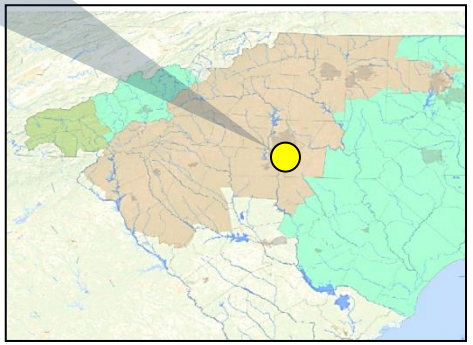


DESCRIPTION:

Add two 230/100 kV 400 MVA transformers at Riverbend Steam Station.

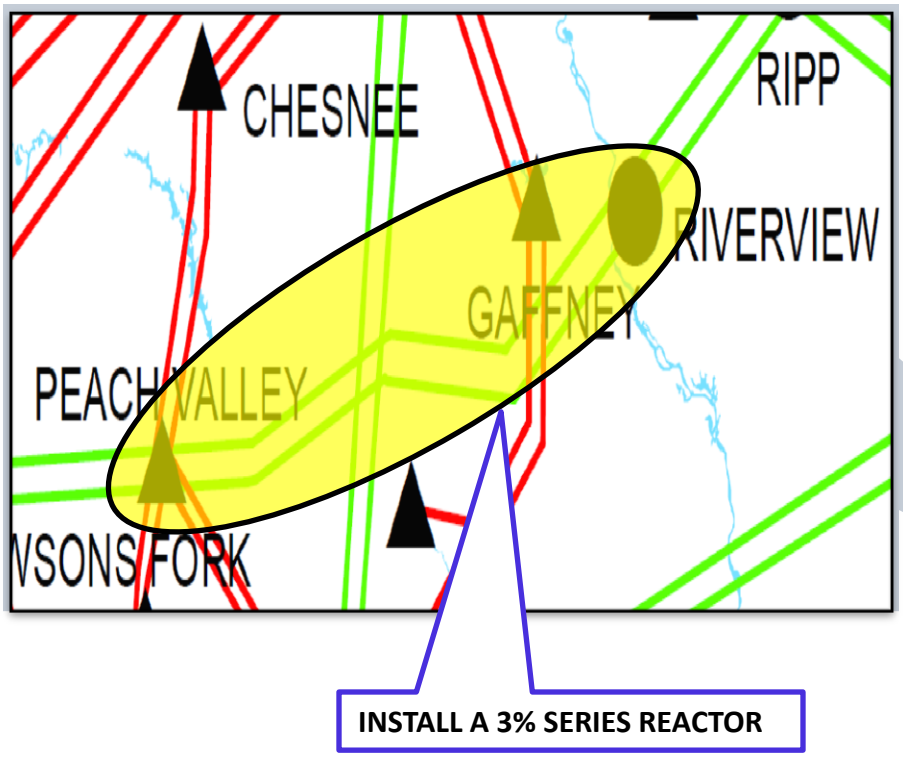
SUPPORTING STATEMENT:

Retirement of Riverbend Steam Station generation causes multiple transmission lines to overload under contingency and causes the need for additional voltage support in the Riverbend area.



DUKE CAROLINAS – 6 2018

PEACH VALLEY – RIVERVIEW 230 KV T.L.

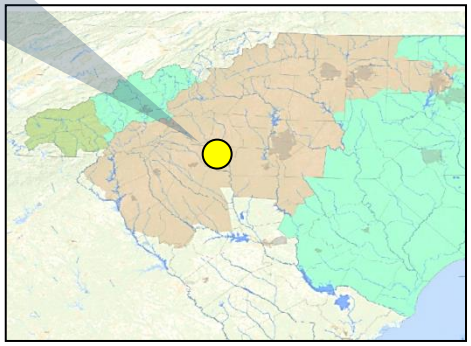


DESCRIPTION:

Install a 3% series reactor on the Peach Valley – Riverview 230 kV transmission line.

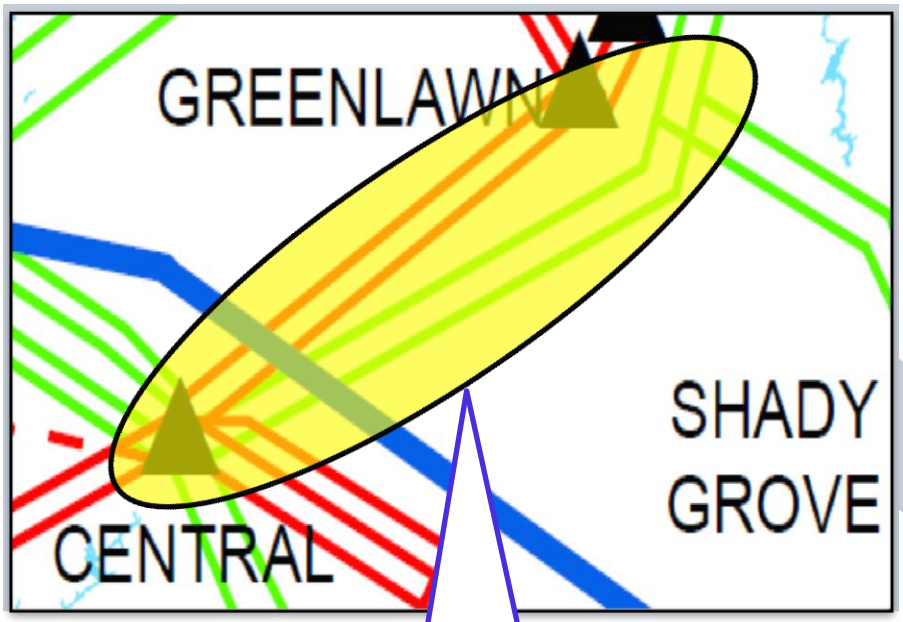
SUPPORTING STATEMENT:

The Peach valley – Riverview 230 kV transmission line overloads under contingency.



DUKE CAROLINAS – 7 2022

CENTRAL – SHADY GROVE 230 KV T.L.

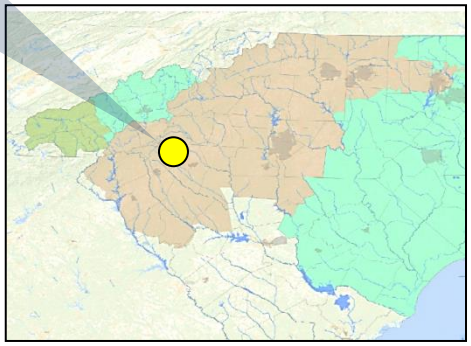


DESCRIPTION:

Reconductor approximately 18 miles of the Central – Shady Grove 230 kV transmission line with bundled 954 ACSR at 120°C.

SUPPORTING STATEMENT:

The Central – Shady Grove 230 kV transmission line overloads under contingency.

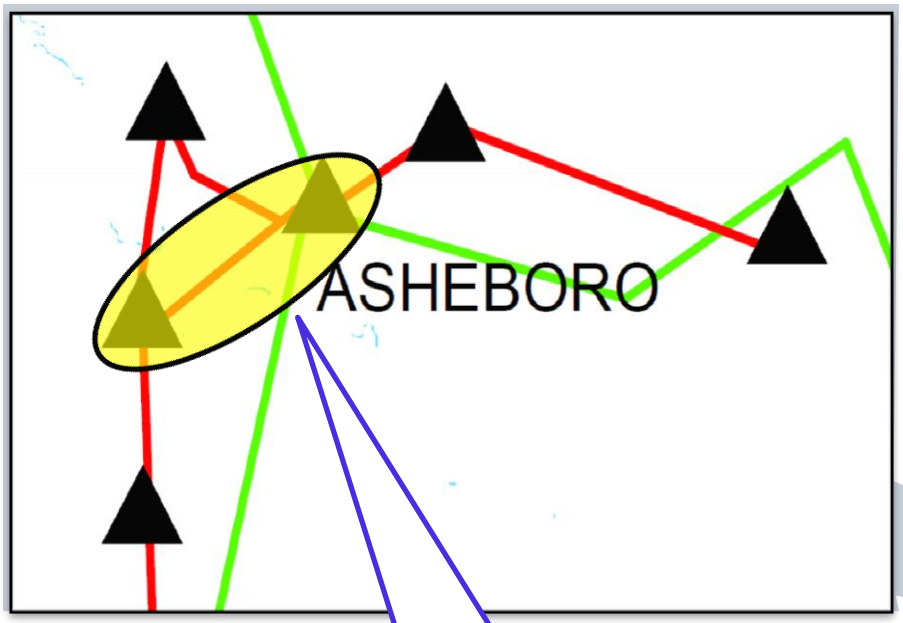


DUKE PROGRESS EAST Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

DUKE PROGRESS EAST – 1 2016

ASHEBORO – ASHEBORO EAST (SOUTH) 115 KV T.L.

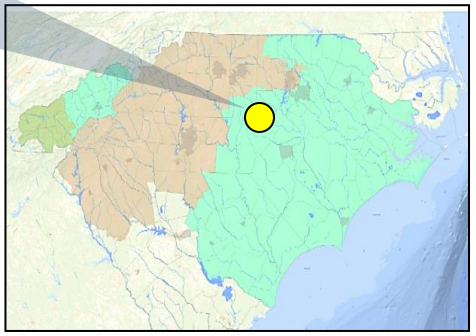


DESCRIPTION:

Reconductor approximately 3 miles of the Asheboro – Asheboro East (South) 115 kV transmission line using 3-1590 or equivalent conductor. Replace disconnect switches at Asheboro 230 kV and both the breaker and the disconnect switches at Asheboro East 115 kV with equipment of at least 2000 A capability.

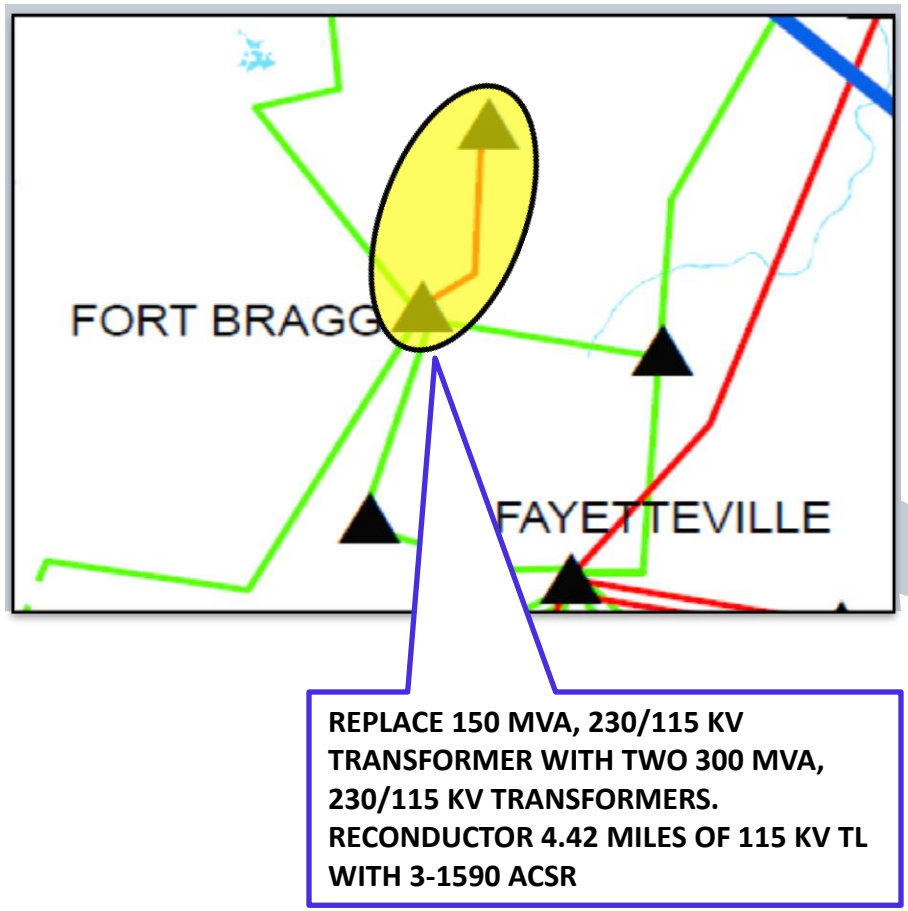
SUPPORTING STATEMENT:

The Asheboro – Asheboro East (South) 115 kV transmission line overloads under contingency.



DUKE PROGRESS EAST – 2 2016

FT. BRAGG WOODRUFF STREET 230 KV SUBSTATION

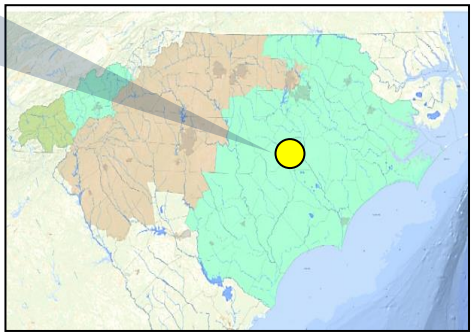


DESCRIPTION:

Replace the existing 150 MVA, 230/115 kV transformer at the Ft. Bragg Woodruff Street 230 kV substation with two 300 MVA, 230/115 kV transformers. Reconductor approximately 4.42 miles along the Ft. Bragg Woodruff Street – Manchester 115 kV transmission line with 3-1590 ACSR.

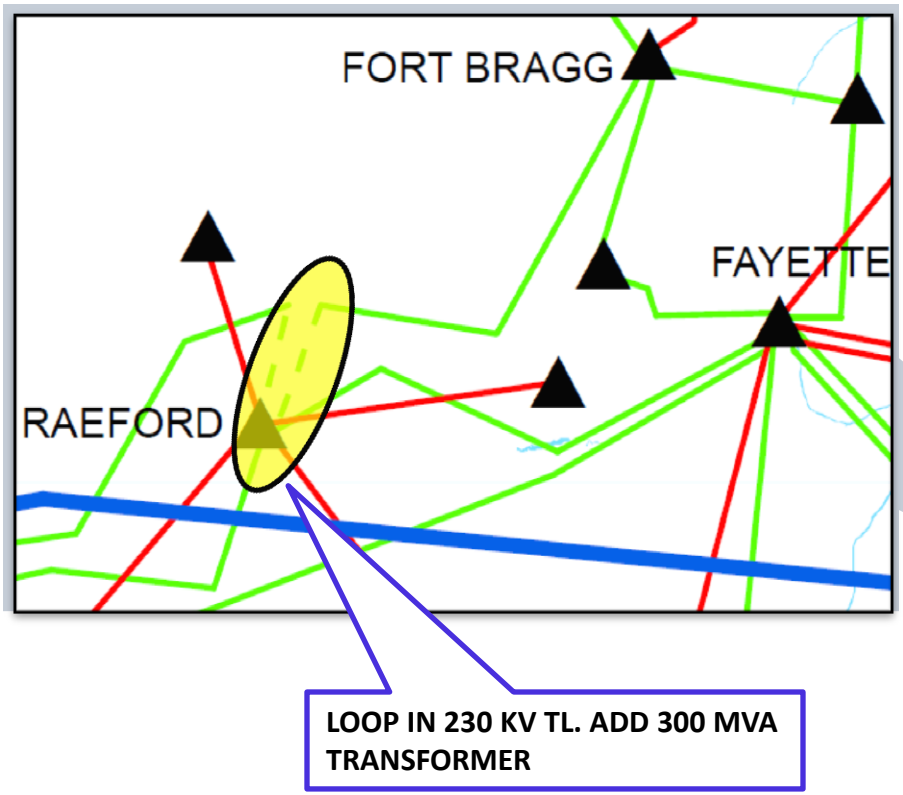
SUPPORTING STATEMENT:

The Manchester 115 kV transmission line and Ft. Bragg Woodruff Street 230/115 kV transformer overloads under contingency.



DUKE PROGRESS EAST – 3 2018

RAEFORD 230 KV SUBSTATION

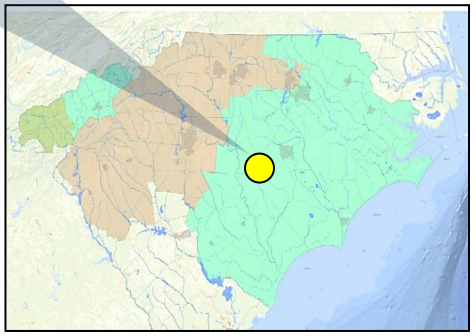


DESCRIPTION:

Loop in the Richmond – Ft. Bragg Woodruff St. 230 kV transmission line at Raeford 230/115 kV substation and add a 300 MVA transformer.

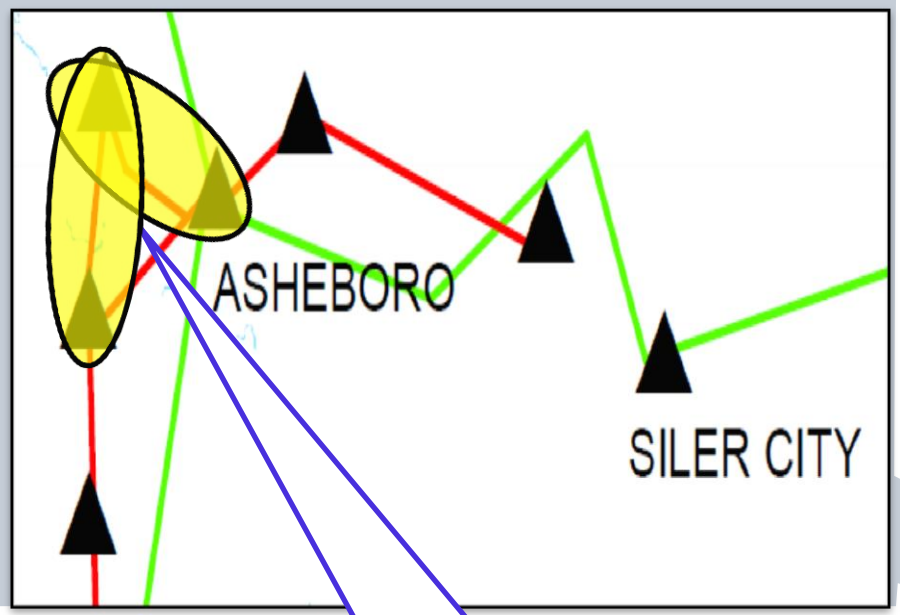
SUPPORTING STATEMENT:

The Raeford 230/115 kV transformers and Weatherspoon – Raeford 115 kV transmission line overload under contingency.



DUKE PROGRESS EAST – 4 2019

ASHEBORO – ASHEBORO EAST (NORTH) 115 KV T.L.

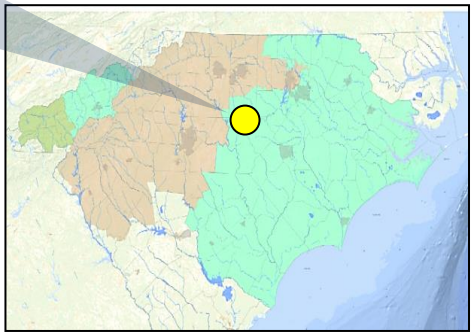


DESCRIPTION:

Rebuild approximately 6.45 miles of the Asheboro – Asheboro East (North) 115 kV transmission line using 3-1590 or equivalent conductor. Replace disconnect switches at Asheboro 230 kV and both the breaker and the disconnect switches at Asheboro East 115 kV with equipment of at least 2000 A capability.

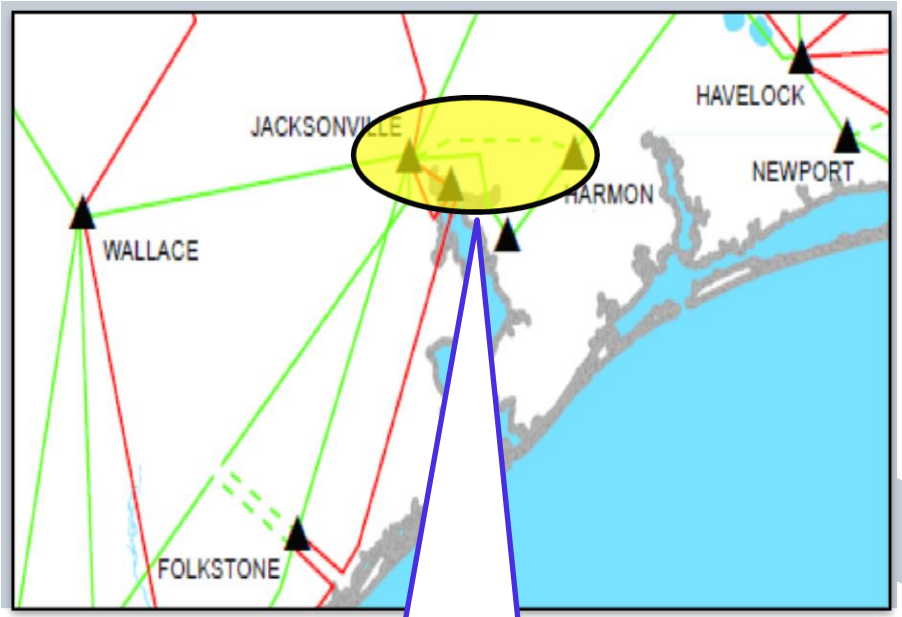
SUPPORTING STATEMENT:

The Asheboro – Asheboro East (North) 115 kV transmission line overloads under contingency.



DUKE PROGRESS EAST – 5 2020

JACKSONVILLE – HARMON AREA 230 KV T.L.



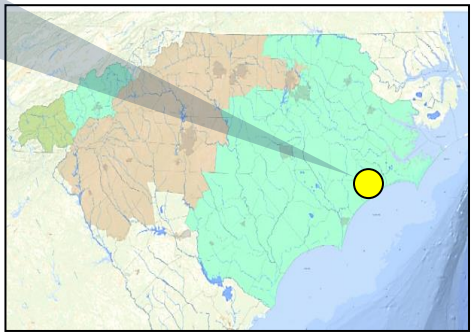
NEW 230 KV TL WITH 6-1590 ACSR OR EQUIVALENT CONDUCTOR. NEW 230 KV SUBSTATION WITH A 200 MVA OR 300 MVA 230/115 KV TRANSFORMER

DESCRIPTION:

Add a new 230 kV transmission line from Jacksonville 230 kV to a new 230 kV substation in the Harmon area with bundled 6-1590 ACSR or equivalent. Build the new 230 kV Harmon substation with four 230 kV breakers and a new 200 (or 300) MVA 230/115 kV transformer.

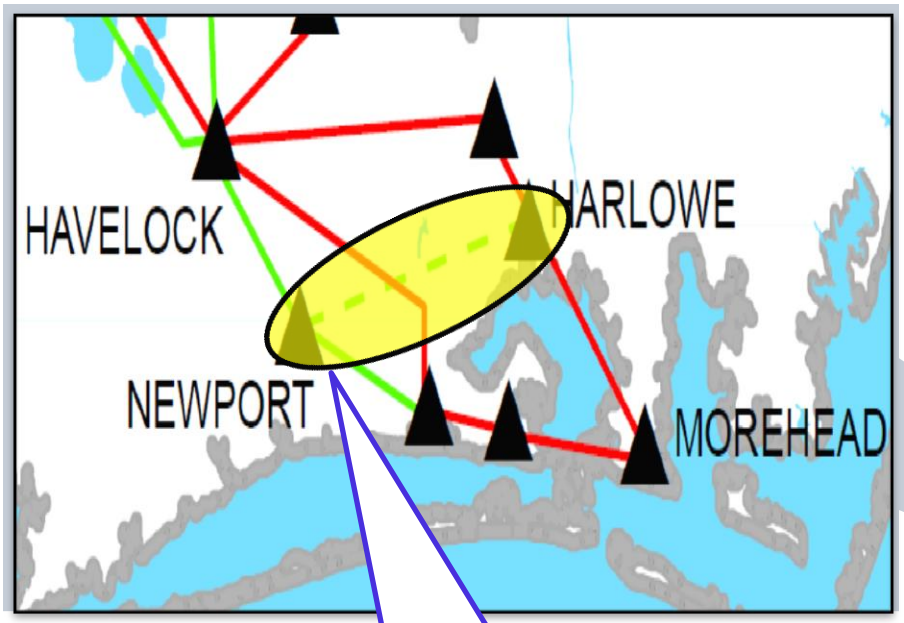
SUPPORTING STATEMENT:

The Havelock – Jacksonville 230 kV transmission line overloads under contingency and voltage support is needed in the Jacksonville area.



DUKE PROGRESS EAST – 6 2020

NEWPORT AREA – HARLOWE 230 KV T.L.

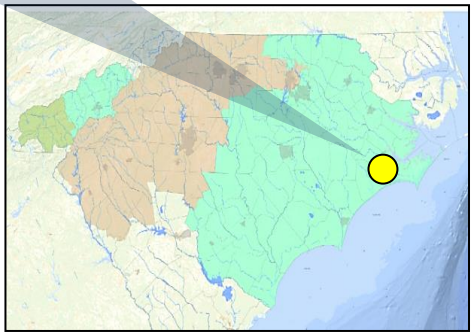


DESCRIPTION:

Construct a new 230 kV switching station in the Newport Area, construct a new 230 kV substation in the Harlowe Area, and construct the Newport Area – Harlowe Area 230 kV transmission line with 3-1590 ACSR or equivalent.

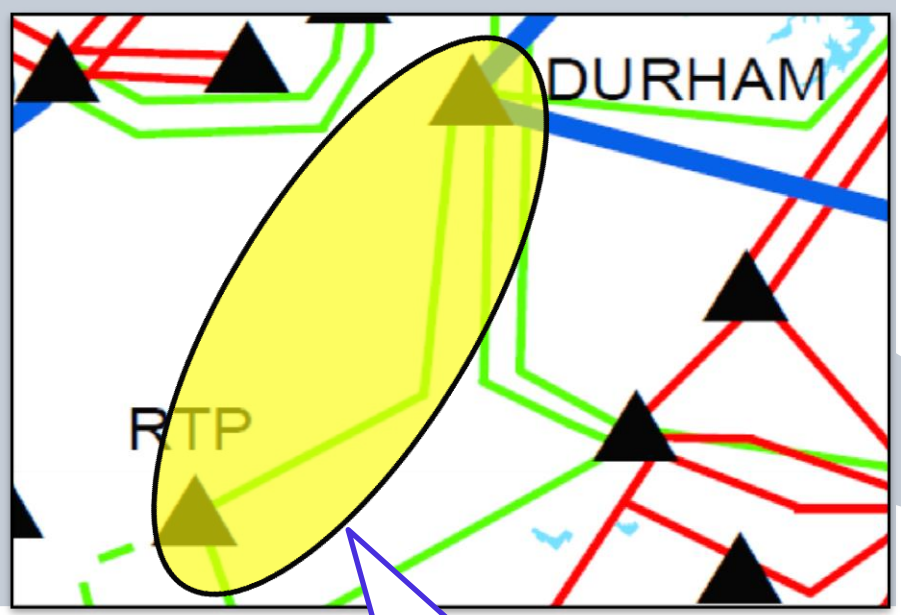
SUPPORTING STATEMENT:

Voltage support is needed in Havelock – Morehead area.



DUKE PROGRESS EAST – 7 2023

DURHAM – RTP 230 KV T.L.

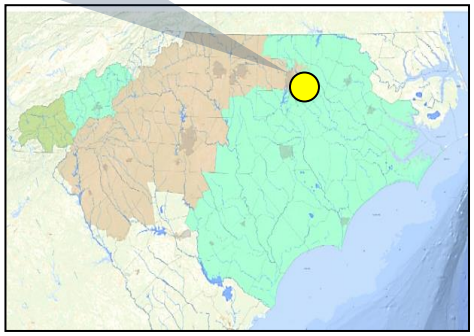


DESCRIPTION:

Reconductor approximately 10 miles of the Durham – RTP 230 kV transmission line with bundled 6-1590 ACSR.

SUPPORTING STATEMENT:

The Durham – RTP 230 kV transmission line overloads under contingency.

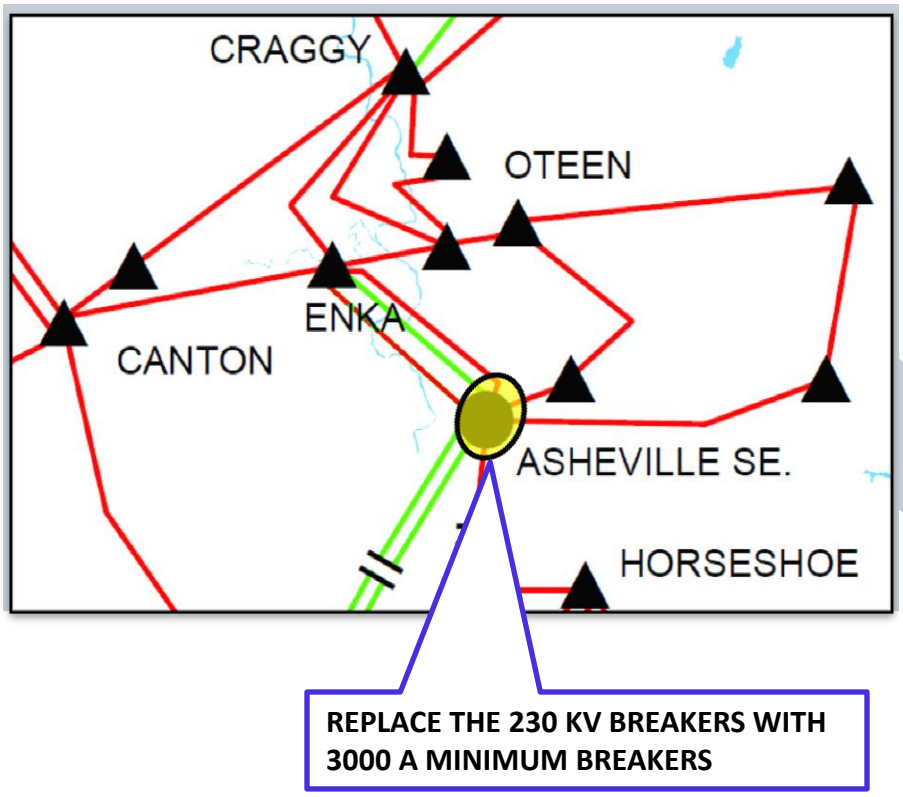


DUKE PROGRESS WEST Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

DUKE PROGRESS WEST – 1 2018

ASHEVILLE PLANT SUBSTATION

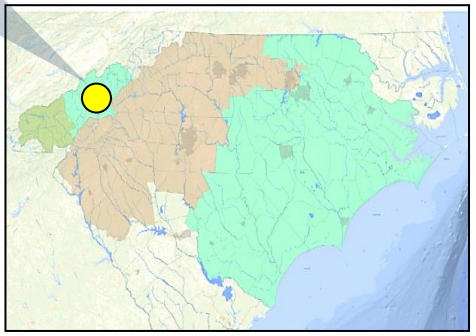


DESCRIPTION:

Replace the 230 kV breakers at Asheville substation with 3000 A minimum breakers to accommodate the installation of combustion turbine units at Asheville S.E. Plant.

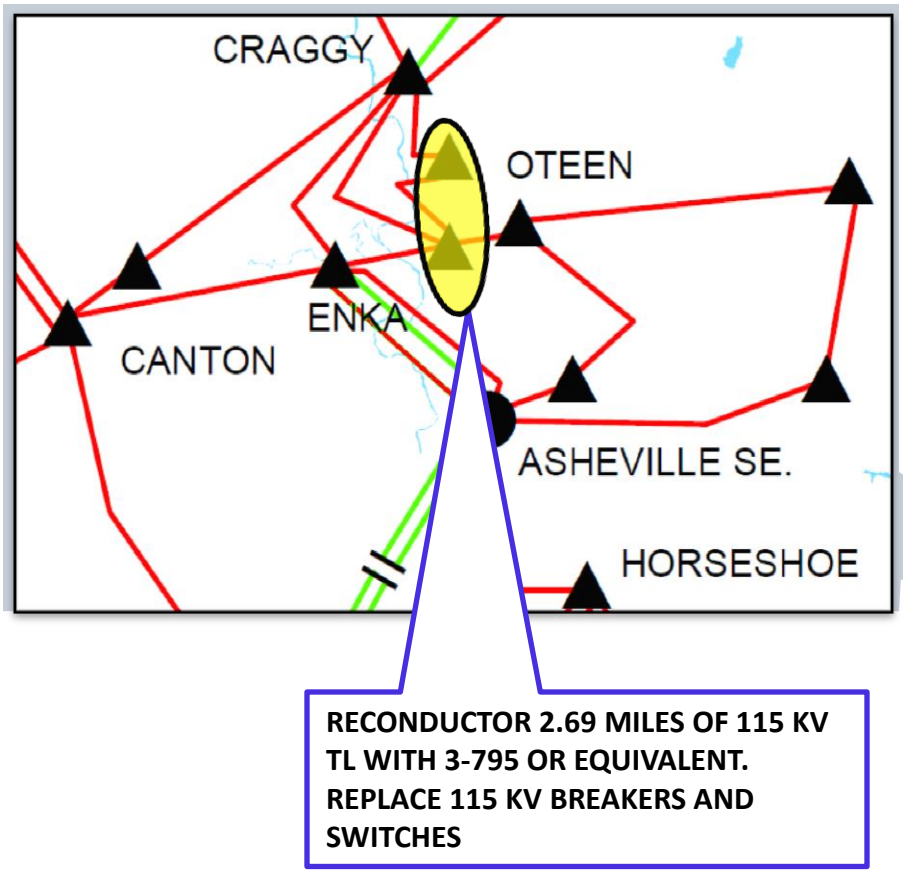
SUPPORTING STATEMENT:

Asheville Plant Switchyard modifications are required to accommodate generation.



DUKE PROGRESS WEST – 2 2018

VANDERBILT – W. ASHEVILLE 115 KV T.L.

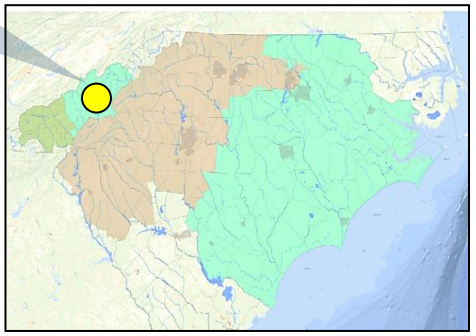


DESCRIPTION:

Reconductor approximately 2.69 miles of the Vanderbilt – W. Asheville 115 kV transmission line with 3-795 or equivalent. Replace one 115 kV breaker, two 115 kV disconnect switches, and one 115 kV switch at Vanderbilt.

SUPPORTING STATEMENT:

The Vanderbilt – W. Asheville 115 kV transmission line overloads under contingency.

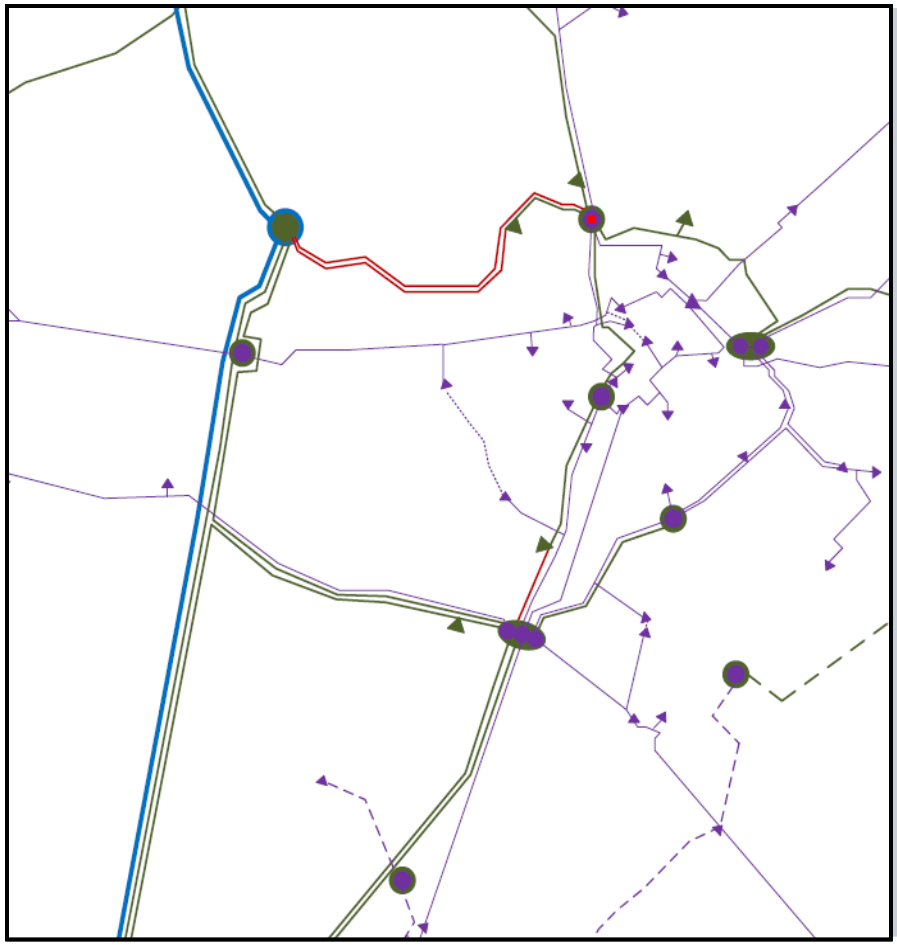


LG&E/KU Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

LG&E/KU – 1 2019

WEST LEXINGTON – VILEY ROAD 138 KV T.L.

