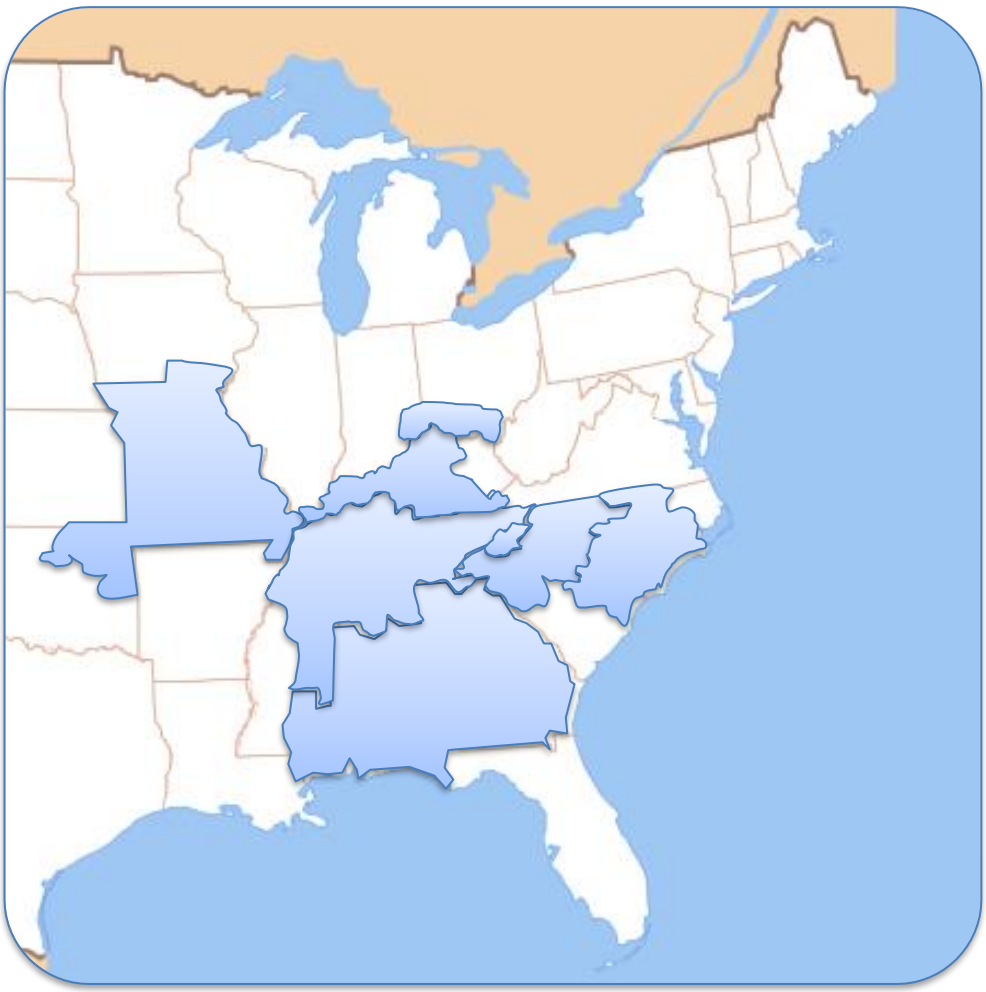
Southeastern Regional TRANSMISSION PLANNING

REGIONAL TRANSMISSION PLAN & INPUT ASSUMPTIONS OVERVIEW

SERTP Southeastern Regional Transmission Planning



November 29, 2018

Regional Transmission Plan & Input Assumptions Overview

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I. SERTP Overview

About the SERTP

The Southeastern Regional Transmission Planning (SERTP) process is a collaboration of ten (10) transmission planning entities in a fourteen (14) state area that coordinates regional transmission planning activities and provides an open and transparent transmission planning forum to engage with stakeholders regarding transmission plans in the region. The SERTP region was initially developed by six (6) sponsors to provide an open and transparent regional transmission planning process and to otherwise comply with the Federal Energy Regulatory Commission's (FERC) Order 890, which was issued in 2007. The SERTP region expanded to its current size and scope due to the like-minded transmission planning philosophies of the current ten (10) collaborating SERTP sponsors. This commonality in transmission planning approaches has facilitated the SERTP region's implementation of FERC's Order 1000, issued in 2011, to establish regional and interregional transmission planning and cost allocation requirements. The SERTP region includes four (4) FERC jurisdictional investor-owned utilities and six (6) non-jurisdictional, non-profit public utilities, who have a longstanding history of collaboration in transmission planning activities and who have voluntarily elected to participate in the SERTP region. The expanded SERTP region, which became effective June 1, 2014, is one of the largest regional transmission planning regions in the United States.

The SERTP Regional Transmission Plan

The SERTP provides an open and transparent transmission planning process. The sponsors' transmission modeling, expansion plans, and other materials are publicly available and provide extensive data regarding the sponsors' transmission systems. Stakeholders can utilize this data to replicate the transmission planning performed through the SERTP as well as to assess a wide range of sensitivities and scenarios of interest.

This SERTP Regional Transmission Plan & Input Assumptions Overview document, which is produced annually, is intended to provide an overview of the 2018 cycle's regional modeling, key assumptions and philosophies, and expansion planning results suitable for any interested stakeholder, as it does not include Critical Energy Infrastructure Information (CEII) materials. Materials which include CEII are also available, subject to completion of the CEII request and

certification process. Additional information is available through the SERTP website (http://www.southeasternrtp.com/).

The SERTP Sponsors

1) **Associated Electric Cooperative (AECI)**

Associated Electric Cooperative Inc.

AECI, a Generation and Transmission (G&T) rural electric cooperative, provides electric service across approximately 75,000 square miles in three states. Headquartered in Springfield, Missouri, AECI serves approximately 875,000 ultimate members through six regional G&Ts and 51 distribution cooperatives. AECI and its six regional G&Ts own over 9,800 miles of transmission lines operated at 69 through 500 kV.

2) **Dalton Utilities (Dalton)**

Dalton UTILITIES

Dalton Utilities provides electric services in Dalton, Georgia and five surrounding counties. Headquartered in Dalton, Georgia, Dalton Utilities serves approximately 18,000 customers and owns over 350 miles of transmission lines.

3) **Duke Energy (Duke)**

DUKE ENERGY.

Duke Energy provides electric service across 95,000 square miles in 6 states. Headquartered in Charlotte, NC, Duke Energy serves approximately 7.3 million customers and owns over 32,400 miles of transmission lines.

Two Duke Energy subsidiaries, Duke Energy Carolinas and Duke Energy Progress, are represented on the SERTP.

4) **Georgia Transmission Corporation (GTC)**

GTC, an electric membership corporation formed in 1997 through a restructuring of Oglethorpe Power Corporation, provides electric service to 38 retail distribution cooperative members in Georgia. Headquartered in Tucker, Georgia, GTC owns approximately 3,150 miles of transmission lines and its members serve approximately 4 million people.

5) **Louisville Gas & Electric and Kentucky Utilities (LG&E/KU)**

LG&E/KU, an investor owned utility, provides electric service across 6,100 square miles in two states. Headquartered in Louisville, KY, LG&E/KU serves approximately 940,000 customers and owns over 2,721 miles of transmission lines.

6) **Municipal Electric Authority of Georgia (MEAG)**

MEAG, a public corporation and an instrumentality of the State of Georgia, provides electric service to 48 cities and one county in Georgia. Headquartered in Atlanta, Georgia, MEAG serves approximately 310,000 customers and owns over 1,320 miles of transmission lines.

7) **Ohio Valley Electric Corporation (OVEC)**

OVEC and Indiana-Kentucky Electric Corporation (IKEC), its wholly-owned subsidiary, is a generation and transmission company, providing its generation output to the 8 investor-owned and cooperative entities who own exclusive rights to that generation. While serving no customers directly, OVEC-IKEC owns two generating stations and over 700 miles of transmission lines across three states. OVEC is headquartered in Piketon, Ohio.

8) PowerSouth Electric Cooperative (PowerSouth)

PowerSouth, a generation and transmission cooperative consisting of 16 distribution cooperatives and 4 municipal systems, provides electric service across 31,000 square miles in 2 states. Headquartered in Andalusia, Alabama, PowerSouth serves approximately 418,000 customers and owns over 2,200 miles of transmission lines.

9) Southern Company (Southern)

Southern Company, a leading U.S. producer of clean, safe, reliable, and affordable energy, includes four electric utility companies that provide electric service across 120,000 square miles in four states. Headquartered in Atlanta, Georgia, Southern Company serves approximately 4.5 million electric customers and owns over 27,000 miles of transmission lines.

10) Tennessee Valley Authority (TVA)

TVA, a federally-owned electrical utility, provides electric service across 80,000 square miles in 7 states. Headquartered in Knoxville, TN, TVA serves approximately 9 million customers and owns over 16,000 miles of transmission lines.

SERTP Region Scope

The SERTP region is located within 14 states, roughly spanning over 600 miles north to south and 1,100 miles east to west. The SERTP region is the largest transmission planning region in the Eastern Interconnect in terms of transmission line miles and is one of the largest based upon customer peak demand. The nine (9) NERC Balancing Authority Areas ("BAAs") in the SERTP region serve combined peak loads totaling more than 122,500 MWs.

Table I.1: State by State Breakdown of SERTP Sponsors

No.	SERTP States	SERTP Sponsor
1	Alabama	PowerSouth, Southern, TVA
2	Florida	PowerSouth, Southern
3	Georgia	Dalton, GTC, MEAG, Southern, TVA
4	Indiana	OVEC
5	Iowa	AECI
6	Kentucky	LG&E/KU, OVEC, TVA
7	Mississippi	Southern, TVA
8	Missouri	AECI
9	North Carolina	Duke, TVA
10	Ohio	OVEC
11	Oklahoma	AECI
12	South Carolina	Duke
13	Tennessee	TVA
14	Virginia	LG&E/KU, TVA

II. SERTP Transmission Planning Approach

Physical Transmission Delivery Service Markets

The fundamental purpose of the transmission system is to enable transmission users the opportunity to access their desired generating resource options to reliably and economically deliver power to serve their customers' loads. In the SERTP region, physical transmission delivery service markets allow transmission customers to procure long-term transmission service across the transmission system and receive dependable, firm delivery from resources to customer loads. The SERTP sponsors plan and expand the transmission system to reliably and economically satisfy the load projections, resource assumptions, public policy requirements, and transmission service commitments within the region. These transmission system delivery capacity requirements are typically driven by long-term, firm commitments and are planned with the intent that those who have made such commitments will be able to access their resources to serve load without congestion, constraint, or curtailment. In other words, the SERTP sponsors identify, evaluate, and implement efficient and cost-effective transmission expansion options to provide sufficient physical capacity to enable delivery of a long-term, firm transmission customer's service without impacting other long-term, firm delivery commitments, and with the intent that the service will normally be available without interruption or curtailment. The physical transmission delivery service markets in the SERTP region not only help to provide certainty in long-term delivery costs, but also minimize delivery risks for transmission users. The resulting planned physical transmission capacity provides for a robust, reliable, and resilient transmission system which responds well under a wide range of operating uncertainties and supports routine maintenance and construction activities.

Integrated Resource Planning and Transmission Planning Interaction

Although many long-term firm transmission delivery service commitments in the SERTP region are made by individual market participants, the majority are made by Load Serving Entities ("LSEs"). LSEs typically have a legal "duty to serve" obligation to reliably and proactively meet current and future load needs, and therefore procure energy, capacity, and transmission services to accomplish this objective. LSEs in the SERTP typically conduct Integrated Resource Planning ("IRP") processes on a reliable and least-cost basis to assess future load-serving needs, consider supply-side and demand-side options, and procure transmission delivery services. The IRP processes of LSEs, which

are often state-regulated, consider a multitude of factors over a long-term horizon in their decisions to select resources and procure delivery services, including reliability, transmission impacts, economics, environmental attributes, economic growth, energy efficiency, resource diversity, applicable regulations, fuel delivery, ancillary services, and construction lead-times. Specifically, LSEs use IRP processes to identify a cost-effective mix of supply-side and demand-side capacity resources to meet future requirements. The physical transmission delivery service markets in the SERTP region enable LSEs to base their decisions on long-term, total delivered costs without exposure to congestion pricing or significant delivery risks.

As LSEs make their resource decisions, these decisions and corresponding transmission service commitments are provided to the SERTP sponsors and form the basis for transmission planning assumptions in the SERTP region. Through their commitments for long-term, firm delivery service, LSEs communicate to the SERTP sponsors the set of resources their IRP processes have selected as best situated to serve their customers' long-term needs. This process significantly reduces uncertainties related to future resources and delivery needs and provides sufficient lead times to enable transmission facilities to be planned and constructed.

The load forecasts, demand-side management programs, resource decisions, and corresponding firm transmission commitments resulting from the IRP activities of LSEs establish the majority of delivery obligations and modeling inputs for transmission planning in the SERTP region.

Customer Needs Lead to Continually Evolving Transmission Plans

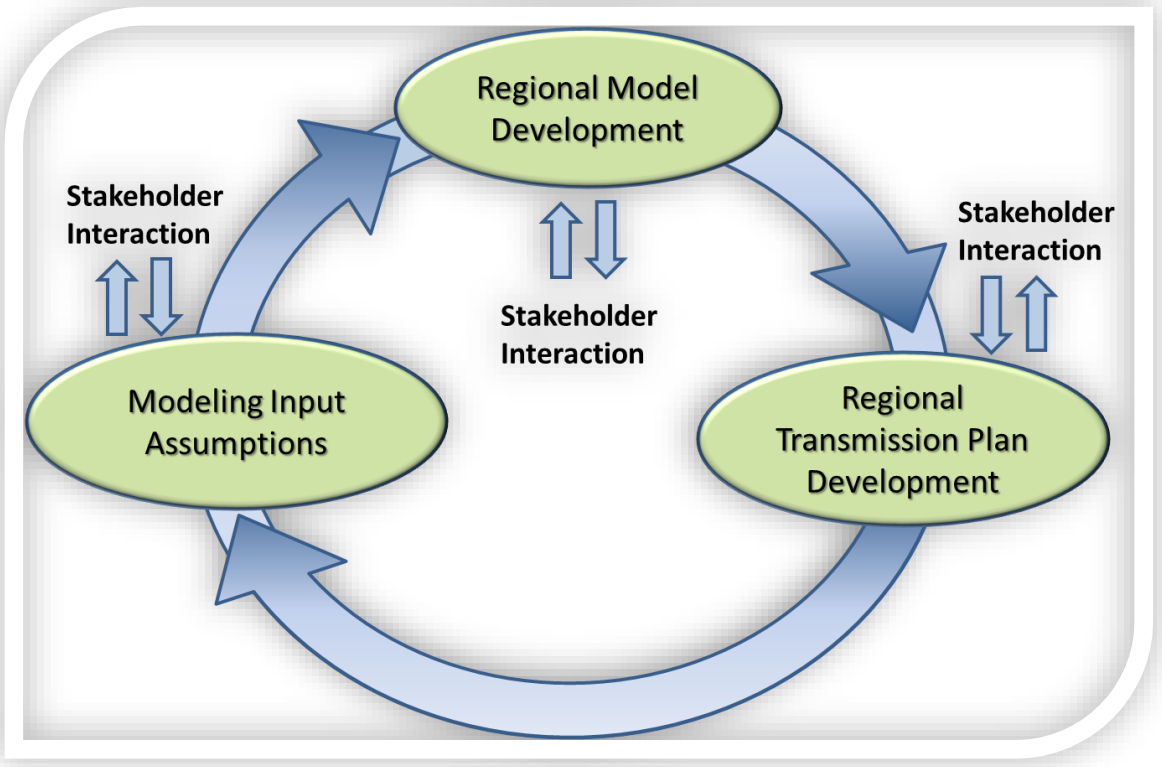
Transmission planning in the SERTP region is focused on identifying reliable, cost-effective transmission projects to meet the long-term firm transmission delivery service obligations to transmission customers, and thereby assisting in serving their forecasted load obligations from their desired resource choices. Simply put, transmission plans are driven by customer transmission delivery service needs, and these needs can be constantly changing. Each year, load forecasts change, resource decisions change, and, as a result, transmission delivery service needs change. On a recurring basis, LSEs and other transmission customers communicate their delivery needs, which the SERTP sponsors incorporate into the latest transmission planning models and analyses. Planned transmission projects are reassessed to ensure that the proper scope and timing of the projects have been identified. Transmission projects are timed to coincide with delivery service needs; early

enough to ensure physical capacity is in place to meet delivery commitments, but not so early as to incur significant carrying costs or limit flexibility if delivery needs change. Each year, planned transmission projects are often re-timed and, in some cases, eliminated.

Although the results of these planning efforts culminate annually into a regional transmission plan document, the regional transmission plan is continually re-evaluated as on-going changes in firm delivery service obligations, forecasted conditions, and identified-project alternatives arise. Therefore, the regional transmission plan is updated and improved upon on a recurring basis, often resulting in the identification of new cost-effective transmission project options, timing changes to existing transmission projects, and the potential removal of some transmission projects from the ten year plan. This planning approach provides a seamless interaction with IRP processes such that as IRP decisions are made, the expected transmission impacts considered in those IRP decisions become reflected in the regional transmission plan, unless other, more cost-effective, reliable solutions have been identified for the then-current forecasted conditions. Similarly, the decisions of other types of market participants to procure long-term, firm transmission delivery service in the SERTP region are incorporated in the development of the regional transmission plan as well. These constantly-changing customer needs drive a constantly-changing regional transmission plan.

The SERTP develops a regional plan each year, but the plan is a "snapshot", solely intended to reflect the then-current transmission plan based upon then-current forecasted assumptions and transmission delivery service needs. Transmission planning is a very iterative process, with delivery needs and associated projects constantly evolving. From the start, transmission planning in the SERTP region reflects a high degree of coordination and joint modeling between neighboring systems. If reliability constraints are identified, the SERTP sponsors work to identify cost-effective, reliable transmission projects, not only on their respective transmission systems, but also considering potential transmission projects across two or more transmission systems. Transmission plans are shared with SERTP stakeholders at regular intervals during the year and the frequent engagement with stakeholders allows for additional inputs into potential project alternatives. Diagram II.1 below illustrates the iterative nature of the SERTP process and the development of the regional transmission plan.

Diagram II.1: Iterative Regional Transmission Plan Development Process



Transmission Planning for Public Policy Requirements

In planning, constructing, operating, and maintaining the transmission system, the responsible transmission entities must meet all local, state, and federal laws/regulations applicable within their respective jurisdictions. These laws and regulations are referred to as public policy requirements ("PPRs"). The SERTP sponsors strive to (and are required by law) to meet all PPRs applicable to planning the transmission system. Although PPRs applicable to transmission planning vary by jurisdiction, some common examples of PPRs involving transmission planning include complying with applicable State Public Service Commission requirements, complying with Nuclear Regulatory Commission requirements related to offsite power, and planning consistent with applicable North American Electric Reliability Corporation ("NERC") Reliability Standards.

Although PPRs related to generating resource decisions are typically applicable to LSEs, these too can impact the development of the transmission plan. By offering physical transmission services, SERTP sponsors help facilitate applicable entities, such as LSEs, in meeting their PPR obligations related to resource decisions. As an example, let's assume a state-enacted PPR requires LSEs within

the state to add additional renewable resources to their generation mixes. An LSE, through its IRP analyses and processes, may determine that its most appropriate resource selection is to import renewable generation from a neighboring area. Alternatively, the LSE may determine that its most appropriate option is to interconnect new renewable generation locally. In either case, the LSE can provide its resource selection decisions through long-term, delivery service commitments to the SERTP sponsors, so that the SERTP sponsors can incorporate these input assumptions into the transmission expansion planning process to accommodate the delivery of the resource selections.