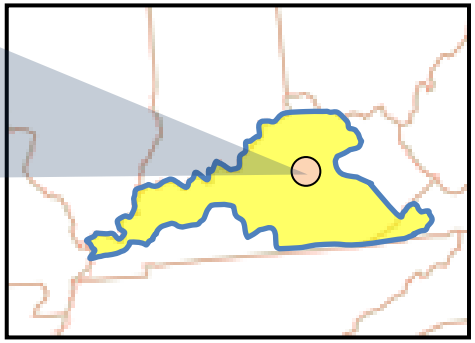


DESCRIPTION:

Reconductor approximately 5.19 miles of 795 MCM 26X7 ACSR conductor in the West Lexington – Viley Road section of the West Lexington – Viley Road – Haefling 138 kV transmission line, using high temperature conductor capable of at least 1500 A.

SUPPORTING STATEMENT:

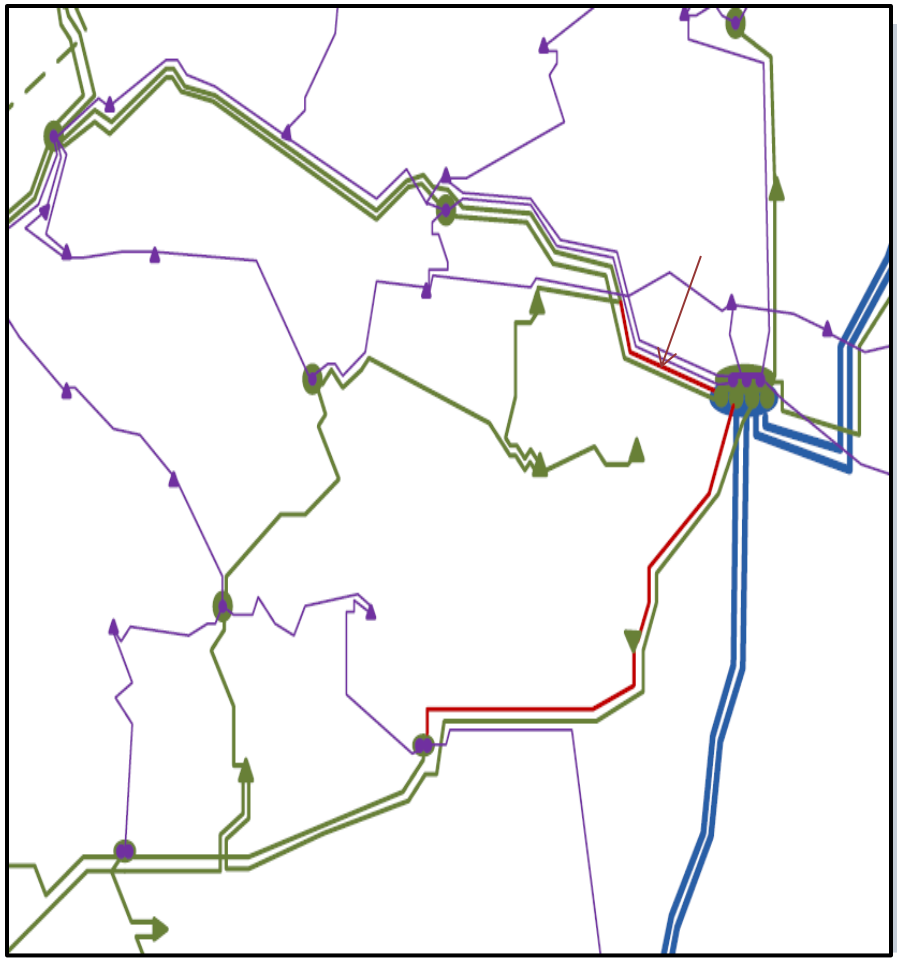
The West Lexington – Viley Road 138 kV transmission line overloads under contingency.



LG&E/KU – 2

2019

PLAINVIEW TAP – PLAINVIEW 138 KV T.L.

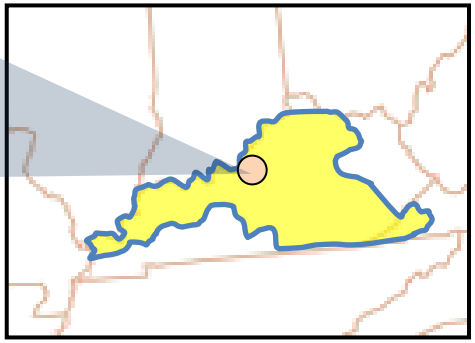


DESCRIPTION:

Upgrade 1.57 miles of 1272 AA conductor on the Plainview tap – Plainview section of the Middletown – Beargrass 138 kV transmission line to 100°C operation.

SUPPORTING STATEMENT:

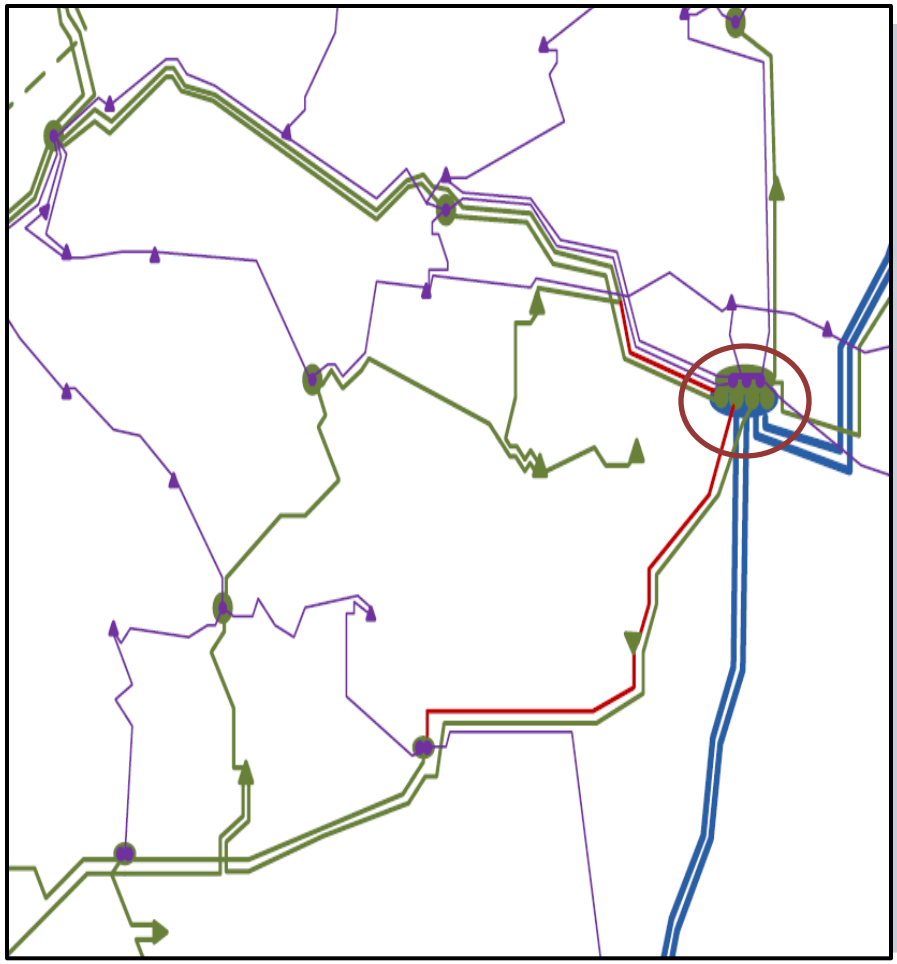
The Plainview Tap – Plainview 138 kV transmission line overloads under contingency.



LG&E/KU – 3

2019

JEFFERSONTOWN TAP – WATTERSON 138 KV T.L.

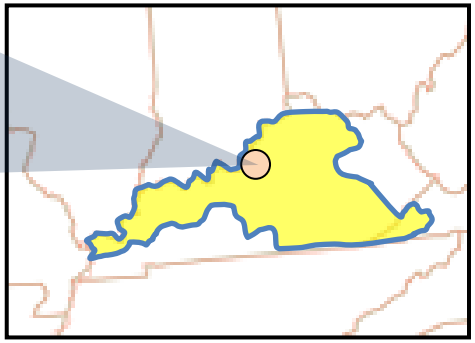


DESCRIPTION:

Replace the 1200 A CTs, the 954 MCM 37X AA bus conductor, and 750 MCM 37X CU jumper conductors at Watterson with equipment and conductor capable of at least 1400A.

SUPPORTING STATEMENT:

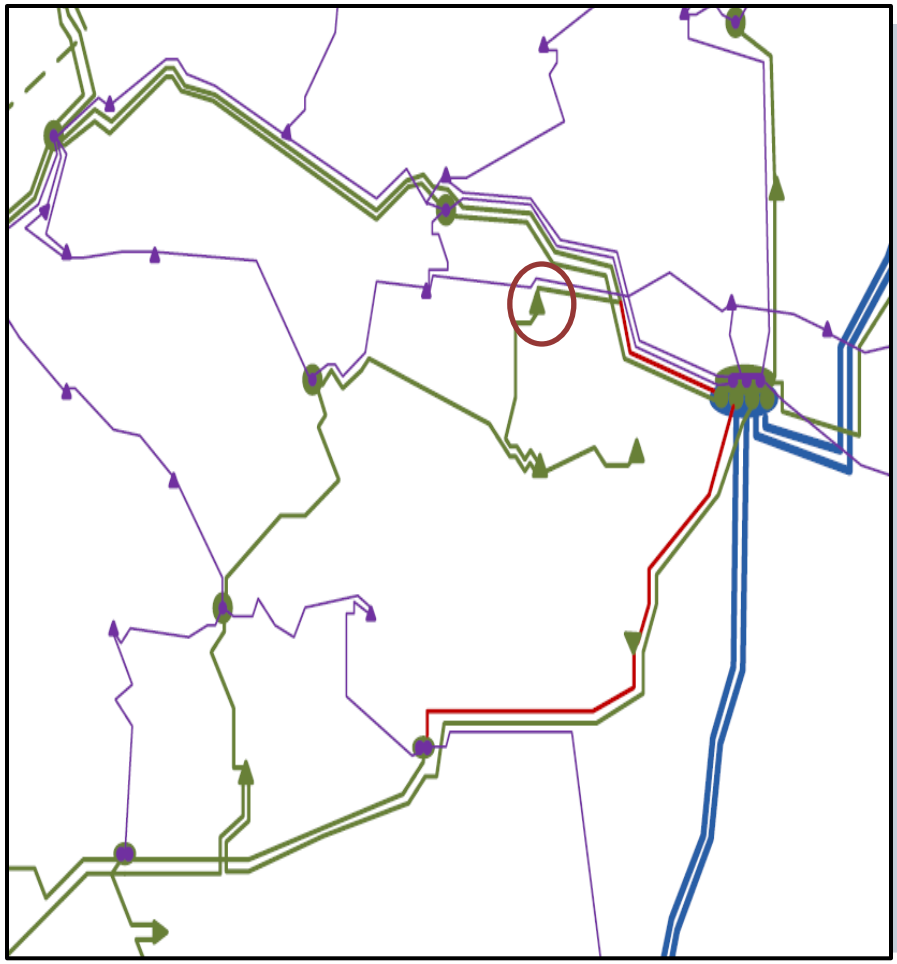
The Jeffersontown Tap – Watterson 138 kV transmission line overloads under contingency.



LG&E/KU – 4

2021

MIDDLETOWN – JEFFERSONTOWN TAP 138 KV T.L.

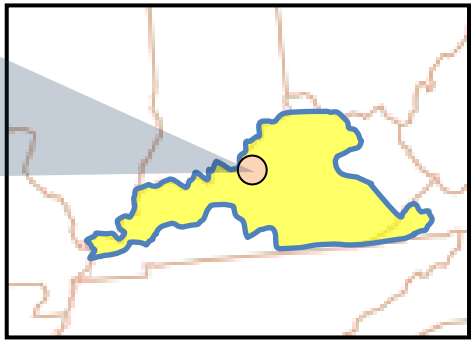


DESCRIPTION:

Replace the 1200 A switches at Middletown, associated with the Middletown – Watterson 138 kV transmission line, with 1600 A or higher equipment.

SUPPORTING STATEMENT:

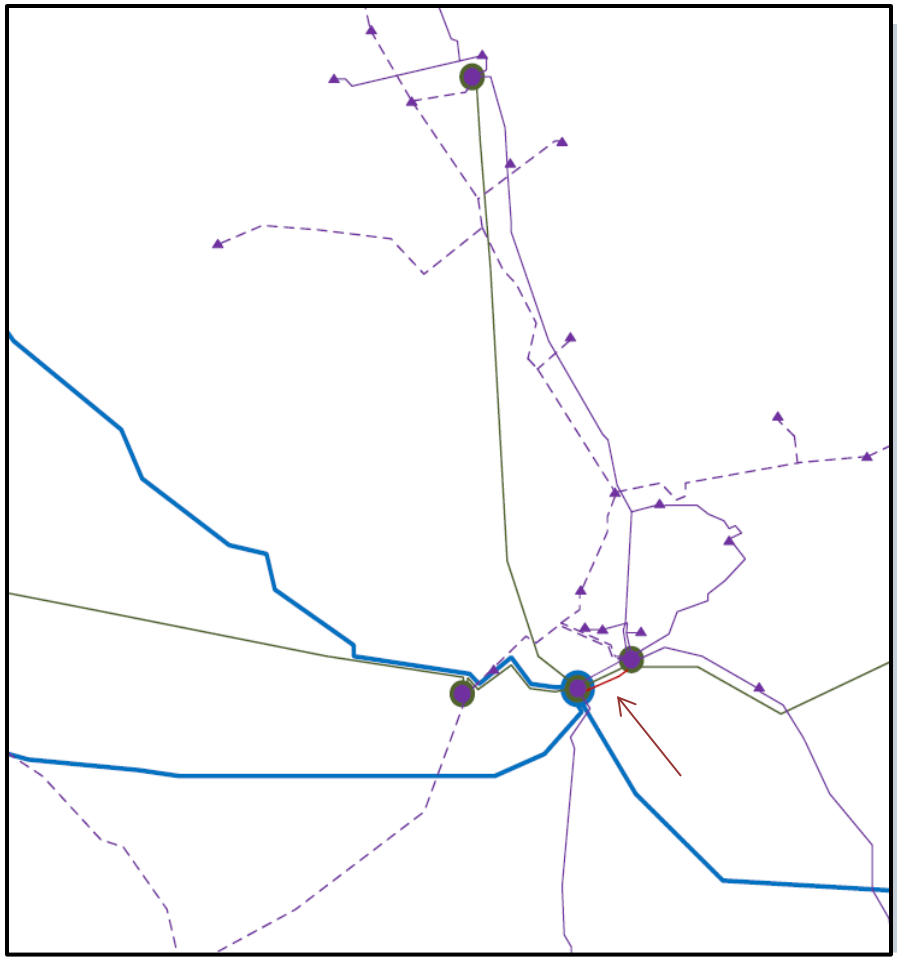
The Middletown – Jeffersontown Tap 138 kV transmission line overloads under contingency.



LG&E/KU – 5

2021

ELIZABETHTOWN – HARDIN COUNTY 138 KV T.L.

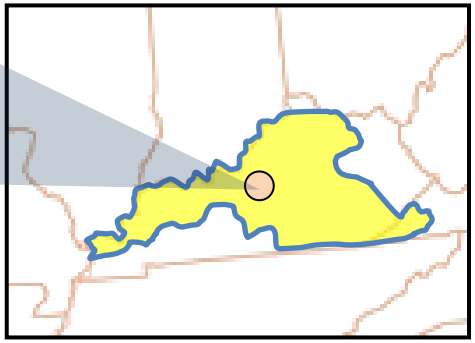


DESCRIPTION:

Construct a second Elizabethtown – Hardin Co 138 kV transmission line by overbuilding the existing Elizabethtown – Hardin Co 69 kV transmission line and install a 138 kV breaker on the Elizabethtown 138/69 kV transformer.

SUPPORTING STATEMENT:

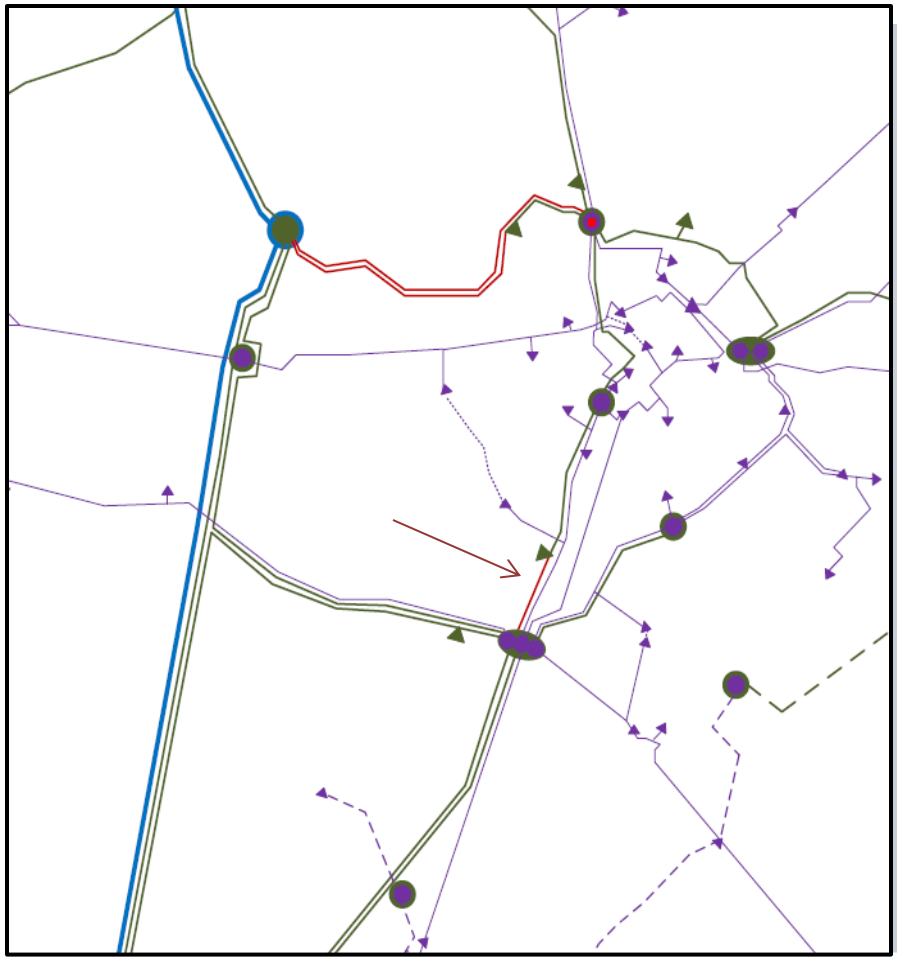
The Hardin County 138/69 kV transformer overloads under contingency.



LG&E/KU – 6

2021

HIGBY MILL – REYNOLDS 138 KV T.L.

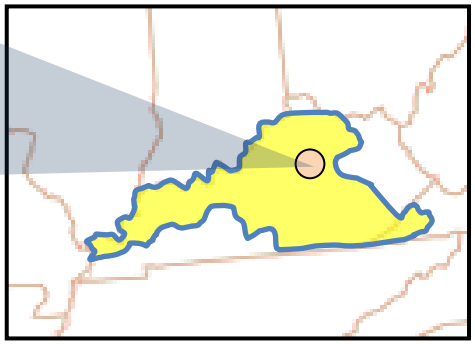


DESCRIPTION:

Upgrade approximately 1.67 miles of 795 ACSR conductor on the Higby Mill – Reynolds 138 kV transmission line to 100°C operation.

SUPPORTING STATEMENT:

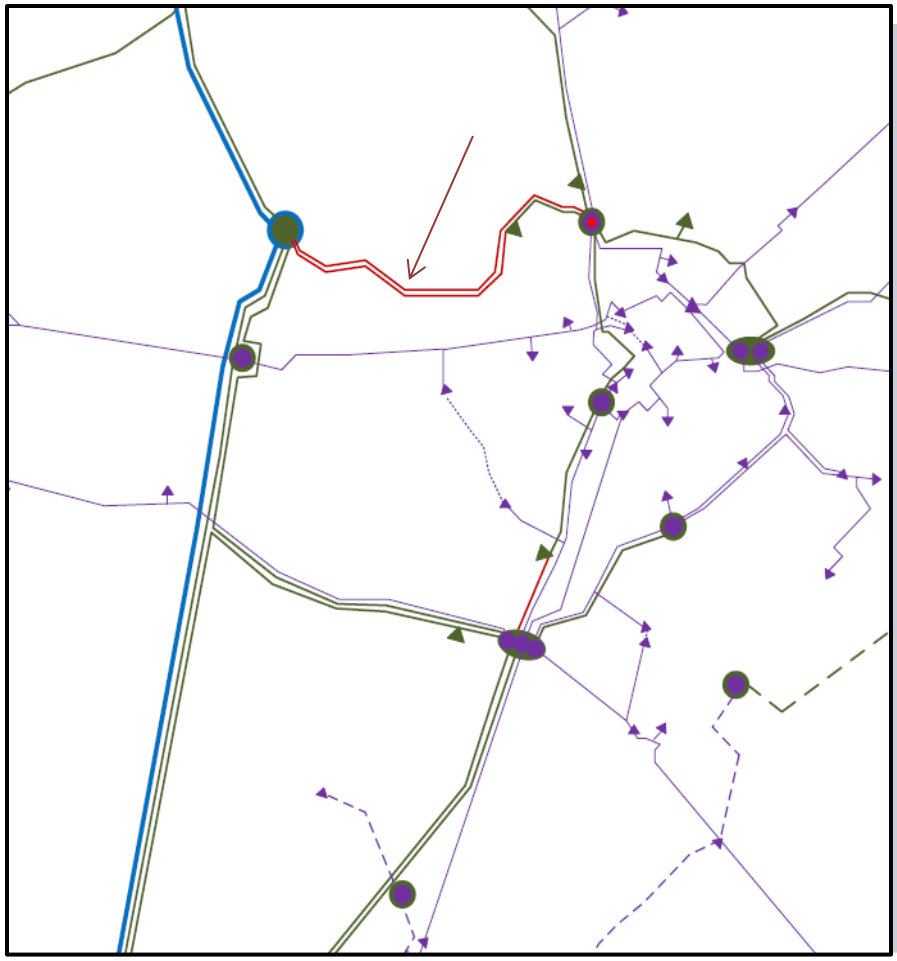
The Higby Mill – Reynolds 138 kV transmission line overloads under contingency.



LG&E/KU – 7

2021

WEST LEXINGTON – HAEFLING 138 KV T.L.

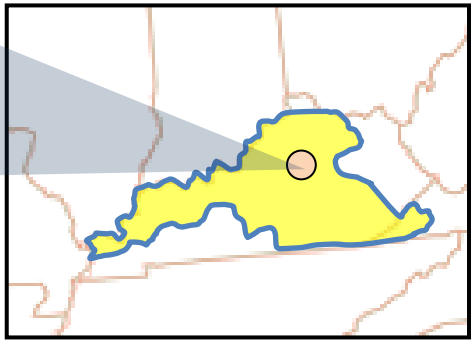


DESCRIPTION:

Reconductor 7.34 miles of 795 MCM 26X7 ACSR conductor on the West Lexington – Haefling 138 kV line, using high temperature conductor capable of at least 1500 A.

SUPPORTING STATEMENT:

The West Lexington to Haefline 138 kV transmission line overloads under contingency.

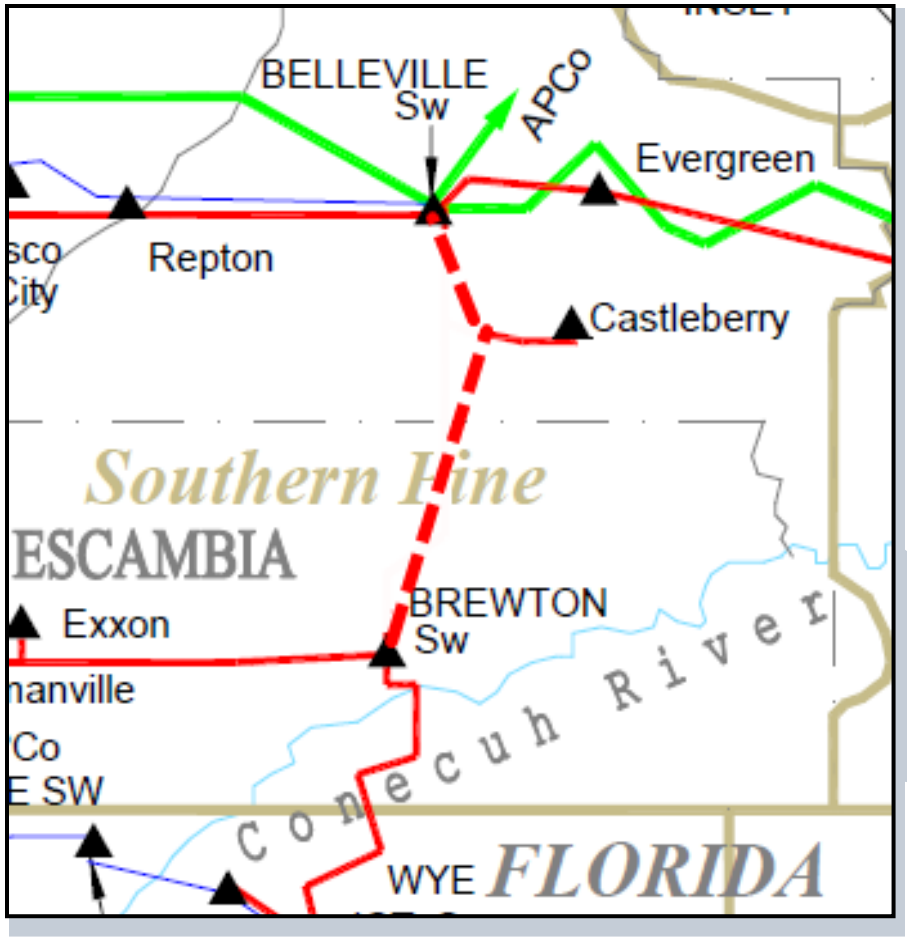


POWERSOUTH Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

POWERSOUTH – 1 2015

BELLEVILLE – BREWTON 115 KV T.L.

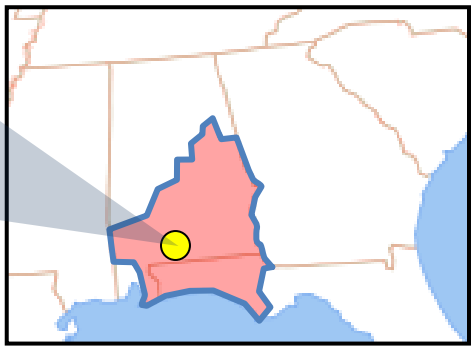


DESCRIPTION:

Upgrade Belleville – Brewton 115 kV transmission line to 100°C operation.

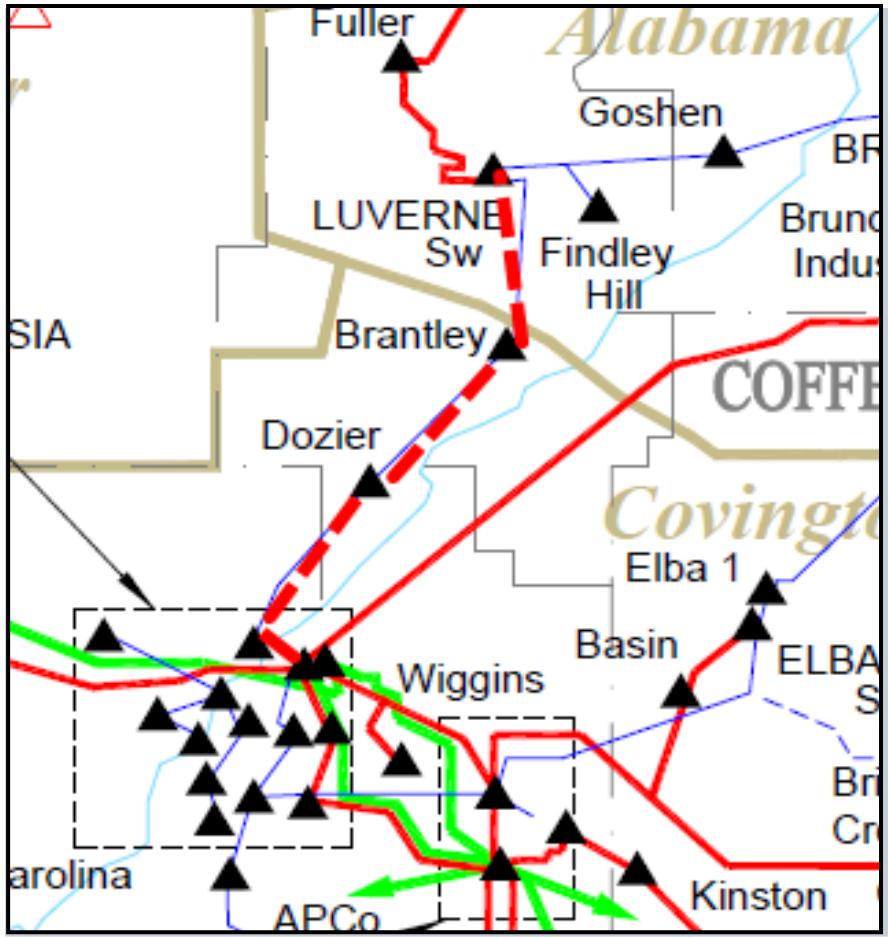
SUPPORTING STATEMENT:

The Belleville – Brewton 115 kV transmission line overloads under contingency.



POWERSOUTH – 2 2016

MCWILLIAMS – LUVERNE 115 KV T.L.

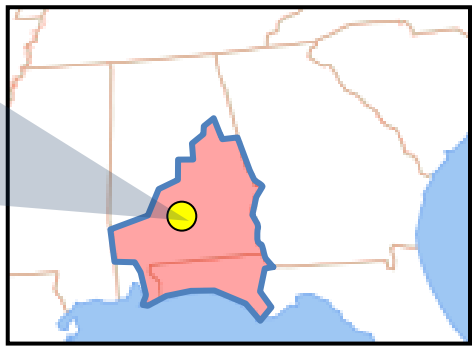


DESCRIPTION:

Upgrade 28 miles of the existing McWilliams – Luverne 46 kV transmission line to 115 kV with 795 ACSR at 100°C utilizing existing right of way.

SUPPORTING STATEMENT:

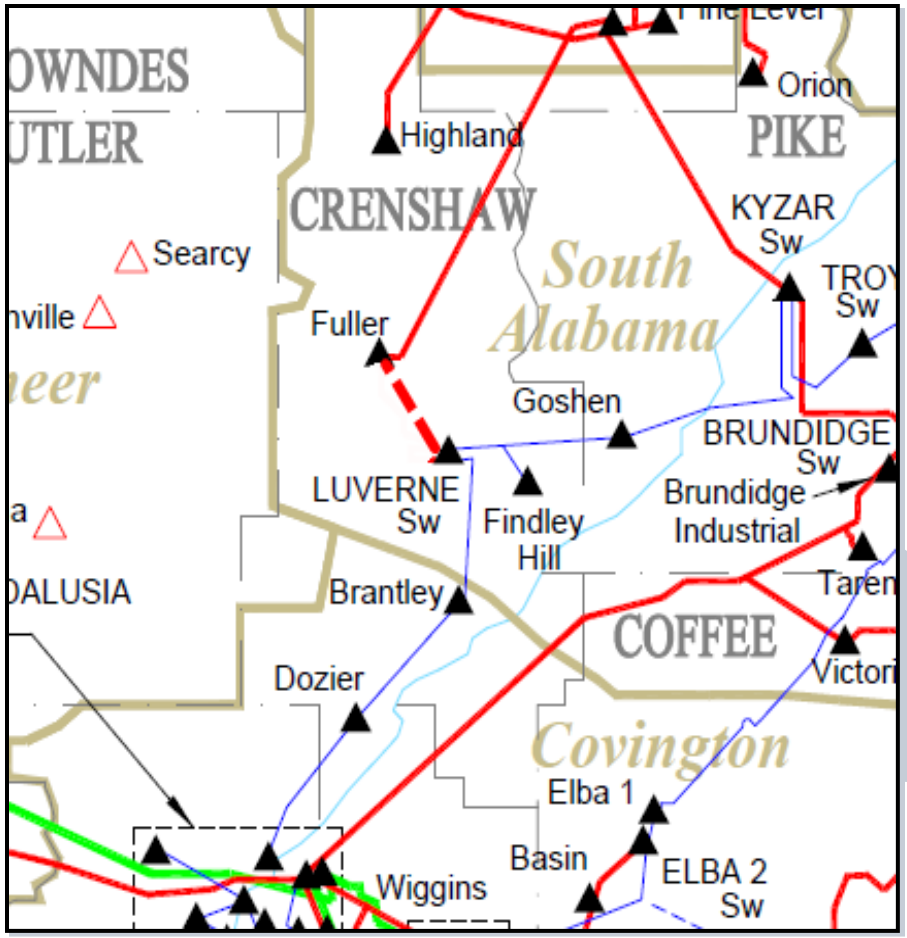
Additional voltage support needed in the Dublin, Kyzar, Brundidge, Clio, and Victoria areas under contingency.



POWERSOUTH – 3

2016

LUVERNE – FULLER 115 KV T.L.

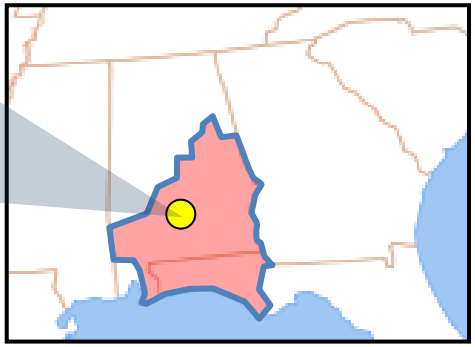


DESCRIPTION:

Reconductor 8.5 miles of transmission line from Luverne to Fullers substation with 795 ACSR at 100°C.

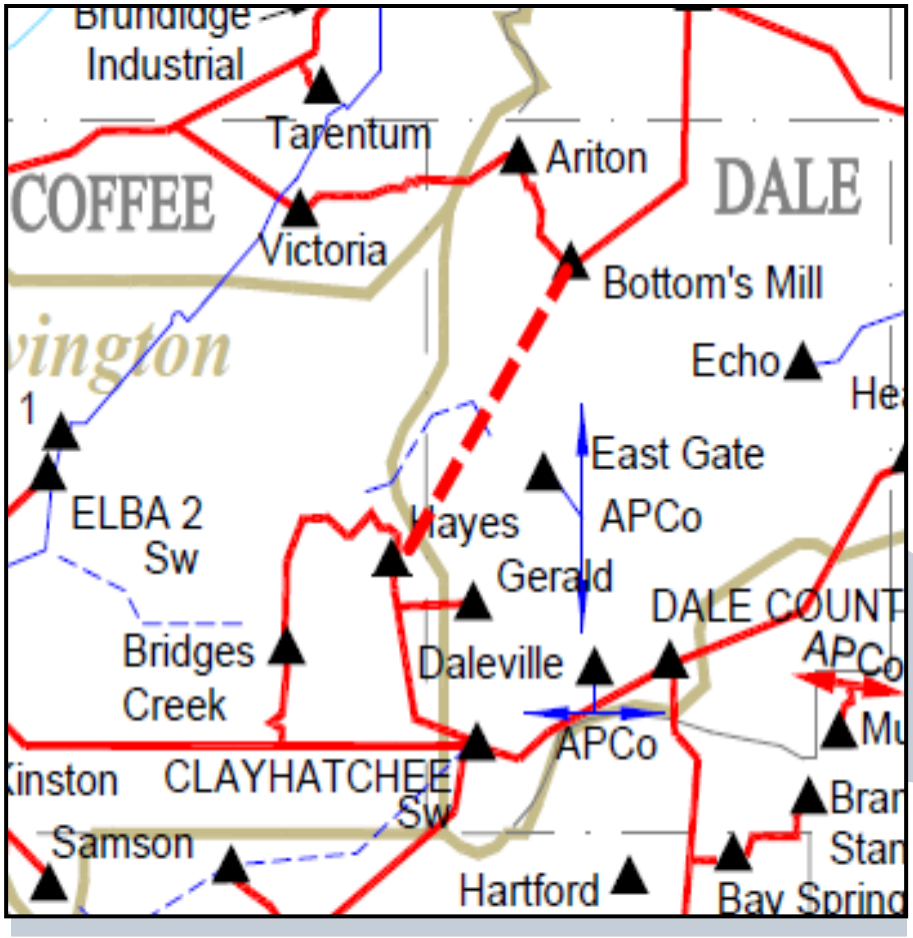
SUPPORTING STATEMENT:

Additional voltage support needed in the Dublin, Kyzar, Brundidge, Clio, and Victoria areas under contingency.