SERTP Regional Planning Process Timeline

As discussed earlier, the SERTP planning process is an iterative process that continually re-evaluates the regional transmission plan based upon changes in actual and forecasted conditions. Often forecasted conditions can change, driven by inputs from native load and wholesale transmission customers such as their load-serving obligations and resource assumptions.

In light of these on-going changes, in a given planning cycle, transmission projects that may be included in the then-current regional plan are re-assessed by the SERTP sponsors, each applying its respective planning criteria, to determine: 1) if a given project continues to be needed, 2) if the timing of the projects should be adjusted, and 3) if potential alternatives exist that may be more reliable and cost-effective to address the underlying transmission capacity requirements.

Diagrams II.2 and II.3 below illustrate the approximate timing and objectives of the SERTP process.

Diagram II.2: SERTP Process – Quarters 1 & 2

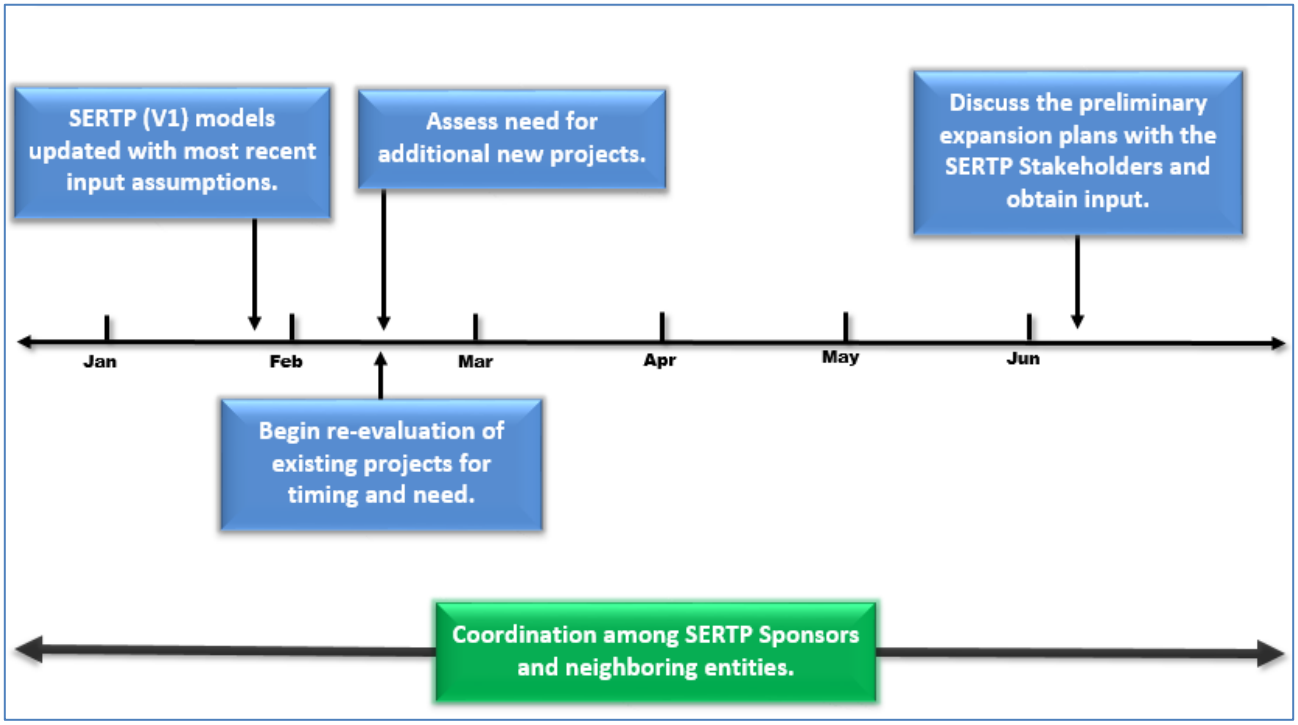
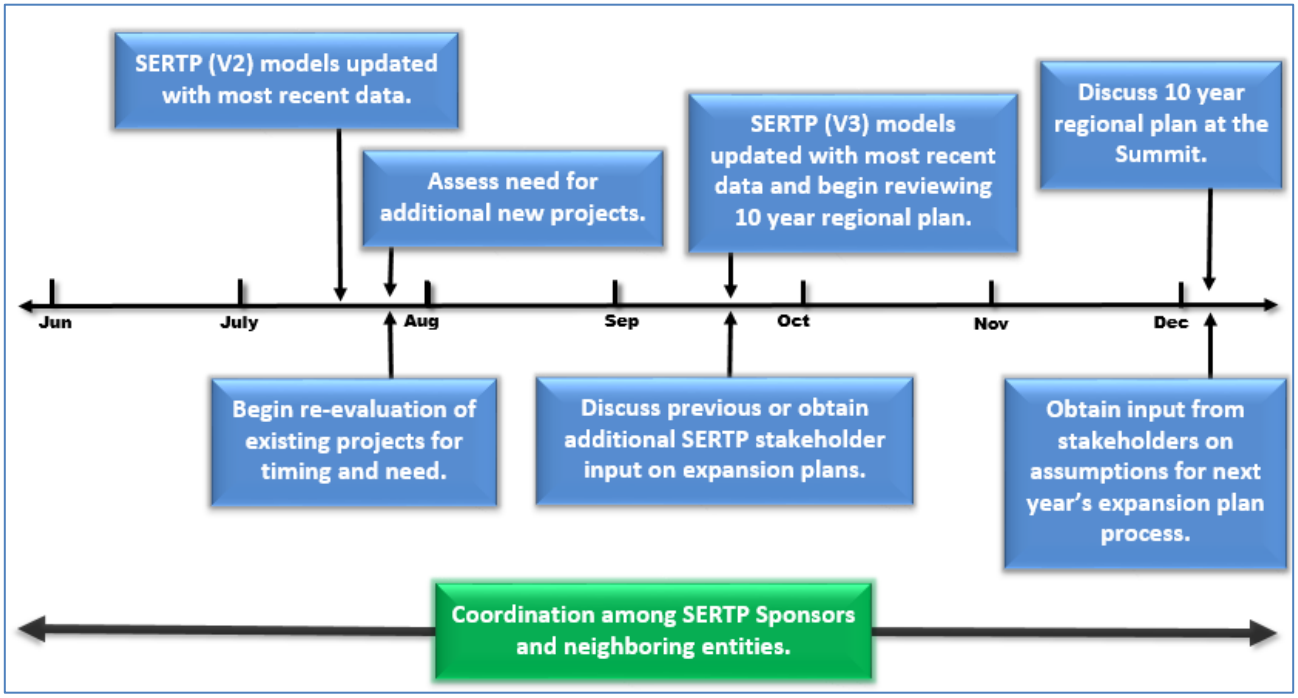


Diagram II.3: SERTP Process – Quarters 3 & 4



The SERTP Region – A Robust, Reliable, Resilient Transmission System

The SERTP sponsors' transmission planning approach has resulted in a robust transmission system intended to enable both native load and wholesale customers the right to use the underlying physical transmission capacity in the system associated with their long-term, firm transmission commitments. In fact, the SERTP region is the largest transmission planning region in the Eastern Interconnect in terms of transmission line miles with over 75,000-line miles.

The 2018 regional transmission plan includes forecasted transmission projects to continue to reliably and cost-effectively provide for the transmission needs of the SERTP region. The planned physical transmission capacity provides for a continued robust, reliable, and resilient transmission system which responds well under a wide range of operating uncertainties and supports routine maintenance and construction activities.

Tables II.1 and II.2 below depict a snapshot of the major transmission expansion project types included in the regional transmission plan throughout the ten-year planning horizon.

Table II.1 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot

SERTP	Total
Transmission lines – New (Circuit Mi.)	358.0
Transmission Lines – Uprates[1] (Circuit Mi.)	1333.0
Transformers[2] – New	20
Transformers[2] – Replacements	9

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table II.2 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage

SERTP	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	100.2	1.1	89.5	167.2	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	950.4	59.6	187.9	135.1	--	--
Transformers[2] – New	--	1	--	14	2	3
Transformers[2] – Replacements	3	--	--	5	1	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

III. SERTP Regional Modeling

Regional Model Development

The SERTP annually develops regional powerflow models, which include the coordinated inputs and assumptions needed to support on-going regional transmission planning analyses. These models, which are available to SERTP stakeholders via the secure area of the SERTP website, are utilized by SERTP sponsors to perform regional transmission planning analyses and are also well suited to support SERTP stakeholders in conducting a wide range of scenarios and sensitivities that may be of interest. Table III.1 below provides a list of the 2018 series set of SERTP powerflow models. Additional models may be developed on an "ad hoc" basis based upon the requirements of the then-current planning cycle.

Table III.1: 2018 Series set of SERTP Powerflow Models

No.	Season	Year	MMWG Starting Point Case
1	Summer	2019	2019S
2		2021	2019S
3		2023	2022S
4		2024	2022S
5		2026	2022S
6		2028	2027S
7	Shoulder	2021	2019S
8		2023	2022SH
9		2026	2022SH
10		2028	2027S
11	Winter	2023	2022W
12		2028	2027W

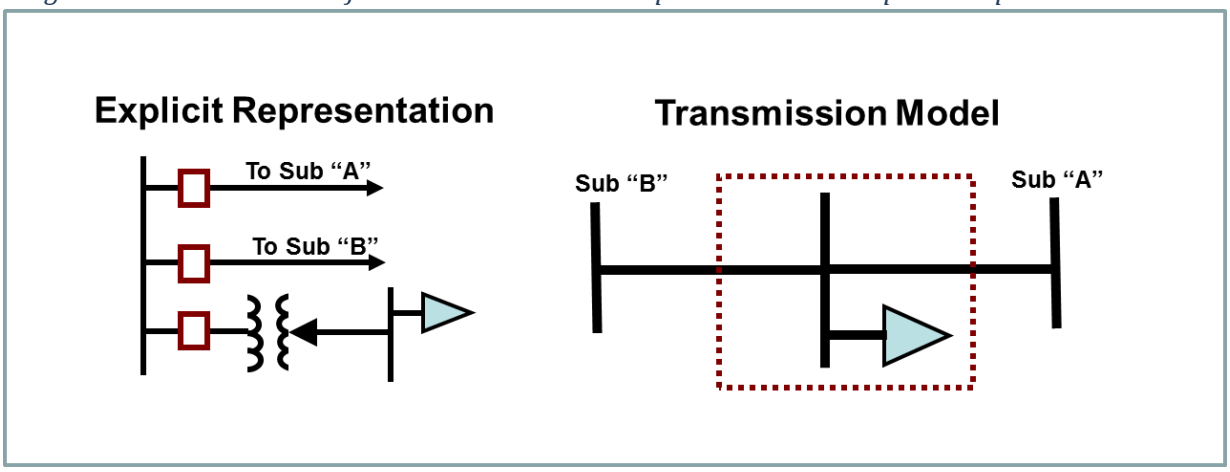
The SERTP regional powerflow models provide representations of the existing transmission topology plus forecasted topology changes throughout the ten-year planning horizon. In addition, these models incorporate the input assumptions provided by LSEs and other transmission customers for use in planning the transmission system.

The powerflow models provide a comprehensive representation of the actual and forecasted transmission system so that simulations of the transmission system's ability to reliably accommodate firm delivery service commitments can be performed. The SERTP conducts interactive stakeholder

training on modeling and analysis techniques each year intended to help stakeholders better understand and utilize the abundance of information provided in these materials. More information on previous training presentations can be found on the SERTP website.

In the models, transmission lines, transformers, and substations are modeled as branches and nodes (buses). In general, radial transmission facilities only serving load with one source are typically not considered Bulk Electric System (BES) facilities and therefore, are not explicitly modeled. Diagram III.1 depicts a simple example of how an explicit substation representation might be reflected in the powerflow models.

Diagram III.1: SERTP Powerflow Model Substation Representation – Simple Example



The regional powerflow models are considered and marked as Critical Energy Infrastructure Information (CEII). The Federal Energy Regulatory Commission defines CEII as being specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that:

1) Relates details about the production, generation, transmission, or distribution of energy;
2) Could be useful to a person planning an attack on the critical infrastructure;
3) Is exempt from mandatory disclosure under the Freedom of Information Act; and
4) Does not simply give the general location of the critical infrastructure.

The SERTP models and other CEII materials are available to SERTP stakeholders, but are kept in the secure area of the SERTP website for the reasons discussed above. The process by which a stakeholder can obtain access to CEII can be found on the SERTP website.

Regional Modeling Input Assumptions

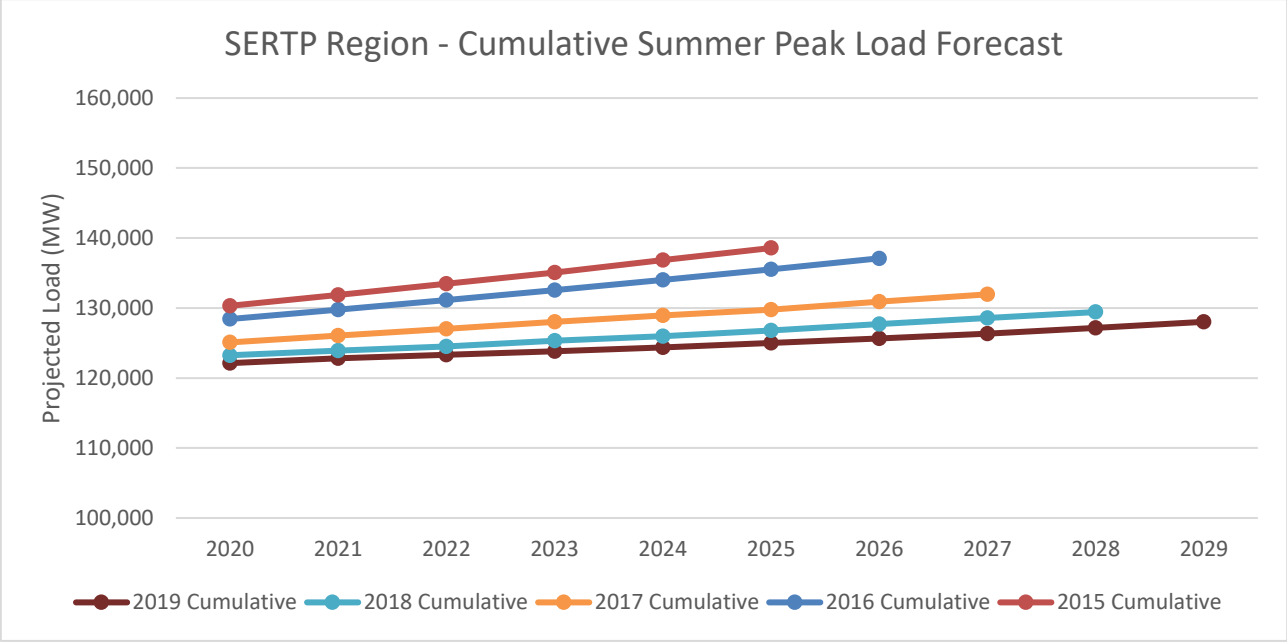
Vast amounts of data and information, such as the SERTP regional models, are available to all SERTP stakeholders, but are generally more geared towards an engineering audience. Therefore, the summaries below are intended to provide an overview of the modeling assumptions.

Section III and Appendices 1-9 include detailed information on the input assumptions reflected in the regional powerflow models and considered in the transmission planning process. The data shown is representative of the input assumptions provided by LSEs and other transmission customers for specific use in planning the transmission system during the 2018 planning cycle.

Load Forecasts

LSEs, who are responsible for identifying and securing the firm transmission delivery services necessary to meet their current and forecasted load serving requirements, annually supply the SERTP sponsors with revised load forecasts. The SERTP sponsors incorporate the latest load forecasts from each LSE into the latest series of SERTP powerflow models. Diagram III.2 provides cumulative load forecast trends by year for the SERTP region for each of the last five years. As shown in the diagram, the 2018 series SERTP power flow models reflect a reduced peak load forecast as compared to previous years' load forecasts.

Diagram III.2: Cumulative SERTP Load Forecast



The SERTP powerflow models provide more detailed information on the forecasted load. The 2018 series SERTP powerflow models are made available through the secure area of the SERTP website.

Energy Efficiency and Demand Side Management

The load forecasts provided by LSEs often reflect reduced load serving requirements for particular loads based upon energy efficiency ("EE") and demand side management ("DSM") options. Such options are developed as a part of each individual LSE's IRP processes on a state-by-state and program-by-program basis and therefore can vary in structure and operational characteristics.

The transmission planning process in the SERTP necessarily plans for each LSE's loads consistent with their desired treatment of such loads. While each LSE may treat their load forecasting process and assumptions differently, the following describes the typical treatment of energy efficiency and demand side resources.

LSEs proactively seek out DSM options that are economical and of interest to customers. In many cases, such DSM options are setup and implemented under the purview of state-approved programs, and therefore the LSE treats the DSM options in its load forecasting process consistent with the parameters of such programs. Energy efficiency and non-dispatchable (passive) demand side resources are typically treated as load-modifying and are reflected in a reduced load forecast provided by the LSEs and incorporated in the SERTP transmission planning models. Dispatchable (active) demand side resources are accounted for and considered as part of the resource decisions that are provided by each LSE. LSEs often do not treat these demand side resources as load-modifying when supplying load forecast assumptions into the SERTP process because of a multitude of factors, including:

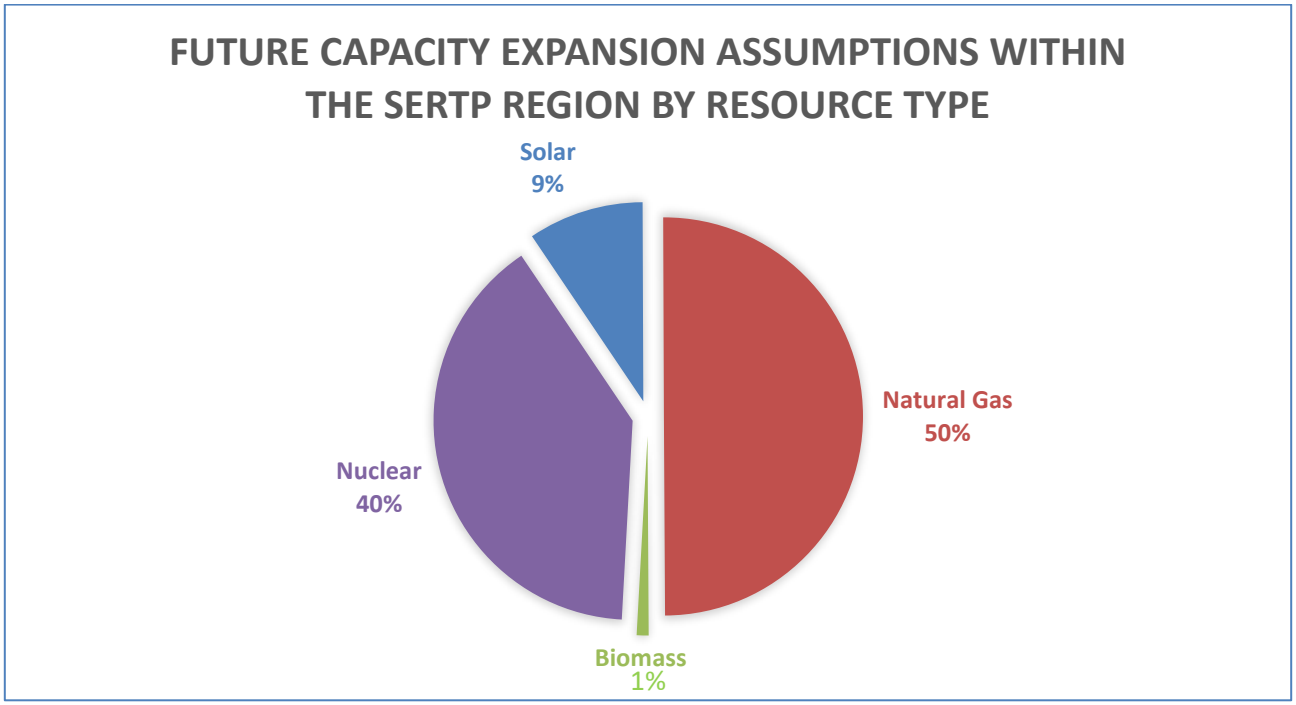
- A significant number of exposure hours can greatly exceed the number of hours a DSM resource may be available
- Relying upon active DSM to address transmission constraints can lead to response fatigue from customers and potential withdrawal from DSM programs
- The operational characteristics of active DSM resources may be insufficient to address transient transmission needs

Generating Resources

The 2018 series SERTP powerflow databases available on the secure area of the SERTP website contain information on each of the generating resources connected within the SERTP region as well as those that are planned to be connected within the ten-year planning horizon. Detailed tabular reports on such information can be run on the powerflow databases utilizing PSS/E software.

LSEs and market participants routinely make changes in their generation resource assumptions and associated transmission delivery service commitments. These changes can have many different drivers, including the selection of new resources, the retirement of generation, and the expiration of purchase power agreements. The SERTP sponsors reflect the latest generation resource assumptions, as provided by LSEs, in the then-current modeling and transmission planning analyses. Appendices 1 through 9 depict changes in the generation resource assumptions that occur in the ten (10) year transmission planning cycle, including the year(s) in which they occur for each BAA in the SERTP region. Several of the changes in the generation resource assumptions represent capacity sourced from assumed generation expansion within the SERTP region. Diagram III.3 provides a breakdown, by resource type, of these generation expansion assumptions within the SERTP region.

Diagram III.3: Future Capacity Expansion Assumptions within the SERTP Region by Resource Type



Generation assumptions within the SERTP region can also stem from long-term, firm point-to-point transmission service commitments. Additional information on long-term firm transmission service commitments considered in the 2018 SERTP process is available in Appendices 1 through 9 as well as on each SERTP sponsor's respective OASIS site.

Interface Commitments

In addition to the firm transmission delivery service commitments made by LSEs that source and sink within their NERC BAA, firm transmission delivery service commitments may exist that source and/or sink across two NERC BAAs. These commitments are called interface commitments.

While interface commitments can stem from a number of drivers, many of these commitments are the result of LSEs opting to procure transmission capacity to receive deliveries from off-system resources to serve their loads. Other market participants may also utilize long-term, firm transmission delivery service to obtain delivery priority to access either committed or potential customers in other BAAs. The interfaces are also planned to maintain reliability margins to address uncertainties which may arise in real-time operations. Two types of reliability margins are 1) Transmission Reliability Margin ("TRM"), which is capacity preserved to provide reasonable assurance that the interconnected transmission network will be secure under the inherent uncertainty in real-time system conditions and 2) Capacity Benefit Margin ("CBM"), which is capacity preserved to enable LSEs access to generation from other interconnected systems to meet generation reliability requirements should times of emergency generation deficiencies arise.

Each SERTP sponsor plans the transmission system to accommodate all its long-term firm interface commitments including reliability margins. This planning, along with planning for other long-term firm commitments, has resulted in a highly integrated and robust network of ties within the SERTP region.

Appendices 1 through 9 provide detail on the interface commitments modeled in the 2018 series SERTP regional powerflow models. Additional information on the long-term firm transmission service interface commitments considered in the 2018 SERTP process is available on each SERTP sponsor's respective OASIS sites.

IV. SERTP Regional Transmission Plan Summary

Regional Plan Summary

The regional transmission plan represents the culmination of each year's planning cycle assessment, providing a "snapshot" of the transmission capacity requirements to safely, reliably, and economically serve the load within the SERTP region based upon the current resource assumptions of LSEs and other transmission customers. As described in Sections II & III, the regional transmission plan is continually assessed and may be revised based upon changes to these input assumptions.

The 2018 SERTP regional transmission plan, found in its entirety in Section V, consists of over 150 transmission projects, totaling an estimated $2.8 billion dollars, including: over 300 miles of new transmission lines, over 1300 miles of transmission line uprates (including upgrades, reconductors, and rebuilds), and 29 transformer additions and/or replacements. This planned physical transmission capacity provides for a continued robust, reliable, and resilient transmission system that responds well under a wide range of operating uncertainties and supports routine maintenance and construction activities. Tables II.1 and II.2 in Section II provide additional cumulative breakdowns on the regional transmission plan, while Appendices 1 through 9 depict tabular breakdowns for each BAA.

V. The SERTP Regional Transmission Plan

SERTP REGIONAL TRANSMISSION PLAN

Associated Electric Cooperative Inc.

MEAG POWER

Dalton UTILITIES

OVEC IKEC
Ohio Valley Electric Corporation / Indiana-Kentucky Electric Corporation

DUKE ENERGY

PowerSouth ENERGY COOPERATIVE

GeorgiaTransmission

Southern Company

LG&E KU

TVA

November 29, 2018

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[1] The projects described in this document represent the current regional transmission plan. This plan, along with the transmission projects included within it, is periodically reviewed and may be revised due to changes in assumptions. This document does not represent a commitment to build for projects listed in the future.

In-Service Year:	2020
Project Name:	**MACEDONIA – DILLON 138 KV T.L. & MACEDONIA 138 KV SUBSTATION**
Description:	Construct approximately 1.1 miles of 138 kV transmission line from Macedonia to Dillon (Ameren) with 795 ACSR at 100°C and install a 56 MVA 138/69 kV transformer at Macedonia.
Supporting Statement:	The Maries – Rolla West transmission line overloads under contingency and additional voltage support is needed in the Maries and Rolla areas under contingency

In-Service Year:	2019
Project Name:	**BALLANTYNE SWITCHING STATION**
Description:	Convert Springfield Tap Station into Ballantyne Switching Station.
Supporting Statement:	The Wylie Switching to Morning Star Tie 100 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**BELAIR SWITCHING STATION**
Description:	Construct a new five breaker switching station on the North Greensboro – Robbins Road 100 kV transmission line.
Supporting Statement:	The North Greensboro – Robbins Road 100 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**NORTH GREENVILLE – TIGER 100 KV TRANSMISSION LINE**
Description:	Rebuild approximately 11.0 miles of the North Greenville – Tiger 100 kV transmission line with 954 ACSR at 120°C.
Supporting Statement:	The North Greenville – Tiger 100 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**RIVERBEND STEAM STATION**
Description:	Install 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.

In-Service Year:	2019
Project Name:	**RURAL HALL STATIC VAR COMPENSATOR (SVC)**
Description:	Install a new 100 kV, +100/-300 Static VAR Compensator (SVC) at Rural Hall Tie.
Supporting Statement:	Additional voltage support is needed in the northern region of Duke Energy Carolinas Balancing Authority Area under contingency.

In-Service Year:	2020
Project Name:	**ORCHARD 230/100 KV TIE**
Description:	Construct a new 230/100 kV Tie Station, southwest of Maiden NC at the intersection of the Lincoln CT - Longview Tie 230 kV transmission line and the Lincolnton Tie - Hickory Tie 100 kV transmission line.
Supporting Statement:	To support additional load growth in the area.

In-Service Year:	2020
Project Name:	**SADLER TIE – DAN RIVER 100 KV TRANSMISSION LINE**
Description:	Construct approximately 9.2 miles of new 100 kV transmission line between Dan River Steam Station and Sadler Tie with 954 AAC at 120°C.
Supporting Statement:	Thermal overloads occur around Dan River Steam Station and Dan River Combined Cycle Station under contingency.

In-Service Year:	2020
Project Name:	**WILKES TIE 230 KV SUBSTATION**
Description:	Install a new 230/100 kV, 448 MVA transformer at Wilkes Tie.
Supporting Statement:	Thermal overloads occur near North Wilkesboro Tie and additional voltage support is needed in the area under contingency.

In-Service Year:	2024
Project Name:	**BECKERDITE – LINDEN ST 100 KV TRANSMISSION LINE**
Description:	Reconductor approximately 16.0 miles of the double circuit Beckerdite – Linden St. 100 kV transmission line with bundled 477 ACSR.
Supporting Statement:	The Beckerdite – Linden St. 100 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**CENTRAL – SHADY GROVE 230 KV TRANSMISSION LINE**
Description:	Reconductor approximately 18.0 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.

In-Service Year:	2024
Project Name:	**MONROE – LANCASTER 100 KV TRANSMISSION LINE**
Description:	Rebuild approximately 20.0 miles of the Monroe – Lancaster 100 kV transmission line with 954 ACSR at 120°C.
Supporting Statement:	The Monroe – Lancaster 100 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**PLEASANT GARDEN 500/230 KV SUBSTATION**
Description:	Upgrade the existing 500/230 kV transformer to 2078 MVA at Pleasant Garden Substation.
Supporting Statement:	The existing Pleasant Garden 500/230 kV transformer overloads under contingency.

In-Service Year:	2024
Project Name:	**STAMEY – STATESVILLE 100 KV TRANSMISSION LINE**
Description:	Reconductor approximately 8.0 miles of the Stamey – Statesville 100 kV transmission line with 795 ACSR and 954 ACSR at 120°C.
Supporting Statement:	The Stamey – Statesville 100 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**WALNUT COVE – RURAL HALL 100 KV TRANSMISSION LINE**
Description:	Split approximately 10.0 miles of the bundled six wire Walnut Cove – Rural Hall 100 kV transmission line circuit into two circuits.
Supporting Statement:	The Walnut Cove – Rural Hall 100 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**ASHEBORO – ASHEBORO EAST (NORTH) 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 6.5 miles of the Asheboro – Asheboro East (North) 115 kV transmission line using 1590 ACSR rated for 307 MVA. Replace disconnect switches at Asheboro 230 kV substation and both the breaker and the disconnect switches at Asheboro East 115 kV substation with equipment of at least 2000A capability.
Supporting Statement:	The Asheboro – Asheboro East (North) 115 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**GRANT'S CREEK – JACKSONVILLE 230 KV TRANSMISSION LINE**
Description:	Construct approximately 12.0 miles of new 230 kV transmission line from Jacksonville 230 kV substation to a new 230 kV substation at Grant's Creek with bundled 6-1590 ACSR or equivalent conductor rated for 1195 MVA. Build the new 230 kV Grant's Creek substation with four 230 kV breakers and a new 230/115 kV, 300 MVA transformer.
Supporting Statement:	The Havelock – Jacksonville 230 kV transmission line overloads under contingency and additional voltage support is needed in the Jacksonville area.

In-Service Year:	2020
Project Name:	**HARLOWE – NEWPORT 230 KV TRANSMISSION LINE**
Description:	Construct a new 230 kV switching station at Newport, construct a new 230 kV substation at Harlowe, and construct approximately 10.0 miles of new 230 kV transmission line from Harlowe to Newport Area with 1590 ACSR or equivalent conductor rated for 680 MVA.
Supporting Statement:	Additional voltage support is needed in the Havelock – Morehead area under contingency.

In-Service Year:	2020
Project Name:	**IND 304717 115 KV CAPACITOR BANK**
Description:	Install one 18 MVAR capacitor bank at IND 304717 115 kV substation.
Supporting Statement:	Additional voltage support is needed in the Hartsville area under contingency.

In-Service Year:	2020
Project Name:	**PROSPECT 230 KV CAPACITOR STATION**
Description:	Construct a new capacitor bank station near Brunswick EMC Prospect 230 kV substation off the Brunswick # 2 – Whiteville 230 kV transmission line, and install one 60 MVAR capacitor bank at the new station.
Supporting Statement:	Additional voltage support is needed in the Prospect area under contingency.

In-Service Year:	2020
Project Name:	**SMITHFIELD 115 KV CAPACITOR STATION**
Description:	Construct a new capacitor bank station near Smithfield 115 kV substation and install one 18 MVAR capacitor bank at Smithfield 115 kV substation.
Supporting Statement:	Additional voltage support is needed in the Smithfield area under contingency.

In-Service Year:	2020
Project Name:	**SUTTON PLANT – CASTLE HAYNE 115 KV (NORTH) TRANSMISSION LINE**
Description:	Rebuild approximately 8.0 miles of the Sutton Plant – Castle Hayne 115 kV North transmission line using 1272 ACSR rated for 239 MVA.
Supporting Statement:	The Sutton Plant – Castle Hayne 115 kV North transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**LOUISBURG AREA 115 KV CAPACITOR STATION**
Description:	Construct a capacitor bank station near Louisburg 115 kV substation and install one 18 MVAR capacitor bank at Smithfield 115 kV substation.
Supporting Statement:	Additional voltage support is needed in Louisburg area under contingency.

In-Service Year:	2022
Project Name:	**IND 304440 – MAXTON 115 KV RECONDUCTOR**
Description:	Reconductor approximately 3.5 miles of the IND 304440 – Maxton 115 kV transmission line with 795 ACSR. Replace existing 600A switches with 1200A switches.
Supporting Statement:	The IND 304440 – Maxton section of the Weatherspoon – IND 304440 115 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**BRUNSWICK #1 – JACKSONVILLE 230 KV TRANSMISSION LINE**
Description:	Loop the existing Brunswick Plant Unit 1 – Jacksonville 230 kV transmission line into the Folkstone 230 kV substation. Also, convert the Folkstone 230 kV bus configuration to breaker-and-one-half by installing three (3) new 230 kV breakers.
Supporting Statement:	The Castle Hayne – Folkstone 115 kV transmission line overloads under contingency.

In-Service Year:	2026
Project Name:	**WSPN-IND 304440 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 9.0 miles from Maxton to Pembroke 115 kV substation with 795 MCM ACSR or equivalent. Replace the existing 600A switch (45-2) with a 1200A switch.
Supporting Statement:	The Maxton-Pembroke section of the Weatherspoon-Ind 304440 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**DURHAM – RTP 230 KV TRANSMISSION LINE**
Description:	Reconductor approximately 10.0 miles of the Durham – RTP 230 kV transmission line with bundled 6 – 1590 ACSR rated for 1195 MVA.
Supporting Statement:	The Durham – RTP 230 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**ASHEVILLE SE PLANT**
Description:	Upgrade the two existing 230/115 kV transformers to 400 MVA each at Asheville SE Plant, reconductor approximately 1.2 miles of the 115 kV north and south transformer tie lines with 1590 ACSR at 100°C, replace the existing breakers with 3000A breakers, and install a 72 MVAR 230 kV capacitor bank.
Supporting Statement:	Necessary upgrades to allow for interconnection of two combined cycle units at Asheville Plant.

In-Service Year:	2019
Project Name:	**CANE RIVER 230 KV STATIC VAR COMPENSATOR (SVC)**
Description:	Install a 230 kV, 150 MVAR Static VAR Compensator (SVC) at Cane River Substation.
Supporting Statement:	Necessary upgrades to allow for interconnection of two combined cycle units at Asheville Plant.

In-Service Year:	2019
Project Name:	**PISGAH FOREST 230 KV SUBSTATION**
Description:	Upgrade the three existing 115/100 kV transformers to 150 MVA at Pisgah Forest Substation.
Supporting Statement:	Necessary upgrades to allow for interconnection of two combined cycle units at Asheville Plant.

In-Service Year:	2022
Project Name:	**ASHEVILLE PLANT – OTEEN WEST 115 KV TRANSMISSION LINE, BALDWIN TAP**
Description:	Construct approximately 2.2 miles of new 115 kV transmission line from the Asheville Plant – Oteen West 115 kV transmission line to the Asheville Plant – Oteen East 115 kV transmission line, with 795 ACSR. The Baldwin 115 kV substation will be reconnected to this new tap line.
Supporting Statement:	Additional voltage support is needed in the Baldwin area under contingency.

In-Service Year:	2019
Project Name:	**TRIMBLE COUNTY - CLIFTY 345 KV REACTOR**
Description:	Install a 0.66% 345 kV reactor at Trimble County on the Trimble County - Clifty 345 kV transmission line.
Supporting Statement:	The Trimble County - Clifty Creek 345 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**TRIMBLE COUNTY 345 KV REDUNDANT RELAYS**
Description:	Add redundant bus differential and lockout relays at Trimble Co. 345 kV bus.
Supporting Statement:	Low voltage and flow issues occur in the area under contingency.

In-Service Year:	2019
Project Name:	**WATTERSON - JEFFERSONTOWN TAP 138 KV TRANSMISSION LINE**
Description:	Replace the 138 kV terminal equipment rated less than or equal to 1281A (306 MVA) at Watterson associated with the Watterson-Jefferson Tap 138 kV transmission line with equipment capable of a minimum of 1428A (341 MVA).
Supporting Statement:	The Watterson - Jeffersontown Tap 138 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**WEST LEXINGTON 138 KV REDUNDANT RELAYS**
Description:	Add redundant bus differential and lockout relays at West Lexington 138 kV bus.
Supporting Statement:	Low voltage and flow issues occur in the area under contingency

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In-Service Year:	2020
Project Name:	**BLUE LICK 345/161 KV TRANSFORMER**
Description:	Replace the existing 345/161 kV, 240 MVA transformer at Blue Lick with a 450 MVA transformer, reset/replace any CTs less than 2000A and increase the loadability of relays.
Supporting Statement:	The Blue Lick 345/161 kV transformer overloads under contingency.

In-Service Year:	2020
Project Name:	**TRIMBLE COUNTY 345 KV BREAKER FAILURE PROTECTION**
Description:	Add breaker failure protection for the Trimble County 345 kV breakers.
Supporting Statement:	Low voltage and generator stability issues occur in the area under contingency

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In-Service Year:	2021
Project Name:	**GHENT - BLACKWELL 138 KV TRANSMISSION LINE**
Description:	Upgrade approximately 23.54 miles of the Ghent to Blackwell 138 kV transmission line to increase the maximum operating temperature of the 795 kCM 26x7 ACSR conductor to at least 160°F.
Supporting Statement:	The Ghent - Blackwell 138 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**HARDIN COUNTY 138 KV BREAKER REPLACEMENTS**
Description:	Replace three 138 kV breakers at Hardin Co due to breaker duty overloads.
Supporting Statement:	The short circuit analysis results in breaker duty overloads as a result of other projects at Hardin Co and surrounding area.

In-Service Year:	2022
Project Name:	**ELIZABETHTOWN - NELSON COUNTY 138 KV**
Description:	Upgrade approximately 15.5 miles of the Nelson County to Elizabethtown 138 kV transmission line (795 MCM 26X7 ACSR) to a maximum operating temperature of 176°F.
Supporting Statement:	The Nelson County - Elizabethtown 138 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**WEST LEXINGTON - HAEFLING 138 KV TRANSMISSION LINE**
Description:	Reconductor approximately 7.34 miles of the 795 MCM 26x7 ACSR West Lexington - Haefling 138 kV transmission line, using high-temperature conductor capable of at least 1500A.
Supporting Statement:	The West Lexington - Haefling 138 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**WEST LEXINGTON - VILEY ROAD 138 KV TRANSMISSION LINE**
Description:	Reconductor approximately 5.19 miles of the 795 MCM 26x7 ACSR West Lexington - Viley Road section of the West Lexington - Viley Road - Haefling 138 kV transmission line, using high-temperature conductor capable of at least 1500A.
Supporting Statement:	The West Lexington - Viley Road 138 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**WEST LEXINGTON 345/138 #2 TRANSFORMER**
Description:	Install a second West Lexington 450 MVA, 345/138 kV transformer.
Supporting Statement:	The West Lexington 345/138 kV Transformer #1 overloads under contingency.