POWERSOUTH – 4 2016

HAYES – BOTTOMS MILL 115 KV T.L.

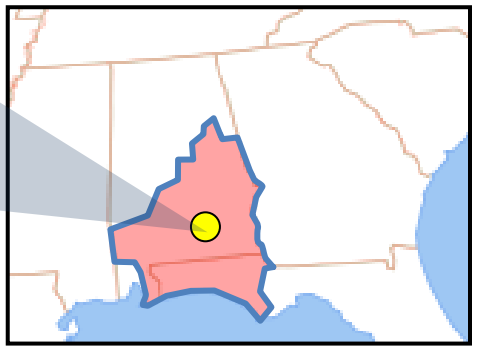


DESCRIPTION:

Construct 16 miles of new 115 kV transmission line from Bottom's Mill to Hayes with 795 ACSR at 100°C.

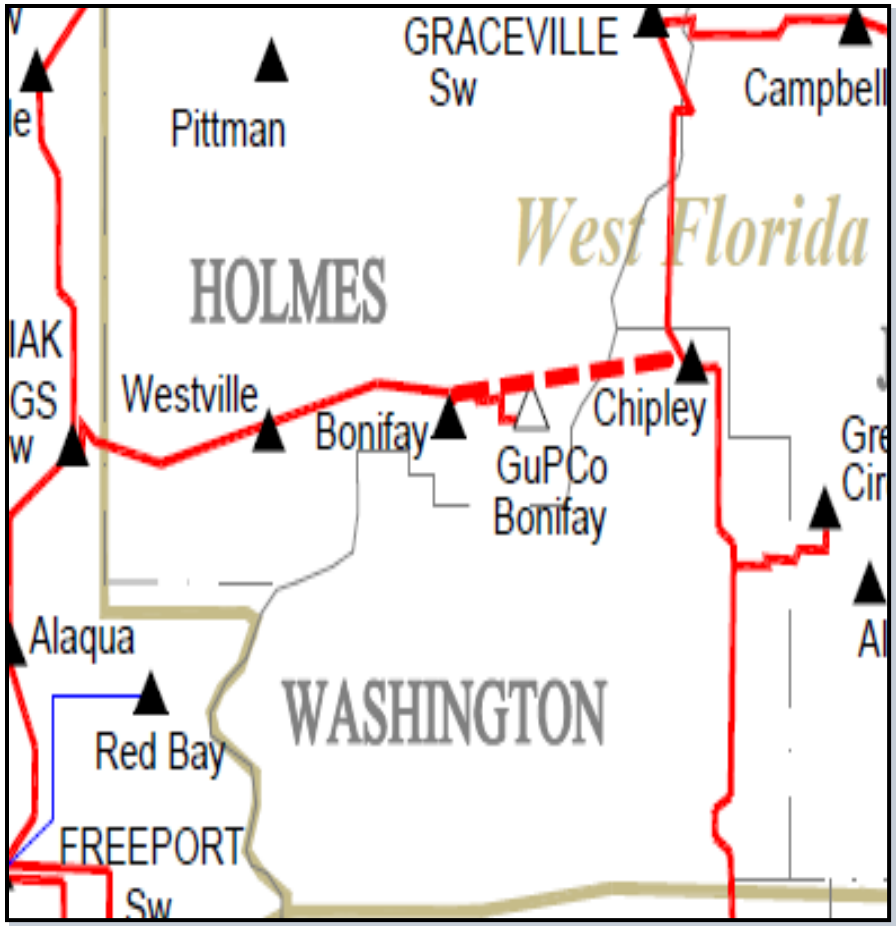
SUPPORTING STATEMENT:

Additional voltage support needed in the Dublin, Kyzar, Brundidge, Clio, and Victoria areas under contingency.



POWERSOUTH – 5 2017

BONIFAY – CHIPLEY 115 KV T.L.

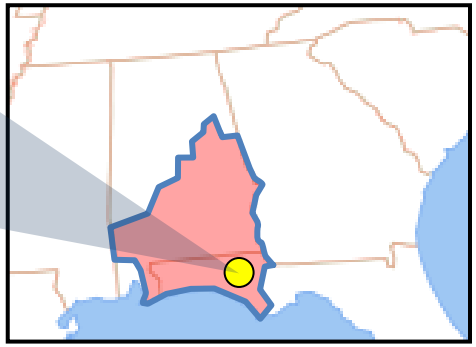


DESCRIPTION:

Construct 14 miles of new 115 kV transmission line from Bonifay substation to a new Chipley switching station with 795 ACSR at 100°C.

SUPPORTING STATEMENT:

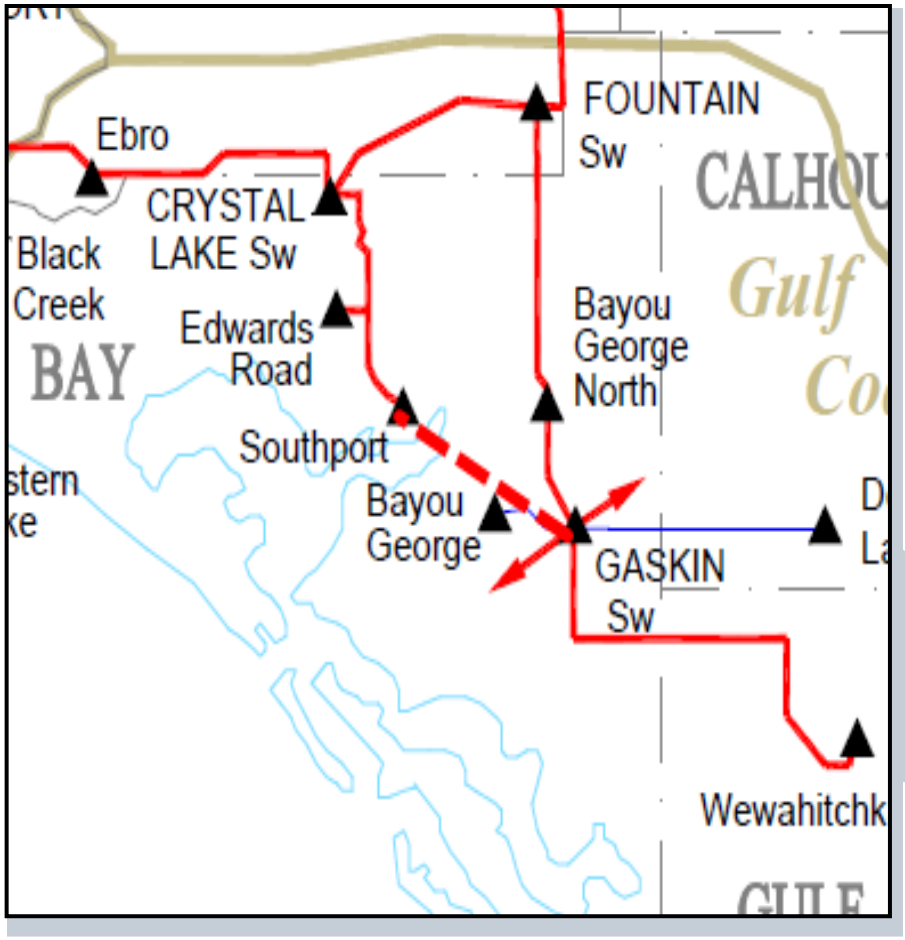
Additional voltage support is needed at Graceville and Fountain under contingency.



POWERSOUTH – 6

2017

GASKIN – SOUTHPORT 115 KV T.L.

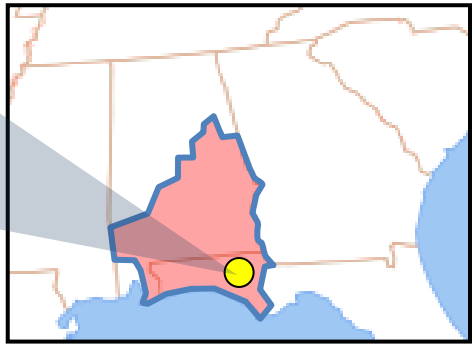


DESCRIPTION:

Construct 9 miles of new 115 kV transmission line from Gaskin Switching Station – Southport substation with 795 ACSR at 100°C.

SUPPORTING STATEMENT:

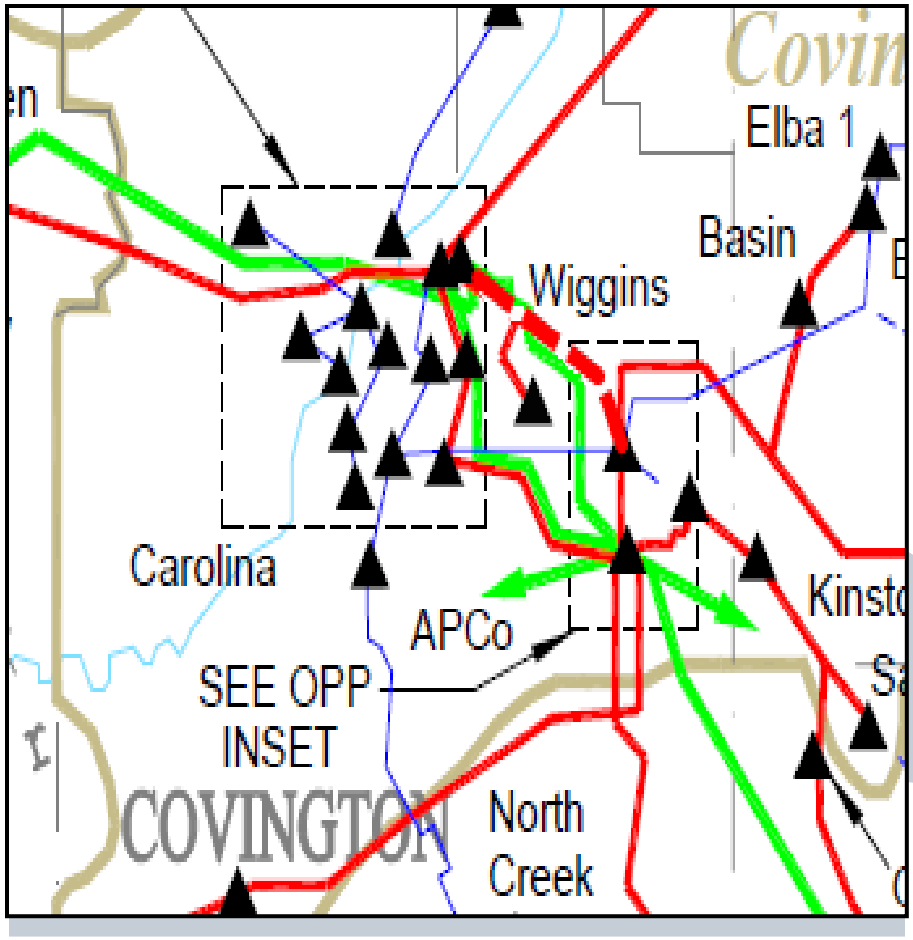
Improve the reliability of Gulf Coast Electric's substations by providing a looped service feed.



POWERSOUTH – 7

2017

MCWILLIAMS – OPP 115 KV T.L.

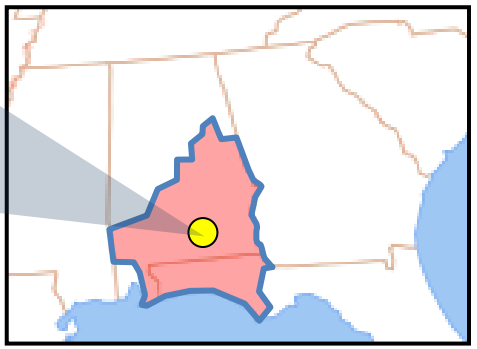


DESCRIPTION:

Reconductor 15 miles of the McWilliams – Opp Switching 115 kV transmission line with 795 ACSR at 110°C.

SUPPORTING STATEMENT:

The McWilliams – Opp Switching 115 kV transmission line overloads under contingency.



SOUTHERN Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

SOUTHERN – 1E 2015

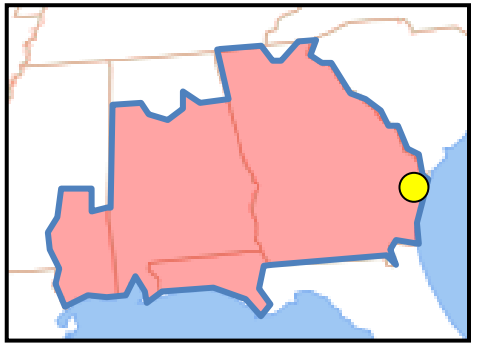
BOULEVARD 230/115 KV PROJECT

DESCRIPTION:

- Expand the Boulevard 115 kV substation to include a 230/115 kV 400 MVA transformer and increase the 115 kV capacitor bank to 60 MVAR.
- Rebuild the Dean Forest – Boulevard 115 kV transmission lines with 1351 ACSS at 170°C and convert one to 230 kV operation.
- Construct a new 230 kV substation, Crossgate, and loop in the Kraft – McIntosh White 230 kV transmission line.
- Construct approximately 5.5 miles of new 230 kV transmission line from Crossgate to Dean Forest with 1351 ACSS at 170 °C.
- At Dean Forest substation, expand the 230 kV ring bus and terminate the Boulevard 230 kV transmission line as well as the Crossgate 230 kV transmission line.

SUPPORTING STATEMENT:

The Kraft 230/115 kV transformer overloads under contingency. The Deptford – Kraft 115 kV transmission line overloads under contingency. Project also provides additional voltage support in the Savannah area.



SOUTHERN – 1E 2015

BOULEVARD 230/115 KV PROJECT

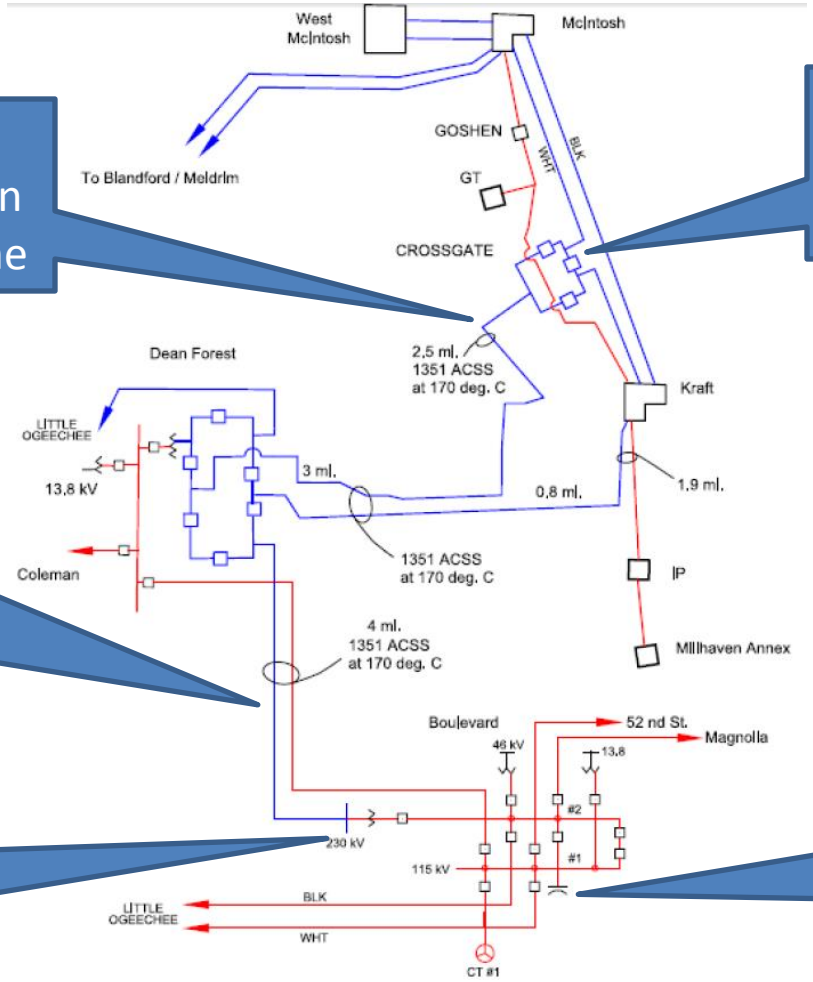
Construct Crossgate – Dean Forest 230 kV line

Construct Crossgate 230 kV Switching Station

Rebuild both Boulevard – Dean Forest 115 kV lines and convert one to 230 kV

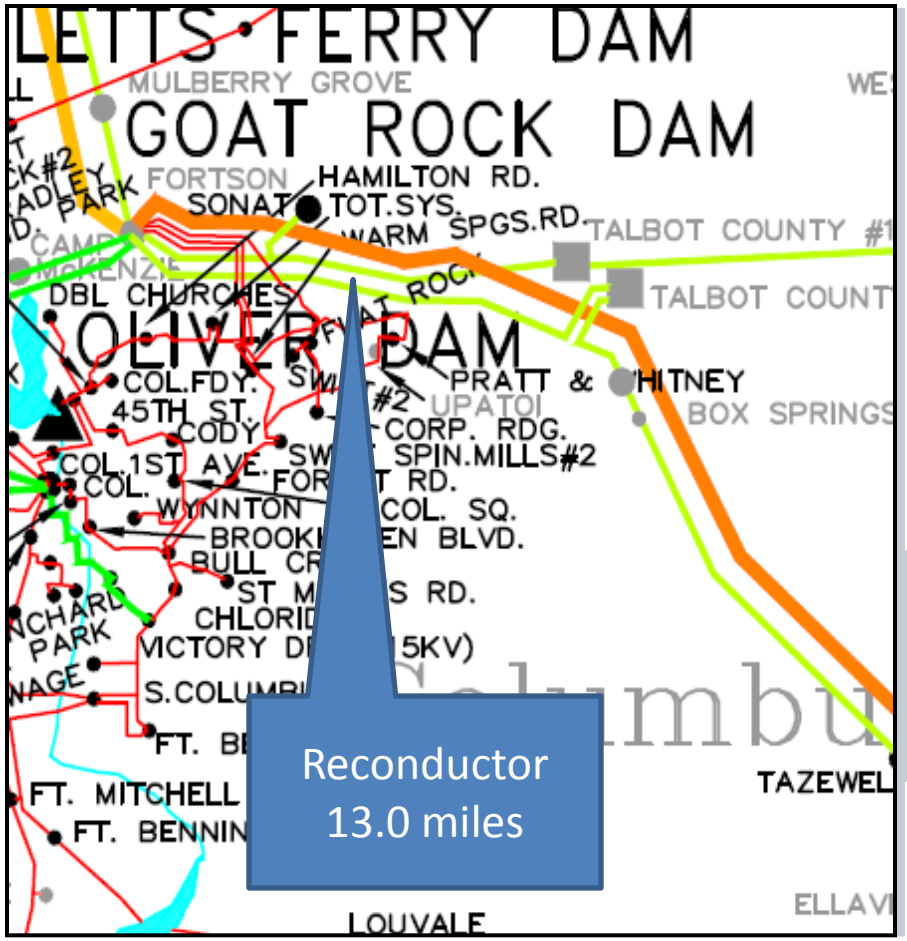
Add Boulevard 230/115 kV autotransformer

Increase capacitor size from 36 MVAR to 60 MVAR



SOUTHERN – 2E 2015

FORTSON – TALBOT COUNTY #1 230 KV T.L.

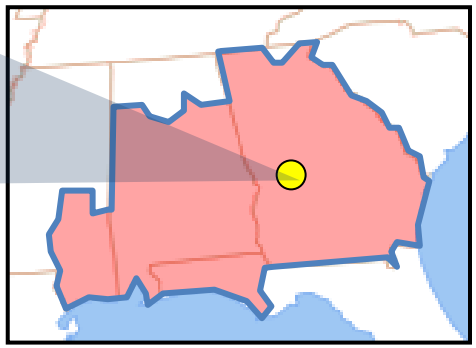


DESCRIPTION:

Reconductor approximately 13.0 miles along the Fortson – Talbot County #1 230 kV transmission line with 1351 ACSS at 160°C.

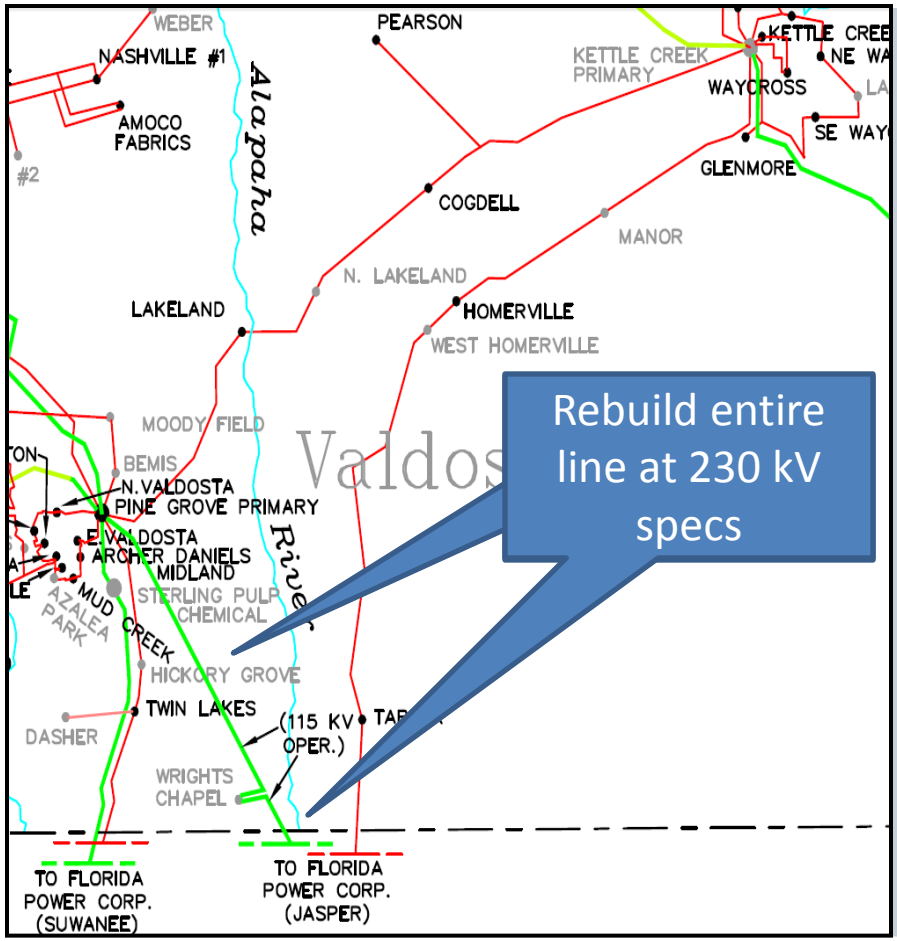
SUPPORTING STATEMENT:

The Fortson – Talbot County #1 230 kV transmission line overloads under contingency.



SOUTHERN – 3E 2015

JASPER – PINE GROVE PRIMARY 115 KV T.L.

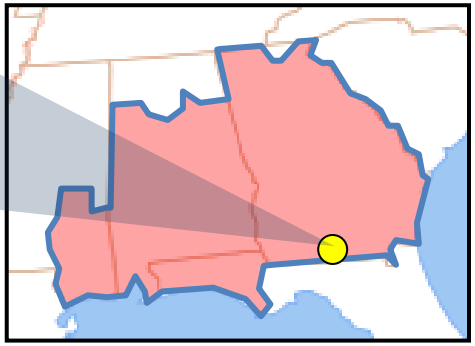


DESCRIPTION:

Rebuild, at 230 kV specifications, the Jasper – Pine Grove Primary 115 kV transmission line, approximately 21.7 miles, with 1351 ACSR at 100°C and network the transmission line.

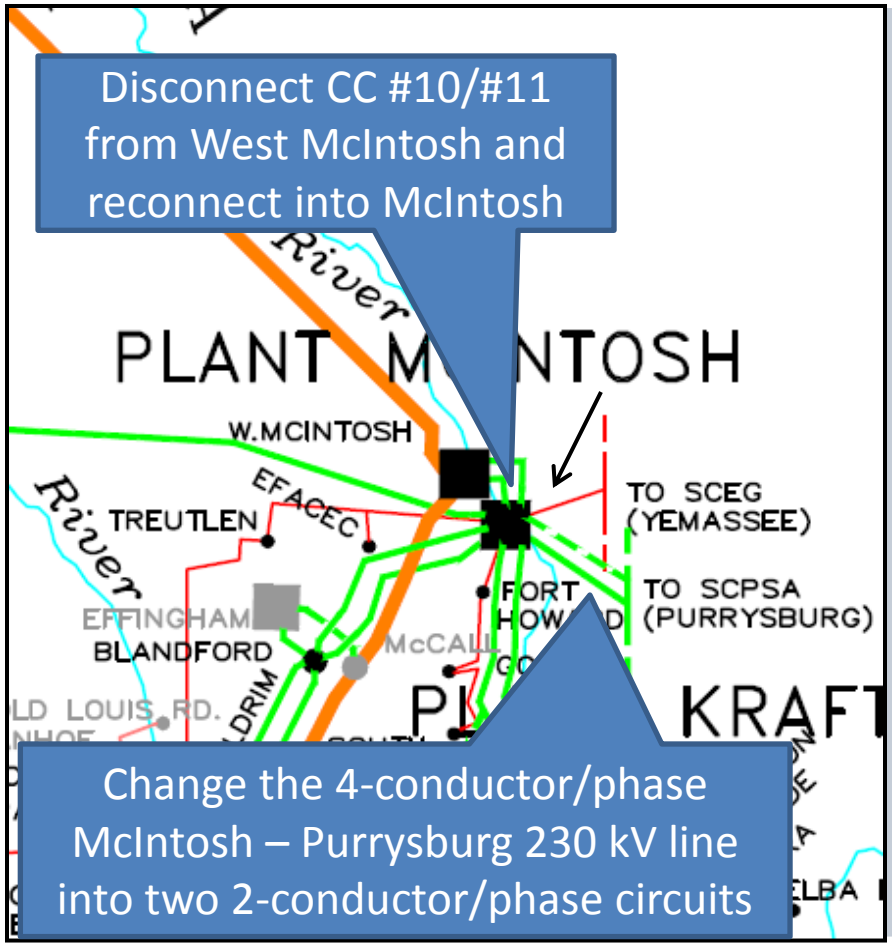
SUPPORTING STATEMENT:

The Jasper – West Homerville – Kettle Creek and Pine Grove Primary – Twin Lakes 115 kV transmission lines overload under contingency.



SOUTHERN – 4E 2015

MCINTOSH – PURRYSBURG #2 230 KV T.L.



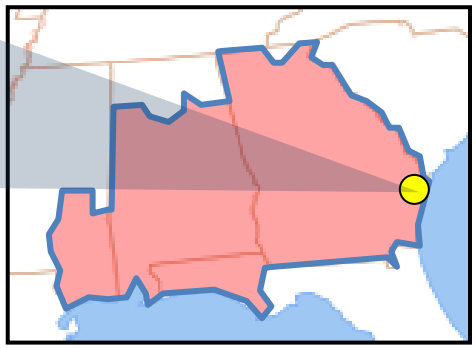
DESCRIPTION:

Connect the second Purrysburg (SCPSA) 230 kV tie line to the McIntosh 230/115 kV substation and terminate the McIntosh CC #11 line from West McIntosh to McIntosh.

Terminate McIntosh CC #10 from West McIntosh to the McIntosh 230/115 kV substation in 2020.

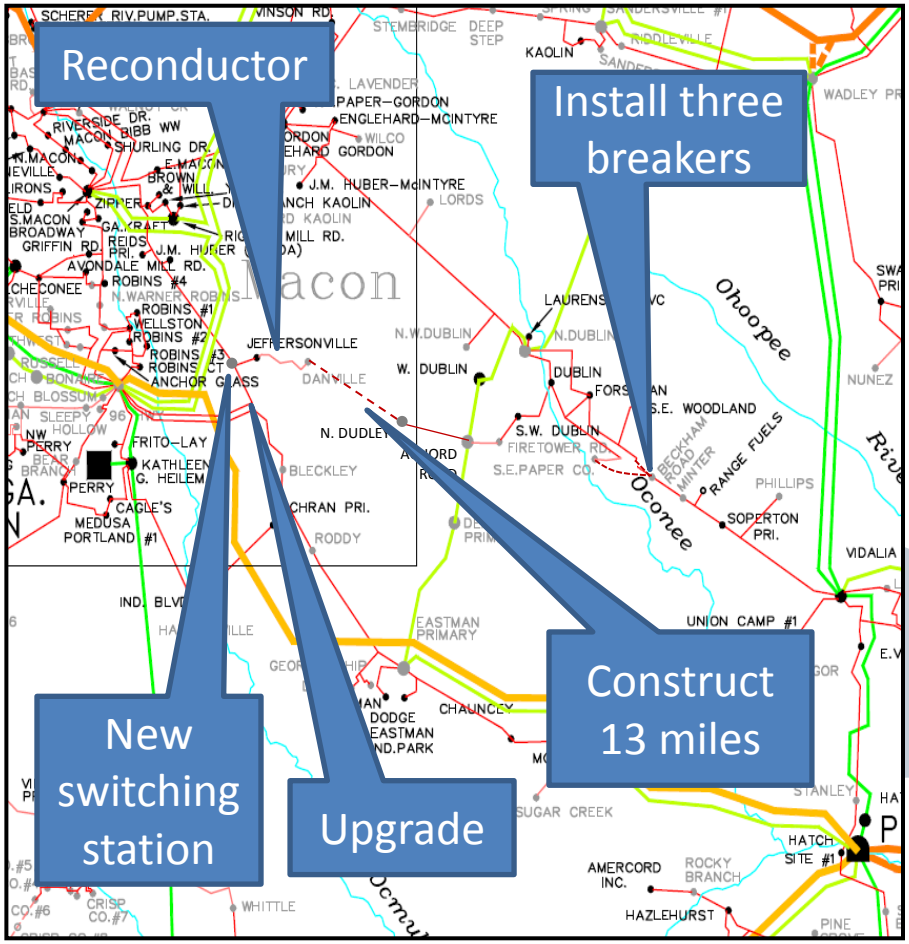
SUPPORTING STATEMENT:

The Mcintosh 230/115 kV transformer and the McIntosh – Yemassee (SCE&G) 115 kV transmission lines overload under contingency.



SOUTHERN – 5E 2016

DUBLIN AREA IMPROVEMENTS

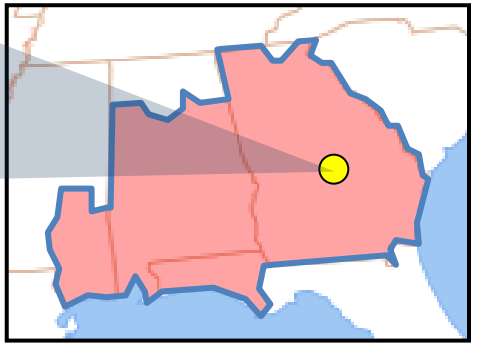


DESCRIPTION:

Construct 13 miles of 115 kV T.L. from Danville to North Dudley with 795 ACSR at 100°C. Reconductor 8.5 miles along the Jeffersonville to Danville tap 115 kV T.L. with 336 ACSS at 200°C. Construct a 115 kV switching station at the Jeffersonville tap point and upgrade 15.2 miles of 115 kV T.L. from the switching station to Bonaire Primary to 100°C. Install 3 breakers at Beckham Road for Vidalia, SE Paper, and Dublin 115 kV T.L.s.

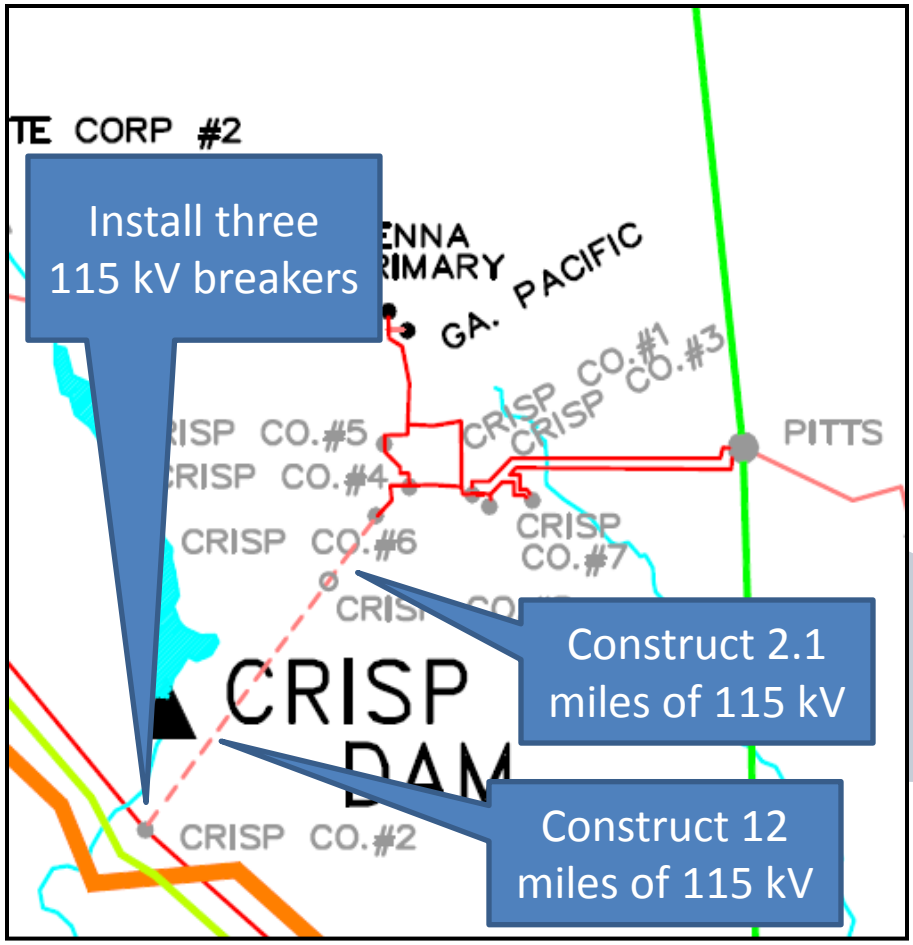
SUPPORTING STATEMENT:

Additional voltage support needed in the Dublin area under contingency.



SOUTHERN – 6E 2016

CRISP COUNTY AREA IMPROVEMENTS – PHASE II

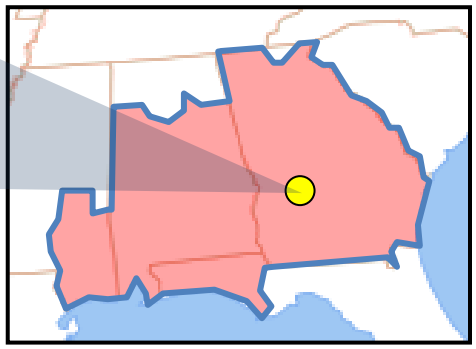


DESCRIPTION:

Construct approximately 12 miles of new 636 ACSR, 115 kV transmission line from Crisp #2 (Warwick) – Crisp #8. Add three 115 kV breakers at Warwick to create the North Americus – Crisp #2 and North Tifton – Crisp #2 115 kV circuits. Also, construct a 2.1 mile, 636 ACSR 115 kV transmission line section from Crisp County #8 – Crisp County #6 to create the Crisp #2 – Pitts 115 kV circuit.