In-Service Year:	2023
Project Name:	**ASHBOTTOM - CANE RUN SWITCHING 138 KV**
Description:	Upgrade approximately 8.04 miles of the Ashbottom to Cane Run Switch 138 kV transmission line (Bundled 795 ACSR) to increase the maximum operating temperature from 150°F to 155°F.
Supporting Statement:	The Ashbottom to Cane Run Switch 138 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**HARDIN COUNTY #2 345/138KV & 138/69KV TRANSFORMERS**
Description:	Install a second 345/138 kV, 450 MVA transformer and a second 138/69 kV transformer at Hardin County.
Supporting Statement:	Additional voltage support is needed in the Elizabethtown area under contingency.

In-Service Year:	2023
Project Name:	**WEST LEXINGTON 138 KV REDUNDANT TRIP COILS**
Description:	Add redundant trip coils at the Middletown 345 kV bus.
Supporting Statement:	Low voltage and generator stability issues occur in the area under contingency

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In-Service Year:	2026
Project Name:	**BLUE LICK - CEDAR GROVE 161 KV TRANSMISSION LINE**
Description:	Reconductor approximately 4.7 miles of the Blue Lick - Cedar Grove 161 kV transmission line with 795 ACSR at 100 °C.
Supporting Statement:	The Blue Lick - Cedar Grove 161 kV transmission line overloads under certain normal conditions.

In-Service Year:	2027
Project Name:	**CANE RUN SWITCHING 138 KV REDUNDANT TRIP COILS**
Description:	Add redundant trip coils at the Cane Run 138 kV buses.
Supporting Statement:	Low voltage and generator slipping issues occur in the area under contingency.

In-Service Year:	2019
Project Name:	**LIBERTY 230/115 KV TRANSFORMER UPGRADE**
Description:	Replace the two existing 230/115 kV, 150 MVA transformers with 400 MVA transformers
Supporting Statement:	The existing 230/115 kV, 150 MVA transformers at Liberty Substation overload under contingency.

In-Service Year:	2020
Project Name:	**GASKIN – SOUTHPORT 115 KV TRANSMISSION LINE**
Description:	Construct approximately 9.0 miles of new 115 kV transmission line from Gaskin Switching Station to 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.

In-Service Year:	2020
Project Name:	**GRACEVILLE – HOLMES CREEK 115 KV TIE**
Description:	Construct approximately 0.5 miles of new 115 kV transmission line from Graceville 115 kV substation to Gulf Power Holmes Creek substation with 795 ACSR at 100°C.
Supporting Statement:	Additional voltage support is needed at Graceville and Fountain areas under contingency.

In-Service Year:	2019
Project Name:	**APPALACHEE – SNEADS 115 KV TRANSMISSION LINE**
Description:	Replace two switches at Appalachee TS.
Supporting Statement:	The Appalachee to Sneads 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**AUBURN – OPELIKA AREA 115 KV TRANSMISSION LINE NETWORKING**
Description:	Add a new 115 kV switching station (East Loop SS), a new 115 kV switching station west of North Auburn (Pear Tree SS) and construct approximately 4.0 miles of 115 kV transmission line from Pear Tree SS to AU-Hemlock. Construct a new 115 kV switching station near the Chewacla Tap (Pin Oaks SS) and a new substation west of Marvyn DS intersecting the Fuller Rd to Notasulga and South Auburn 115 kV transmission lines (Sanford SS). Reconductor approximately 1.8 miles of 115 kV transmission line between Opelika #1 and Opelika #3, with 795 ACSR at 100°C. Reconductor approximately 7.4 miles of 115 kV transmission line between Sanford SS to Sonat Tap to Pin Oaks with 397 ACSS at 200°C. Reconductor approximately 7.1 miles of 115 kV transmission line between Beehive Tap to Chewacla with 795 ACSR at 100°C. Reconductor approximately 6.0 miles of 115 kV transmission line between North Auburn to Pear Tree SS with 795 ACSS at 200°C.
Supporting Statement:	This project provides additional operational and maintenance flexibility, which increases reliability. This project also provides voltage support and eliminates heavy loadings during load restoration events.

In-Service Year:	2019
Project Name:	**BOULDIN DAM AREA SOLUTION**
Description:	Rebuild approximately 3.5 miles of existing 397 ACSR at 100°C on the Jordan Dam to Bouldin Dam A 115 kV transmission line with 795 ACSR at 100°C, rebuild approximately 2.9 miles of existing 397 ACSR at 100°C on the Jordan Dam to Bouldin Dam B 115 kV transmission line with 795 ACSR at 100°C, and upgrade approximately 0.8 miles of 795 ACSR on the Bouldin Dam to Elmore 115 kV transmission line from 75°C to 100°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2019
Project Name:	**BRENTWOOD - SCENIC HILLS 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 4.8 miles of 1033.5 45/7 ACSR from Brentwood to Scenic Hills 115 kV with 1033.5 54/7 ACSS AT 200°C.
Supporting Statement:	The Brentwood to Scenic Hills 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**CENTER PRIMARY - WEYERHAEUSER 115 KV CONDUCTOR UPGRADE**
Description:	Upgrade approximately 5.5 miles of 50°C 336 ACSR 115 kV transmission line to 60°C operation, from Neese to Colonial Pipe transmission line section (Danielsville) on the Center Primary - Weyerhaeuser 115 kV transmission line.
Supporting Statement:	The Center Primary to Weyerhaeuser 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**CLAXTON – STATESBORO PRIMARY 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 17.9 miles along the Claxton – Statesboro Primary 115 kV transmission line with 795 ACSR at 100°C. Replace 600A switches at Claxton with 2000A switches and replace 500 CU jumpers at Statesboro Primary with 1590 AAC jumpers.
Supporting Statement:	The Claxton – Statesboro 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**EASTERN ALABAMA AREA 115 KV PROJECT**
Description:	Reconductor approximately 5.3 miles of 397 ACSR at 75°C 115 kV transmission line between Gulf States Steel and Rainbow City SS with 795 ACSS at 200°C. Install a new 115 kV switching station around Rainbow City. Install a new 115 kV terminal at Clay TS. Upgrade the existing 230/115 kV transformer at Clay TS to 477 MVA. Construct approximately 34.0 miles of 795 ACSS at 200°C between Clay TS and the new Rainbow City SS.
Supporting Statement:	Eliminates high loadings on several transmission facilities under various contingency scenarios. This project also provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2019
Project Name:	**JONES SOUTH 230/115 KV SUBSTATION**
Description:	Construct a new 230/115 kV substation on the Laurel East to Hattiesburg Southwest 230 kV transmission line and a new 10.0 mile, 1033 ACSR 115 kV transmission line from Ellisville, MS to the new substation.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2019
Project Name:	**LAFAYETTE SOLAR FARM – ROANOKE 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 2.5 miles of 397 ACSR on the City of Lafayette to Lafayette TS to 100°C operation.
Supporting Statement:	The City of Lafayette to Lafayette TS 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**LEEDS TS IMPROVEMENTS**
Description:	Replace existing strain bus between No. 2 and No. 3 115 kV buses with bundled (2) 1590 AAC Coreopsis.
Supporting Statement:	The Leeds to Moody 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**MCINTOSH 230/115 KV SUBSTATION**
Description:	Replace the existing 230/115 kV, 280 MVA transformer with a 230/115 kV transformer rated for 400 MVA.
Supporting Statement:	The McIntosh 230/115 kV transformer overloads under Hot Weather conditions.

In-Service Year:	2019
Project Name:	**MILLER UNIT 4 RELOCATION**
Description:	Move Miller generating unit connection from the 500 kV system to the 230 kV system.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2019
Project Name:	**MITCHELL 230 KV REBUILD**
Description:	Rebuild of the Plant Mitchell switchyard to allow the spare transformer and the new transformer to both be in-service.
Supporting Statement:	Additional voltage support is needed in the Albany area under contingency.

In-Service Year:	2019
Project Name:	**MOODY SS CAPACITOR BANKS**
Description:	Install two new 15 MVAR capacitor banks at Moody 115 kV Switching Station.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability. This project also provides voltage support under contingency scenarios.

In-Service Year:	2019
Project Name:	**NE GA HYDRO STABILITY (OUT OF STEP PROTECTION INSTALLMENTS)**
Description:	Provide system protection modifications to ensure that the Northeast GA hydro units and surrounding area comply with and support the system stability standards and guidelines. The units identified in this study were Tallulah Falls, Terrora, Tugalo and Yonah. Install out of step protection as follows (These items are a must have based on results of the stability report): - Terrora: 2 units on a common GSU: 1 relay scheme required. - Tallulah Falls: 6 units each with its own GSU: 6 relay schemes required. - Tugalo: 4 units with 2 units on each GSU: 2 relay schemes required. - Yonah: 3 units all on the same GSU.1 relay scheme required.
Supporting Statement:	Provide system protection modifications to ensure that the Northeast GA hydro units and surrounding area comply with and support the system stability standards and guidelines.

In-Service Year:	2019
Project Name:	**NORTH SELMA – CLANTON SS 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 28.0 miles of 115 kV transmission line between Clanton SS and North Selma with 795 ACSS at 200°C.
Supporting Statement:	The North Selma to Clanton SS 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**PRATT CITY TRANSFORMER UPGRADES**
Description:	Upgrade Pratt City 230/115 kV transformer to 470 MVA and replace jumpers on Pratt City to South Park 115 kV transmission line.
Supporting Statement:	The Pratt City 230/115 kV transformer overloads under contingency.

In-Service Year:	2019
Project Name:	**PRATTVILLE AREA PROJECT**
Description:	Construct approximately 6.5 miles of 795 ACSR 115 kV transmission line at 100°C from County Line Road to Prattville DS. Install new 115 kV terminal at Hunter Switching Station. Construct approximately 2.7 miles of 795 ACSR 115 kV transmission line at 100°C from Hunter Switching Station to GE Burkeville Tap.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2019
Project Name:	**SHOAL RIVER – PINCKARD 230 KV TRANSMISSION LINE**
Description:	Reconductor approximately 13.0 miles along the Shoal River – Pinckard 230 kV transmission line with 795 ACSS at 160°C.
Supporting Statement:	This project eliminates high loadings under contingency scenarios. This project also provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2020
Project Name:	**BARNEYVILLE – DOUGLAS 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 2.5 miles along the Nashville #1 – Nashville #2 section of the Barneyville - Douglas 115 kV transmission line to 100°C operation.
Supporting Statement:	The Barneyville – Douglas 115 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**BASSETT CREEK – LOWMAN 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 24.0 miles of 397 and 795 ACSR from Bassett Creek to Lowman 115 kV transmission line with 1033.5 ACSS at 200°C.
Supporting Statement:	The Bassett Creek to McIntosh 115 kV transmission lines overload under contingency. These projects provide additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2020
Project Name:	**BLAKELY PRIMARY – DAWSON PRIMARY 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 25.6 miles of 50°C 266 ACSR 115 kV transmission line from Blakely Primary to Greenhouse Road with 100°C 765 ACSR. GTC to build 20.4 miles of new 115kV transmission line from Greenhouse Road to Dawson Primary with 100°C 765 ACSR.
Supporting Statement:	The Blakely Primary – Mitchell 115 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**EUTAW – SOUTH TUSCALOOSA 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 30.0 miles of 397 ACSR transmission line at 100°C from Eutaw to South Tuscaloosa, with 1033 ACSR at 100°C.
Supporting Statement:	The Eutaw to South Tuscaloosa 115 kV transmission line becomes heavily loaded under contingency.

In-Service Year:	2020
Project Name:	**GOODSPRINGS TS**
Description:	Construct Goodsprings TS and rebuild Gorgas to Holt No. 1 230 kV transmission line from Gorgas to Goodsprings TS.
Supporting Statement:	The Gorgas 230/115 kV transformer overloads under contingency.

In-Service Year:	2020
Project Name:	**GRANITEVILLE, SC - SOUTH AGUSTA 115 & 230 KV TRANSMISSION LINE**
Description:	Construct a new 5.2 mile 230 kV tie-line (GPC to SCE&G) from the South Augusta 230/115 kV substation to the GA/SC state-line with bundled 1351 ACSR at 100°C. Construct a 5-breaker 115 kV switching station. Construct a new transmission line from the switching station to the GA/SC state line (Approximately 1.2 miles) with 1351 ACSR at 100°C. Rebuild approximately 4.0 miles of existing transmission line between South Augusta and the new switching station with 1351 ACSR at 100°C.
Supporting Statement:	The Savannah River (SCE&G) – Vogtle 230 kV tie-line and multiple other transmission facilities on the SCE&G system overload under contingency.

In-Service Year:	2020
Project Name:	**HONDA – KRONOSPAN 115 KV TRANSMISSION LINE**
Description:	Construct approximately 10.3 miles of 795 ACSR 115 kV transmission line at 100°C from Honda to Kronospan.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability. This project also provides voltage support under contingency scenarios.

In-Service Year:	2020
Project Name:	**KIMBERLY CLARK – BLAKELY ISLAND 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 0.5 miles of 795 ACSR along the Kimberly Clark to Blakely Island 115 kV transmission line with 1033 ACSS at 160°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2020
Project Name:	**LEEDS TS – MOODY SS 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 5.0 miles of 795 ACSR at 100°C with 1033.5 ACSS at 200°C.
Supporting Statement:	The Leeds to Moody 115 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**NORTH AMERICUS – PERRY 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 43.0 miles of the existing 115 kV transmission line from North Americus to Perry substation with 795 ACSR at 100°C.
Supporting Statement:	The North Americus – Perry 115 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**NORTH BAY MINETTE AREA SOULTION**
Description:	Construct a new substation at Bay Minette Tap and upgrade approximately 12.4 miles of the Bay Minette DS to Steelwood 115 kV transmission line to 100°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2020
Project Name:	**VOGTLE PILOT PROTECTION SCHEME**
Description:	Add an additional pilot protection scheme on the Augusta Corporate Park to Vogtle 230 kV transmission line.
Supporting Statement:	Ensure the Augusta Corporate Park to Vogtle 230 kV transmission line is redundantly protected.

In-Service Year:	2021
Project Name:	**ATHENA - EAST WATKINSVILLE 115 KV RECONDUCTOR**
Description:	Reconductor approximately 2.04 miles of 336 ACSR with 1033 ACSR sagged at 100°C on the White Hall to East Athens transmission line segment. Replace the 600A switches and the 750 AAC jumpers at the East Athens substation.
Supporting Statement:	The Athena to East Watkinsville 115 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**BASSETT CREEK – MCINTOSH 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 46.0 miles of 397 and 795 ACSR from Bassett Creek – McIntosh 115 kV transmission line with 1033.5 ACSS at 200°C.
Supporting Statement:	The Bassett Creek to McIntosh 115 kV transmission lines overload under contingency. These projects provide additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2021
Project Name:	**EAST SOCIAL CIRLCE - STANTON SPRINGS 115 KV**
Description:	Reconductor approximately 6.2 miles of 100°C 636 ACSR Grosbeak with 6.2 miles of 100°C 1351 Martin from East Social Circle to Stanton Springs 115 kV. Replace 795 AAC Arbutus jumpers at Stanton Springs with 90°C 1590 AAC Coreopsis.
Supporting Statement:	The East Social Circle to Stanton Springs 115 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**EUFAULA – FORT MITCHELL 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 10.0 miles of 397 ACSR of the Eufaula to Ft. Mitchell 115 kV transmission line with 795 ACSR at 100°C .
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2021
Project Name:	**HAMMOND – WEISS DAM 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 6.7 miles of 397.5 ACSR along the Hammond to Weiss Dam 115 kV transmission line with 795 ACSR at 100°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability. (Infrastructure Project)

In-Service Year:	2021
Project Name:	**HARRIS – NORTH SELMA 230 KV TRANSMISSION LINE**
Description:	Rebuild approximately 26.0 miles of the Harris SS to North Selma 230 kV transmission line with 1033 ACCR at 200°C.
Supporting Statement:	The Harris to North Selma 230 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**WADLEY PRIMARY 500/230 KV SUBSTATION**
Description:	Construct a new 500 kV substation on the Vogtle – Warthen 500 kV transmission line. Install a 500/230 kV, 2016 MVA 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, GA area and to support the expansion of Plant Vogtle.

In-Service Year:	2022
Project Name:	**AVALON JUNCTION - BIO 115 KV REBUILD**
Description:	Rebuild approximately 20.5 miles of the Avalon Junction - Bio 115 kV transmission line (636 ACSR/795ACSR) with 100° 1351 ACSR and replace the terminal equipment at various substations.
Supporting Statement:	The Avalon Junction - Bio 115 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**DUCANVILLE – SOUTH BESSEMER 230 KV TRANSMISSION LINE**
Description:	Upgrade approximately 27.0 miles of 1033.5 from Duncanville to South Bessemer 230 kV transmission line from 100°C to 115°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2022
Project Name:	**EVANS PRIMARY – THOMSON PRIMARY 115 KV TRANSMISSION LINE**
Description:	Rebuild the Evans – Patriots Park section, approximately 4.2 miles 100°C 336 ACSR, with 100°C 795 ACSR and replace 336 ACSR jumpers at Patriots Park.
Supporting Statement:	The Evans Primary – Thomson Primary 115 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**GORDON - N. DUBLIN (N. DUBLIN - EVERGRN CH) 115 KV UPGRADE**
Description:	Upgrade approximately 7.94 miles of 4/0 Cu, 115 kV transmission line to operate at 75°C from N. Dublin - NW Dublin - Evergreen Church on the Gordon - N. Dublin 115 kV transmission line.
Supporting Statement:	The N. Dublin - Evergreen Church 115 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**GORDON – SANDERSVILLE #1 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 30.0 miles (Gordon to Robins Spring section), 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.

In-Service Year:	2023
Project Name:	**ARGYLE – SANTA ROSA 230 KV TRANSMISSION LINE**
Description:	Construct approximately 45 miles of new 1351 ACSR 230 kV transmission line at 100°C from Santa Rosa and connect into the existing Shoal River to Shaky Jo 230 kV transmission line. This project requires the construction of new switching station along the existing transmission line. This project also requires an additional 230/115 kV transformer at Santa Rosa TS.
Supporting Statement:	This project eliminates several overloads under a number of contingency scenarios. This project also provides additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2023
Project Name:	**BASSETT CREEK – ELLICOTT 230 KV TRANSMISSION LINE**
Description:	Construct approximately 60.0 miles of 1351 ACSS from Bassett Creek to Tensaw to Calvert to Ellicott 230 kV transmission line.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**BASSETT CREEK – THOMASVILLE 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 11.3 miles of 397.5 from Bassett Creek to Thomasville 115 kV transmission line from 75°C to 100°C.
Supporting Statement:	The Bassett Creek to Thomasville 115 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**CENTRAL CORRIDOR SOLUTION**
Description:	Rebuild approximately 97.0 miles of 115 kV transmission line, along the West Montgomery to Greenville to Evergreen to North Brewton 115 kV transmission line with 795 ACSS at 200°C.
Supporting Statement:	This project eliminates high loadings under contingency scenarios. This project also provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**DEAL BRANCH – SYLVANIA 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 123.8 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.

In-Service Year:	2023
Project Name:	**DEMOPOLIS TS – CEMEX 115 KV TRANSMISSION LINE**
Description:	Construct approximately 1.0 mile of 795 ACSR 115 kV transmission line at 100°C from Demopolis TS to Cemex.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**FAYETTE – GORGAS 161 KV TRANSMISSION LINE**
Description:	Rebuild approximately 37.0 miles of 397.5 ACSR at 100°C on the Fayette to Gorgas 161 kV transmission line, with 795 ACSS at 200°C.
Supporting Statement:	The Fayette to Gorgas 161 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**HATTIESBURG HWY 11 – HATTIESBURG CO. DRIVE 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 3.2 mile 115 kV transmission line between Hattiesburg Hwy 11 to Hattiesburg Co. Drive with 795 ACSR at 100°C.
Supporting Statement:	The Hattiesburg Hwy 11 to Hattiesburg Co. Drive 115 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**HOPE HULL AREA SOLUTION**
Description:	Construct approximately 1.8 miles of 795 ACSS 115 kV transmission line at 200°C between Hyundai Power Transformers to a tap point on the W. Montgomery to Pintlala 115 kV transmission line. Reconductor approximately 2.7 miles of the Hope Hull Tap to Hyundai Power Transformers 115 kV transmission line with 795 ACSS at 200°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**LAWRENCEVILLE – NORCROSS 230 KV TRANSMISSION LINE**
Description:	Reconductor approximately 5.9 miles of the Boggs Road – Lawrenceville section of the Lawrenceville – Norcross 230 kV transmission line with 1351 ACSS at 170°C.
Supporting Statement:	The Lawrenceville - Norcross 230 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**LIVE OAK – STATESBORO PRIMARY & LIVE OAK – WADLEY PRIMARY 115 KV UPGRADES**
Description:	Upgrade the Metter - Live Oak section (2.85 miles of 50°C 477 ACSR) of the Live Oak - Statesboro Primary 115 kV transmission line to 100°C 477 ACSR (155 MVA capability). Also, upgrade the Live Oak - Stillmore section (5.94 miles of 50°C 477 ACSR) of the Live Oak - Wadley Primary 115 kV transmission line to 100°C 477 ACSR (155 MVA capability). Replace switches and jumpers at Metter Primary. Replace bus, switches and jumpers at Metter. Confirm equipment at Stillmore substation meets or exceeds the new rating of the line rating.
Supporting Statement:	The Live Oak – Statesboro Primary 115 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**MOBILE AREA NETWORKING – 3RD PATH**
Description:	Construct a new substation at Dawes Tap on the Big Creek to N. Theodore 115 kV transmission line. Reconductor approximately 4.0 miles of 115 kV transmission line from Lott Road to Schillinger Road with 795 ACSS at 200°C. Reconductor approximately 6.3 miles of 115 kV transmission line from North Mobile to Michael Blvd with 397 ACSS at 200°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**NORTH THEODORE AREA PROJECT**
Description:	Construct approximately 5.3 miles of new 115 kV transmission line to the Praxair Tap from North Theodore and add a switching station near Multistate CU. Reconductor approximately 1.0 mile of the Hollinger's Island DS – Holcim CU 115 kV transmission line to 795 ACSR at 100°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**SOUTH BIRMINGHAM 115 KV PROJECT**
Description:	Construct a 115 kV switching station (Lakeshore SS) between Bessemer TS and Magella TS that loops in the existing Bessemer to Magella 115 kV transmission line and the North Helena to Patton Chapel 115 kV transmission line. Construct another 115 kV switching station (Massey Road SS) by expanding Massey Road DS and looping in the South Jefferson to North Helena 115 kV transmission line.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**TIGER CREEK 230 KV SERIES REACTORS**
Description:	GTC: Install 230 KV 2% series reactors at Tiger Creek on the Branch black and white 230 kV transmission lines.
Supporting Statement:	The Branch to Tiger Creek Black & White 230 kV transmission lines overload under contingency.

In-Service Year:	2024
Project Name:	**AULTMAN ROAD - BONAIRE PRIMARY 115 KV RECONDUCTOR II**
Description:	Reconductor approximately 1.99 miles of the Sleepy Hollow - Peach Blossom 115 kV transmission line section (presently 100°C 336 ACSR) of the Aultman Road - Bonaire 115 kV transmission line, with 100°C 795 ACSR.
Supporting Statement:	The Aultman Road - Bonaire Primary 115 KV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**AULTMAN ROAD - FORT VALLEY #1 115 KV TRANSMISSION LINE UPGRADE**
Description:	Upgrade approximately 2.16 miles of the Aultman Road - Northrop Jct section (75°C-sagged 336.4 ACSR) of the Aultman Road - Fort Valley 115 kV transmission line to 100°C operation.
Supporting Statement:	The Aultman Road - Fort Valley #1 115 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**BLANKETS CREEK – WOODSTOCK 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 2.5 miles of the Blankets Creek – Woodstock 115 kV transmission line with 1351 ACSR conductor at 100°C.
Supporting Statement:	The Blankets Creek – Woodstock 115 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**BONAIRE PRIMARY 115 KV JUMPER REPLACEMENTS**
Description:	GTC: Replace 500 CU jumpers at Bonaire Primary on Bonaire Primary - Robins AFB #3 115kV transmission line, with 1590 ACC jumpers.
Supporting Statement:	The Bonaire Primary to Robins AFB #3 115kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**ELLICOTT SUBSTATION EXPANSION PROJECT**
Description:	This project will relocate six existing 115 kV transmission lines to a new 115 kV substation.
Supporting Statement:	Upgrade existing and construct new transmission facilities to provide additional operational and maintenance flexibility, which increases reliability. (Infrastructure Project)

In-Service Year:	2024
Project Name:	**FLOMATON 230/115 KV SUBSTATION**
Description:	Construct a new Flomaton 230/115 kV, 480 MVA transformer at Flomation TS and reconductor approximately 16.0 miles of 795 ACSR at 100°C from N. Brewton – Flomaton 115kV with 795 ACSS at 200°C.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability. This project also provides voltage support under contingency scenarios.

In-Service Year:	2024
Project Name:	**HOLMES CREEK – SOUTH CRESTVIEW 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 54.4 miles of 115 kV transmission line between Holmes Creek and Glendale Road tap point with 795 ACSR at 100°C.
Supporting Statement:	This project eliminates high loadings under contingency scenarios. This project also provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2024
Project Name:	**SINCLAIR DAM – WARRENTON 115 KV RECONDUCTOR PHASE I**
Description:	Reconductor approximately 17.4 miles of 115 kV transmission line from Buffalo Road to Warrenton, along the Sinclair Dam to Warrenton 115 kV transmission line with 795 ACSR at 100°C. Replace 90°C 4/0 CU jumpers with AAC 1590 at Buffalo Road.
Supporting Statement:	The Sinclair Dam – Warrenton 115 kV transmission line overloads under contingency.

In-Service Year:	2025
Project Name:	**NORTH MARIETTA – SMYRNA (BLACK & WHITE) 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 2.4 miles of the North Marietta – Lockheed Martin Tap section of the North Marietta – Smyrna Black and White 115 kV transmission lines with 657 ACSR at 100°C. (2.4 miles on each line).
Supporting Statement:	The North Marietta – Lockheed Martin Tap section of the North Marietta – Smyrna Black and White 115 kV transmission line overload under contingency.

In-Service Year:	2025
Project Name:	**YATES UNIT 8 NETWORK IMPROVEMENTS**
Description:	1. First Avenue - Fuller Road (APC) 115 KV: Reconductor First Avenue B2 - Phenix City DS from 397.5 ACSR conductor to 795 ACSR for 1 mile. Replace the 1200A switch on the low side of Auto #4 with a 2000A switch or higher at First Avenue. 2. South Coweta – South Griffin 115 kV Line: Rebuild the South Coweta - Brooks section. 5.1 miles of 100C 477 ACSR, with 100C 1033 ACSR conductor. Replace the 750 AAC jumpers and 636 ACSR bus with1590 AAC at Brooks (GTC) 3. Union City – Yates (White) 230 kV Line: Reconductor the line, 23 miles of 100°C 1033 ACSR, with 200°C 1033 ACSS. 4. Clarkston - Scottdale 115kV: Upgrade the 636 SSAC conductor on the Clarkston - Scottdale 115kV line (2.7 miles) to its 160C rating. 5. Klondike - Morrow 230kV Line: At Klondike, install a second 1590 AAC jumpers on the Klondike - Morrow 230kV line. At Morrow, replace the 1590 AAC main bus with a bus capable of carrying 2000A, install a second 1590 AAC jumper and replace the 1600 A trap with a 2000 A trap on the Klondike - Morrow 230kV line. Reconductor 11.23 miles of 1351 ACSR with 2-795 ACSR conductor from Klondike to Str. #312 on the Klondike - Morrow 230kV line. 6. Install a second 230/115-kV, 400 MVA transformer at Dyer Road and at Conyers - Replace the 1590 AAC main 230 kV bus with a bus capable of carrying 2000A.
Supporting Statement:	The addition of Plant Yates Unit 8 generation causes various facilities in the northwestern Georgia area to overload.

In-Service Year:	2026
Project Name:	**ALICEVILLE – COCHRANE 115 KV TRANSMISSION LINE**
Description:	Construct a 115/46 kV station at Cochrane TS. Construct approximately 9.0 miles of 115 kV transmission line from Aliceville TS to Cochrane TS, with 397.5 ACSR at 100°C. Install a 15 MVAR capacitor bank at Aliceville TS and Cochrane TS.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability. This project also provides voltage support under contingency scenarios.

In-Service Year:	2026
Project Name:	**GADSDEN – GULF STATES STEEL 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 2.5 miles of 397 ACSR along the Gulf States Steel to Morgan's Crossroads 115 kV transmission line with 795 ACSR at 100°C.
Supporting Statement:	The Gulf States Steel to Morgan's Crossroads 115 kV transmission line overloads under contingency.

In-Service Year:	2026
Project Name:	**MOSS POINT EAST – PASCAGOULA BAYOU CASOTTE 115 KV TRANSMISSION LINE**
Description:	Construct approximately 2.7 miles of new 1033.5 ACSR 115 kV transmission line at 100°C from Moss Point East and connect into the existing BP Amoco to Pascagoula Bayou Cassotte 115 kV transmission line.
Supporting Statement:	The Moss Point East to Pascagoula MS Chemical 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**BRANCH UNIT 5 NETWORK IMPROVEMENTS**
Description:	Various system improvements in support of Branch Unit 5 (proxy generation). Replace 600A switch, BLD 076001 on the Baxley - Vidalia 115kV line at East Vidalia with a 2000A switch. Dalton: Reconductor 12 miles of 100°C 336 ACSR with 100°C 795 ACSR from Chatsworth to Cooswattee. Reconductor the entire Bonaire Primary – Kathleen 115KV line, 5.86 miles of 100°C 336 ACSR, using 100°C 795 ACSR. Reconductor the Branch - Verner Farms line (9.7 miles of 100°C 1351 ACSR) using 160°C 1351 ACSS. Replace 1590 AAC main bus, jumpers at Eatonton Primary, and jumpers at Branch, with 2-1590 AAC. Replace switches at Eatonton Primary with 2000A switches. Reconductor the Eatonton Primary - Verner Farms 230KV line (25.6 miles of 100°C 1351 ACSR) using 160°C 1351 ACSS. Replace switches at Eatonton Primary with 2000A switches.
Supporting Statement:	The addition of Plant Branch Unit 5 generation causes various facilities in the northern Georgia area to overload.

In-Service Year:	2027
Project Name:	**DANIEL SIDING - LITTLE OGEECHEE 115 KV RECONDUCTOR**
Description:	Reconductor approximately 10.0 miles of the Daniel Siding - Little Ogeechee 115 kV transmission line with 2-336 ACSS conductor.
Supporting Statement:	The Daniel Siding - Little Ogeechee 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**HOLLY SPRINGS – HOPEWELL 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 3.3 miles of 636 ACSR 115 kV transmission line from Hopewell to Birmingham with 1033 ACSR at 100°C. Also, replace the 636 ACSR jumpers at Birmingham with 1590 AAC jumpers.
Supporting Statement:	The Hopewell - Birmingham 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**MCEVER ROAD - SHOAL CREEK 115 KV REBUILD - PHASE 2**
Description:	Rebuild approximately 2.41 miles (2-4/0 copper) of the McEver Road - College Square section of the McEver Road - Shoal Creek 115 kV transmission line with 1033 ACSR for 100°C operation.
Supporting Statement:	The McEver Road – Shoal Creek 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**SINCLAIR DAM - WARRENTON 115KV RECONDUCTOR PHASE II**
Description:	Reconductor approximately 8.64 miles of the Sinclair Dam to Warrenton 115 kV transmission line, along the Buffalo Road to South Devereux section with 100°C 1-795 ACSR. Replace the 90°C 4/0 copper buses and jumpers at South Devereux station and replace 600A line side switches with 1200A switches.
Supporting Statement:	The Sinclair Dam to Warrenton Primary 115 kV transmission line overloads under contingency.

In-Service Year:	2028
Project Name:	**DUM JON - FORT GORDON #2 115 NON-CONDUCTOR UPGRADES**
Description:	Replace two 600A switches at Fort Gordon Hospital station with 2000A switches. Replace the 300 Copper jumpers and bus at Fort Gordon station with 1590 AAC jumpers.
Supporting Statement:	The Dum Jon to Fort Gordon #2 115 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**BOWLING GREEN – MEMPHIS JUCTION 161 KV TRANSMISSION LINE**
Description:	Upgrade approximately 7.5 miles of the Bowling Green – Memphis Junction 161 kV transmission line with 1351.5 ACSS at 130°C.
Supporting Statement:	The Bowling Green – Memphis Junction 161 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**HARRIMAN, TN 161 KV SUBSTATION**
Description:	Reconfigure the Harriman, TN 161 kV substation by looping an additional 161 kV transmission line into the substation and installing 3, 161 kV breakers.
Supporting Statement:	Additional voltage support is needed in the Harriman, TN area under contingency.

In-Service Year:	2019
Project Name:	**HOLLY SPRINGS, MS 161 KV SUBSTATION**
Description:	Install a capacitor bank of 4, 27 MVAR capacitors at the Holly Springs, MS 161 kV switching station.
Supporting Statement:	Additional voltage support is needed in the N. Haven, MS area under contingency.

In-Service Year:	2019
Project Name:	**RED HILLS – LEAKE 161 KV TRANSMISSION LINE**
Description:	Construct approximately 60.0 miles of 161 kV transmission line from Red Hills to Leake with 954 ACSS at 160°C.
Supporting Statement:	Multiple 161 kV transmission lines overload and additional voltage support is needed in the lower Mississippi area under contingency.

In-Service Year:	2019
Project Name:	**SCIENCE HILL CAPS 161 KV SWITCHING STATION**
Description:	Install a capacitor bank of 6, 9 MVAR 161 kV capacitors at a new 161 kV switching station near the Murfreesboro Industrial Park substation.
Supporting Statement:	Additional voltage support is needed in the Murfreesboro area under contingency.

In-Service Year:	2019
Project Name:	**TUSCULUM – JONESBOROUGH 161 KV TRANSMISSION LINE**
Description:	Reconductor approximately 17.0 miles of the Tusculum - Jonesborough 161 kV transmission line with 795 – T13 (824 kcmil) ACCR at 210°C.
Supporting Statement:	The Tusculum - Jonesborough 161 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**WEST COOKEVILLE 161 KV SUBSTATION**
Description:	Upgrade terminal equipment to 335 MVA at the West Cookeville 161 kV substation.
Supporting Statement:	The West Cookeville – South Cookeville 161 kV transmission line overloads under contingency.

In-Service Year:	2019
Project Name:	**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 is needed in the Huntsville, AL area under contingency.

In-Service Year:	2020
Project Name:	**ALCOA SS – NIXON ROAD 161 KV TRANSMISSION LINE**
Description:	Rebuild approximately 12.0 miles of the Alcoa North – Nixon Road 161 kV transmission line with 1590 ACSR at 100°C and construct approximately 2.0 miles of new transmission line to create the Alcoa SS – Nixon Rd 161 kV #2 transmission line.
Supporting Statement:	The Alcoa Switching Station – Nixon Road 161 kV transmission line overloads under contingency.

In-Service Year:	2020
Project Name:	**OXFORD – COFFEEVILLE 161 KV TRANSMISSION LINE**
Description:	Construct approximately 30.0 miles of the new Oxford – Coffeeville 161 kV transmission line with 954 ACSR at 100°C.
Supporting Statement:	Additional voltage support is needed in the Oxford, MS and Coffeeville, MS areas under contingency.

In-Service Year:	2020
Project Name:	**PHIPPS BEND 500 KV SUBSTATION**
Description:	Rebuild structures with weathered steel in the Phipps Bend 500 and 161 kV yard.
Supporting Statement:	Steel structures in the Phipps Bend 500 kV and 161 kV yards are beginning to show signs of corrosion and will be replaced.

In-Service Year:	2020
Project Name:	**SOUTH JACKSON 161 KV SUBSTATION**
Description:	Upgrade terminal equipment to 365 MVA at the South Jackson 161 kV substation and Flex 161 kV delivery point.
Supporting Statement:	The South Jackson - Flex 161 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**COUNCE, TN 161 KV SUBSTATION**
Description:	Convert Counce 161 kV switchyard to a double breaker arrangement. Loop existing Pickwick to Tri State Commerce Park 161 kV transmission line into Counce 161 kV station.
Supporting Statement:	Additional voltage support is needed in the Counce, TN area under contingency.

In-Service Year:	2021
Project Name:	**KNOX - DOUGLAS 161 KV TRANSMISSION LINE**
Description:	Rebuild approximately 15.0 miles of the Knox – Douglas 161 kV transmission line with 954 ACSS at 125°C.
Supporting Statement:	The Knox – Douglas 161 kV transmission line overloads under contingency.

In-Service Year:	2021
Project Name:	**MOSCOW – CHICKASAW TRAILS 161 KV TRANSMISSION LINE**
Description:	Construct the Chickasaw Trails 161 kV Substation and the Diffee 161 kV Substation. Construct approximately 17.0 miles for new Chickasaw Trails - Moscow 161 kV transmission line with 954 ACSR at 100°C. Loop existing Miller – Holly Springs 161 kV transmission line into the Chickasaw Trails substation.
Supporting Statement:	Thermal overloads and voltage support is needed in the Olive Branch and Chickasaw Trails area under contingency.

In-Service Year:	2022
Project Name:	**ARTESIA - W. COLUMBUS 161 KV TRANSMISSION LINE**
Description:	Construct the Artesia 161 kV Substation. Construct approximately 12.0 miles for Artesia - W. Columbus with 954 ACSS at 150°C. Reconductor approximately 15.0 miles of W. Point - Starkville 161 kV with 954 ACSS at 150°C.
Supporting Statement:	Thermal overloads and voltage support is needed in the West Point and Columbus area under contingency.

In-Service Year:	2023
Project Name:	**BATESVILLE AREA IMPROVEMENT PLAN**
Description:	Reconductor approximately 4.0 miles of the Batesville - E Batesville 161 kV T.L. with 2034.5 ACSR at 100°C and upgrade terminal equipment to 472 MVA at Batesville 161 kV.
Supporting Statement:	Multiple 161 kV transmission lines overload under contingency.