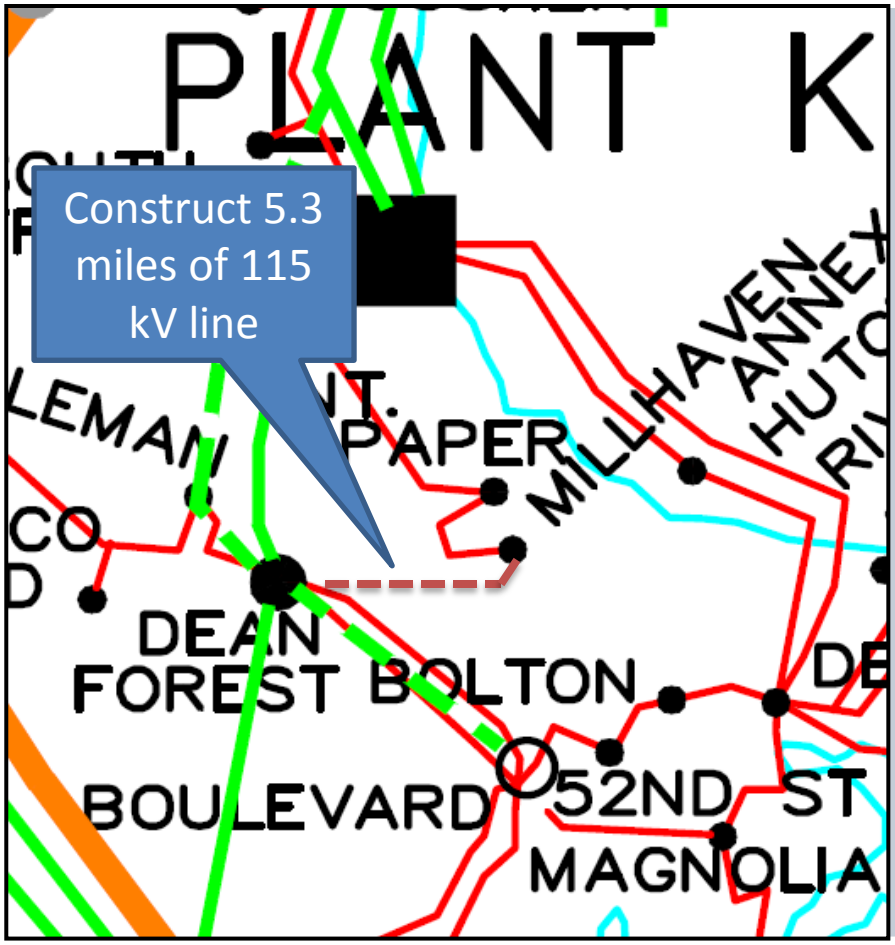
SUPPORTING STATEMENT:

Additional voltage support needed in the Crisp County area under contingency.



SOUTHERN – 7E 2016

DEAN FOREST – MILLHAVEN ANNEX 115 KV T.L.

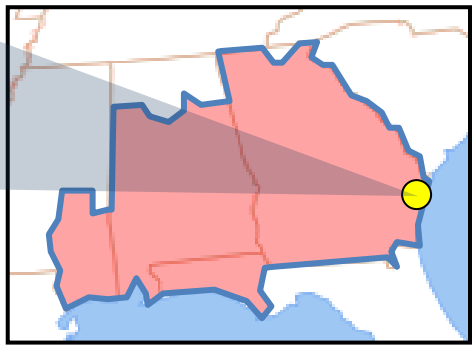


DESCRIPTION:

Construct approximately 5.3 miles of 795 ACSR 115 kV transmission line from Dean Forest to Millhaven Annex.

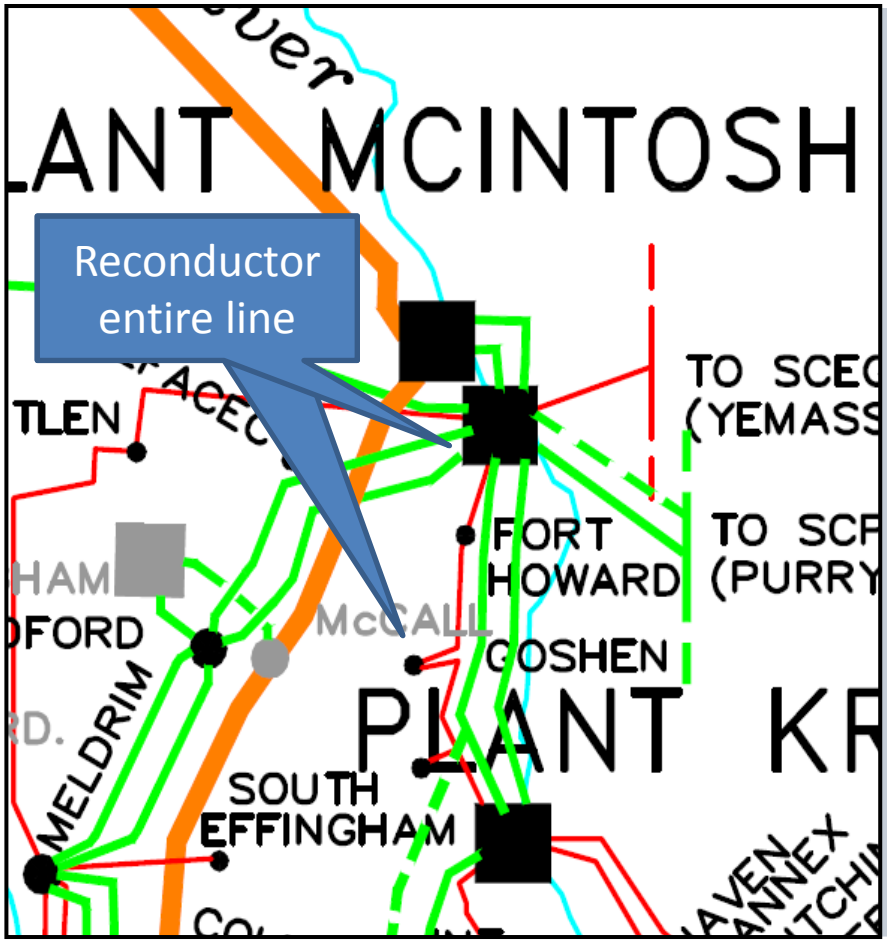
SUPPORTING STATEMENT:

Additional voltage support is needed in the Millhaven area under contingency.



SOUTHERN – 8E 2016

GOSHEN – MCINTOSH 115 KV T.L.

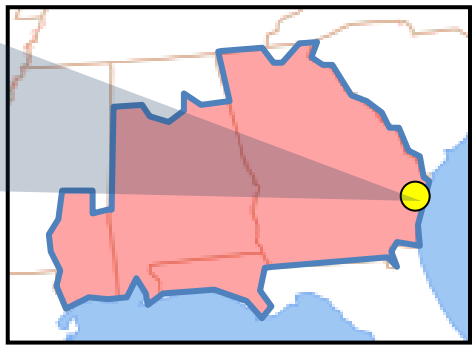


DESCRIPTION:

Reconductor approximately 8.3 miles along the Goshen – McIntosh 115 kV transmission line with 1351 ACSR at 100°C.

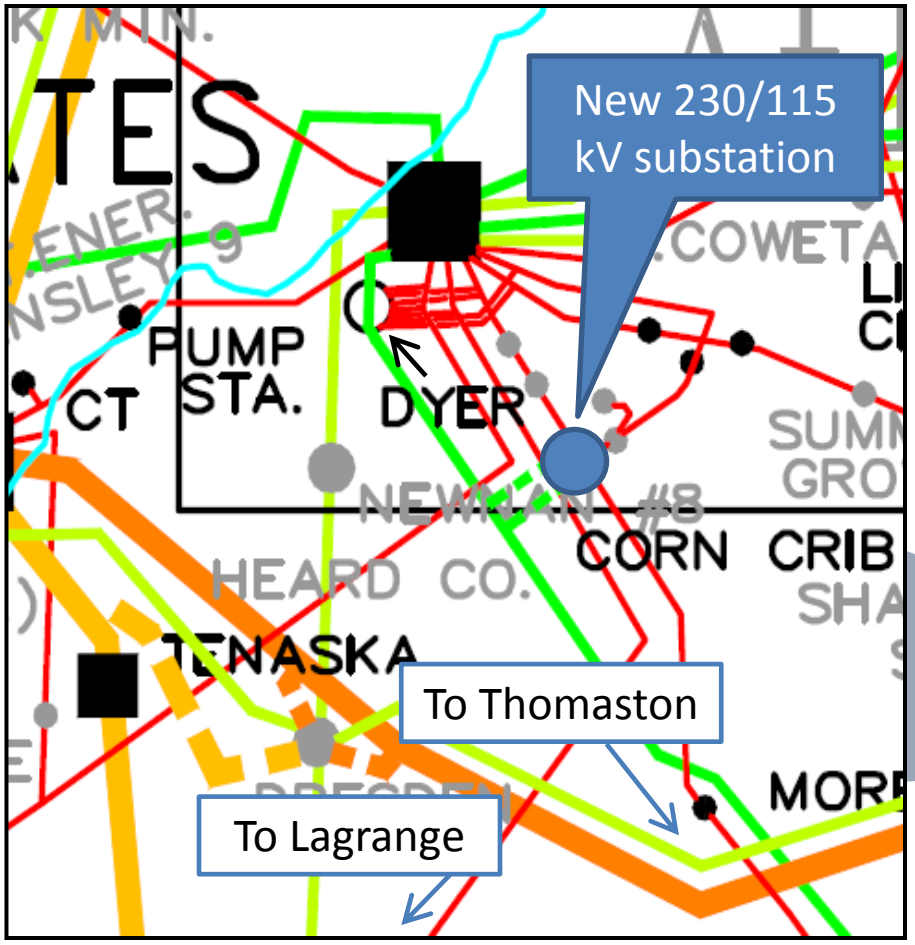
SUPPORTING STATEMENT:

The Goshen – McIntosh 115 kV transmission line overloads under contingency.



SOUTHERN – 9E 2017

CORN CRIB 230/115 KV SUBSTATION

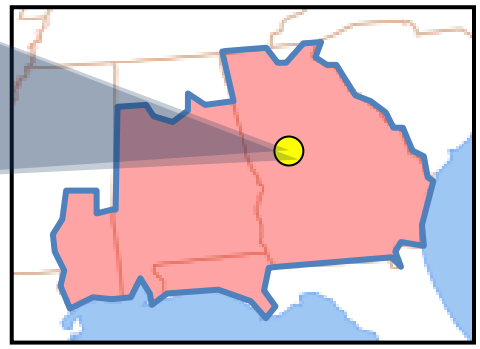


DESCRIPTION:

Construct a new 230/115 kV substation with a 400 MVA transformer. Loop in the Dyer Road – Thomaston 230 kV and 115 kV T.L.s and the Dyer Road – Lagrange 115 kV T.L. and connect the Dyer Road – Newnan #3 115 kV T.L.

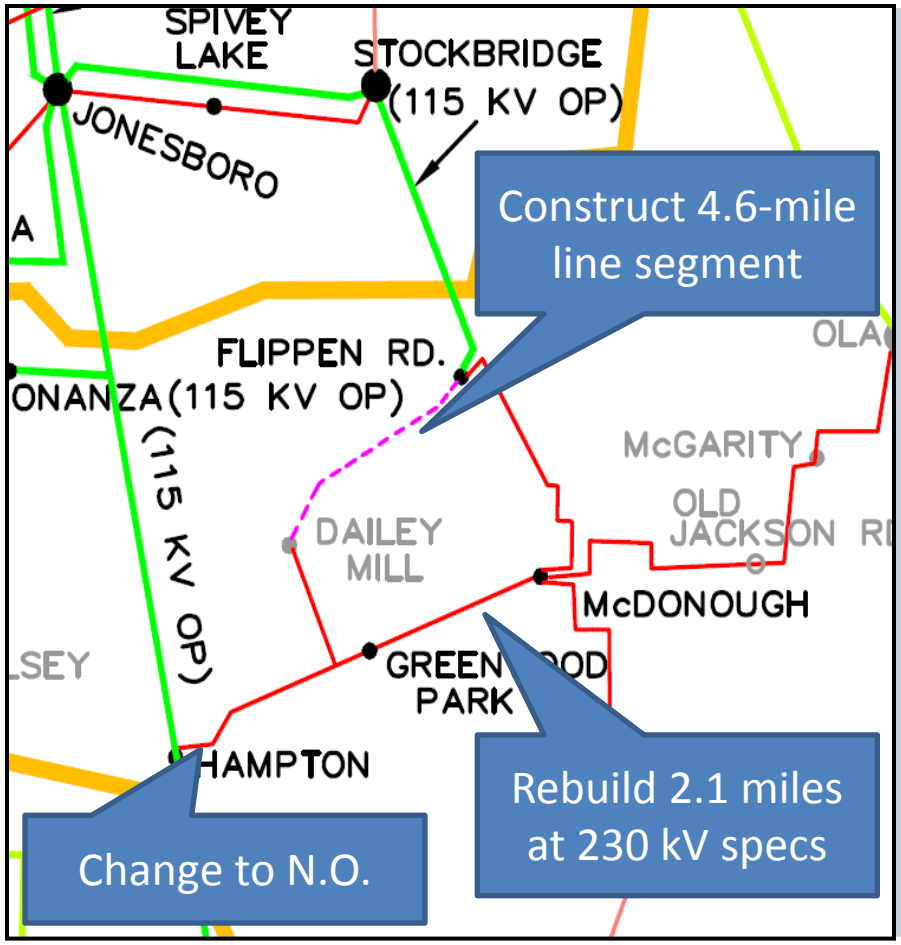
SUPPORTING STATEMENT:

The Lagrange Primary – Lagrange #3 segment of the Lagrange Primary – Yates 115 kV transmission line overloads under contingency. Also, the opposite end of the transmission line overloads under contingency. This project also provides voltage support along the Dyer Road – Thomaston 115 kV transmission line.



SOUTHERN – 10E 2017

HAMPTON – MCDONOUGH 115 KV T.L.

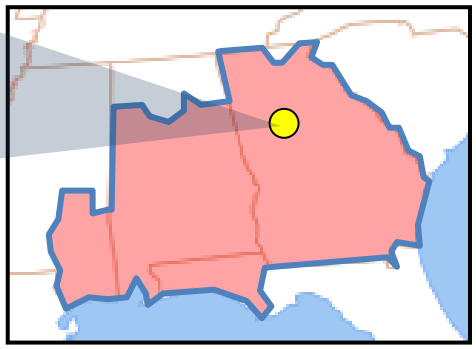


DESCRIPTION:

Rebuild approximately 2.1 miles from McDonough to Dailey Mill Tap along the McDonough – Hampton 115 kV transmission line with double circuit 1351 ACSR constructed at 230 kV specifications. Construct approximately 4.6 miles of 115 kV transmission line from Dailey Mill to Flippen with 1351 ACSR, creating a network line from McDonough to Stockbridge (through Greenwood Park, Dailey Mill, and Flippen).

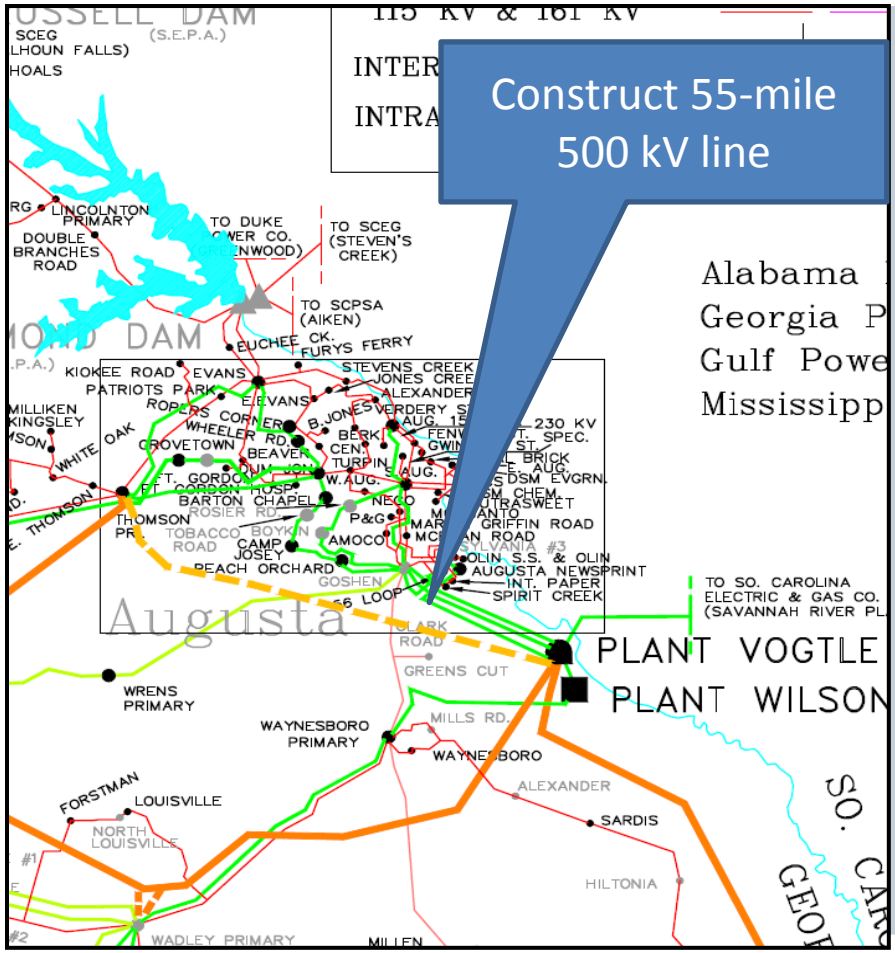
SUPPORTING STATEMENT:

The Hampton – McDonough tap 115 kV transmission line overloads under contingency.



SOUTHERN – 11E 2017

THOMSON PRIMARY – VOGTLE 500 KV T.L.

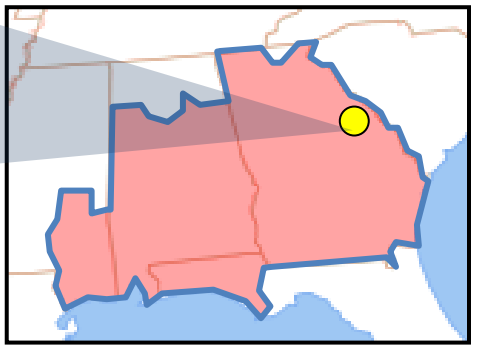


DESCRIPTION:

Construct approximately 55.0 miles of new 500 kV transmission line from Plant Vogtle to the Thomson Primary 500/230 kV substation.

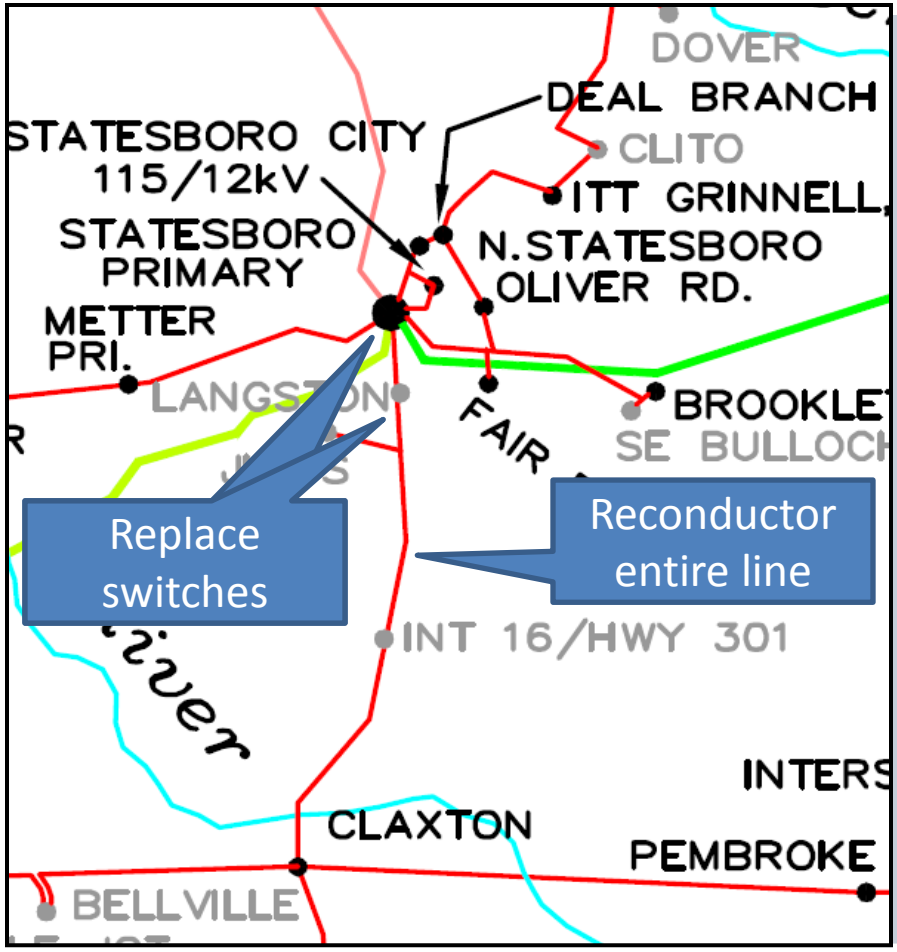
SUPPORTING STATEMENT:

Needed to support the expansion of Plant Vogtle.



SOUTHERN – 12E 2018

CLAXTON – STATESBORO PRIMARY 115 KV T.L.

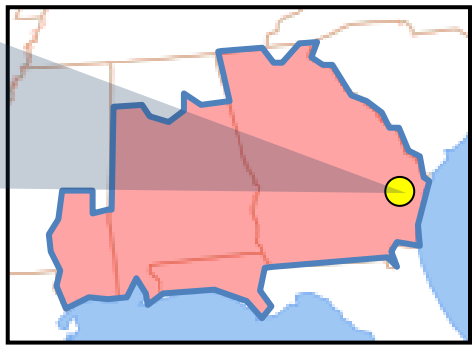


DESCRIPTION:

Reconductor approximately 17.8 miles along the Claxton – Statesboro Primary 115 kV transmission line with 795 ACSR at 100°C. Replace 600 A switches at Langston and Statesboro with 2000 A switches.

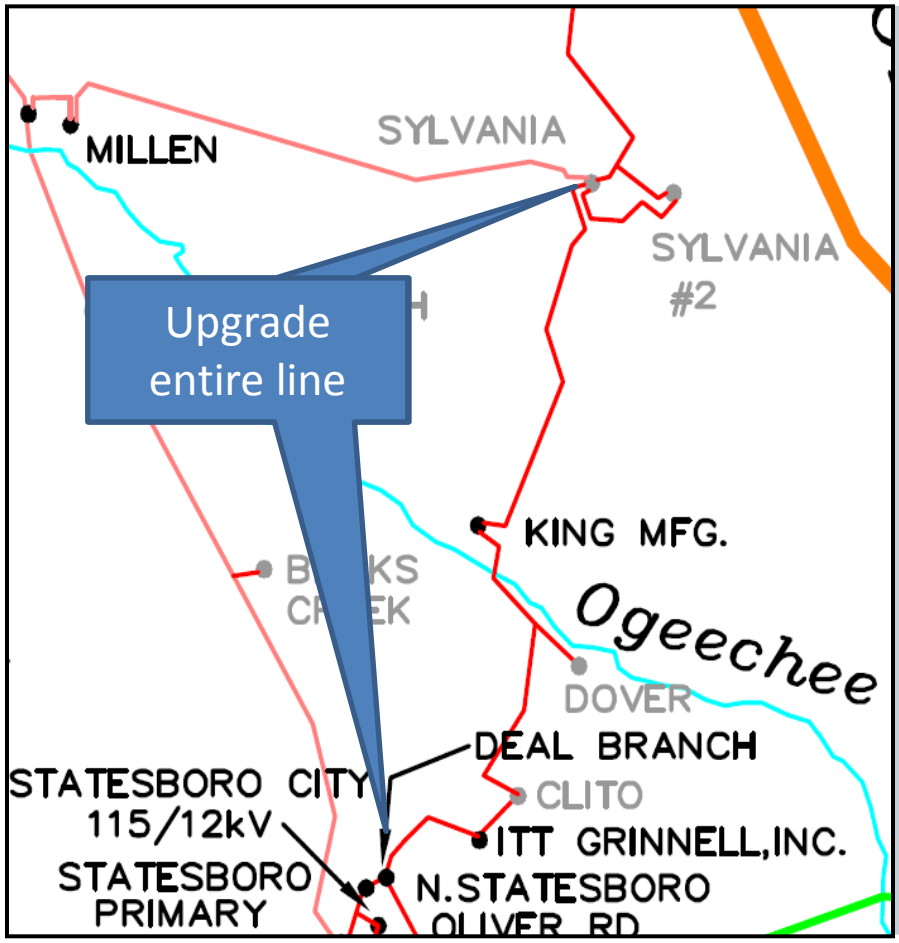
SUPPORTING STATEMENT:

The Claxton – Statesboro 115 kV transmission line overloads under contingency.



SOUTHERN – 13E 2018

DEAL BRANCH – SYLVANIA 115 KV T.L.

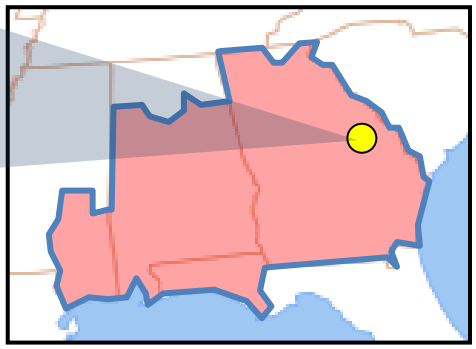


DESCRIPTION:

Upgrade approximately 23.1 miles along the Deal Branch – Sylvania 115 kV transmission line to 100°C operation.

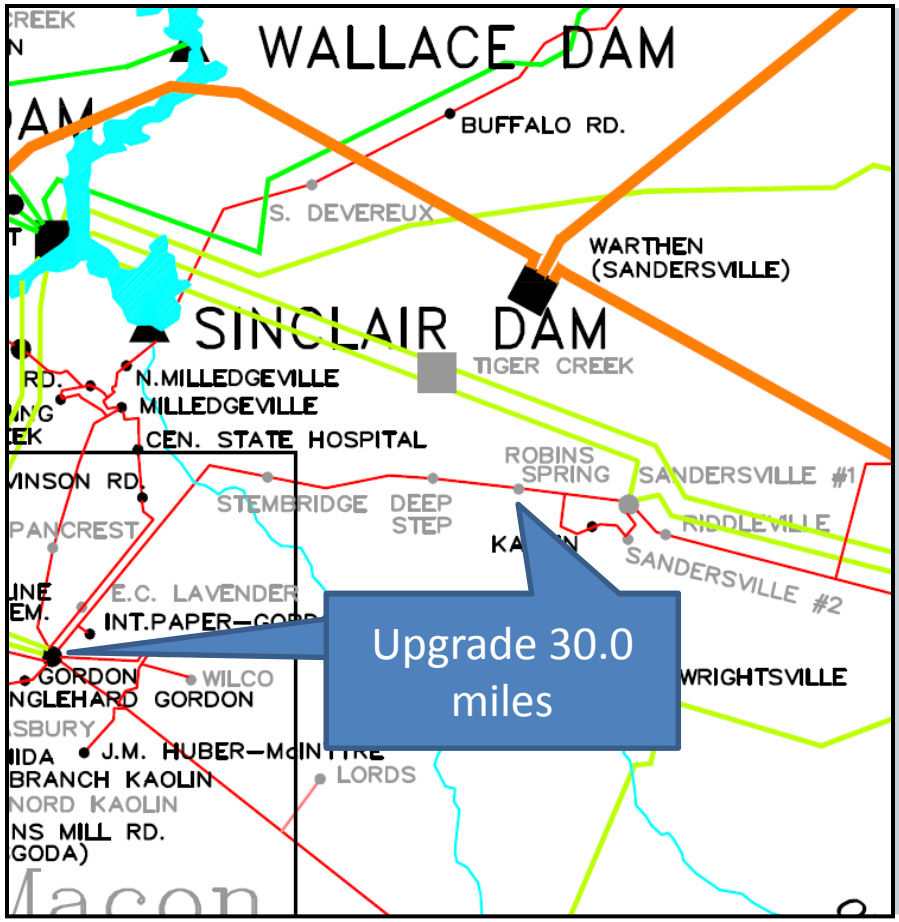
SUPPORTING STATEMENT:

The Deal Branch – Sylvania 115 kV transmission line overloads under contingency.



SOUTHERN – 14E 2018

GORDON – SANDERSVILLE #1 115 KV T.L.

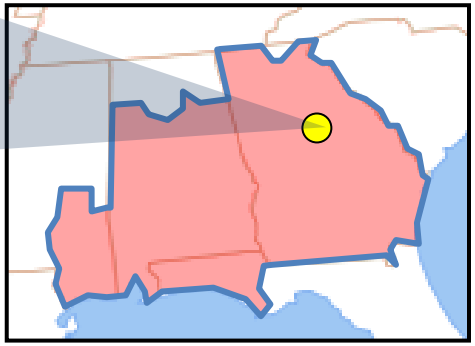


DESCRIPTION:

Upgrade the 30 mile section from Gordon to Robins Spring along the Gordon – Sandersville #1 115 kV transmission line from 50°C to 100°C operation.

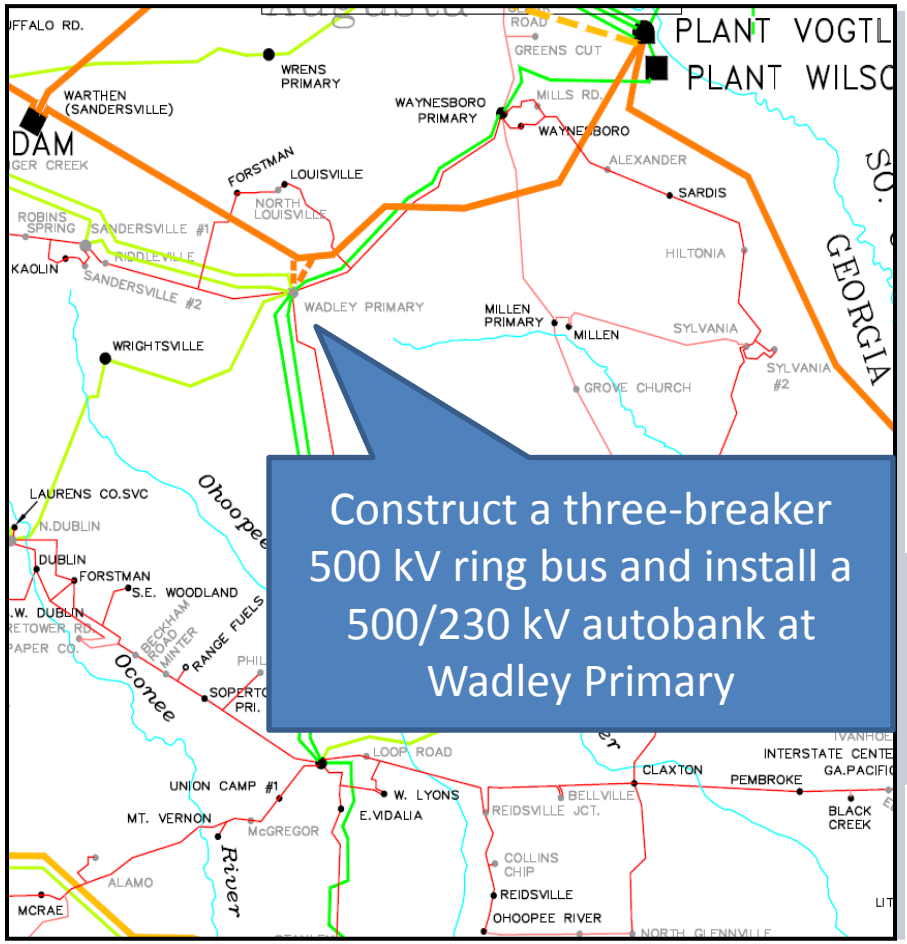
SUPPORTING STATEMENT:

The Gordon – Robins Spring section of the Gordon – Sandersville #1 115 kV transmission line overloads under contingency.



SOUTHERN – 15E 2018

WADLEY PRIMARY 500/230 KV SUBSTATION

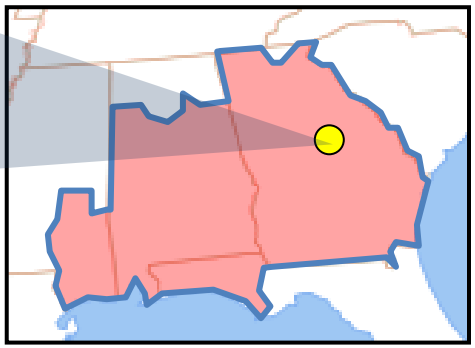


DESCRIPTION:

Construct a new 500 kV substation on the Vogtle – Warthen 500 kV transmission line. Install a 2016 MVA, 500/230 kV transformer that ties to the Wadley Primary 230 kV bus. Upgrade the 230 kV bus at Wadley Primary with 2–1590 AAC.

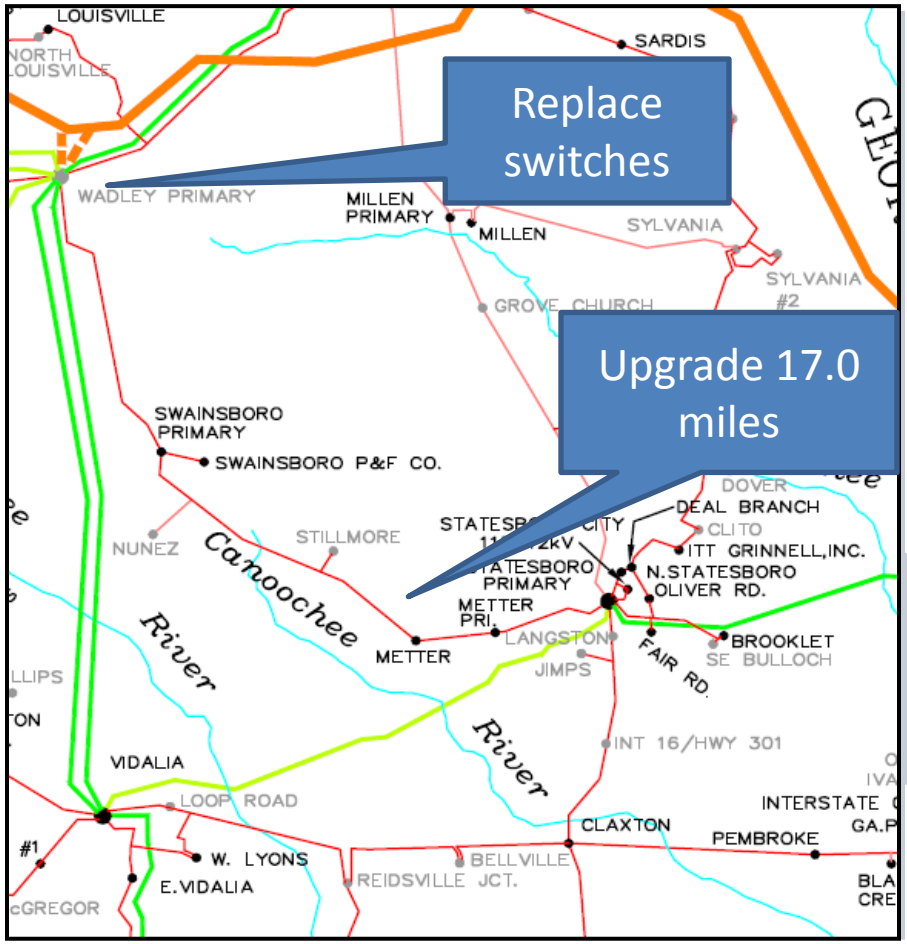
SUPPORTING STATEMENT:

Project to enhance reliability in the Augusta area and to support the expansion of Plant Vogtle.



SOUTHERN – 16E 2019

STATESBORO PRIMARY – WADLEY PRIMARY 115 KV T.L.

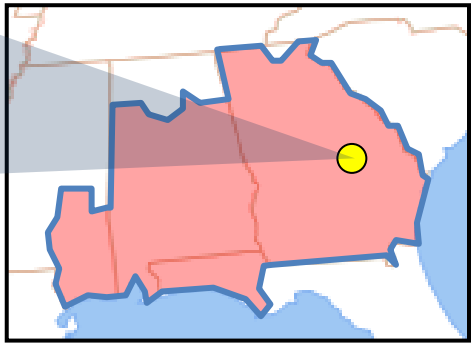


DESCRIPTION:

Upgrade approximately 17.0 miles along the Nunez tap – Stillmore – Metter section of the Statesboro – Wadley Primary 115 kV transmission line from 50°C to 100°C operation. Replace the 600 A line switches at the Nunez Tap with 2000 A switches. Replace 600 A switches at Wadley Primary with 2000 A switches.