In-Service Year:	2023
Project Name:	**WILSON - GLADEVILLE 161 KV TRANSMISSION LINE**
Description:	Rebuild approximately 6.0 miles on the Wilson - Lebanon 161 kV transmission line with 636 ACSR at 100°C and upgrade terminal equipment to 230 MVA at Lebanon 161 kV.
Supporting Statement:	The Wilson - Gladeville 161 kV transmission line section overloads under contingency.

In-Service Year:	2024
Project Name:	**BULL RUN FP 500 KV SUBSTATION**
Description:	Install a second 500/161 kV transformer at the Bull Run Fossil Plant substation.
Supporting Statement:	Area 500/161 kV Transformer overloads under contingency.

In-Service Year:	2024
Project Name:	**PHIPPS BEND 500 KV SUBSTATION**
Description:	Install 500 kV breakers on the Pocket and Nagel transmission lines at the Phipps Bend 500 kV substation.
Supporting Statement:	Multiple 161 kV transmission lines overload under contingency.

In-Service Year:	2025
Project Name:	**EAST KNOX – DUMPLIN VALLEY 161 KV TRANSMISSION LINE**
Description:	Reconductor approximately 9.0 miles of the East Knox - Dumplin Valley 161 kV transmission line with 1590 ACSS at 125°C.
Supporting Statement:	The East Knox – Dumplin Valley 161 kV transmission line overloads under contingency.

In-Service Year:	2026
Project Name:	**LAFOLLETTE 161 KV SUBSTATION**
Description:	Install a capacitor bank of 5, 9 MVAR capacitors at the Lafollette 161 kV Substation.
Supporting Statement:	Additional voltage support is needed in the Lafollette, TN area under contingency.

In-Service Year:	2027
Project Name:	**DOUGLAS-NEWPORT 161 KV TRANSMISSION LINE SECTION**
Description:	Reconductor approximately 19.0 miles of the Douglas to Newport 161 kV transmission line with 954 ACSS at 125°C.
Supporting Statement:	The Douglas - Newport 161 kV transmission line section overloads under contingency.

In-Service Year:	2028
Project Name:	**LIMESTONE 500 KV SUBSTATION**
Description:	Install 500 kV breakers on Browns Ferry and Madison lines at the Limestone 500 kV substation.
Supporting Statement:	The area 500/161 kV transformer bank overloads under contingency.

Appendix 1: AECI BAA

The following information provides a more granular overview of the AECI BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A1.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (AECI BAA)

AECI BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	1.1	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	--	--	--	--
Transformers[2] – New	--	1	--	--	--	--
Transformers[2] – Replacements	--	--	--	--	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A1.2: Interface commitments[1] modeled in the SERTP Summer Peak models – AECI BAA

To	2019	2021	2023	2024	2026	2028
SPP	-689	-682	-689	-689	-689	-689
MISO	-631	-547	-631	-631	-631	-631
Total	-1320	-1229	-1320	-1320	-1320	-1320

[1]A positive number represents a net export from the AECI BAA

A detailed listing of the changes in generation assumptions within the AECI BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A1.3 below. Table A1.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A1.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A1.3: Changes in Generation Assumptions Based Upon LSEs – AECI BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
No changes in generation assumptions throughout the planning horizon										

Table A1.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – AECI BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
None										

Table A1.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – AECI BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Albany City	1	300269	2ALBNCTY	4.7
Atchison	1	300009	1ACHSNG1	50.4
Bethany City	1	300219	2BETHCT	0.0
Butler East	1	300690	2BUTLERE	11.6
Chillicothe City	1	300214	2CHILCTY	40.0
Chillicothe City	2	300214	2CHILCTY	40.0
Chillicothe City B	3	301364	2CHILCTYB	11.0
Chouteau	1	300020	1CHOTCT4	149.1
Chouteau	1	300021	1CHOTCT5	149.1
Chouteau	1	300024	1CHOTST6	154.9
Chouteau	1	300031	1CHOTST3	154.9
Chouteau	1	300032	1CHOTCT1	149.1
Chouteau	1	300033	1CHOTCT2	149.1
Clyde	1	300273	1CLYDEG1	50.4

Plant	Unit	Bus #	Bus Name	Pmax (MW)
El Dorado City	1	300807	2ELDRCTY	5.5
Essex	1	300029	1ESSEXG	107.4
Gallatin	1	300198	2GALLTN	7.0
Gentry Generation	1	300008	1GNTRYG1	56.7
Hartville	1	301429	1HRTVL_DG	3.8
Holden	1	300012	1HOLDNG1	107.0
Holden	1	300013	1HOLDNG2	108.0
Holden	1	300014	1HOLDNG3	108.5
Lamar	1	301363	1LAMRLNDFL	1.6
Lamar	2	301363	1LAMRLNDFL	1.6
Lamar City South	1	300652	2LAMRCTS	6.1
Macon	1	300405	2MCNPLT	13.8
Macon East #3	1	300399	2MACN3E	7.2
Memphis City	1	300423	2MEMCTY	9.2
Monroe City	1	300343	2MONRCT	11.9
Mt. Pleasant City	1	301449	2MTPLAD	24.0
New Madrid	1	300006	1NM G1	572.0
New Madrid	1	300007	1NM G2	574.0
Nodaway	1	300025	1NDWYG1	96.0
Nodaway	1	300026	1NDWYG2	97.0
Osage	1	301382	1OSAGEWINDG1	150.0
Palmyra City	1	300353	2PALMCTY	12.4
Rockport	1	300319	1ROCKPTG1	4.8
Rockport	2	300319	1ROCKPTG1	5.0
Shelbina	1	300407	2SHELBN	14.7
St Francis	1	300010	1STFRG1	230.7
St Francis	1	300011	1STFRG2	239.3
Stanberry	1	300267	2STANBR	3.6

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Ten Mile	1	300456	2TENMILE	8.5
Thomas Hill	1	300001	1THLG1	166.0
Thomas Hill	1	300002	1THLG2	270.0
Thomas Hill	1	300003	1THLG3	715.0
Trenton City	1	300238	2TRENCT	30.1
Unionville (MOPEP) 1	1	300288	1UNONVL	7.9
Vandalia City	1	300582	2VANCTY	6.3
West Plains City	1	300027	1WPLCTG1	22.0
West Plains City	1	300028	1WPLCTG2	22.0
Winslow	1	301358	1WINSLOWG1	168.0

Appendix 2: Duke Energy Carolinas BAA

The following information provides a more granular overview of the Duke Energy Carolinas BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A2.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (Duke Energy Carolinas BAA)

Duke Energy Carolinas BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	104.0	--	--	18.0	--	--
Transformers[2] – New	--	--	--	6	--	--
Transformers[2] – Replacements	--	--	--	--	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A2.2: Interface commitments[1] modeled in the SERTP Summer Peak models – Duke Energy Carolinas BAA

To	2019	2021	2023	2024	2026	2028
Duke Progress East	1205	1205	1205	1205	1205	1205
SCE&G	-2	-2	-2	-2	-2	-2
SC	-202	-209	-211	-209	-217	-219
Southern	-230	-230	-230	-230	-230	-230
PJM	100	100	100	100	100	100
SEPA	-268	-268	-268	-268	-268	-268
Total	603	596	594	596	588	586

[1]A positive number represents a net export from the Duke Energy Carolinas BAA

A detailed listing of the changes in generation assumptions within the Duke Energy Carolinas BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A2.3 below. Furthermore, supplemental information regarding noteworthy generation expansion and retirements/decertifications included in the 2018 series set of SERTP powerflow models is provided below, while Table A2.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A2.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A2.3: Changes in Generation Assumptions Based Upon LSEs – Duke Energy Carolinas BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Allen 1	174	174	174	174	174	174	0	--	--	--
Allen 2	172	172	172	172	172	172	0	--	--	--
Allen 3	271	271	271	271	271	271	0	--	--	--
Lincoln 17	--	--	--	525	525	525	525	525	525	525
NTE II	--	--	474	474	474	474	474	474	474	474

Table A2.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – Duke Energy Carolinas BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Broad River	850	850	850	850	850	850	850	850	850	850
Catawba	155	155	155	155	155	155	155	155	155	155
Rowan	150	150	150	150	150	150	150	150	150	150

Table A2.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – Duke Energy Carolinas BAA

Plant	Id	Bus Number	Bus Name	PMax (MW)
Allen	5	307853	1ALLEN 5	159.1
Allen	L	307853	1ALLEN 5	130.9
Allen	1	307854	1ALLEN 1	174.0
Allen	3	307855	1ALLEN 3	150.0
Allen	L	307855	1ALLEN 3	121.0
Allen	2	307863	1ALLEN 2	172.0
Allen	4	307864	1ALLEN 4	146.0
Allen	L	307864	1ALLEN 4	128.0
Apple	1	308387	APPLEPV3	16.2
Ayrshire	1	308375	1AYRSHIRE	16.8
Bad Creek	1	306207	1BADCRK12	350.0
Bad Creek	2	306207	1BADCRK12	350.0
Bad Creek	3	306208	1BADCRK34	350.0
Bad Creek	4	306208	1BADCRK34	350.0
Bear Creek	1	308517	1BEARCRK	9.0
Belews Creek	1	308377	1BELEWS1	637.0
Belews Creek	L	308377	1BELEWS1	500.0
Belews Creek	2	308378	1BELEWS2	637.0
Belews Creek	L	308378	1BELEWS2	500.0
Bridgewater	1	308079	1BRIDGEW	15.5
Bridgewater	2	308920	1BRIDGEW2	15.5
Broad River Energy	4	306222	1BRECG4	175.0
Broad River Energy	5	306224	1BRECG5	175.0
Broad River Energy	1	306314	1BRECG1	175.0
Broad River Energy	2	306315	1BRECG2	175.0
Broad River Energy	3	306316	1BRECG3	175.0
Buck	11	308090	1BUCKG11	176.5

Plant	Id	Bus Number	Bus Name	PMax (MW)
Buck	12	308091	1BUCKG12	176.5
Buck	10	308092	1BUCKS10	333.0
Buzzard Roost	1	307037	1BUZZHYD	5.0
Buzzard Roost	2	307037	1BUZZHYD	5.0
Buzzard Roost	3	307037	1BUZZHYD	4.3
Catawba	1	307856	1CATAWBA1	1180.0
Catawba	2	307857	1CATAWBA2	1160.0
Cedar Cliff	1	307858	1CEDAR CK	13.0
Cedar Cliff	2	307858	1CEDAR CK	15.0
Cedar Cliff	3	307858	1CEDAR CK	15.0
Cedar Creek	1	308516	1CEDARCL	6.4
Cherokee	1	306325	1CHEROKEG	57.0
Cherokee	1	306326	1CHEROKES	29.0
Cleveland County	1	308607	1CLEVELAND	178.0
Cleveland County	2	308608	1CLEVELAND	178.0
Cleveland County	3	308609	1CLEVELAND	178.0
Cleveland County	4	308610	1CLEVELAND	178.0
Cliffside	5	307610	1CLIFSID5	566.0
Cliffside	6	308789	1CLFSDGEN	850.0
Cowans Ford	1	308227	1COWANS1	81.0
Cowans Ford	2	308237	1COWANS2	81.0
Cowans Ford	3	308238	1COWANS3	81.0
Cowans Ford	4	308239	1COWANS4	81.0
Dan River	8	308603	1DNRVRG8	176.5
Dan River	9	308604	1DNRVRG9	176.5
Dan River	7	308605	1DNRVRS7	333.0
Dearborn	1	307859	1DEARBN1	14.0
Dearborn	2	307860	1DEARBN23	14.0

Plant	Id	Bus Number	Bus Name	PMax (MW)
Dearborn	3	307860	1DEARBN23	14.0
Fishing Creek	1	307861	1FISHNG C	11.0
Fishing Creek	2	307861	1FISHNG C	9.5
Fishing Creek	3	308912	1FISHNG C2	9.5
Fishing Creek	4	308912	1FISHNG C2	11.0
Fishing Creek	5	308912	1FISHNG C2	8.0
Gaston Shoals	1	307466	1GAST HY	5.7
Great Falls	1	307702	1GTFALLS	3.0
Great Falls	2	307702	1GTFALLS	3.0
Great Falls	5	307702	1GTFALLS	3.0
Great Falls	6	307702	1GTFALLS	3.0
Jocassee	1	307370	1JOCASSE1	195.0
Jocassee	2	307371	1JOCASSE2	195.0
Jocassee	3	307372	1JOCASSE3	195.0
Jocassee	4	307373	1JOCASSE4	195.0
Keowee	1	307195	1KEOWEE	80.0
Keowee	2	308880	1KEOWEE2	80.0
KMEC	1	308653	1KMECS	208.0
KMEC	2	308654	1KMECG	244.0
Lee	3	307197	1LEE 3	135.0
Lee	7	307198	1LEE CT7	43.0
Lee	8	307882	1LEE CT8	43.0
Lee	10	308613	1LEECCS10	327.0
Lee	11	308614	1LEECCG11	224.5
Lee	12	308615	1LEECCG12	224.5
Lincoln	1	306509	1LINCLN1	79.0
Lincoln	2	306510	1LINCLN2	79.0
Lincoln	3	306511	1LINCLN3	79.0

Plant	Id	Bus Number	Bus Name	PMax (MW)
Lincoln	4	306512	1LINCLN4	79.0
Lincoln	5	306513	1LINCLN5	79.0
Lincoln	6	306514	1LINCLN6	79.0
Lincoln	7	306515	1LINCLN7	79.0
Lincoln	8	306516	1LINCLN8	79.0
Lincoln	9	306517	1LINCLN9	79.0
Lincoln	A	306518	1LINCLN10	79.0
Lincoln	B	306519	1LINCLN11	79.0
Lincoln	C	306520	1LINCLN12	79.0
Lincoln	D	306521	1LINCLN13	79.0
Lincoln	E	306522	1LINCLN14	79.0
Lincoln	F	306523	1LINCLN15	79.0
Lincoln	G	306524	1LINCLN16	79.0
Lookout Tie	1	308080	1LOOKOUT	9.3
Lookout Tie	2	308080	1LOOKOUT	9.3
Lookout Tie	3	308080	1LOOKOUT	9.3
Marshall	1	308081	1MARSHAL1	181.0
Marshall	L	308081	1MARSHAL1	181.0
Marshall	3	308082	1MARSHAL3	660.0
Marshall	2	308087	1MARSHAL2	182.0
Marshall	L	308087	1MARSHAL2	182.0
Marshall	4	308088	1MARSHAL4	660.0
McGuire	1	308228	1MCGUIRE1	1170.0
McGuire	2	308229	1MCGUIRE2	1170.0
Mill Creek	1	306082	1MILLCKG1	76.0
Mill Creek	2	306083	1MILLCKG2	76.0
Mill Creek	3	306084	1MILLCKG3	76.0
Mill Creek	4	306086	1MILLCKG4	76.0

Plant	Id	Bus Number	Bus Name	PMax (MW)
Mill Creek	5	306087	1MILLCKG5	76.0
Mill Creek	6	306088	1MILLCKG6	76.0
Mill Creek	7	306090	1MILLCKG7	76.0
Mill Creek	8	306091	1MILLCKG8	76.0
Mocks	1	307613	1MOCKSVPV	12.9
Monroe	1	307614	MONROEPV	53.6
Mountain Island	1	308179	1MT ISLE	14.0
Mountain Island	2	308179	1MT ISLE	14.0
Mountain Island	3	308179	1MT ISLE	17.0
Mountain Island	4	308179	1MT ISLE	17.0
Nantahala	1	308558	1NANTAHA	51.0
Ninety-Nine Islands	1	307749	1NINETY9	15.0
Oconee	1	307199	1OCONEE1	863.0
Oconee	3	307200	1OCONEE3	863.0
Oconee	2	307210	1OCONEE2	863.0
Oxford	1	308083	1OXFORD	20.0
Oxford	2	308683	1OXFORD2	20.0
Rhodhiss	1	308084	1RHODHIS	10.0
Rhodhiss	2	308084	1RHODHIS	12.0
Rhodhiss	3	308084	1RHODHIS	12.0
Rockingham County	4	306828	1ROCKHMG04	165.0
Rockingham County	5	306829	1ROCKHMG05	165.0
Rockingham County	1	306831	1ROCKHMG01	165.0
Rockingham County	2	306832	1ROCKHMG02	165.0
Rockingham County	3	306833	1ROCKHMG03	165.0
Rowan	1	306991	1ROWANC1	154.0
Rowan	2	306992	1ROWANC2	154.0
Rowan	3	306993	1ROWANC3	154.0

Plant	Id	Bus Number	Bus Name	PMax (MW)
Rowan	4	306994	1ROWANC4	154.0
Rowan	5	306995	1ROWANC5	154.0
Rowan	6	306996	1ROWANS1	170.0
Ruth	1	306146	RUTHPV	67.0
Spconover	1	308391	SPCONOVR	20.0
SunEd	1	308784	SUNED100	15.0
Tennessee Creek	1	308518	1TENNCRK	10.8
Thorpe	1	308600	1THORPE	21.6
Thorpe	2	308600	1THORPE	3.0
Turner	1	307599	1TURN HY	1.5
Turner	2	307599	1TURN HY	1.5
Tuxedo	1	307601	1TUX HYD	3.2
Tuxedo	2	307601	1TUX HYD	3.2
Wateree	1	307862	1WATEREE	17.0
Wateree	2	307862	1WATEREE	17.0
Wateree	3	307862	1WATEREE	17.0
Wateree	4	307862	1WATEREE	17.0
Wateree	5	307862	1WATEREE	17.0
Wylie	1	307840	1WYLIE H	18.0
Wylie	2	307840	1WYLIE H	18.0
Wylie	3	307840	1WYLIE H	18.0
Wylie	4	307840	1WYLIE H	18.0

Appendix 3: Duke Progress East BAA

The following information provides a more granular overview of the Duke Progress East BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A3.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (Duke Progress East BAA)

Duke Progress East BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	--	--	47	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	36	--	--	10.0	--	--
Transformers[2] – New	--	--	--	3	--	--
Transformers[2] – Replacements	--	--	--	--	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A3.2: Interface commitments[1] modeled in the SERTP Summer Peak models – Duke Progress East BAA

To	2019	2021	2023	2024	2026	2028
Duke Carolinas	-1205	-1205	-1205	-1205	-1205	-1205
Duke Progress West	150	150	150	150	150	100
PJM	141	-24	-24	-24	-24	-24
Total	-914	-1079	-1079	-1079	-1079	-1129

[1]A positive number represents a net export from the Duke Progress East BAA

A detailed listing of the changes in generation assumptions within the Duke Progress East BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A3.3 below. Table A3.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A3.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A3.3: Changes in Generation Assumptions Based Upon LSEs – Duke Progress East BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Darlington #1	52	0	--	--	--	--	--	--	--	--
Darlington #2	48	0	--	--	--	--	--	--	--	--
Darlington #3	52	0	--	--	--	--	--	--	--	--
Darlington #4	50	0	--	--	--	--	--	--	--	--
Darlington #5	52	0	--	--	--	--	--	--	--	--
Darlington #6	45	0	--	--	--	--	--	--	--	--
Darlington #7	51	0	--	--	--	--	--	--	--	--
Darlington #8	48	0	--	--	--	--	--	--	--	--
Darlington #9	52	0	--	--	--	--	--	--	--	--
Darlington #10	51	0	--	--	--	--	--	--	--	--

Table A3.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – Duke Progress East BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
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
Ingenco	6	6	6	6	6	6	6	6	6	6

Table A3.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – Duke Progress East BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Aberdeen	PV	304364	ABERDEEN	2.0
Angier	PV	304214	ANGIER	4.4
Anson	1	304993	ANSON CT1	57.5
Anson	2	304994	ANSON CT2	57.5
Anson	3	304995	ANSON CT3	57.5
Anson	4	304996	ANSON CT4	57.5
Anson	5	304997	ANSON CT5	57.5
Anson	6	304998	ANSON CT6	57.5
Asheboro East	PV	304312	ASHEBOR E TT	5.0
Auburn	PV	304178	AUBURN	1.0
Aurora Pcs	A	304455	AURORA PCS1	42.0
Bahama	PV	304075	6BAHAMA	5.0
Bailey	PV	304198	BAILEY	20.0
Bayboro	PV	304462	BAYBORO	5.0
Beard	PV	304408	BEARD	4.0
Belfast	PV	304281	BELFAST	10.0
Benson	PV	304194	BENSON	6.0
Beulaville	PV	304280	BEULAVILLE	21.0
Biscoe	PV	304294	BISCOE SUB	25.0
Bishopville	PV	304712	BISHOPVILLE	2.0
Bladen Solar	PV	305334	BLADENSOLGLV	35.0
Bladenboro	PV	304574	BLADENBORO	14.8
Blewett	1	304892	BLEWETTE 1-3	4.0
Blewett	2	304892	BLEWETTE 1-3	4.0
Blewett	3	304892	BLEWETTE 1-3	4.0
Blewett	4	304893	BLEWETTE 4-6	5.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Blewett	5	304893	BLEWETTE 4-6	5.0
Blewett	6	304893	BLEWETTE 4-6	5.0
Blewett	C1	304933	BLW IC 1&2	13.0
Blewett	C2	304933	BLW IC 1&2	13.0
Blewett	C3	304934	BLW IC 3&4	13.0
Blewett	C4	304934	BLW IC 3&4	13.0
Bridgeton	PV	304464	BRIDGETON	10.0
Brunswick	1	304862	BRUNSWICK#1	938.0
Brunswick	1	304863	BRUNSWICK#2	932.0
Buies Creek	PV	304215	BUIES CREEK	5.0
Bullock Solar	PV	305644	BULLOKSOLGLV	50.6
Burgaw	PV	304513	BURGAW SUB	10.0
Bynum	PV	304334	BYNUM	3.0
Camp Lejeune #2	PV	304537	LEJEUNE#2	12.8
Candor	PV	304306	CANDOR	14.9
Caraleigh	PV	304125	CARALEIGH	1.7
Cary Trenton Road	PV	304115	CARY TRENTON	1.9
Castalia	PV	304081	CASTALIA	13.9
Catherine Lake	LG	304521	CATHERN LAKE	1.8
Chadbourn	PV	304589	CHADBORN	13.8
Chocowinity	PV	304445	CHOCOWINITY	29.5
Clarkton	PV	304570	CLARKTON	11.9
Clayton	PV	304170	CLAYTON	4.0
Clinton Ferrell Street	BG	304256	CLINT FERREL	1.8
Clinton Ferrell Street	PV	304256	CLINT FERREL	5.0
Clinton North	PV	304258	CLINTON NTH	5.0
Co-gen Kornegay	1	304605	COG KORN SUB	25.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Co-gen Lumberton	1	304603	COG LUMB SUB	32.0
Co-gen Roxboro	1	304063	COG ROX SUB	56.0
Co-gen Southport	1	304601	COG SPRT SUB	103.0
County Line Solar	PV	305384	COLINSOL1GLV	71.0
Craven County Wood Energy	1	304472	CC WD EN SUB	45.0
Cumberland Proxy (Proposed Future)	D	304010	CUMBPROXY	1000.0
Darlington	1	304897	DARL CO #1	50.0
Darlington	10	304906	DARL CO #10	49.0
Darlington	12	304908	DARL CO #12	118.0
Darlington	13	304909	DARL CO #13	116.0
Darlington	2	304898	DARL CO #2	46.0
Darlington	3	304899	DARL CO #3	50.0
Darlington	4	304900	DARL CO #4	48.0
Darlington	5	304901	DARL CO #5	49.0
Darlington	6	304902	DARL CO #6	43.0
Darlington	7	304903	DARL CO #7	49.0
Darlington	8	304904	DARL CO #8	46.0
Darlington	PV	304660	DARLINGTON	10.2
Delco	PV	304627	DELCO	9.5
Dover	PV	304506	DOVER	14.9
Dunn	PV	304197	DUNN	5.0
Eagle Island	PV	304565	EAGLE ISLAND	3.1
Eden Solar	PV	305324	EDENSOL1GLV	24.4
Eden Solar	PV	305327	EDENSOL2GLV	24.4
Edmondson	PV	304186	EDMONDSON	8.7
Elizabethtown	1	304578	COG E-TOWN	32.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Elizabethtown	PV	304572	ELIZTOWN SUB	4.8
Ellerbe	PV	304327	ELLERBE	2.0
Elm City	PV	304227	ELM CITY	10.0
Elm City Solar	PV	305314	ELMCTYSOLGLV	40.7
Erwin Sub	PV	304202	ERWIN115 SUB	5.0
Fair Bluff	PV	304599	FAIR BLUFF	5.0
Fairmont	PV	304448	FAIRMONT SUB	27.8
Fayetteville PWC	A	304948	FAY PWC ST	60.0
Fayetteville PWC	A	304940	FAY PWC1	20.0
Fayetteville PWC	A	304941	FAY PWC2	20.0
Fayetteville PWC	A	304942	FAY PWC3	20.0
Fayetteville PWC	A	304943	FAY PWC4	20.0
Fayetteville PWC	A	304944	FAY PWC5	20.0
Fayetteville PWC	A	304945	FAY PWC6	20.0
Fayetteville PWC	A	304946	FAY PWC7	20.0
Fayetteville PWC	A	304947	FAY PWC8	20.0
Fayetteville Solar	PV	305224	FAYSOL-GLV	23.4
Florence	PV	304659	FLO SUB115TT	1.0
Florence Sardis	PV	304671	FLOR SARDIS	1.0
Florence Stone	1	304641	FLOR STONE	68.0
Four Oaks	LG	304193	FOUR OAKS	1.8
Four Oaks	PV	304193	FOUR OAKS	15.8
Fremont	BG	304240	FREMONT	4.2
Fremont	PV	304240	FREMONT	10.0
Fuquay	PV	304213	FUQUAY	10.7
Fuquay Bells Lake	PV	304133	FUQUAY BELLS	1.5
Garland	PV	304584	GARLAND	5.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Garner	PV	304152	GARNER	5.0
Garner Tryon Hills	PV	304153	GARNER TRYON	1.1
Garner White Oak	PV	304151	GARNER W OAK	3.6
Global Tpark	PV	304321	GLOBAL TPARK	7.0
Godwin	PV	304410	GODWIN	20.0
Goldsboro Langston	PV	304282	GOLDSB LANGS	7.0
Grantham	LG	304267	GRANTHAM	3.2
Grantham	PV	304267	GRANTHAM	10.9
Grifton	PV	304459	GRIFTON	19.5
Hamlet	PV	304355	HAMLET	10.0
Hamlet	1	304987	HAMLET CT1	56.0
Hamlet	2	304988	HAMLET CT2	56.0
Hamlet	3	304989	HAMLET CT3	56.0
Hamlet	4	304990	HAMLET CT4	56.0
Hamlet	5	304991	HAMLET CT5	56.0
Hamlet	6	304992	HAMLET CT6	56.0
Harris	1	304865	HARRIS	928.0
Henderson East	PV	304087	HENDER EAST	33.2
Henderson North	PV	304101	HENDER NORTH	25.0
Holly Springs	LG	304058	HOLLY SPRG	7.3
Jonesboro	PV	304297	JONESBORO	5.0
Kingstree North	PV	304676	KINGSTREE N	1.0
Kornegay	PV	304273	KORNEGAY SUB	16.8
Lagrange	PV	304288	LAGRANGE	20.0
Lake Waccamaw	PV	304575	LAKE WACCA	5.0
Lakeview	PV	304367	LAKEVIEW	5.0
Laurel Hills	PV	304423	LAUREL HILLS	20.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Laurinburg	PV	304421	LAURINB115TT	16.2
Laurinburg City	PV	304422	LAURINBGCITY	15.0
Lee Plant	1A	304961	LEE CC_1A	170.0
Lee Plant	1B	304962	LEE CC_1B	170.0
Lee Plant	1C	304963	LEE CC_1C	170.0
Lee Plant	S1	304964	LEE CC_S1	378.0
Leland Ind	PV	304566	LELAND IND	5.1
Liberty	PV	304326	LIBERTY	4.8
Lillington	PV	304220	LILLINGTON	10.0
Louisburg	PV	304108	LOUISBURG	10.0
Manning	PV	304681	MANNING	2.0
Marion	PV	304632	MARION115 TT	10.0
Maxton	PV	304435	MAXTON	18.6
Maxton Airport	PV	304420	MAXTON APT	19.8
Maxton Solar	PV	305424	MAXTNSOLGLV	34.4
Mayo	1	304873	MAYO #1	727.0
Moncure	HY	304134	MONCURE	5.9
Moncure	PV	304134	MONCURE	5.0
Mount Olive	PV	304269	MT OLV SUB	5.0
Mount Olive West	PV	304270	MT OLV WEST	24.0
Nashville	PV	304116	NASHVILLE	6.8
NCSU Gen	1	304011	NCSU GEN	11.0
New Bern West	PV	304463	NEW BERN WES	10.5
New Bern West	LG	304463	NEW BERN WES230.00	4.0
Newton Grove	PV	304207	NEWTON GROVE	6.9
Nichols	PV	304629	NICHOLS	5.0
Oxford North	PV	304086	OXFORD NORTH	22.7

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Oxford South	PV	304080	OXFORD SOUTH	10.4
PA-Lumberton #4	PV	304439	PA-LUMB#4	2.0
Pamplico	PV	304644	PAMPLICO	2.8
Pembroke	PV	304436	PEMBROKE	15.8
Pittsboro	PV	304333	PITTSBORO	5.2
Princeton	PV	304252	PRINCETON	20.0
Raeford South	PV	304381	RAEFORD SOU	10.0
Raleigh Blue Ridge	PV	304073	RAL BL RIDGE	1.0
Ramseur	HY	304328	RAMSEUR 115	1.2
Red Springs	PV	304430	RED SPR SUB	19.9
Rhems	PV	304528	RHEMS	10.3
Richmond County	1	304971	RICH CT1	157.0
Richmond County	10	304980	RICH CT10	175.0
Richmond County	2	304972	RICH CT2	156.0
Richmond County	3	304973	RICH CT3	155.0
Richmond County	4	304974	RICH CT4	159.0
Richmond County	6	304975	RICH CT6	145.0
Richmond County	7	304976	RICH CT7	154.0
Richmond County	8	304977	RICH CT8	153.0
Richmond County	9	304979	RICH CT9	174.0
Richmond County	S4	304978	RICH ST4	169.0
Richmond County	S5	304981	RICH ST5	248.0
Robbins	PV	304298	ROBBINS	5.0
Robinson	1	304864	ROBINSON#2	741.0
Rockingham	PV	304320	ROCKHAM SUB	4.5
Rockingham West	PV	304345	ROCKHAM WEST	5.0
Rose Hill	PV	304505	ROSE HILL	6.9

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Roseboro	LG	304260	ROSEBORO	9.0
Roseboro	PV	304260	ROSEBORO	4.0
Rosewood	PV	304250	ROSEWOOD	5.0
Roslin Solar	PV	305414	ROSLNSOL1GLV	40.0
Roslin Solar	PV	305417	ROSLNSOL2GLV	39.0
Rowan Solar	PV	305394	ROWANSOL1GLV	20.5
Rowan Solar	PV	305397	ROWANSOL2GLV	18.9
Rowland	PV	304443	ROWLAND SUB	10.0
Roxboro	PV	304092	ROXBOR 115TT	9.0
Roxboro	1	304869	ROXBORO #1	379.0
Roxboro	1	304870	ROXBORO #2	671.0
Roxboro	1	304871	ROXBORO #3	691.0
Roxboro	1	304872	ROXBORO #4	698.0
Roxboro Bowmantown Road	PV	304068	ROX BOWMAN	10.0
Roxboro South	PV	304065	ROXB SOUTH	3.9
Samaria	PV	304609	SAMARIA	19.0
Sanford Deep River	PV	304376	SANF DP RVR	9.3
Sanford Garden Street	PV	304374	SANF GARDEN	17.0
Seagrove	PV	304303	SEAGROVE	5.0
Selma	PV	304177	SELMA 115 TT	15.2
Shannon	PV	304431	SHANNON	14.9
Shoe Creek Solar	PV	305634	SHOECKSOLGLV	65.4
Siler City	PV	304335	SILER CITY	14.8
Sneedsboro Solar	PV	305404	SNEEDSOL1GLV	37.3
Sneedsboro Solar	PV	305407	SNEEDSOL2GLV	42.4
Snow Hill	PV	304483	SNOW HILL	14.0
Society Hill	PV	304705	SOCIETY HILL	2.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Spring Hope	PV	304110	SPRING HOPE	6.8
St Paul's	PV	304406	ST PAULS	20.0
Stallings Crossroads	PV	304109	STALLING XRD	21.0
Summerton	PV	304701	SUMMERTON	2.0
Sumter Goldkist	BG	304692	SUM GOLDKIST	1.5
Sutton	1A	305911	SUT CC 1A	170.0
Sutton	1B	305912	SUT CC 1B	171.0
Sutton	ST	305913	SUT CC ST	266.0
Sutton	4	304919	SUTTONCT4	42.0
Sutton	5	304920	SUTTONCT5	42.0
Swansboro	PV	304527	SWANSBORO	5.0
Tabor City	PV	304596	TABOR CITY	5.0
Tillery	1	304888	TILLERY #1	21.0
Tillery	1	304889	TILLERY #2	18.0
Tillery	1	304890	TILLERY #3	21.0
Tillery	1	304891	TILLERY #4	24.0
Troy	HY	304301	TROY	1.8
Troy	PV	304301	TROY	5.0
Troy Burnette Street	PV	304637	TROY BURN ST	5.0
Turnbull Creek Solar	PV	305534	TURNBLSOLGLV	51.0
Uwharrie LFG	1	304012	UWHARRIE LFG	9.0
Vander	PV	304401	VANDERSUB TT	5.0
Vista	PV	304532	VISTA	5.0
Wadesboro	PV	304344	WADESBORO	15.0
Wadesboro Bowman School	PV	304359	WADESBOW SUB	10.0
Wallace	PV	304512	WALLACE SUB	11.8
Warrenton	PV	304103	WARRENTON	22.2

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Warsaw	PV	304504	WARSAW 230	34.9
Warsaw Solar	PV	305903	WARSWSOL1GLV	40.2
Warsaw Solar	PV	305906	WARSWSOL2GLV	25.6
Wayne County	10	304956	WAYNE CO #10	177.0
Wayne County	11	304957	WAYNE CO #11	174.0
Wayne County	12	304958	WAYNE CO #12	173.0
Wayne County	13	304959	WAYNE CO #13	170.0
Wayne County	14	304960	WAYNE CO #14	163.0
Weatherspoon	PV	304446	WEATHERSPOON	26.6
Weatherspoon	A	304924	WSPN IC#1	31.0
Weatherspoon	A	304925	WSPN IC#2	31.0
Weatherspoon	A	304927	WSPN IC#3	32.0
Weatherspoon	A	304928	WSPN IC#4	30.0
West End Sub	PV	304360	WEST END SUB	10.0
Weyerhauser	A	304476	WEYERHAUSR	38.0
Whiteville	PV	304623	WHITEVL SUB	9.8
Whiteville Ind	PV	304593	WHITEVL IND	5.0
Wilson POD 11	PV	304235	PA-W-11	20.0
Wilson POD 12	PV	304246	PA-W12 WEC	20.0
Wilson POD 2 and 3	PV	304236	PA-W-2&3	23.5
Wilson POD 5	PV	304244	PA-W-5	10.0
Wilson Rural East	PV	304225	PA-W-RE	5.0
Wilson Rural West	PV	304245	PA-W-RW	5.0
Wilsons Mills	PV	304179	WILSON MILLS	6.0
Yanceyville	PV	304095	YANCYVILLE	14.9
Zebulon	PV	304165	ZEBULON SUB	5.3

Appendix 4: Duke Progress West BAA

The following information provides a more granular overview of the Duke Progress West BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A4.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (Duke Progress West BAA)

Duke Progress West BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	2.2	--	--	10	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	2.7	--	--	--	--	--
Transformers[2] – New	--	--	--	--	--	--
Transformers[2] – Replacements	3	--	--	2	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A4.2: Interface commitments[1] modeled in the SERTP Summer Peak models – Duke Progress West BAA

To	2019	2021	2023	2024	2026	2028
Duke Progress East	-150	-150	-150	-150	-150	-100
Duke Carolinas	0	0	0	0	0	0
SC	-22	-22	-22	-22	-22	-22
TVA	-14	-14	-14	-14	-14	-14
Total	-186	-186	-186	-186	-186	-136

[1]A positive number represents a net export from the Duke Progress West BAA

A detailed listing of the changes in generation assumptions within the Duke Progress West BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A4.3 below. Table A4.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A4.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A4.3: Changes in Generation Assumptions Based Upon LSEs – Duke Progress West BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Asheville #1 COAL	191	0	--	--	--	--	--	--	--	--
Asheville #2 COAL	185	0	--	--	--	--	--	--	--	--
Asheville CC #1	0	260	260	260	260	260	260	260	260	260
Asheville CC #2	0	260	260	260	260	260	260	260	260	260

Table A4.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – Duke Progress West BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
None										

Table A4.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – Duke Progress West BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Asheville	X	304851	1ASHVL #1	189.0
Asheville	X	304852	1ASHVL #2	189.0
Asheville	A	304858	1ASH CT#1	160.0
Asheville	A	304859	1ASH CT#2	160.0
Baldwin	PV	304818	BALDWIN	1.4
Barnardsville	HY	304772	BARNARDSVILE	1.0
Canton	PV	304743	CANTON115 TT	1.7
Elk Mountain	HY	304766	ELK MOUNTAIN	2.5
Leicester	LG	304759	LEICESTER	1.4
Leicester	PV	304759	LEICESTER	3.6

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Marshall	1	304856	1MARSH1&2	2.0
Marshall	2	304856	1MARSH1&2	2.0
Walters	1	304853	1WALT #1	36.0
Walters	1	304854	1WALT #2	40.0
Walters	1	304855	1WALT #3	36.0
West Asheville	PV	304791	WESTASHEV TT	2.0

Appendix 5: LG&E/KU BAA

The following information provides a more granular overview of the LG&E/KU BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A5.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (LG&E/KU BAA)

LG&E/KU BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	59.6	4.7	--	--	--
Transformers[2] – New	--	--	--	--	2	--
Transformers[2] – Replacements	--	--	--	--	1	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A5.2: Interface commitments[1] modeled in the SERTP Summer Peak models – LG&E/KU BAA

To	2019	2021	2023	2024	2026	2028
PJM	159	159	159	159	159	159
OVEC	-190	-190	-190	-190	-190	-190
MISO	309.5	309.5	409.5	409.5	409.5	409.5
Owensboro Municipal	-10	-4	-4	-4	-4	-4
TVA	-35	-35	-35	-35	-35	-35
Total	233.5	239.5	339.5	339.5	339.5	339.5