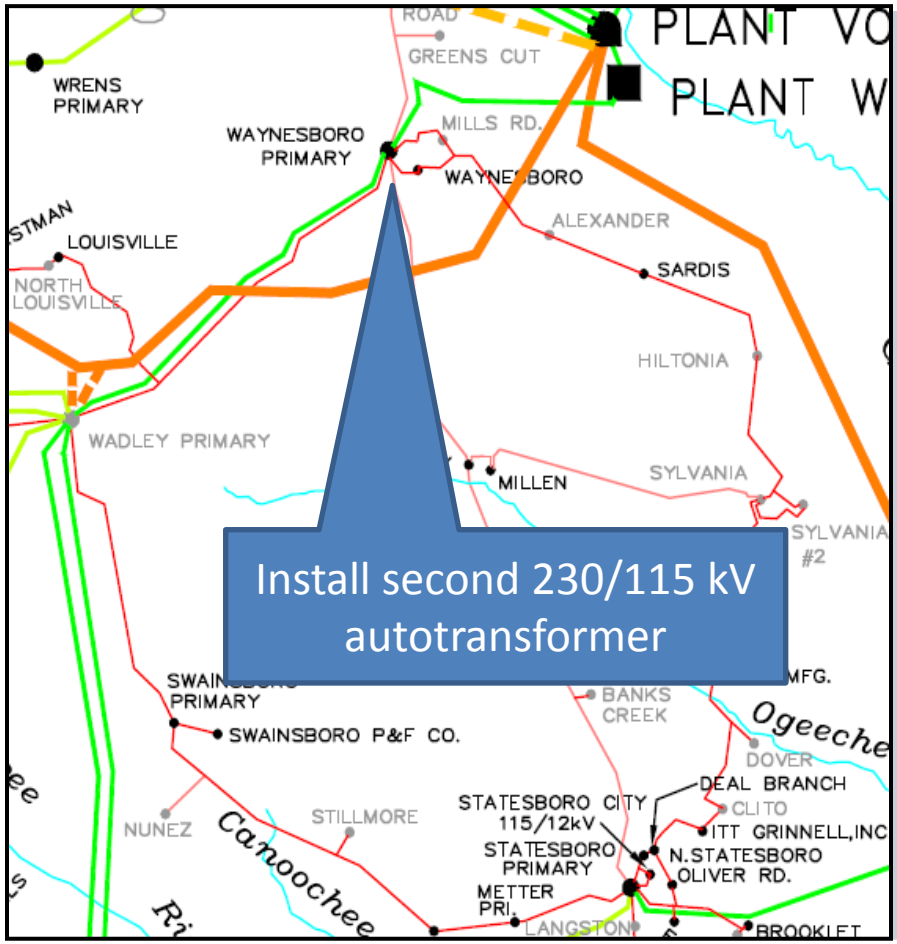
SUPPORTING STATEMENT:

The Nunez tap – Stillmore – Metter section of the Statesboro – Wadley Primary 115 kV transmission line overloads under contingency.



SOUTHERN – 17E 2019

WAYNESBORO 230/115 KV SUBSTATION

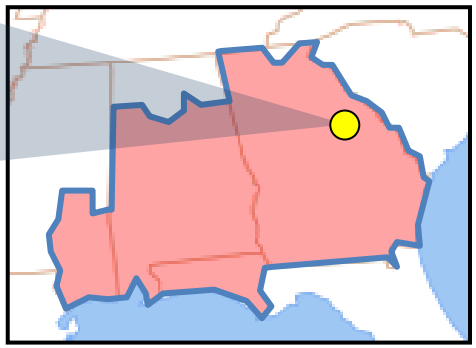


DESCRIPTION:

Install a second 230/115 kV 300 MVA transformer, 230 kV series bus tie breakers, and a 115 kV bus tie breaker at Waynesboro Primary substation.

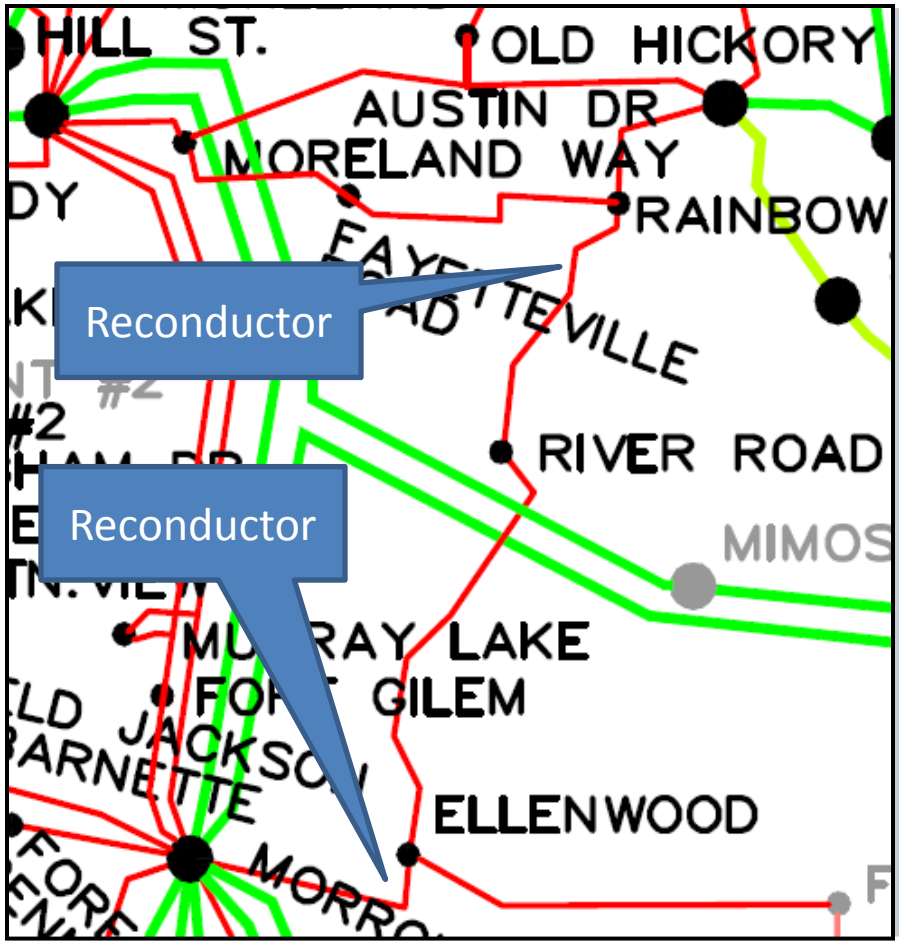
SUPPORTING STATEMENT:

The Waynesboro 230/115 kV transformer overloads under contingency. The Wadley Primary – Waynesboro Primary 115 kV transmission line overloads under contingency.



SOUTHERN – 18E 2020

AUSTIN DRIVE – MORROW 115 KV T.L.

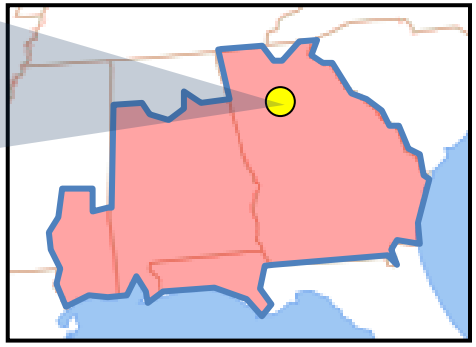


DESCRIPTION:

Reconductor approximately 7.1 miles of existing 336 ACSR with 795 ACSR at 100°C along the Austin Drive – River Road section of the Austin Drive – Morrow 115 kV transmission line. Also, reconductor approximately 2.0 miles of existing 795 ACSR with 1351 ACSS at 170°C along the Morrow – Ellenwood section of the Austin Drive – Morrow 115 kV transmission line.

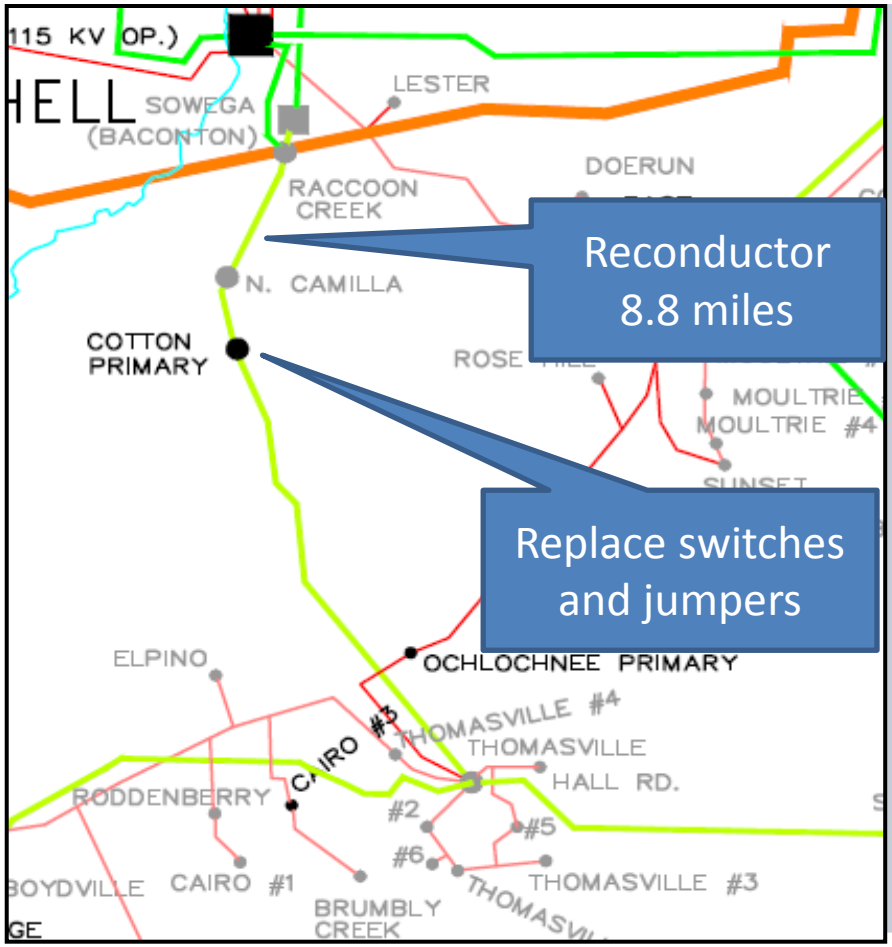
SUPPORTING STATEMENT:

The River Road – Rainbow Drive section of the Austin Drive – Morrow 115 kV transmission line overloads under contingency.



SOUTHERN – 19E 2020

RACCOON CREEK – THOMASVILLE 230 KV T.L.

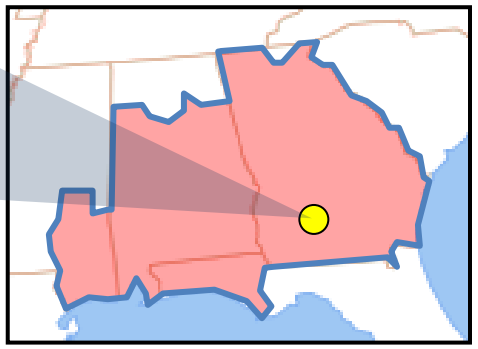


DESCRIPTION:

Reconductor approximately 8.8 miles of 230 kV transmission line from Raccoon Creek to Cotton along the Raccoon Creek – Thomasville 230 kV transmission line with 1033 ACSS at 170°C. Replace 1600 A switches and 1590 AAC jumpers at Cotton Primary with 2000 A switches and 2500 AAC jumpers.

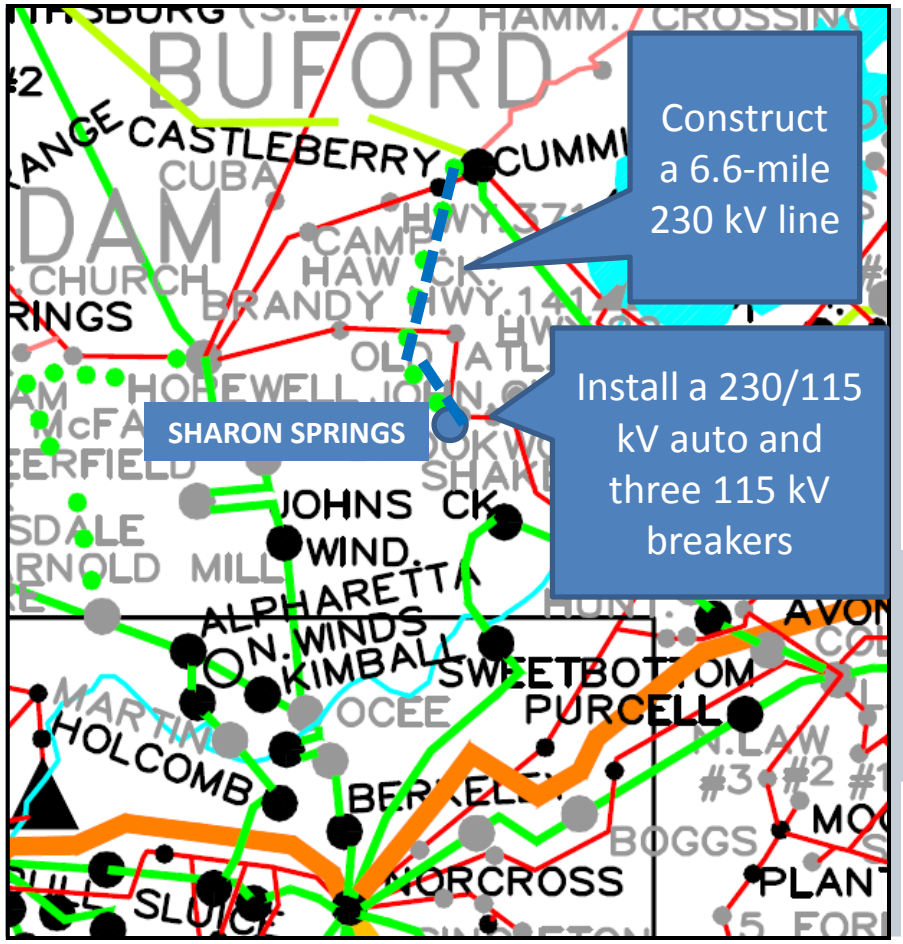
SUPPORTING STATEMENT:

The Raccoon Creek – Cotton section of the Raccoon Creek – Thomasville 230 kV transmission line overloads under contingency.



SOUTHERN – 20E 2020

SHARON SPRINGS 230/115 KV PROJECT

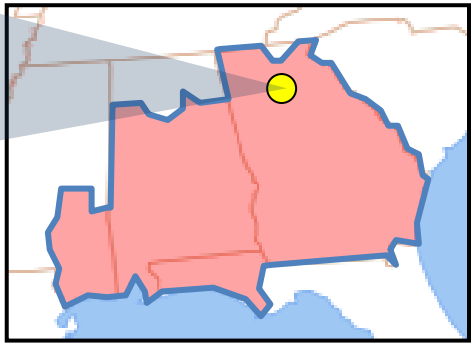


DESCRIPTION:

Construct a new 6.6 mile, 230 kV T.L. from Cumming to Sharon Springs with 1351 ACSR at 100°C. Install a 230/115 kV, 300 MVA transformer with two 115 kV breakers at Sharon Springs distribution substation. Terminate 115 kV T.L.s from Hopewell and Suwanee. Install a 230 kV breaker in the Cumming Substation and terminate 230 kV T.L. to Sharon Springs.

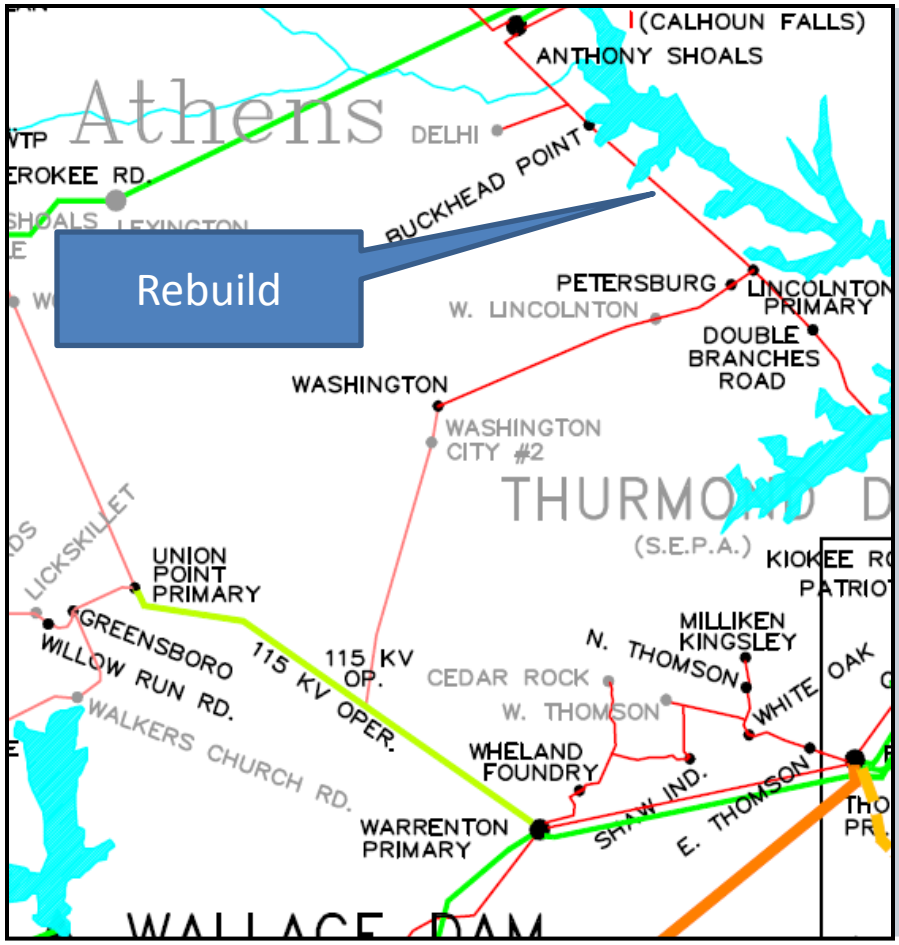
SUPPORTING STATEMENT:

The Suwanee – Old Atlanta Road and Hopewell – Brandywine sections of the T.L. overload under contingency.



SOUTHERN – 21E 2021

ANTHONY SHOALS – WASHINGTON 115 KV T.L.

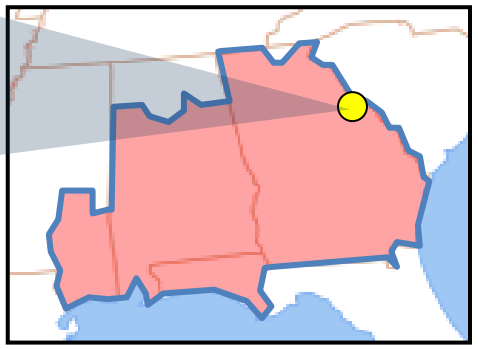


DESCRIPTION:

Rebuild approximately 15.1 miles along the Anthony Shoals – Buckhead Point – Double Branches Tap 115 kV sections with 795 ACSR at 100°C. Replace the line switch at Delhi Tap with a 2000 A switch.

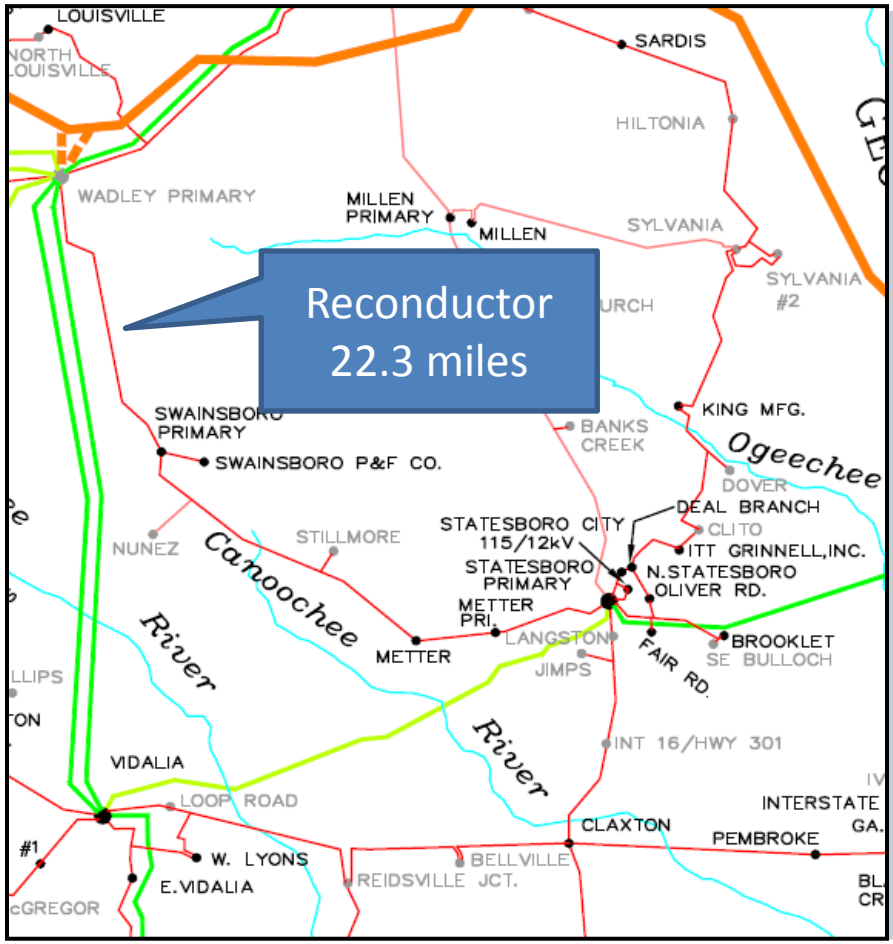
SUPPORTING STATEMENT:

The Anthony Shoals – Buckhead Point – Double Branches Tap 115 kV sections overload under contingency.



SOUTHERN – 22E 2021

STATESBORO PRIMARY – WADLEY PRIMARY 115 KV T.L.

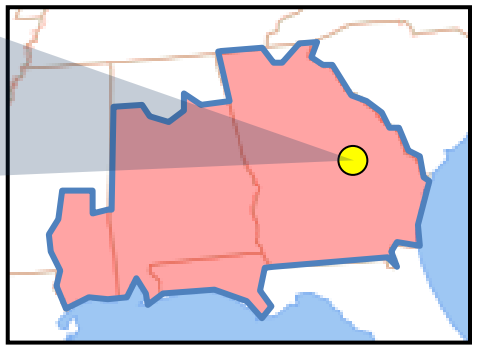


DESCRIPTION:

Reconductor approximately 22.3 miles of 115 kV transmission line along the Wadley Primary – Swainsboro Primary section of the Statesboro – Wadley Primary 115 kV transmission line with 1033 ACSR at 100°C.

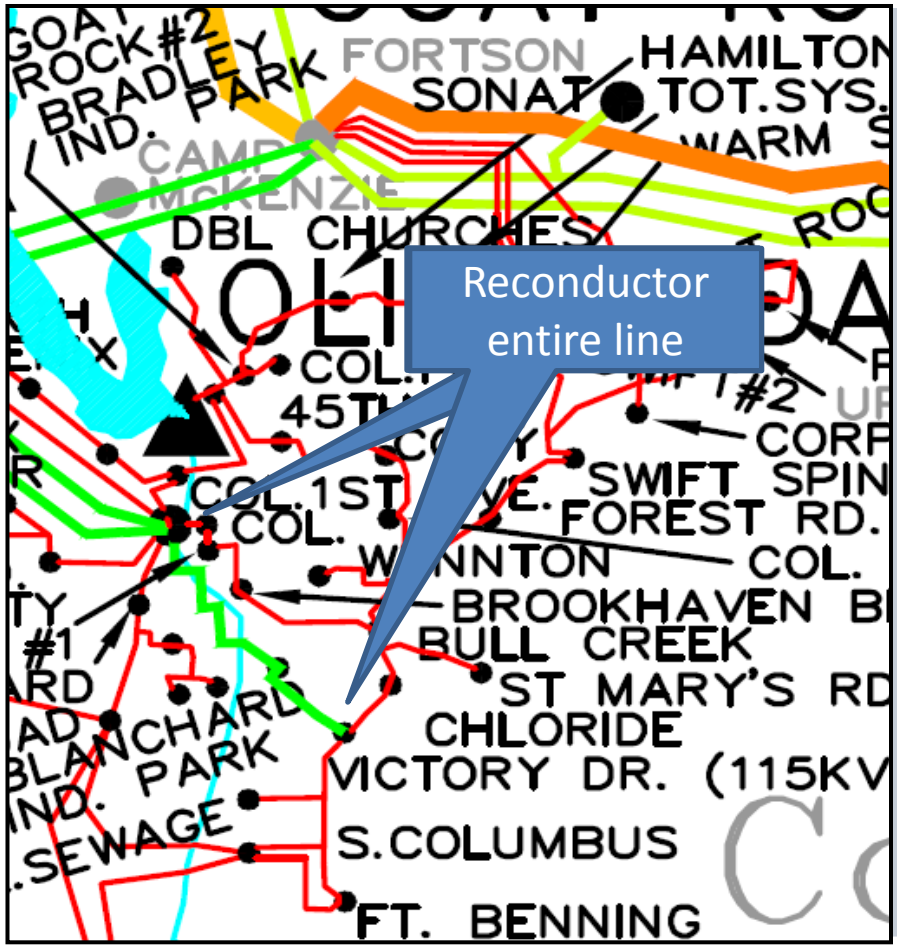
SUPPORTING STATEMENT:

The Statesboro Primary – Wadley Primary 115 kV transmission line overloads under contingency.



SOUTHERN – 23E 2022

FIRST AVENUE – VICTORY DRIVE 115 KV T.L.

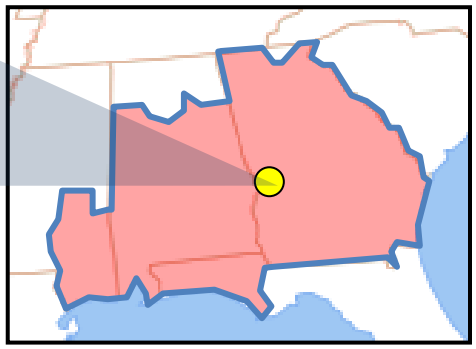


DESCRIPTION:

Reconductor approximately 6.4 miles along the First Avenue – Victory Drive 115 kV transmission line with 1033 ACSR at 100°C.

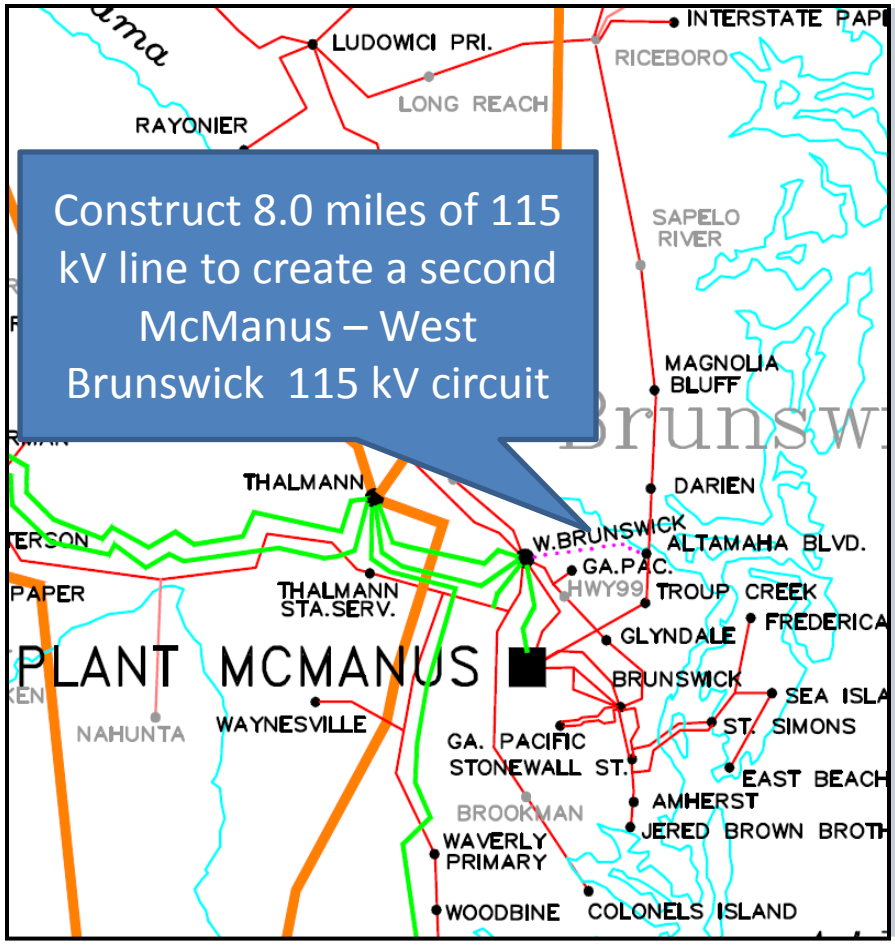
SUPPORTING STATEMENT:

The First Avenue – Victory Drive 115 kV transmission line overloads under contingency.



SOUTHERN – 24E 2022

MCMANUS – WEST BRUNSWICK 115 KV (BLACK) T.L.

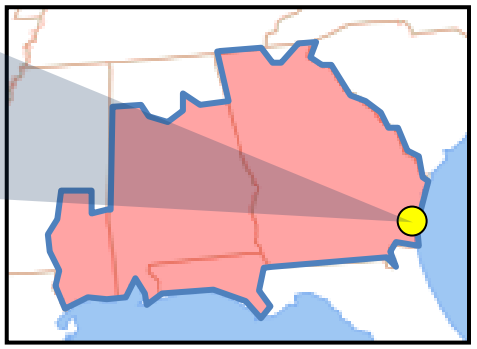


DESCRIPTION:

Construct approximately 8.0 miles of new 795 ACSR 115 kV transmission line from West Brunswick to a new point that taps the McManus – Darien 115 kV transmission line.

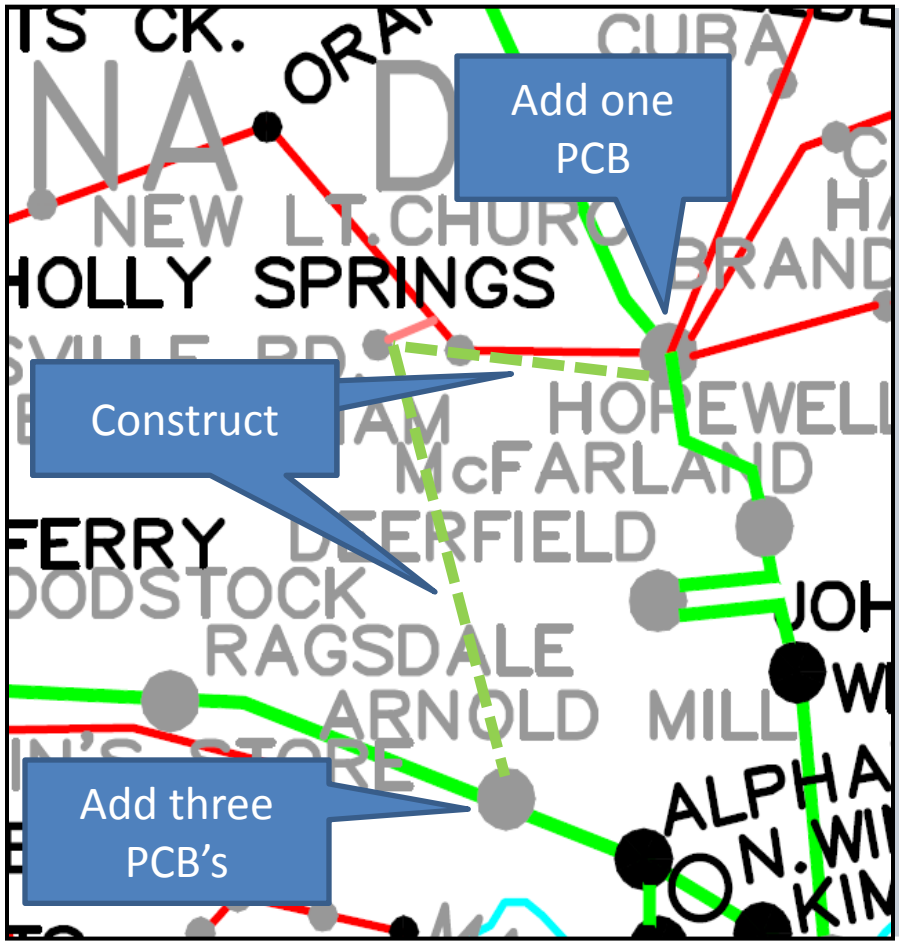
SUPPORTING STATEMENT:

Additional voltage support is needed in the Riceboro area under contingency.



SOUTHERN – 25E 2023

ARNOLD MILL – HOPEWELL 230 KV PROJECT

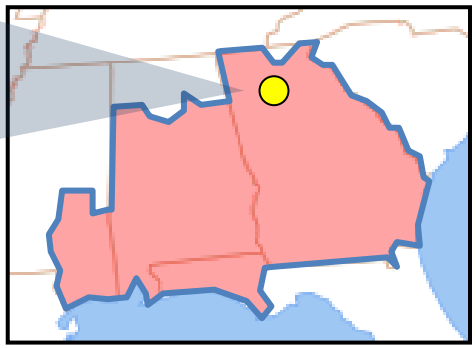


DESCRIPTION:

Construct a 230 kV transmission line from Arnold Mill to Hopewell, a distance of approximately 14.7 miles. Install one new 230 kV breaker at Hopewell and three new 230 kV breakers at Arnold Mill.

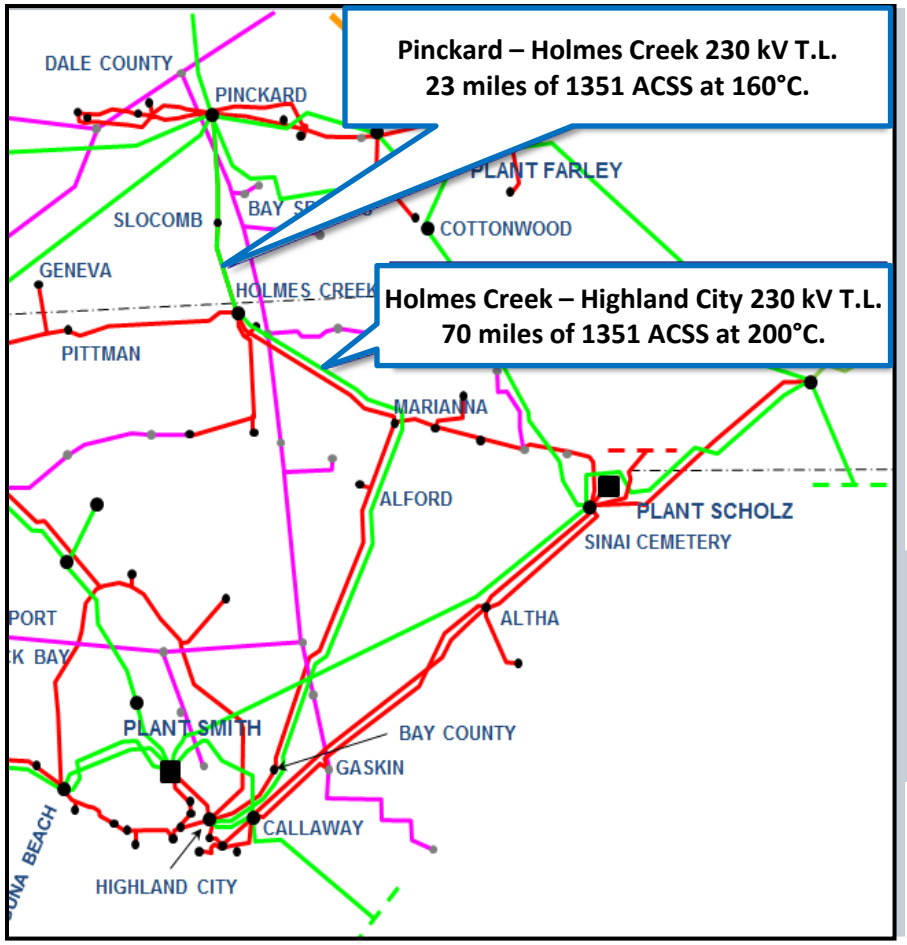
SUPPORTING STATEMENT:

The Holly Springs – Hopewell 115 kV transmission line overloads under contingency. Also, additional voltage support is needed at Windward under contingency.



SOUTHERN – 1W 2015

PINCKARD – HOLMES CREEK – HIGHLAND CITY 230 KV T.L.

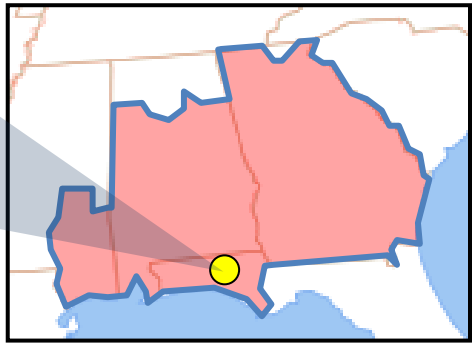


DESCRIPTION:

- Convert the Pinckard – Holmes Creek 115 kV transmission line to 230 kV operation.
- Install a 230/115 kV autobank at Holmes Creek.
- Construct approximately 70 miles of new 230 kV transmission line from Holmes Creek to Highland City with 1351 ACSS at 200°C.

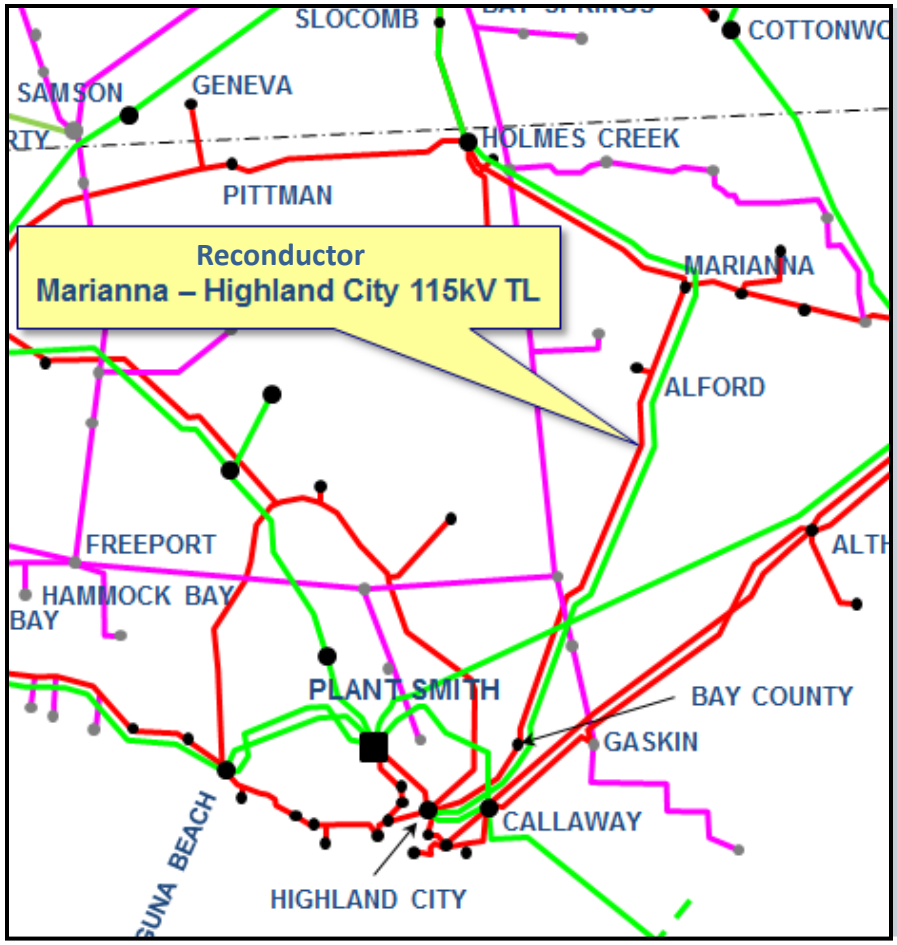
SUPPORTING STATEMENT:

The Callaway – Gaskin 115 kV transmission line and multiple other facilities in the Panama City area overload under contingency. Additional voltage support also needed in the area under contingency.



SOUTHERN – 2W 2015

MARIANNA – HIGHLAND CITY 115 KV T.L.

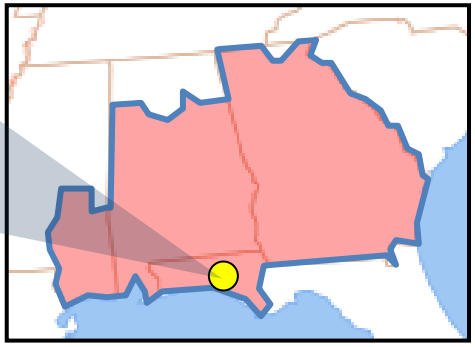


DESCRIPTION:

Reconductor 47.8 miles of 115 kV transmission line from Marianna to Highland City with 1033 ACSR at 100°C.

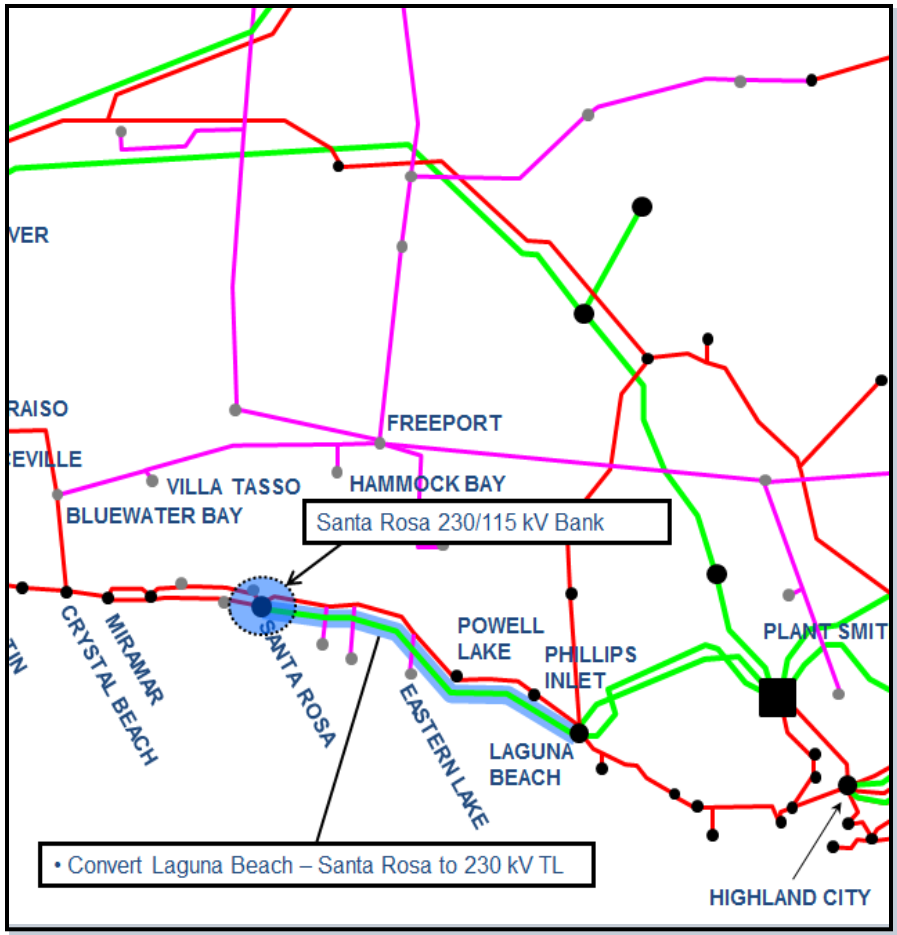
SUPPORTING STATEMENT:

The Marianna – Bay County section of the Marianna – Highland City 115 kV transmission line overloads under contingency.



SOUTHERN – 3W 2015

SANTA ROSA – LAGUNA BEACH 230 KV T.L.

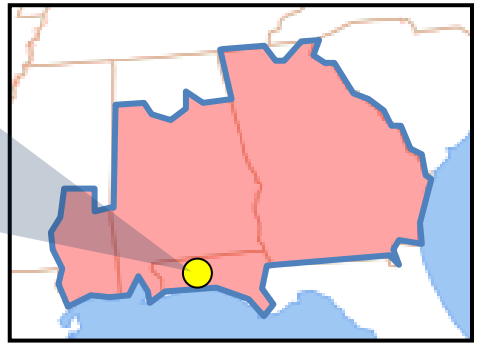


DESCRIPTION:

- Construct a new Santa Rosa 230 kV substation with one 230/115 kV 400 MVA transformer.
- Replace Laguna Beach – Santa Rosa #1 115 kV transmission line with a new 1351 ACSR 230 kV T.L.

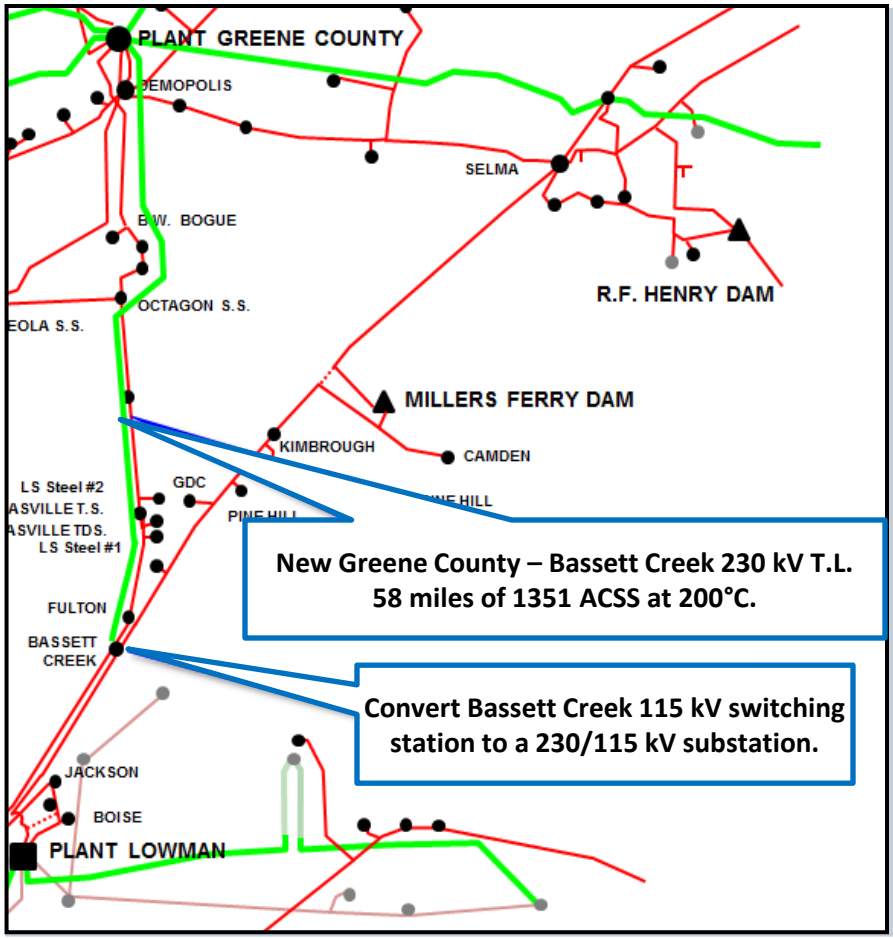
SUPPORTING STATEMENT:

The Bluewater – Crystal Beach submarine cable overloads under contingency. In addition, the Freeport – Villa Tasso 115 kV transmission line overloads under contingency.



SOUTHERN – 4W 2015

GREENE COUNTY – BASSETT CREEK 230 KV T.L.

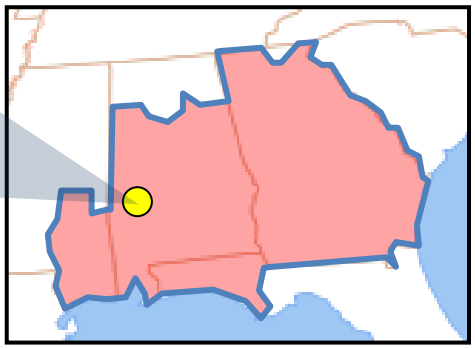


DESCRIPTION:

- Construct 58.0 miles of new 230 kV transmission line from Greene County to Bassett Creek with 1351 ACSS at 200° C.
- Convert Bassett Creek 115 kV switching station to a 230/115 kV substation.

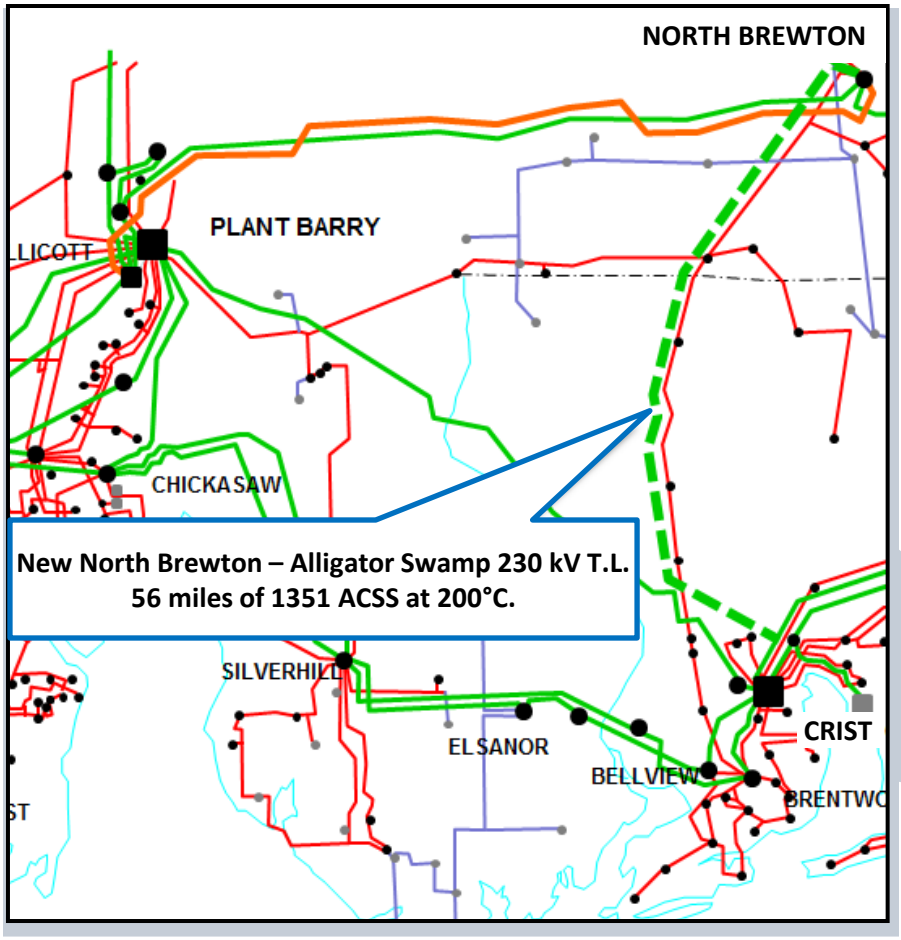
SUPPORTING STATEMENT:

The Octagon SS – Thomasville 115 kV transmission line overloads under contingency.



SOUTHERN – 5W 2015

NORTH BREWTON – ALLIGATOR SWAMP 230 KV T.L.

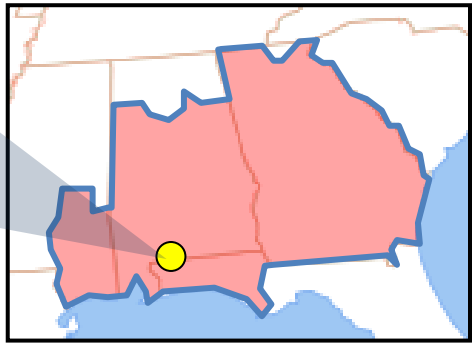


DESCRIPTION:

Construct a new 54.7 mile 230 kV transmission line from North Brewton to Alligator Swamp with 1351 ACSS at 200°C.

SUPPORTING STATEMENT:

The Chickasaw – Silverhill #1 230 kV and Barry – Crist 230 kV transmission lines overload under contingency.



SOUTHERN – 6W 2015

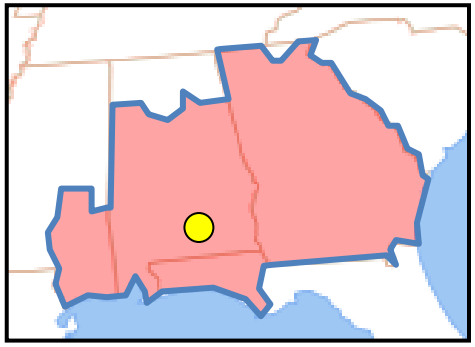
ENTERPRISE AREA PROJECT

DESCRIPTION:

- Install a new 230 / 115 kV substation, called South Enterprise TS, that taps the Pinckard – Opp 230 kV transmission line.
- Construct approximately 5.0 miles 115 kV transmission line from South Enterprise TS to Enterprise TS with 795 ACSS at 160°C.

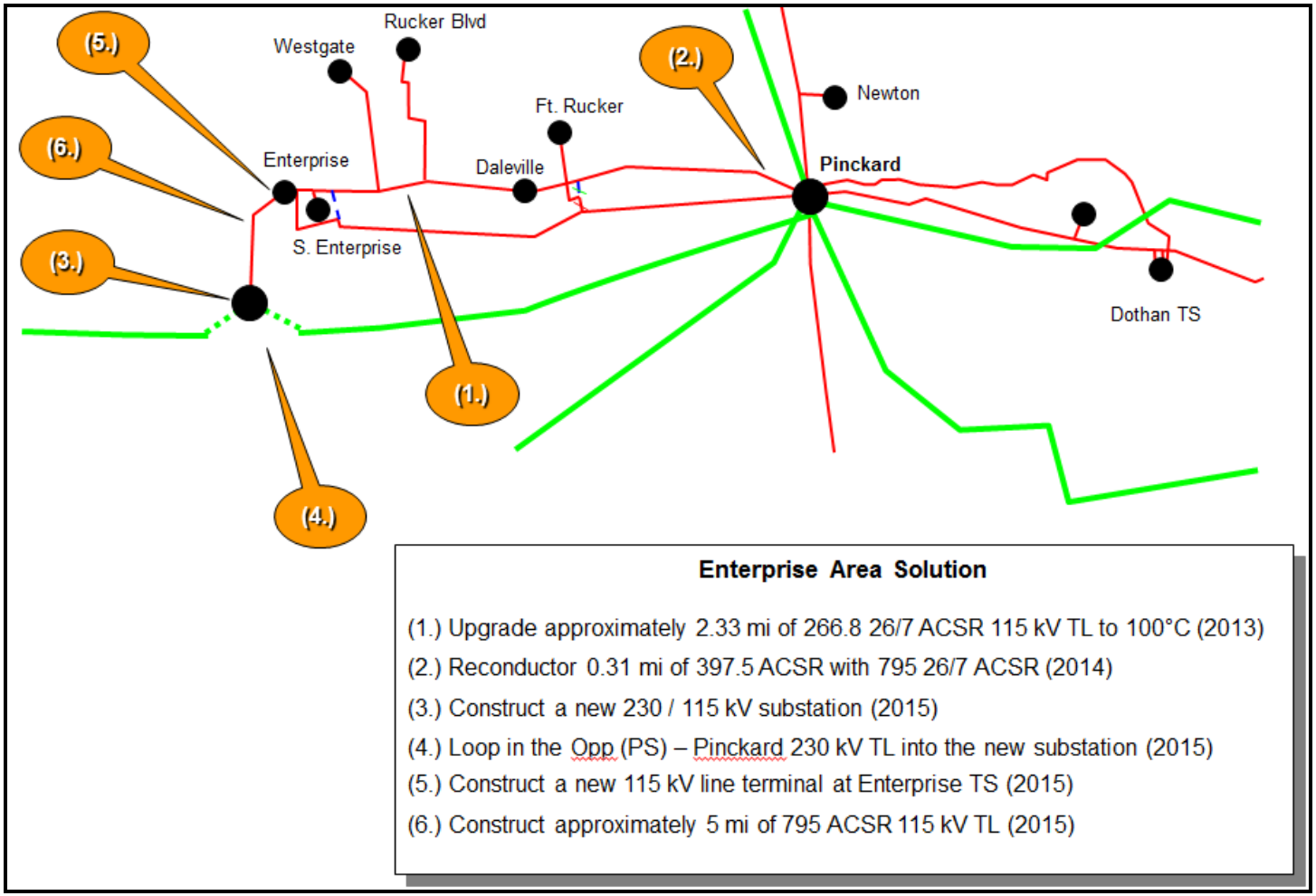
SUPPORTING STATEMENT:

Sections of the Pinckard – Enterprise #2 115 kV transmission line overload under contingency.



SOUTHERN – 6W 2015

ENTERPRISE AREA PROJECT



SOUTHERN – 7W 2015

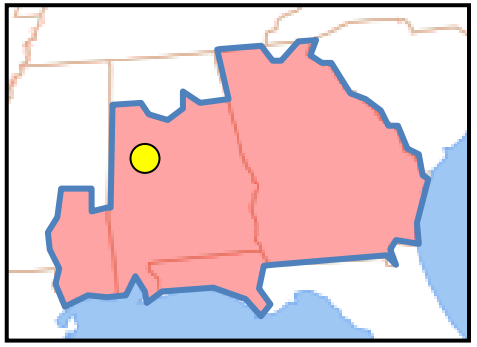
TUSCALOOSA AREA PROJECT

DESCRIPTION:

- Install a 230 / 115 kV transformer at a new substation, Moundville TS.
- Convert Moundville (to be called North Moundville DS) and Akron 44 kV substations to 115 kV.
- Construct a new 115 kV transmission line from North Moundville to Moundville.
- Construct a new 115 kV transmission line from North Moundville to Big Sandy/Englewood Tap.

SUPPORTING STATEMENT:

- The section of 115 kV transmission line from Eutaw to Big Sandy Tap overloads under contingency.
- Additional voltage support is also needed in the Tuscaloosa area.



SOUTHERN – 8W 2016

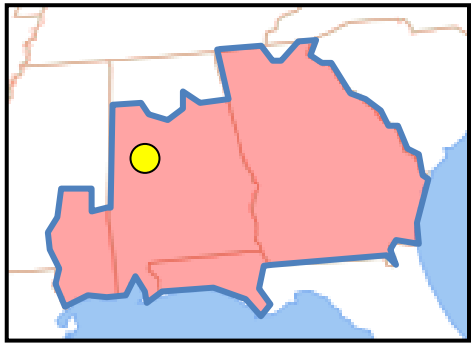
TUSCALOOSA AREA PROJECT

DESCRIPTION:

- Construct approximately 9.0 miles of 1033.5 ACSS 115 kV transmission line at 200°C from Englewood to South Tuscaloosa.

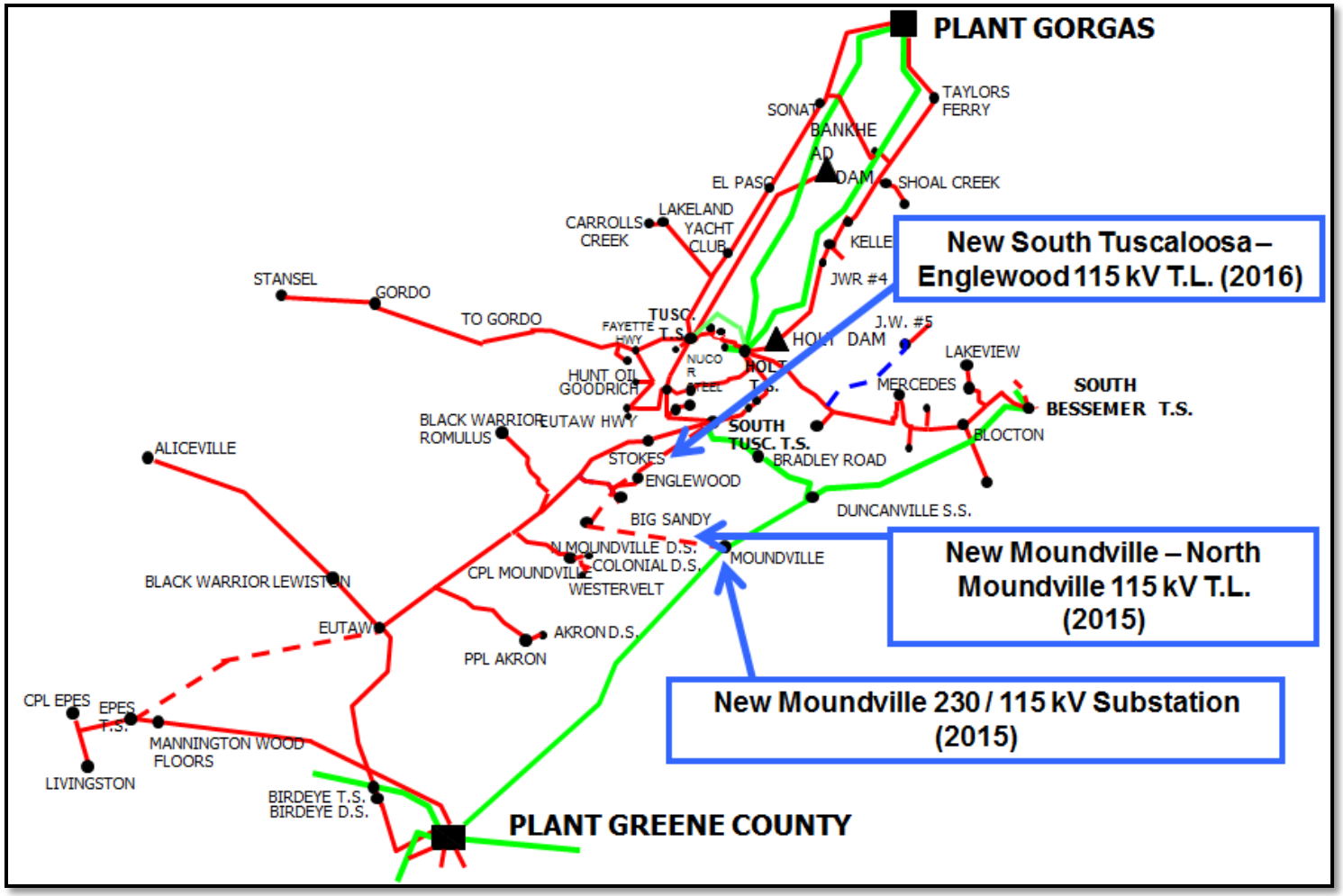
SUPPORTING STATEMENT:

- The Eutaw – Moundville Tap 115 kV transmission line overloads under contingency.



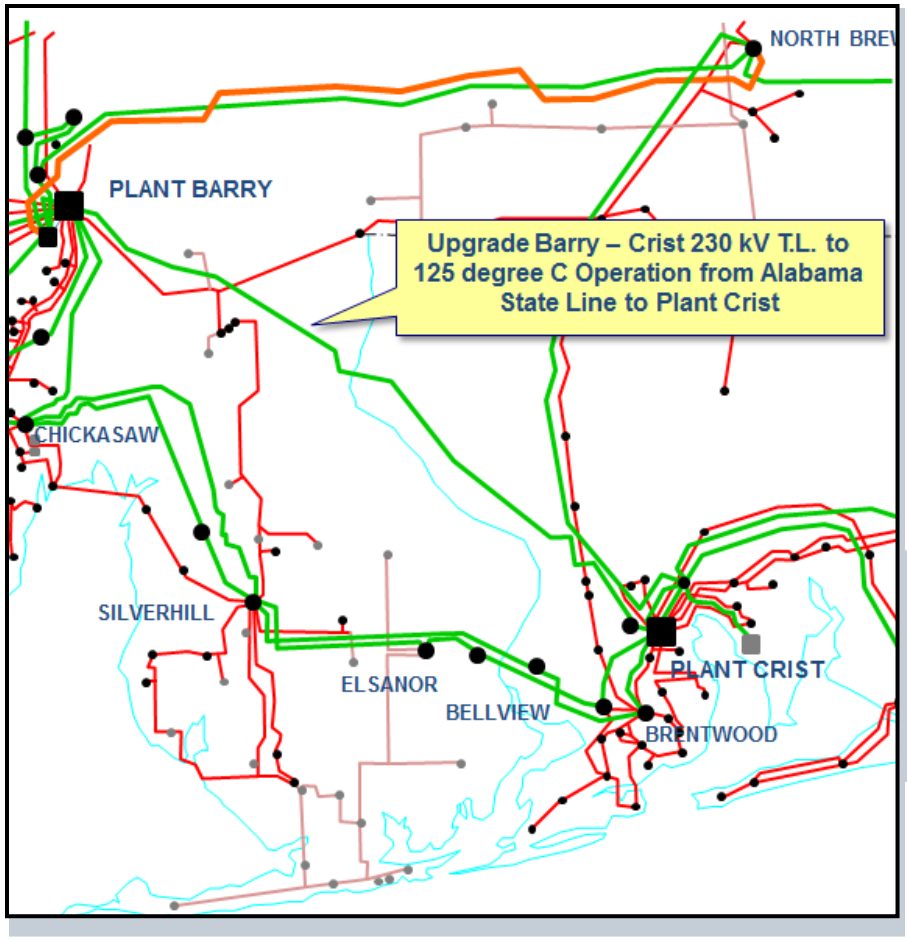
SOUTHERN – 7W & 8W 2015/2016

TUSCALOOSA AREA IMPROVEMENT



SOUTHERN – 9W 2017

BARRY – CRIST 230 KV T.L.

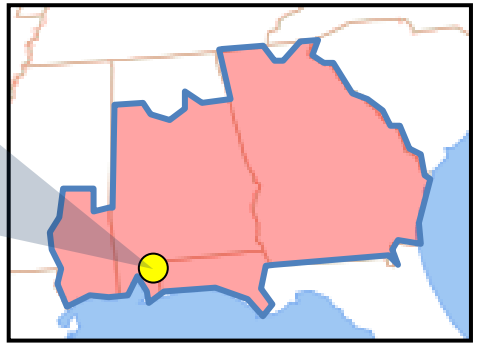


DESCRIPTION:

Upgrade 31.6 miles along the Barry SP – Crist SP 230 kV transmission line to 125°C operation.

SUPPORTING STATEMENT:

The Barry – Crist 230 kV transmission line overloads under contingency.



SOUTHERN – 10W 2017

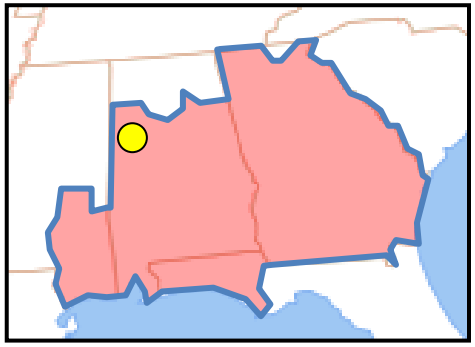
JASPER AREA PROJECT

DESCRIPTION:

- Construct a new switching station, Jasper SS, near Jasper TS tap.
- Loop in the Jasper TS – Oakman and Jasper DS – Taft Coal 161 kV transmission lines.
- Reconductor 15 miles from Gorgas – Jasper Tap 161 kV transmission line with 795 ACSR at 100°C.
- Reconductor 5.3 miles along the Jasper TS – Parkland SS 161 kV with 795 ACSR at 100°C.

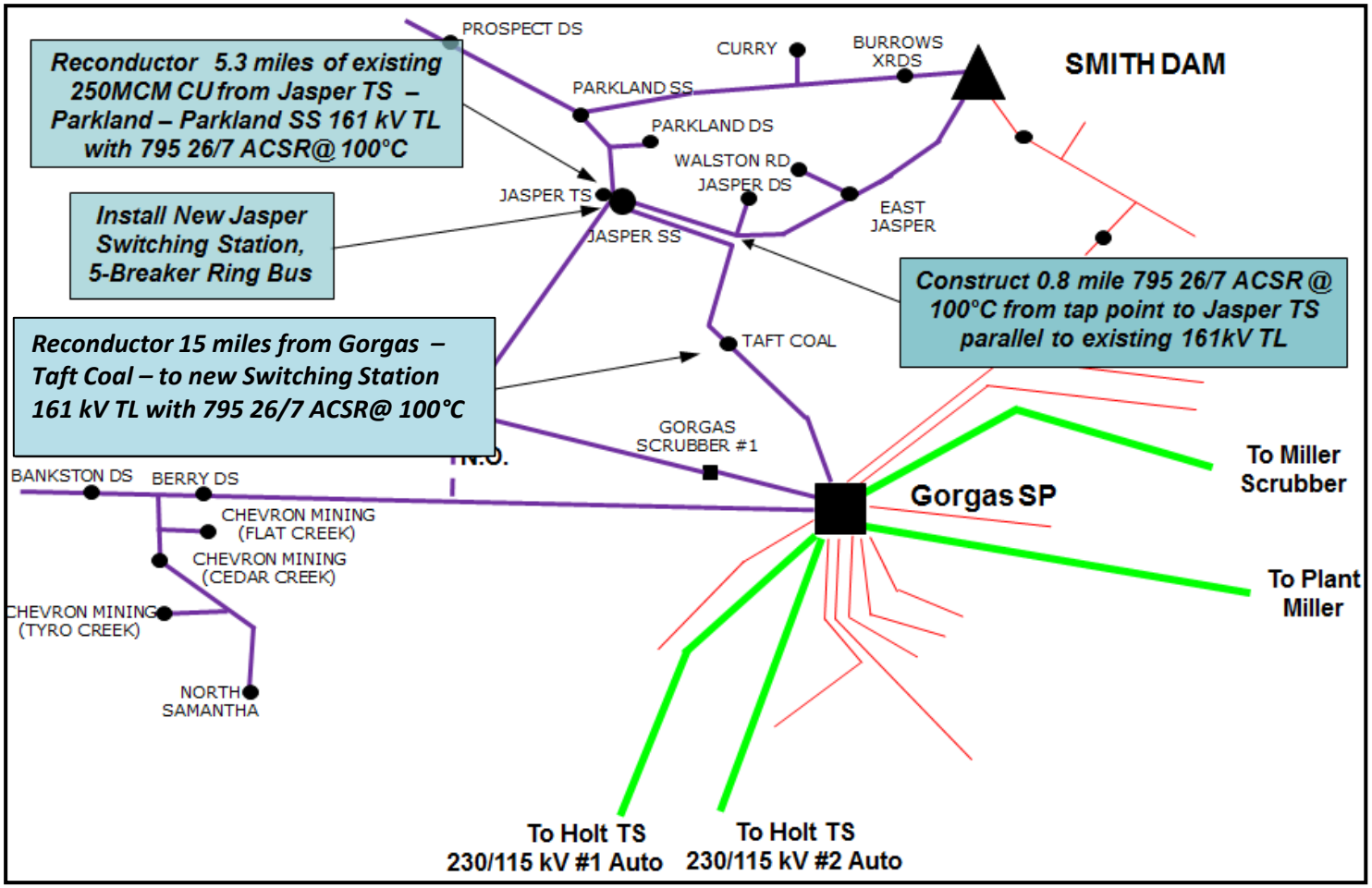
SUPPORTING STATEMENT:

- The Gorgas – Taft Coal – Jasper Tap 161 kV transmission line overloads under contingency.



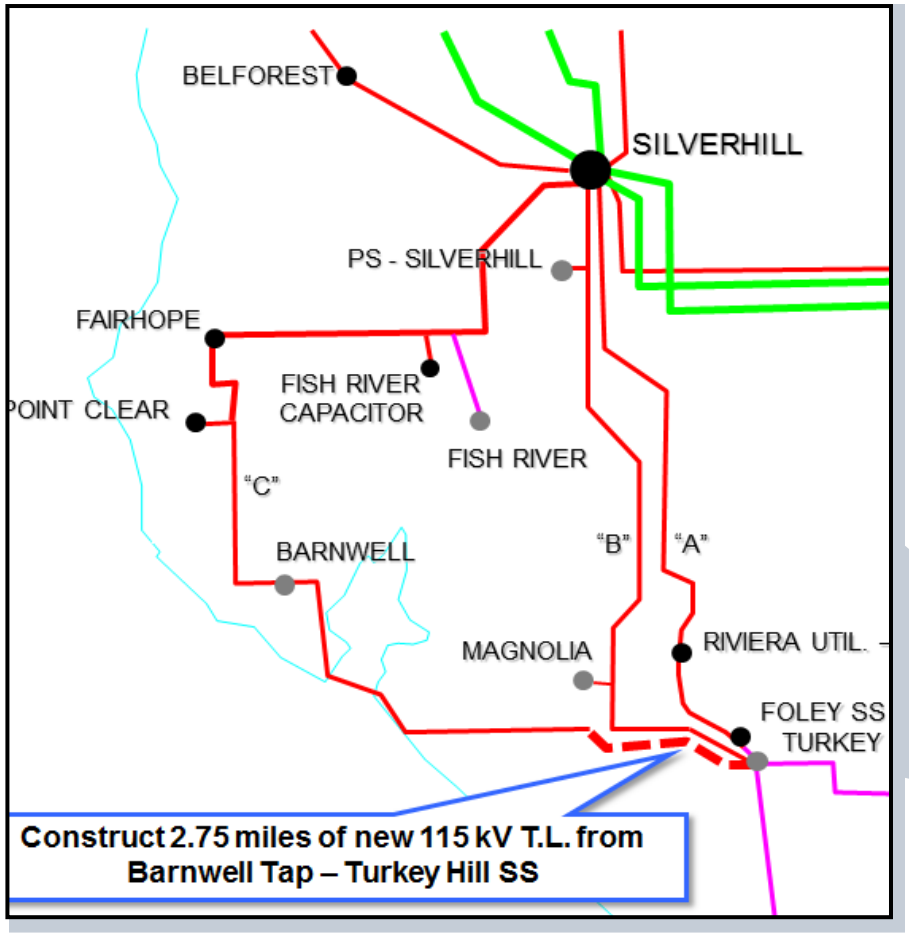
SOUTHERN – 10W 2017

JASPER AREA IMPROVEMENTS



SOUTHERN – 11W 2018

BARNWELL TAP – TURKEY HILL 115 KV T.L.

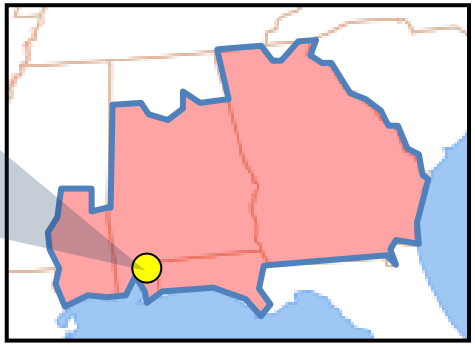


DESCRIPTION:

Construct approximately 2.75 miles of 795 ACSR 115 kV transmission line at 100°C from Barnwell Tap to Turkey Hill to create a new Silverhill – Fairhope – Turkey Hill "C" 115 kV transmission line.

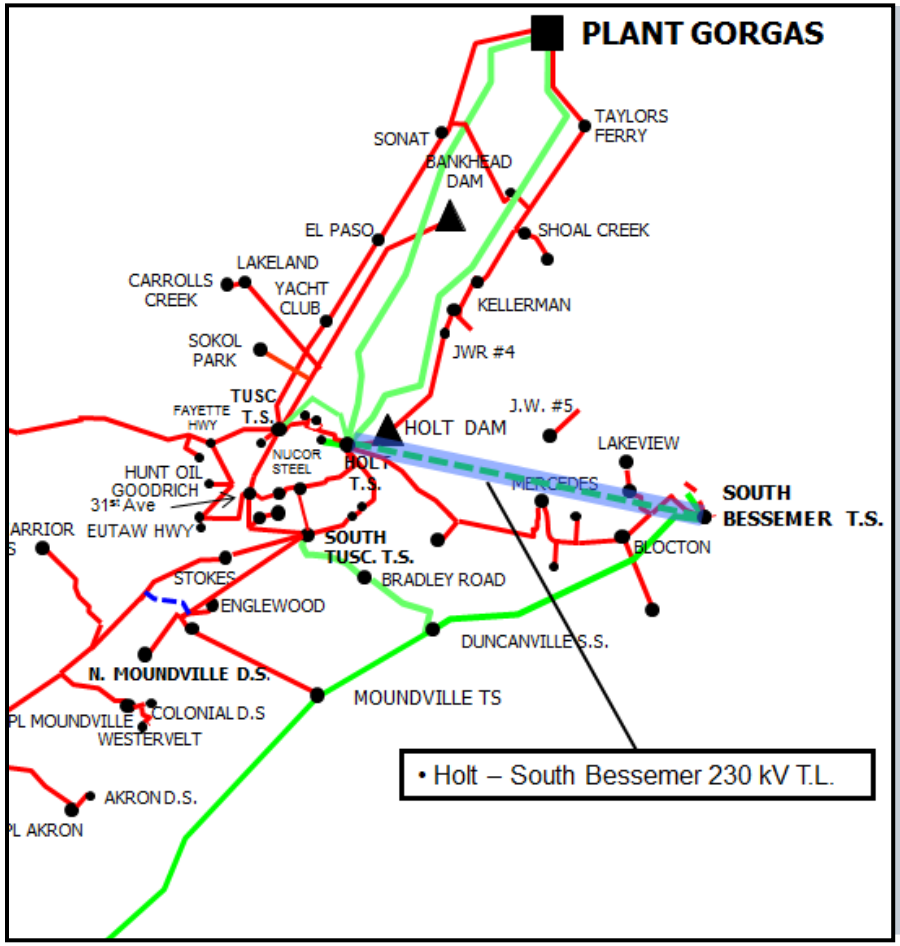
SUPPORTING STATEMENT:

The Silverhill – Magnolia 115 kV transmission line overloads under contingency.



SOUTHERN – 12W 2019

HOLT – SOUTH BESSEMER 230 KV T.L.

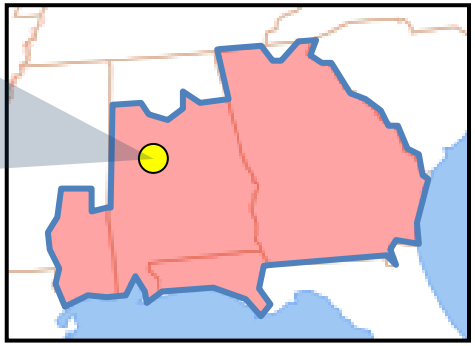


DESCRIPTION:

Construct approximately 25 miles of 1351 ACSS 230 kV transmission line at 200°C from Holt to South Bessemer.

SUPPORTING STATEMENT:

The South Tuscaloosa – 31st Avenue 115 kV transmission line overloads under contingency. This project also provides increased reliability, operational, and maintenance flexibility for the Tuscaloosa Area.



SOUTHERN – 13W 2019

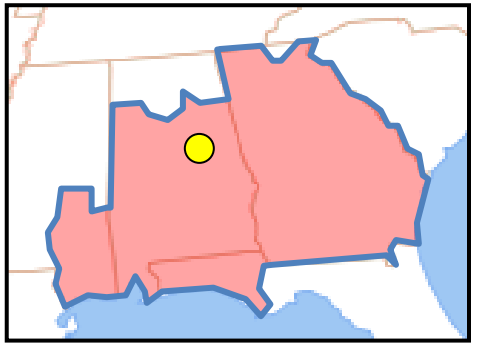
EASTERN AREA 115KV SOLUTION

DESCRIPTION:

- Reconductor approximately 5.3 miles of 115 kV transmission line between Gulf States Steel and Rainbow City SS with 795 ACSS at 200°C.
- Install new 115 kV switching station around Rainbow City.
- Construct approximately 34 miles of 795 ACSS at 200°C between Clay TS and the new Rainbow City SS.

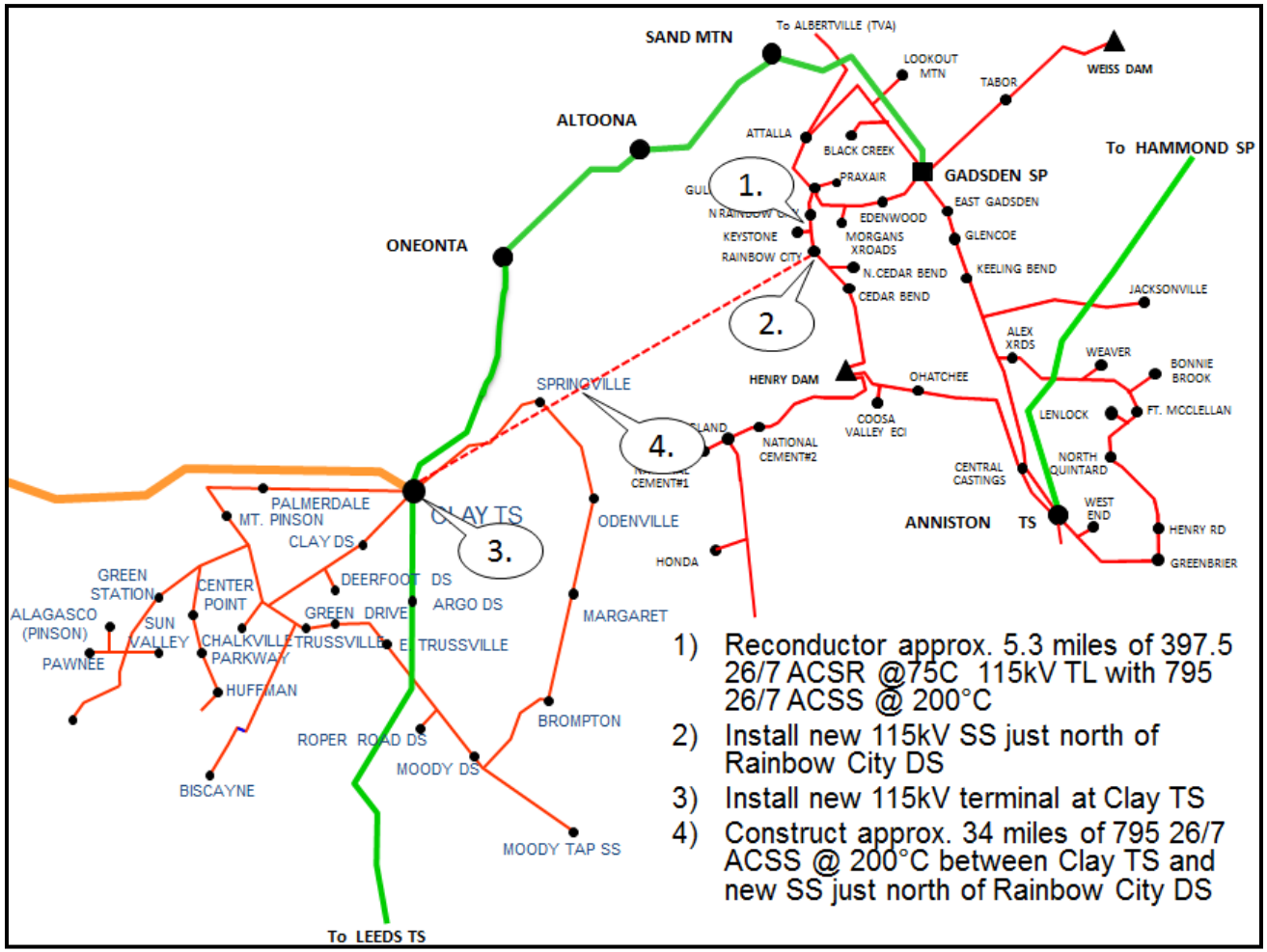
SUPPORTING STATEMENT:

A contingency causes high loadings and hinders maintenance abilities on several 115 kV transmission lines in the Gadsden area.



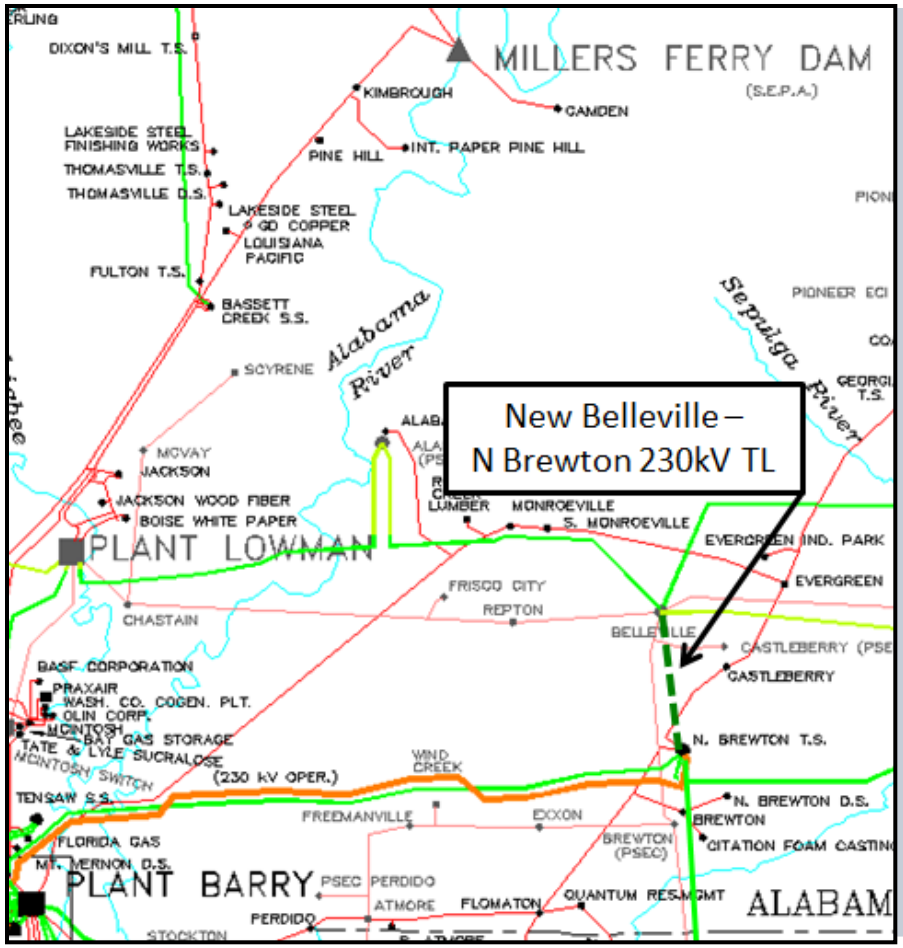
SOUTHERN – 13W 2019

EASTERN AREA 115KV SOLUTION



SOUTHERN – 14W 2020

BELLEVILLE – NORTH BREWTON 230 KV T.L.

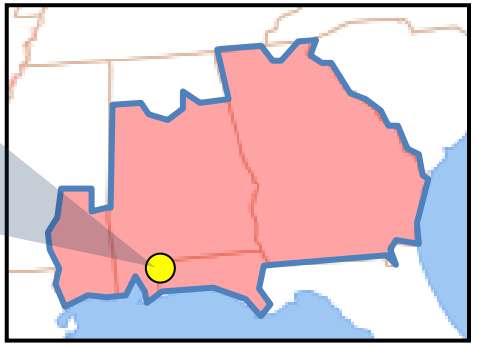


DESCRIPTION:

Construct approximately 15 miles of 230 kV transmission line from Belleville to North Brewton TS with 1351 ACSS at 200°C.

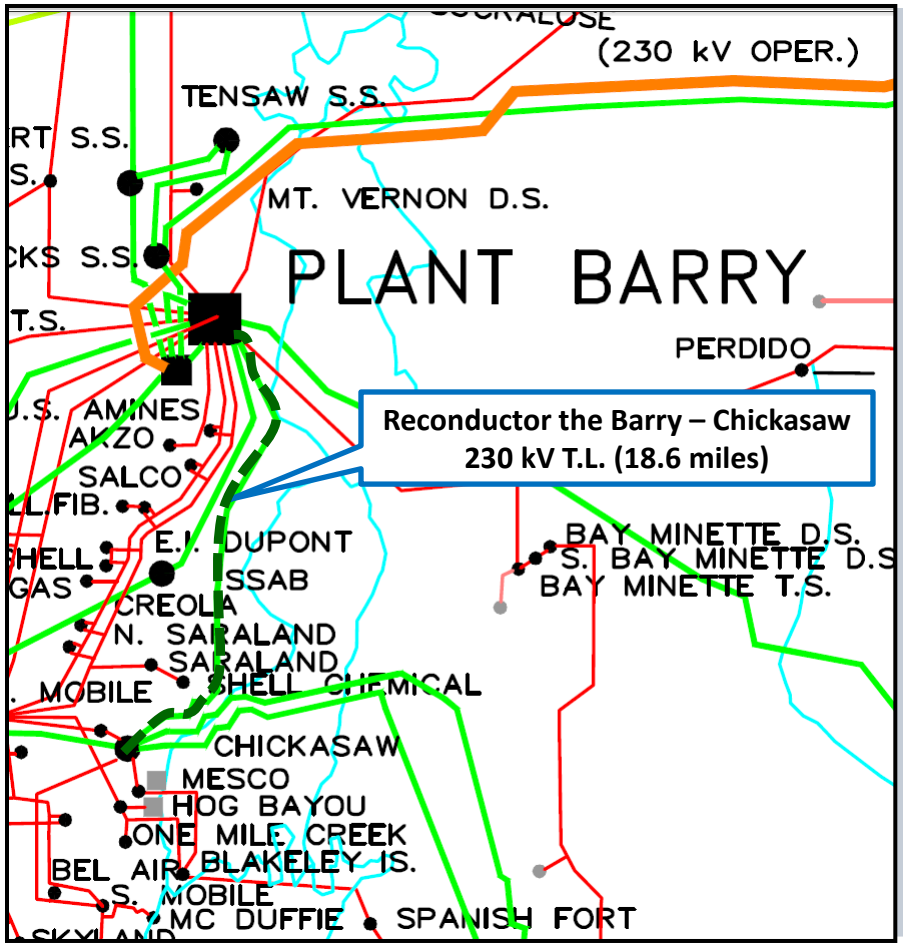
SUPPORTING STATEMENT:

The Barry – McIntosh 115 kV transmission line overloads under contingency.



SOUTHERN – 15W 2022

BARRY – CHICKASAW 230 KV T.L.

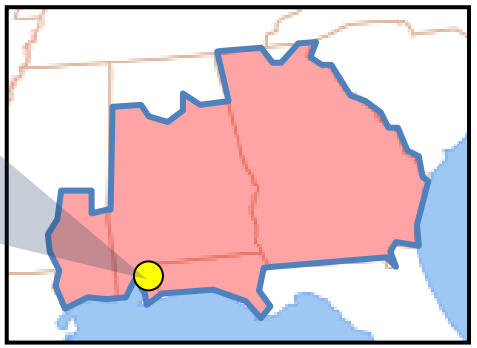


DESCRIPTION:

Reconductor the 18.6 mile Barry – Chickasaw 230 kV transmission line with bundled (2) 795 ACSS at 200°C.

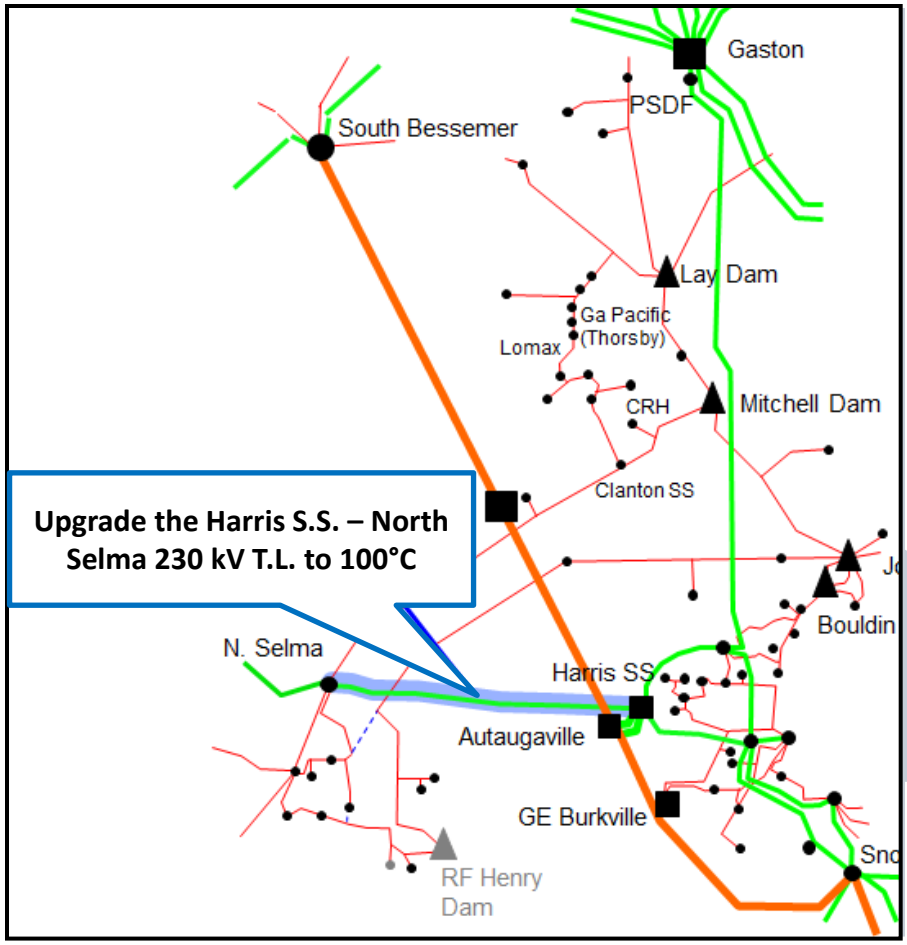
SUPPORTING STATEMENT:

The Barry – Chickasaw 230 kV transmission line overloads under contingency.



SOUTHERN – 16W 2023

HARRIS – NORTH SELMA 230 KV T.L.

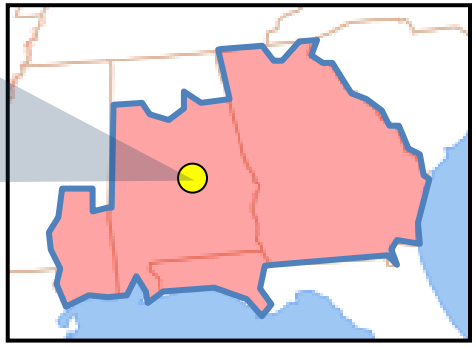


DESCRIPTION:

Upgrade approximately 26 miles of the Autaugaville (Harris SS) – North Selma 230 kV transmission line from 75°C to 100°C Operation.

SUPPORTING STATEMENT:

The Harris – North Selma 230 kV transmission line overloads under contingency.

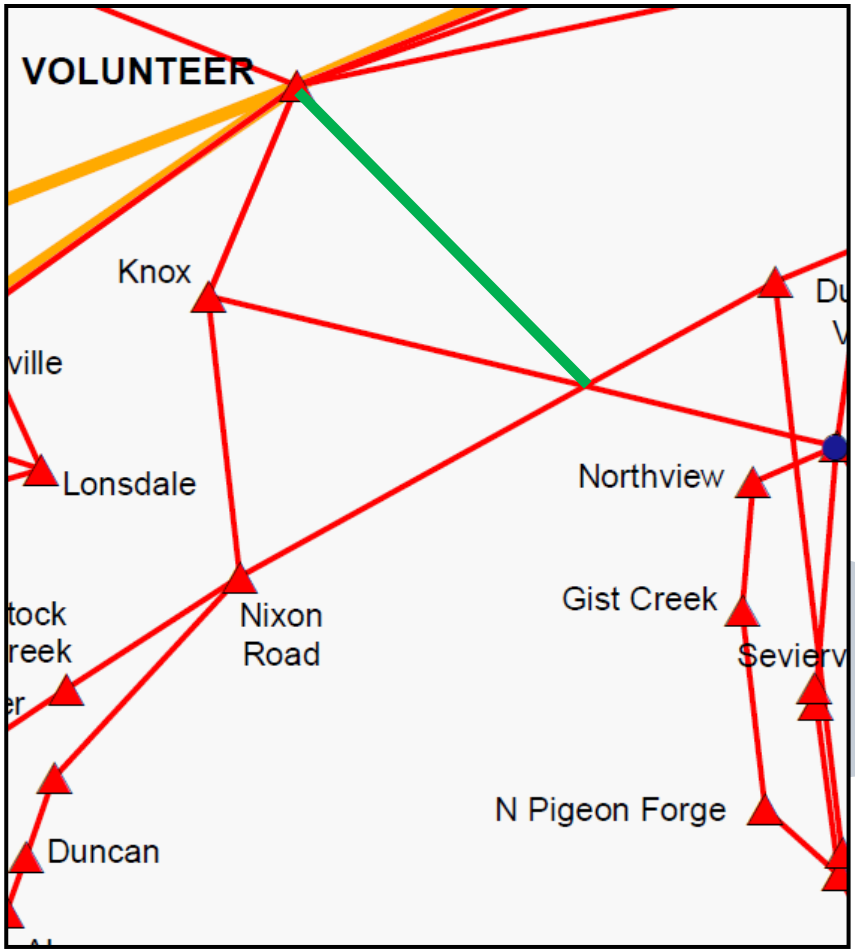


TVA Balancing Authority

Preliminary 10 Year Transmission Expansion Plan

TVA – 1 2015

VOLUNTEER – E. KNOX 161 KV T.L.

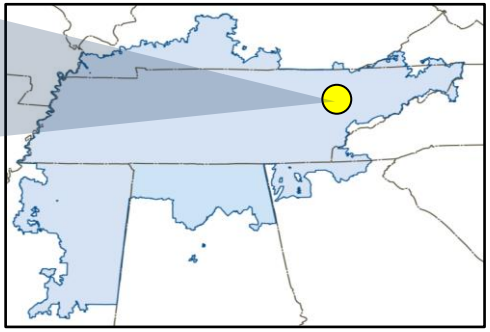


DESCRIPTION:

Construct approximately 13.5 miles of 161 kV transmission line from Volunteer to E. Knox with 954 ACSS at 150°C.

SUPPORTING STATEMENT:

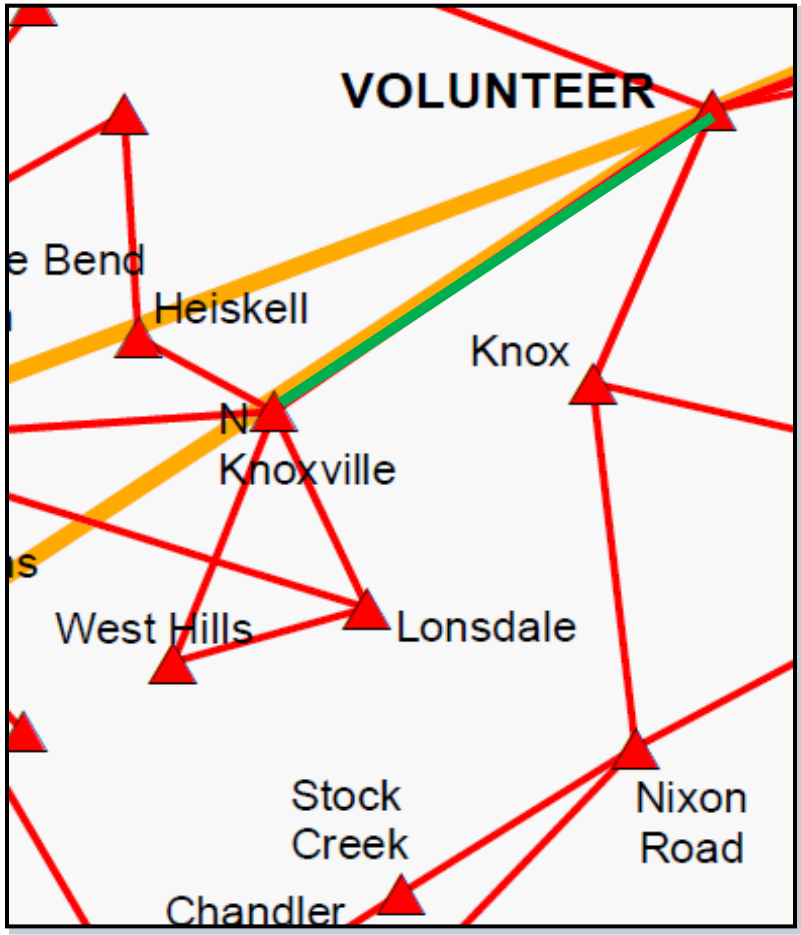
The Volunteer – Knox #2 161 kV transmission line becomes overloaded under contingency and additional voltage support is needed in the E. Knox area under contingency.



TVA – 2

2015

VOLUNTEER – N. KNOX #1 161 KV T.L.

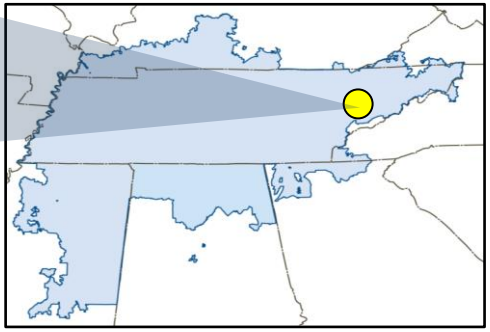


DESCRIPTION:

Reconductor approximately 12.5 miles of 161 kV transmission line between the Volunteer and N. Knox 161 kV substations with 795 ACSS at 123°C.

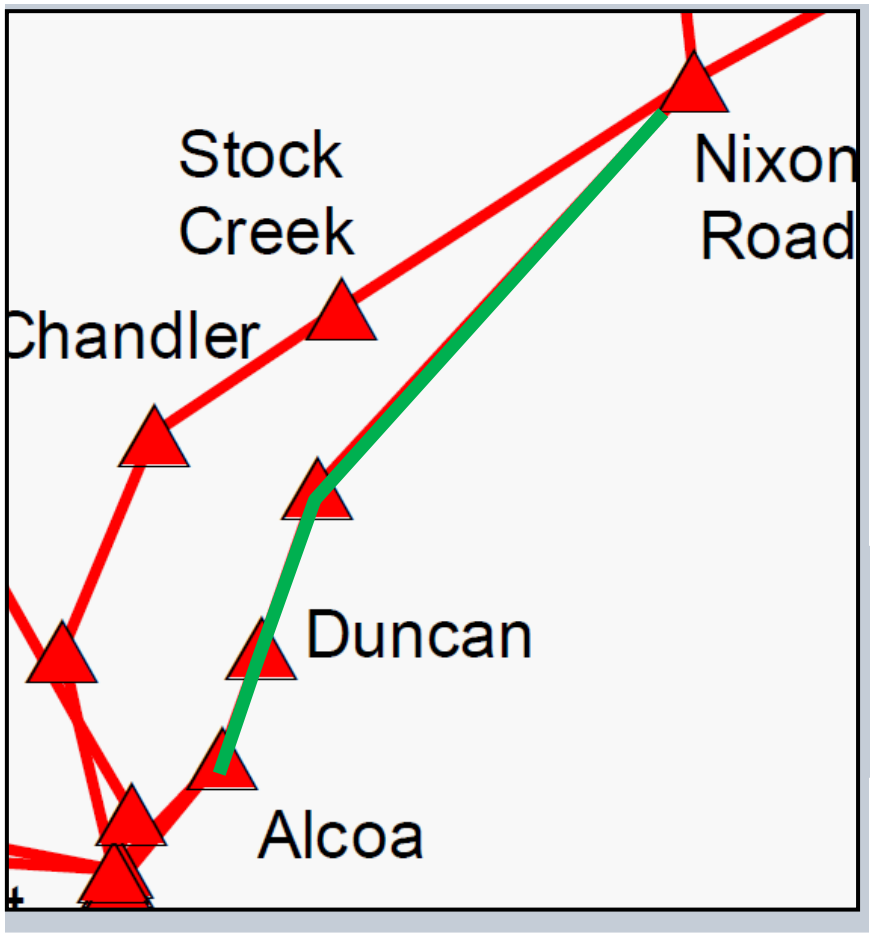
SUPPORTING STATEMENT:

The Volunteer – N. Knox 161 kV transmission line overloads under contingency.



TVA – 3 2017

ALCOA NORTH – NIXON ROAD 161 KV T.L.

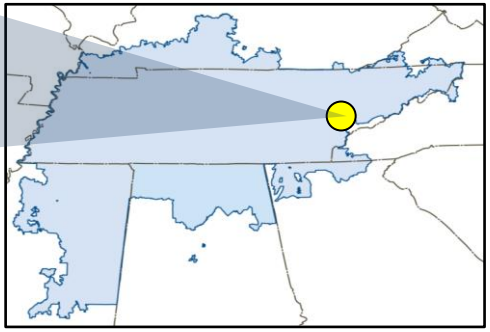


DESCRIPTION:

Rebuild approximately 10.5 miles of the Alcoa North – Nixon Road 161 kV transmission line with 1590 ACSR at 100°C.

SUPPORTING STATEMENT:

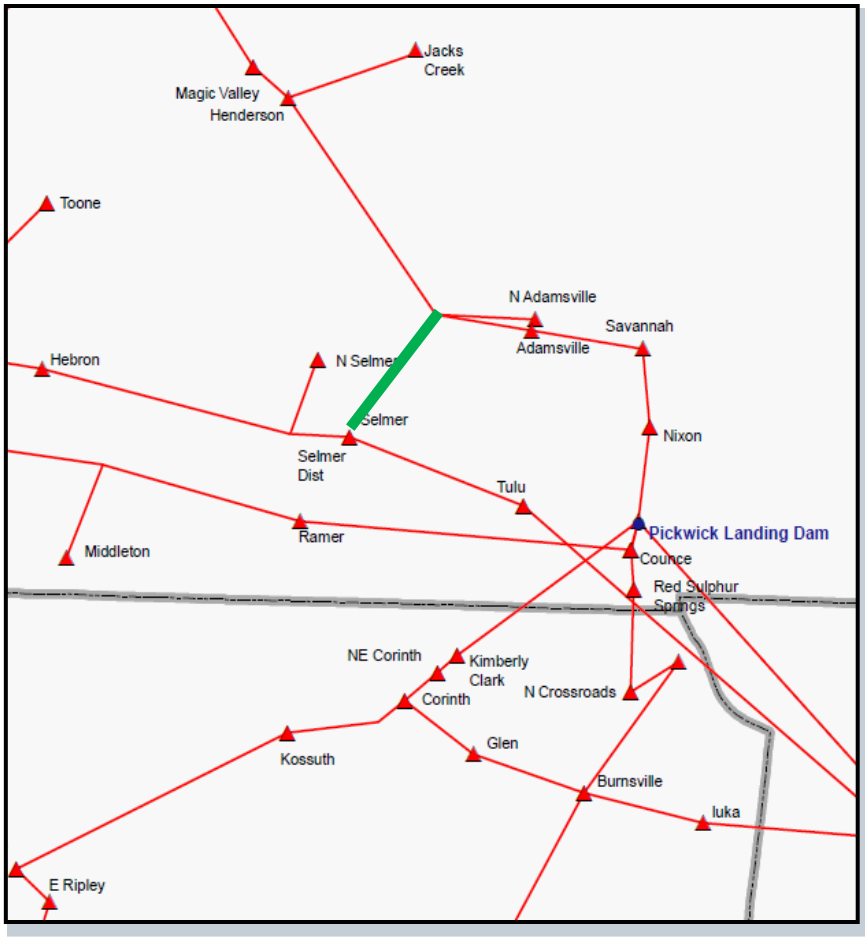
The Alcoa Switching Station – Nixon Road 161 kV transmission line overloads under contingency.



TVA – 4

2017

SELMER – WEST ADAMSVILLE 161 KV T.L.

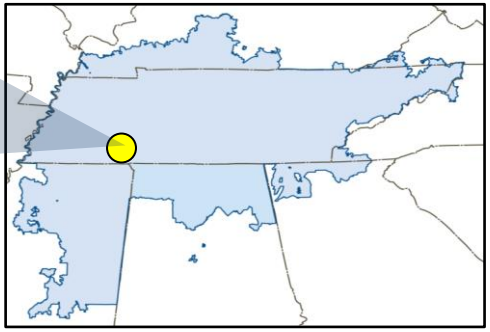


DESCRIPTION:

Construct approximately 15 miles of 161 kV transmission line from Selmer to W. Adamsville with 954 ACSR at 100°C.

SUPPORTING STATEMENT:

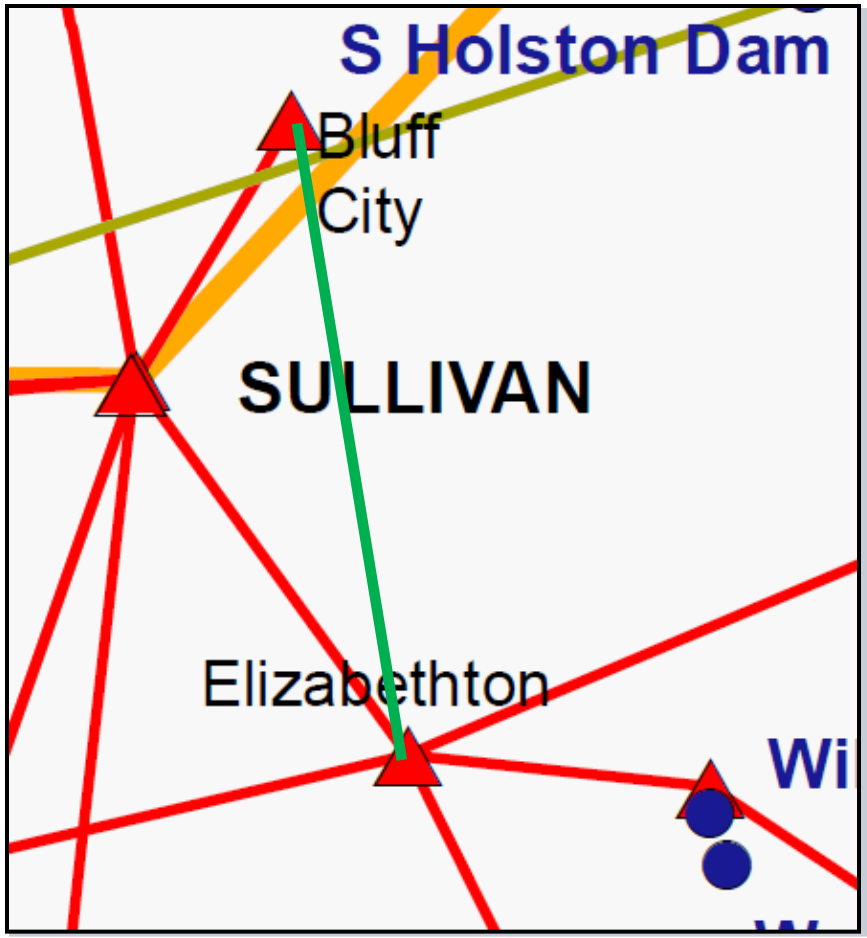
Additional voltage support needed in the Bolivar, TN area under contingency.



TVA – 5

2017

BLUFF CITY – ELIZABETHTON 161 KV T.L.

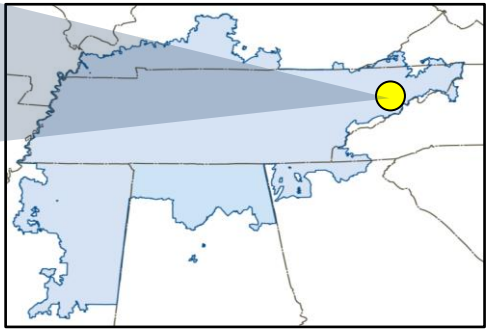


DESCRIPTION:

Construct approximately 12 miles of 161 kV transmission line from Bluff City to Elizabethton with 954 ACSR at 100°C.

SUPPORTING STATEMENT:

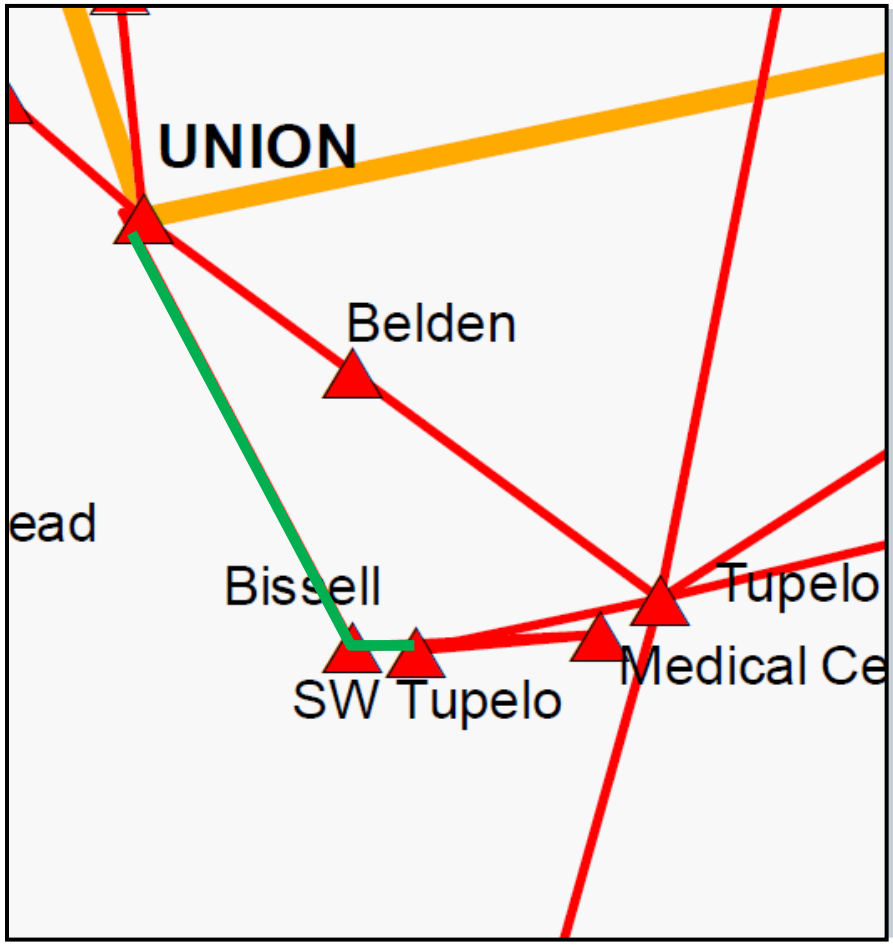
Additional voltage support is needed in the Elizabethton, TN area under contingency.



TVA – 6

2017

UNION – TUPELO #3 161 KV T.L.

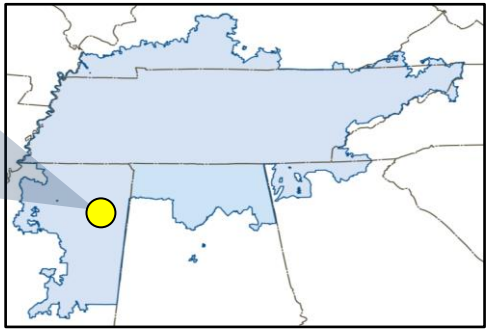


DESCRIPTION:

Construct approximately 15.5 miles of the new Union – Tupelo #3 161 kV transmission line with 954 ACSR at 100°C.

SUPPORTING STATEMENT:

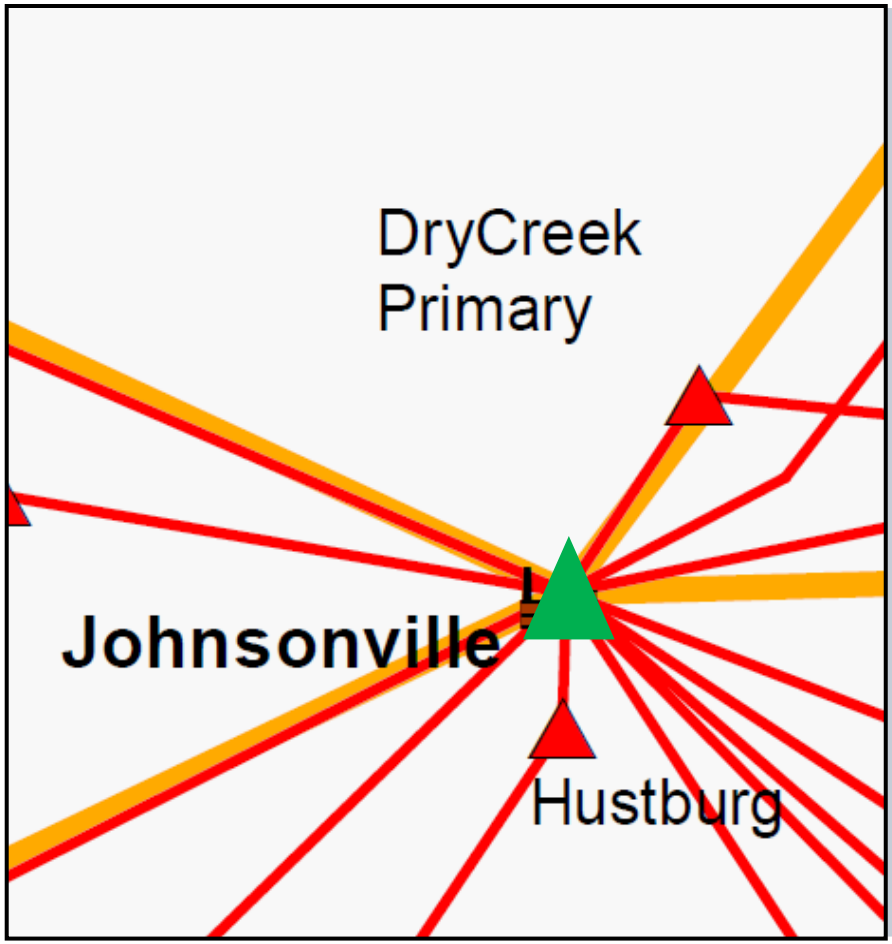
Multiple transmission lines in the Tupelo, MS area overload under contingency.



TVA – 7

2017

JOHNSONVILLE FP SUBSTATION

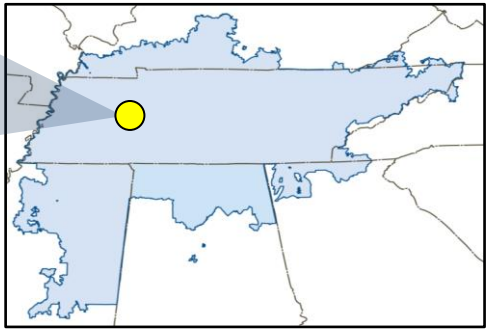


DESCRIPTION:

Install a 500/161 kV inter-tie transformer bank at the Johnsonville Fossil Plant substation.

SUPPORTING STATEMENT:

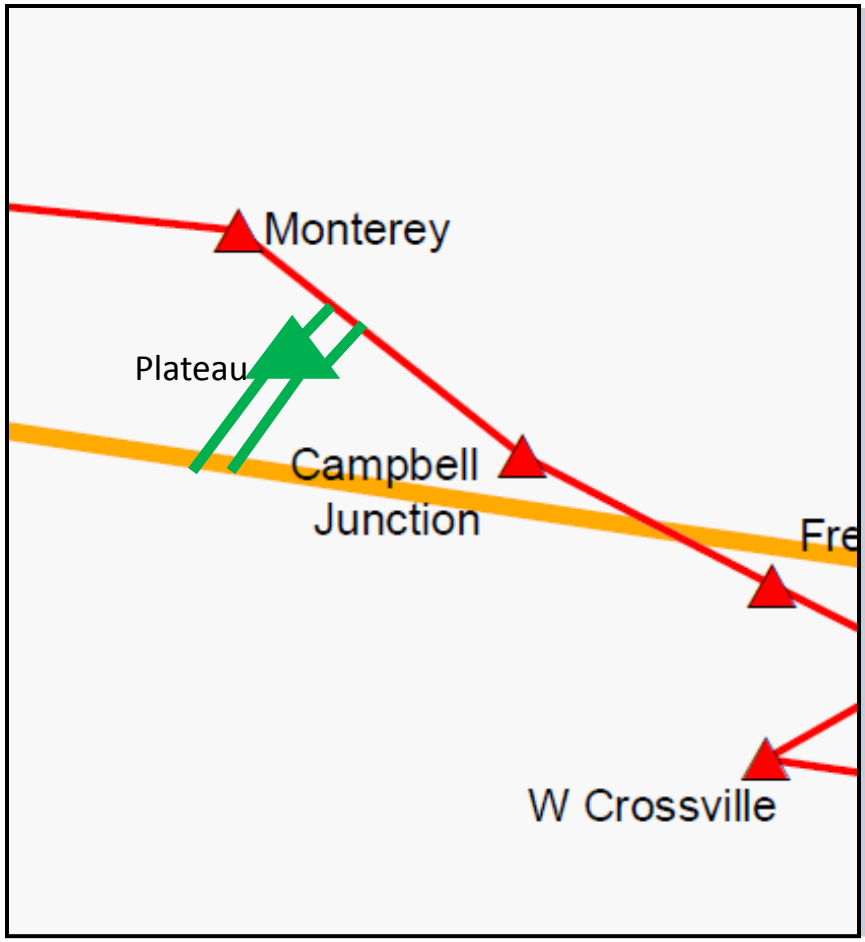
The retirement of Johnsonville units 1-10 requires the replacement of the 500/161 kV inter-tie transformer bank at Johnsonville.



TVA – 8

2018

PLATEAU 500 KV SUBSTATION

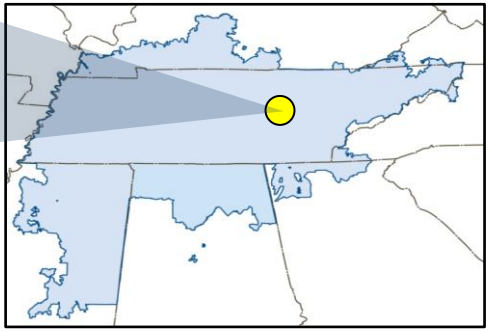


DESCRIPTION:

Construct the Plateau 500 kV substation by looping in the Wilson – Roane 500 kV and West Cookeville – Rockwood 161 kV transmission lines.

SUPPORTING STATEMENT:

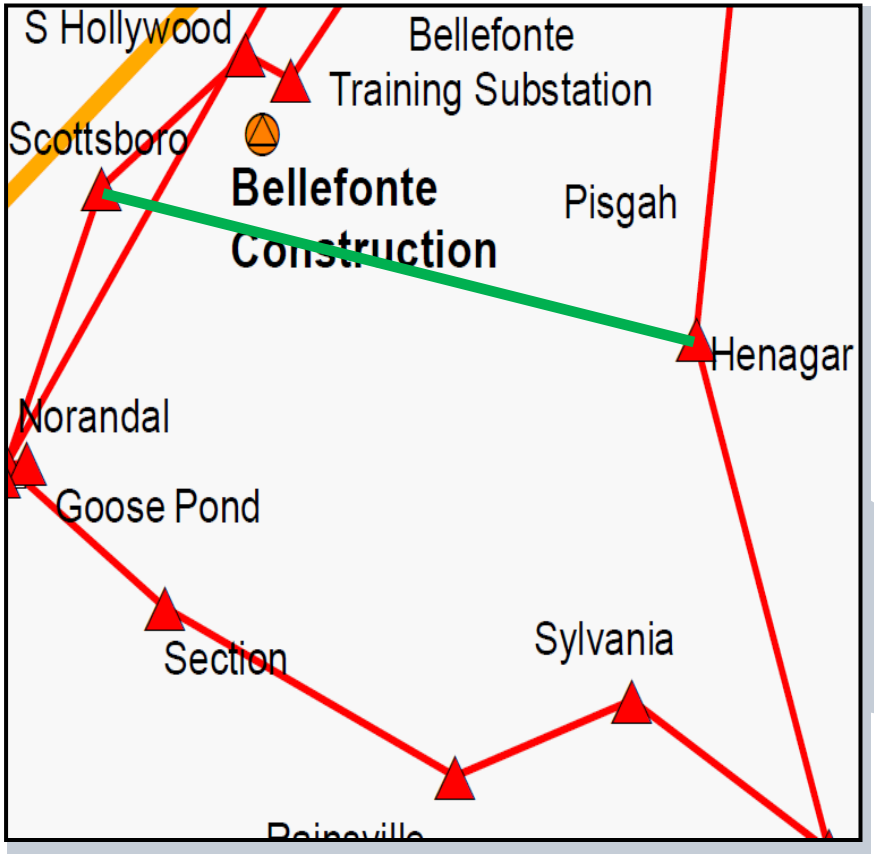
Thermal overload and need for additional voltage support in the Murfreesboro, TN and Knoxville, TN areas under contingency.



TVA – 9

2018

SCOTTSBORO – HENAGAR 161 KV T.L.

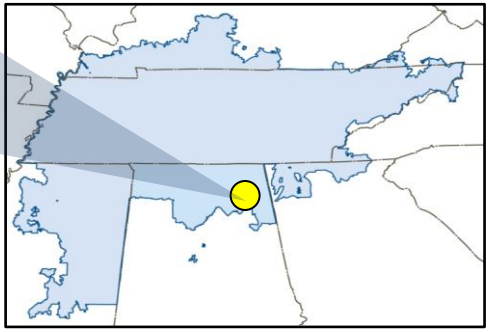


DESCRIPTION:

Construct approximately 17.1 miles of new 161 kV transmission line to create the Scottsboro – Henagar 161 kV transmission line with 954 ACSR at 100°C.

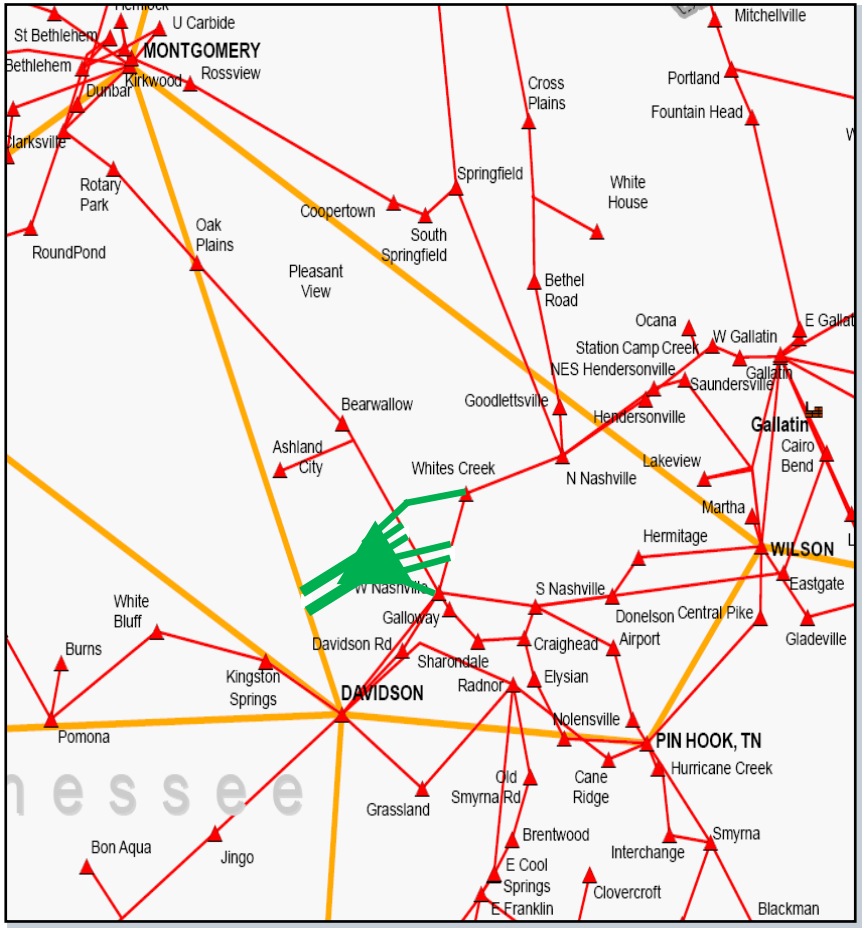
SUPPORTING STATEMENT:

Multiple 161 kV transmission lines in the Ft. Payne, AL area overload under contingency and additional voltage support needed in the Ft. Payne area under contingency.



TVA – 10 2018

NORTH DAVIDSON 500 KV SUBSTATION

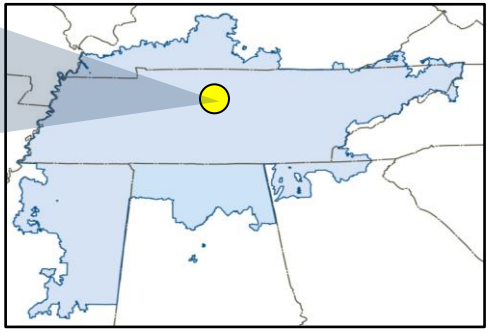


DESCRIPTION:

Construct a 500 kV substation in the North Davidson County, TN area connected to the Montgomery – Davidson 500 kV transmission line and multiple area 161 kV transmission lines.

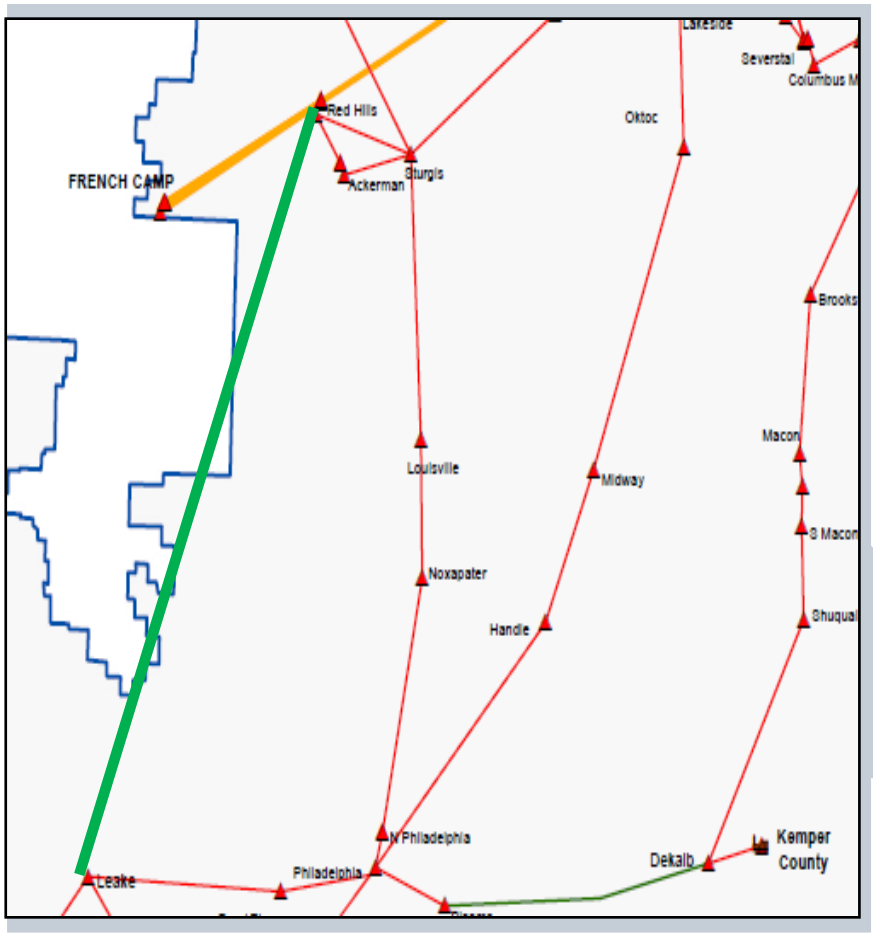
SUPPORTING STATEMENT:

Thermal overloads and additional voltage support needed in the Nashville area under contingency.



TVA – 11 2018

RED HILLS – LEAKE 161 KV T.L.

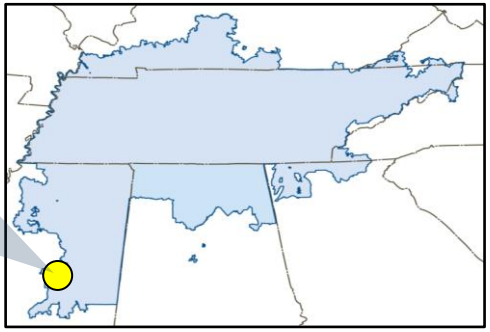


DESCRIPTION:

Construct approximately 60 miles of the new Red Hills – Leake 161 kV transmission line with 954 ACSR at 100°C.

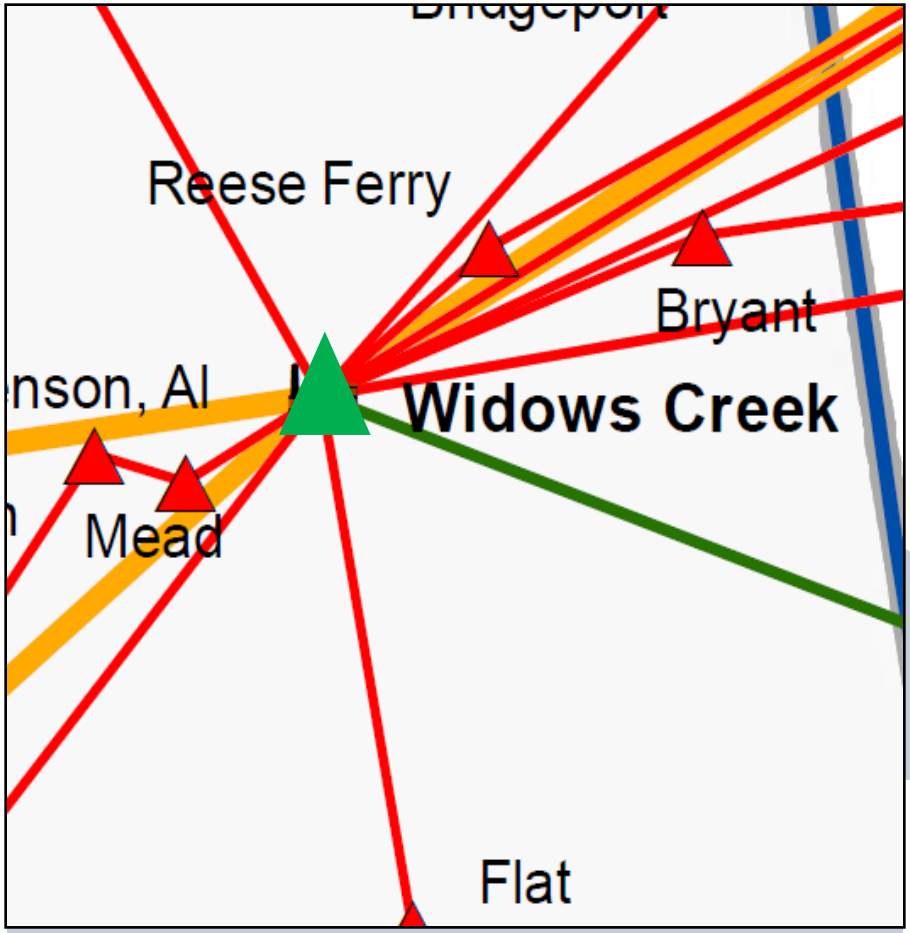
SUPPORTING STATEMENT:

Multiple 161 kV transmission lines in the lower MS area overload under contingency and additional voltage support needed in the lower MS area under contingency.



TVA – 12 2019

WIDOWS CREEK FP SUBSTATION

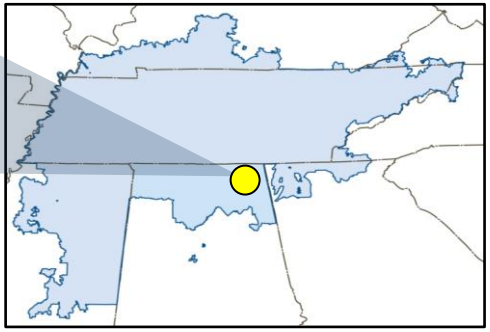


DESCRIPTION:

Install a second 500/161 kV transformer at the Widows Creek Fossil Plant substation.

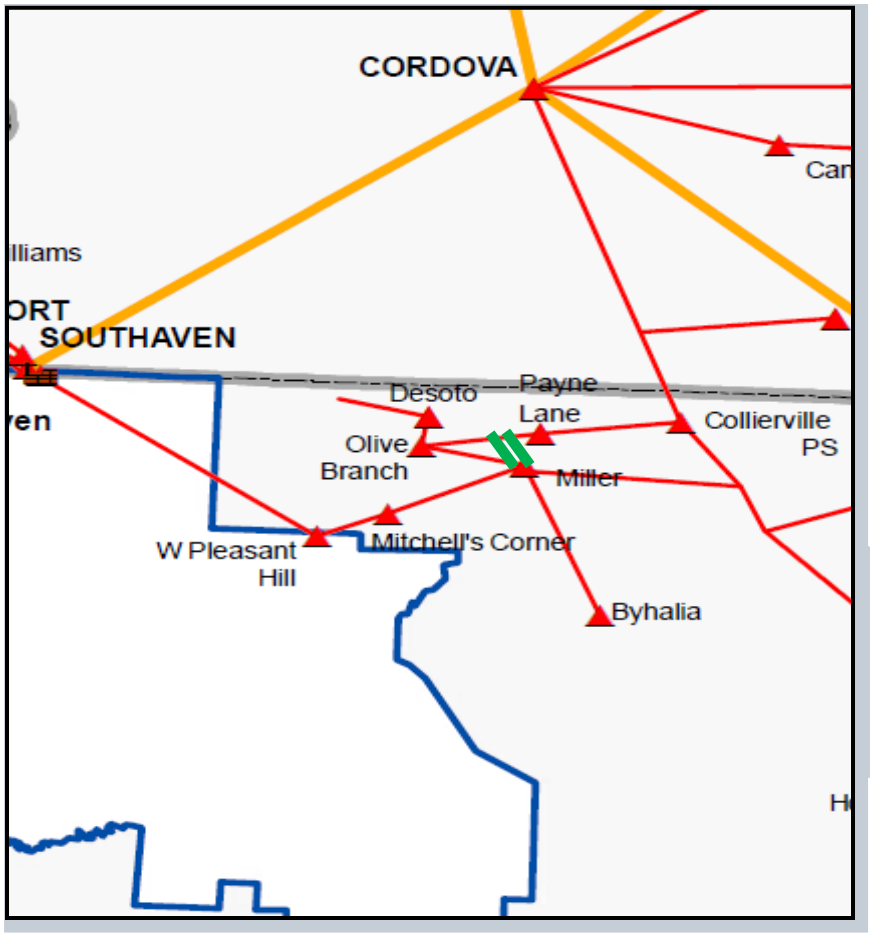
SUPPORTING STATEMENT:

Multiple transmission lines overload and additional voltage support needed in the Huntsville, AL area under contingency.



TVA – 13 2020

MILLER – OLIVE BRANCH #2 161 KV T.L.

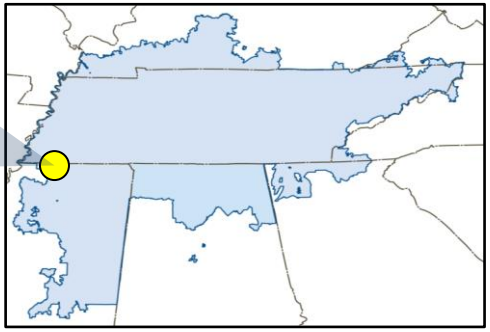


DESCRIPTION:

Loop the Olive Branch – Payne Lane 161 kV transmission line into the Miller, MS 161 kV substation to create the Miller – Olive Branch #2 161 kV transmission line.

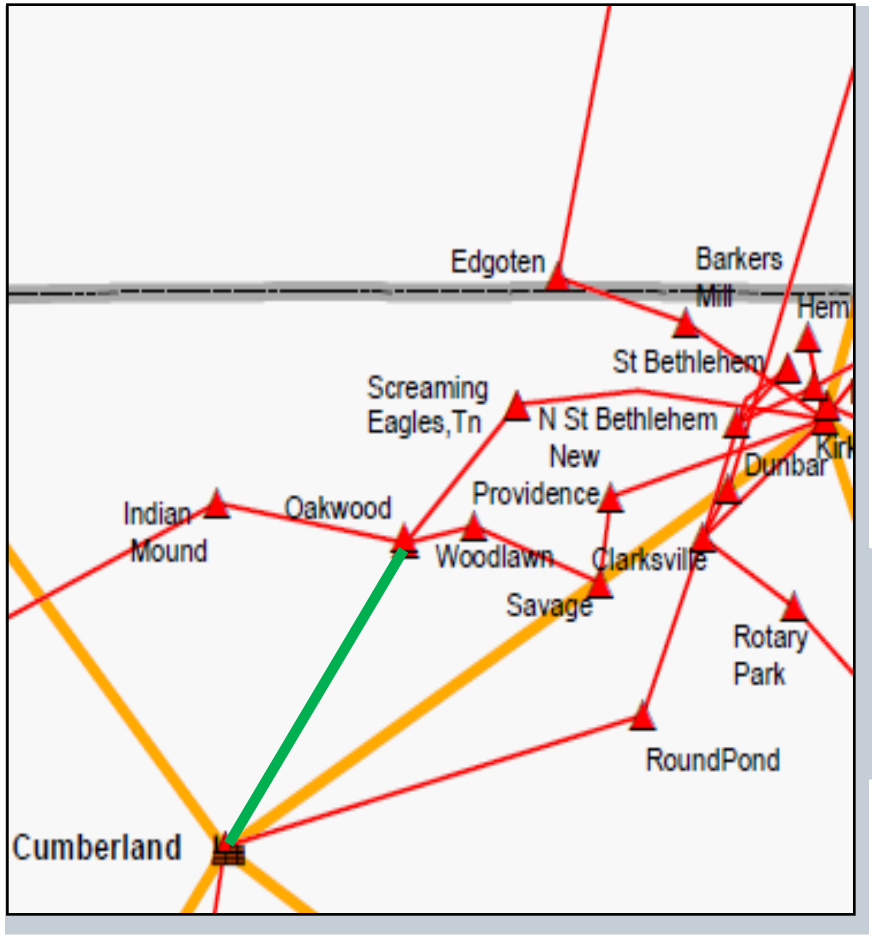
SUPPORTING STATEMENT:

Additional voltage support needed in the Olive Branch, MS area under contingency.



TVA – 14 2020

OAKWOOD – CUMBERLAND 161 KV T.L.

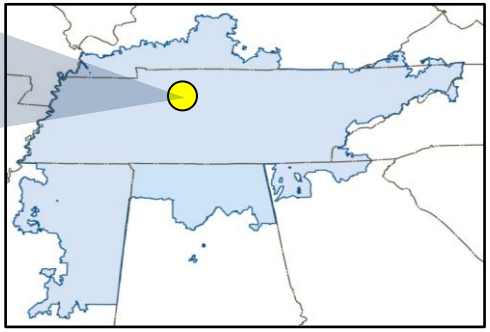


DESCRIPTION:

Construct approximately 16 miles of 161 kV transmission line from Oakwood to Cumberland with 795 ACSR at 100°C.

SUPPORTING STATEMENT:

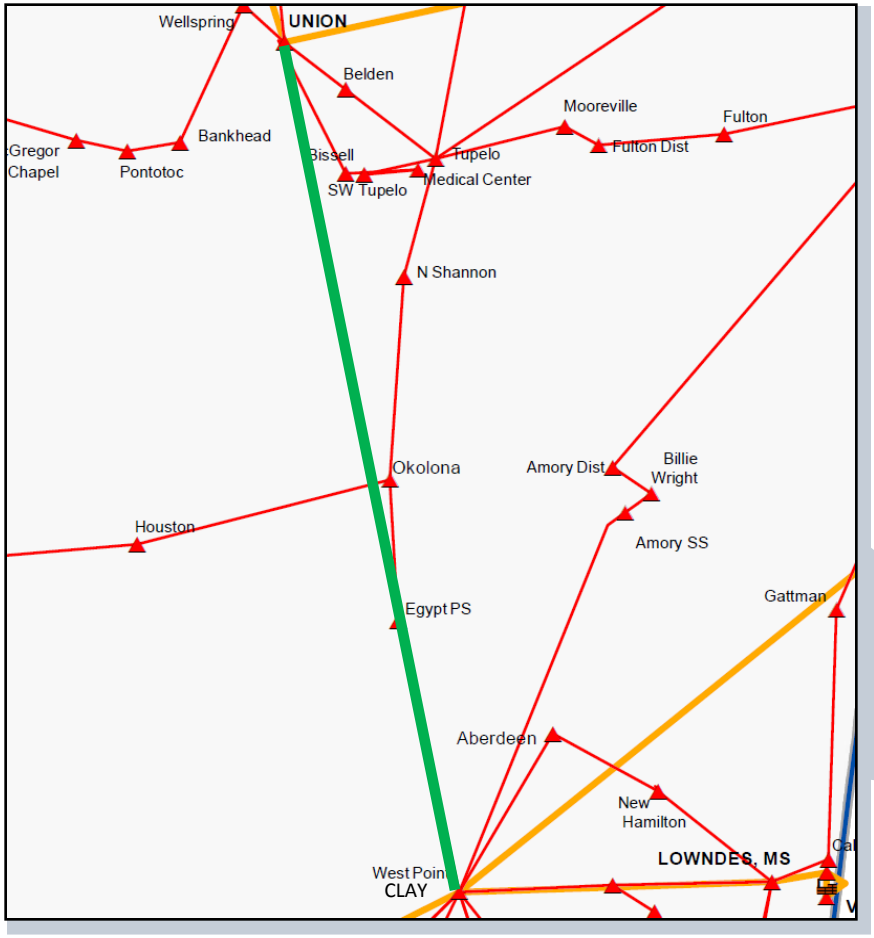
Additional voltage support needed in the Oakwood, TN area under contingency.



TVA – 15

2022

UNION – CLAY 500 KV T.L.

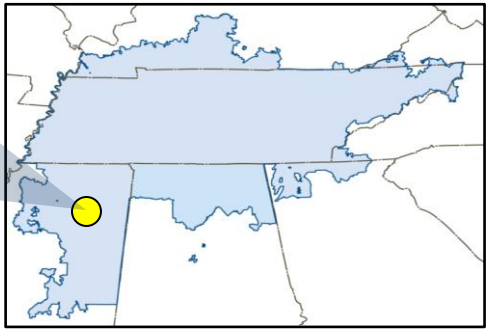


DESCRIPTION:

Construct approximately 50 miles of the Union – Clay 500 kV transmission line using 3-bundled 954 ACSR at 100°C.

SUPPORTING STATEMENT:

Multiple transmission lines overload and additional voltage support needed in the MS area under contingency.



SERTP

REGIONAL MODEL UPDATE

Regional Model Update

- **Currently exchanging the latest transmission models for the ten year planning horizon with FRCC.**

- **FRCC models will be incorporated into subsequent base cases.**

Next Meeting Activities

- **2014 SERTP 3rd Quarter Meeting** – *"Second RPSG Meeting"*
  - **Location:** TBD
  - **Date:** September 2014
  - **Purpose:**
    - Discuss Preliminary Economic Planning Study Results
    - Order 1000 Implementation Update
    - Discuss Previous Stakeholder Input on the Transmission Expansion Plans

Questions?