[1]A positive number represents a net export from the LG&E/KU BAA

A detailed listing of the changes in generation assumptions within the LG&E/KU BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A5.3 below. Furthermore, supplemental information regarding noteworthy generation expansion and retirements/decertifications included in the 2018 series set of SERTP powerflow models is provided below while Table A5.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A5.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A5.3: Changes in Generation Assumptions Based Upon LSEs – LG&E/KU BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Brown 1	0	--	--	--	--	--	--	--	--	--
Brown 2	0	--	--	--	--	--	--	--	--	--

Table A5.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – LG&E/KU BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Trimble County	324	324	324	324	324	324	324	324	324	324

Table A5.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – LG&E/KU BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Brown	1	324000	1BROWN 1	113.0
Brown	2	324001	1BROWN 2	177.0
Brown	3	324002	1BROWN 3	455.0
Brown	5	324003	1BROWN 5	131.0
Brown	6	324004	1BROWN 6	147.0
Brown	7	324005	1BROWN 7	147.0
Brown	8	324006	1BROWN 8	122.0
Brown	9	324007	1BROWN 9	121.0
Brown	10	324008	1BROWN10	122.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Brown	11	324009	1BROWN11	122.0
Brown Solar	S1	325012	4BROWN PLANT	10.0
Buckner (Bluegrass)	1	324044	1BUCK 1	165.0
Buckner (Bluegrass)	2	324045	1BUCK 2	165.0
Buckner (Bluegrass)	3	324046	1BUCK 3	165.0
Cane Run	11	324013	1CR 11	14.0
Cane Run	7S	325095	1CANE RUN 7C	235.0
Cane Run 7	71	325093	1CANE RUN 7A	212.0
Cane Run 7	72	325094	1CANE RUN 7B	212.0
City of Paris	1	324677	2PARIS 12	11.3
Dix Dam	1	324014	1DIXD 1	10.5
Dix Dam	2	324015	1DIXD 2	10.5
Dix Dam	3	324016	1DIXD 3	10.5
EKPC Office Solar	P1	326541	2EKPC OFFICE	8.5
Ghent	1	324017	1GHNT 1	519.0
Ghent	2	324018	1GHNT 2	528.0
Ghent	3	324019	1GHNT 3	534.0
Ghent	4	324020	1GHNT 4	512.0
Haefling	1	324023	1HAEFLN	12.0
Haefling	2	324023	1HAEFLN	12.0
KMPA Paducah	2	324697	1KMPAPAD2	57.0
KMPA Paducah	1	324933	1KMPAPAD1	57.0
LOCK 7	1	324052	1LOCK 7	2.0
Mill Creek	1	324024	1MILC 1	327.0
Mill Creek	2	324025	1MILC 2	330.0
Mill Creek	3	324026	1MILC 3	422.0
Mill Creek	4	324027	1MILC 4	514.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Ohio Falls	1	324234	1OH FAL	8.0
Ohio Falls	2	324234	1OH FAL	8.0
Ohio Falls	3	324234	1OH FAL	8.0
Ohio Falls	4	324234	1OH FAL	8.0
Ohio Falls	5	324235	1OH FAL	8.0
Ohio Falls	6	324235	1OH FAL	8.0
Ohio Falls	7	324235	1OH FAL	8.0
Ohio Falls	8	324235	1OH FAL	8.0
Paddys Run	13	324031	1PADR 13	148.0
Paddys Run	11	326514	1PADR 11	12.0
Paddys Run	12	326515	1PADR 12	23.0
Trimble County	1	324034	1TRIM 1	547.0
Trimble County	2	324035	1TRIM 2	781.0
Trimble County	5	324036	1TRIM 5	160.0
Trimble County	6	324037	1TRIM 6	160.0
Trimble County	7	324038	1TRIM 7	160.0
Trimble County	8	324039	1TRIM 8	160.0
Trimble County	9	324040	1TRIM 9	160.0
Trimble County	10	324041	1TRIM10	160.0
Zorn	1	324043	2ZORN	14.0

Appendix 6: OVEC BAA

The following information provides a more granular overview of the OVEC BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A6.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (OVEC BAA)

OVEC BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	--	--	--	--
Transformers[2] – New	--	--	--	--	--	--
Transformers[2] – Replacements	--	--	--	--	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A6.2: Interface commitments[1] modeled in the SERTP Summer Peak models – OVEC BAA

To	2019	2021	2023	2024	2026	2028
PJM	1807	1807	1807	1807	1807	1807
MISO	30	30	30	30	30	30
LG&E/KU	163	163	163	163	163	163
Total	2000	2000	2000	2000	2000	2000

[1]A positive number represents a net export from the OVEC BAA

A detailed listing of the changes in generation assumptions within the OVEC BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A6.3 below. Table A6.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A6.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A6.3: Changes in Generation Assumptions Based Upon LSEs – OVEC BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
No changes in generation assumptions throughout the planning horizon										

Table A6.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – OVEC BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
None										

Table A6.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – OVEC BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Clifty Creek	1	248000	06CLIFTY	73.3
Clifty Creek	2	248000	06CLIFTY	73.3
Clifty Creek	3	248000	06CLIFTY	73.3
Clifty Creek	4	248000	06CLIFTY	73.3
Clifty Creek	5	248000	06CLIFTY	73.3
Clifty Creek	6	248000	06CLIFTY	73.3
Clifty Creek	7	248000	06CLIFTY	124.7
Clifty Creek	8	248000	06CLIFTY	124.7
Clifty Creek	9	248000	06CLIFTY	124.7
Clifty Creek	A	248000	06CLIFTY	124.7
Clifty Creek	B	248000	06CLIFTY	124.7
Clifty Creek	C	248000	06CLIFTY	124.7
Kyger Creek	1	248005	06KYGER	72.6

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Kyger Creek	2	248005	06KYGER	72.6
Kyger Creek	3	248005	06KYGER	72.6
Kyger Creek	4	248005	06KYGER	72.6
Kyger Creek	5	248005	06KYGER	72.6
Kyger Creek	6	248005	06KYGER	123.6
Kyger Creek	7	248005	06KYGER	123.6
Kyger Creek	8	248005	06KYGER	123.6
Kyger Creek	9	248005	06KYGER	123.6
Kyger Creek	A	248005	06KYGER	123.6

Appendix 7: PowerSouth BAA

The following information provides a more granular overview of the PowerSouth BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A7.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (PowerSouth BAA)

PowerSouth BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	9.5	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	--	--	--	--
Transformers[2] – New	--	--	--	--	--	--
Transformers[2] – Replacements	--	--	--	2	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A7.2: Interface commitments[1] modeled in the SERTP Summer Peak models – PowerSouth BAA

To	2019	2021	2023	2024	2026	2028
Southern	477.8	499.8	396.8	405.2	428.5	444.4
Total	477.8	499.8	396.8	405.2	428.5	444.4

[1]A positive number represents a net export from the PowerSouth BAA

A detailed listing of the changes in generation assumptions within the PowerSouth BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A7.3 below. Table A7.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A7.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A7.3: Changes in Generation Assumptions Based Upon LSEs – PowerSouth BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
No changes in generation assumptions throughout the planning horizon										

Table A7.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – PowerSouth BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
None										

Table A7.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – PowerSouth BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Lowman	1	317711	1LOWMAN1G	77.0
Lowman	2	317712	1LOWMAN2G	235.0
Lowman	3	317713	1LOWMAN3G	238.0
McIntosh	1	317721	1MCNTSH1G	110.0
McIntosh	2	317722	1MCNTSH2G	114.0
McIntosh	3	317723	1MCNTSH3G	114.0
McIntosh	4	317754	1MCNTSH4G	175.0
McIntosh	5	317755	1MCNTSH5G	175.0
McWilliams	1	317731	1MCWLMS1G	9.0
McWilliams	2	317732	1MCWLMS2G	9.0
McWilliams	3	317733	1MCWLMS3G	21.0
McWilliams	4	317734	1MCWLMS4G	103.0
Point A	H	317071	1POINTA_HYD	8.0
Vann	1	317701	1VANN 1G	168.0
Vann	2	317702	1VANN 2G	168.0
Vann	3	317703	1VANN 3G	174.0

Appendix 8: Southern BAA

The following information provides a more granular overview of the Southern BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table 8.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (Southern BAA)

Southern BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	88.5	--	--	110.2	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	807.7	--	37.0	107.1	--	--
Transformers[2] – New	--	--	--	5	--	1
Transformers[2] – Replacements	--	--	--	3	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table 8.2: Interface commitments[1] modeled in the SERTP Summer Peak models – Southern BAA

To	2019	2021	2023	2024	2026	2028
Duke Carolinas	230	230	230	230	230	230
SCE&G	0	0	0	0	0	0
SCPSA	-50	-50	-50	-50	-50	-50
TVA	-44.7	-45.8	-46.3	-45.4	-46.9	-44.9
SEPA	-681	-681	-681	-681	-681	-681
MISO	56	-80	-123	-145	-172	-177
PowerSouth	-477.8	-499.8	-396.8	-405.2	-428.5	-444.4
Florida	1299	1449	1655	1655	1605	1605
Total	331.5	322.4	587.9	558.4	456.6	437.7

[1]A positive number represents a net export from the Southern BAA

A detailed listing of the changes in generation assumptions within the Southern BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Tables A8.3 through A8.6 below. Furthermore, supplemental information regarding noteworthy generation expansion and retirements/decertifications included in the 2018 series set of SERTP powerflow models is provided below, while Table A8.7 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A8.8 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A8.3: Changes in Generation Assumptions Based Upon LSEs – Southern Company

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
BARRY[1]	--	--	--	--	610	610	610	610	610	610
BRANCH[1]	--	--	--	--	--	--	--	--	940	940
CALHOUN 1-4	632	632	632	632	0	--	--	--	--	--
CAMILLA	--	160	160	160	160	160	160	160	160	160
CENTRAL ALABAMA	885	885	885	885	0	--	--	--	--	--
DAHLBERG 2, 6, 8, 10	298	298	298	298	298	298	0	--	--	--
DOUGHERTY	--	120	120	120	120	120	120	120	120	120
FARLEY 1	874	874	874	898	898	898	898	898	898	898
FARLEY 2	877	877	901	901	901	901	901	901	901	901
GASTON 1-4	465	465	465	465	465	515	515	515	515	515
GRP FRANKLIN	58	58	58	58	58	58	58	58	58	58
GRP MADISON	58	58	58	58	58	58	58	58	58	58
INT. PAPER - PW BIOMASS	20	20	20	20	20	20	20	20	0	--
LANSING SMITH[1]	--	--	--	--	230	230	230	230	230	230

LANSING SMITH CC	593	593	593	593	593	593	593	593	593	593
MID GA COGEN	300	300	300	300	300	300	300	300	300	0
MONROE POWER	309	309	309	309	309	0	--	--	--	--
NORTH ESCAMBIA[1]	--	--	--	--	610	610	610	610	610	610
QUITMAN SOLAR	--	150	150	150	150	150	150	150	150	150
RATCLIFFE CC	696	696	696	696	696	696	696	696	696	696
ROBINS AFB	139	139	139	139	139	139	139	139	139	139
SR MERIDIAN III	--	52	52	52	52	52	52	52	52	52
TANGLEWOOD	--	58	58	58	58	58	58	58	58	58
TIGER CREEK 1&4	313	313	313	313	313	0	--	--	--	--
TWIGGS	--	200	200	200	200	200	200	200	200	200
VOGTLE 3	--	--	--	504	504	504	504	504	504	504
VOGTLE 4	--	--	--	--	504	504	504	504	504	504
WALTON COUNTY	465	465	465	465	465	0	--	--	--	--
YATES 6-7	649	649	649	649	649	714	714	714	714	714
YATES[1]	--	--	--	--	--	--	1200	1200	1200	1200

[1]This assumption may be modified as resource decisions are made by the corresponding LSEs pursuant to applicable regulatory processes.

Table A8.4: Changes in Generation Assumptions Based Upon LSEs – GTC

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Baxley	--	24	24	24	24	24	24	24	24	24
Snipesville	--	60	60	60	60	60	60	60	60	60
SR Hazelhurst 3	--	41	41	41	41	41	41	41	41	41
Terrell County	--	--	74	74	74	74	74	74	74	74
Vogtle 3	--	--	--	330	330	330	330	330	330	330
Vogtle 4	--	--	--	330	330	330	330	330	330	330

Table A8.5: Changes in Generation Assumptions Based Upon LSEs – MEAG

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Vogtle 3	--	--	--	250	250	250	250	250	250	250
Vogtle 4	--	--	--	--	250	250	250	250	250	250

Table A8.6: Changes in Generation Assumptions Based Upon LSEs – Dalton

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Vogtle 3	--	--	--	19	19	19	19	19	19	19
Vogtle 4	--	--	--	--	19	19	19	19	19	19

Table A8.7: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – Southern BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Bowen	159	159	159	159	159	159	159	159	159	159
Dahlberg	494	494	494	494	494	494	494	494	494	494
Daniel	--	--	150	150	150	150	100	100	100	100
Franklin	424	424	424	424	424	424	424	424	424	424
Hammond	10	10	10	10	10	10	10	10	10	10
Hillabee	350	350	350	350	350	350	350	350	350	350
Lindsay Hill	300	300	300	300	300	300	300	300	300	300
Scherer	911	911	911	911	911	911	911	911	911	911
Vogtle	206	206	206	206	206	206	206	206	206	206

Table A8.8: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – Southern BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Addison	1	383901	1ADDISON 1	148.6
Addison	2	383902	1ADDISON 2	148.6
Addison	3	383903	1ADDISON 3	150.5

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Addison	4	383904	1ADDISON 4	150.0
Alb Green	1	383480	1ALB GRN NRG	50.0
Allatoona Dam	1	383506	1ALLA DAM	72.0
AMEA Sylacauga	1	386036	1AMEA CT1	47.5
AMEA Sylacauga	2	386037	1AMEA CT2	47.5
Anniston Army Solar	S1	386035	3ANAD SLR	11.0
Bankhead Dam	1	384357	1BANK GEN	52.0
Barry	1	386471	1BARRY 1	55.5
Barry	2	386472	1BARRY 2	55.5
Barry	4	386474	1BARRY 4	362.0
Barry	5	386475	1BARRY 5	785.0
Barry	6	386476	1BARRY 6ST	190.0
Barry	6A	386477	1BARRY 6A	180.0
Barry	6B	386478	1BARRY 6B	180.0
Barry	7	386479	1BARRY 7ST	192.5
Barry	7A	386480	1BARRY 7A	182.3
Barry	7B	386481	1BARRY 7B	182.3
Bartletts Ferry Dam	1	383514	1BARTLFY1	15.2
Bartletts Ferry Dam	2	383515	1BARTLFY2	15.2
Bartletts Ferry Dam	3	383516	1BARTLFY3	15.2
Bartletts Ferry Dam	4	383517	1BARTLFY4	20.3
Bartletts Ferry Dam	5	383518	1BARTLFY6	54.7
Bartletts Ferry Dam	6	383518	1BARTLFY6	54.7
Bay County	A	385413	1BAY CNTY 13	12.0
Bellview Solar	S1	386630	1BELLVW SLR	57.0
Bouldin Dam	1	386581	1BOULD1GN	75.3
Bouldin Dam	2	386582	1BOULD2GN	75.3

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Bouldin Dam	3	386583	1BOULD3GN	75.3
Boulevard	1	389017	1BLVD1	14.0
Bowen	1	383841	1BOWEN 1	728.0
Bowen	2	383842	1BOWEN 2	728.0
Bowen	3	383843	1BOWEN 3	897.0
Bowen	4	383844	1BOWEN 4	897.0
Buford Dam	1	383509	1BUF DAM 1+	60.1
Buford Dam	3	383509	1BUF DAM 1+	6.8
Buford Dam	2	383510	1BUF DAM 2	60.1
Bulter Solar	S1	383406	1BUTLER SLR	100.0
Calhoun	4	383680	1CALHOUN GEN	20.0
Calhoun	1	386061	1CALHOUNCT1	158.0
Calhoun	2	386062	1CALHOUNCT2	158.0
Calhoun	3	386063	1CALHOUNCT3	158.0
Calhoun	4	386064	1CALHOUNCT4	158.0
Camilla Solar	S1	383425	6CAMILLA SLR	16.0
Carters Dam	1	383502	1CARTERSDAM1	148.0
Carters Dam	2	383503	1CARTERSDAM2	148.0
Carters Dam	3	383504	1CARTERSDAM3	148.0
Carters Dam	4	383505	1CARTERSDAM4	148.0
Central Alabama	2	386427	1CENTAL 2ST	393.0
Central Alabama	2A	386428	1CENTAL 2A	164.0
Central Alabama	2B	386429	1CENTAL 2B	164.0
Central Alabama	2C	386430	1CENTAL 2C	164.0
Champion	A	385410	1CHAMPION13	25.0
Chattahoochee Energy	1	383632	1CHAT EN 1ST	167.0
Chattahoochee Energy	1A	383633	1CHAT EN 1A	150.3

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Chattahoochee Energy	1B	383634	1CHAT EN 1B	152.2
Chevron	1	386831	1CHEVRON1	15.0
Chevron	2	386832	1CHEVRON2	15.0
Chevron	3	386833	1CHEVRON3	16.0
Chevron	4	386834	1CHEVRON4	16.0
Chevron	5	386835	1CHEVRON5	70.0
Crisp Co. Dam	1	383541	1CRISPCO1	23.0
Crist	4	386704	1CRIST 4	79.0
Crist	5	386705	1CRIST 5	79.0
Crist	6	386706	1CRIST 6	310.0
Crist	7	386707	1CRIST 7	504.0
Dahlberg	1	383661	1DAHLBERG 1	74.8
Dahlberg	2	383662	1DAHLBERG 2	74.0
Dahlberg	3	383663	1DAHLBERG 3	74.7
Dahlberg	4	383664	1DAHLBERG 4	73.2
Dahlberg	5	383665	1DAHLBERG 5	74.7
Dahlberg	6	383666	1DAHLBERG 6	74.9
Dahlberg	7	383667	1DAHLBERG 7	75.1
Dahlberg	8	383668	1DAHLBERG 8	74.0
Dahlberg	9	383669	1DAHLBERG 9	76.1
Dahlberg	10	383670	1DAHLBERG 10	75.2
Daniel	1	386871	1DANIEL 1	510.0
Daniel	2	386872	1DANIEL 2	510.0
Daniel	3	386873	1DANIEL 3ST	198.6
Daniel	3A	386874	1DANIEL 3A	169.7
Daniel	3B	386875	1DANIEL 3B	169.7
Daniel	4	386876	1DANIEL 4ST	201.6

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Daniel	4A	386877	1DANIEL 4A	177.7
Daniel	4B	386878	1DANIEL 4B	177.7
Decatur Solar	S1	383401	1DEC PKY SLR	79.9
Doyle	1	383871	1DOYLE 1	61.0
Doyle	2	383872	1DOYLE 2	62.0
Doyle	3	383873	1DOYLE 3	62.0
Doyle	4	383874	1DOYLE 4	75.0
Doyle	5	383875	1DOYLE 5	75.0
Dublin Biomass 1	1	383787	1DUBLIN B1	41.0
Eastbay Solar	S1	386620	1EASTBAY SLR	40.0
Effingham	1	383867	1EFFHAM 1ST	182.0
Effingham	1A	383868	1EFFHAM 1A	159.0
Effingham	1B	383869	1EFFHAM 1B	159.0
Fall Line Solar	S1	383408	3FALL LN SLR	20.0
Farley	1	386461	1FARLEY 1	896.0
Farley	2	386462	1FARLEY 2	899.8
Flint Biomass	1	383786	1FLINT BIO	42.0
Flint Biomass	2	383786	1FLINT BIO	38.3
Flint River Dam	1	383538	1FLINT HYDRO	6.5
Fort Benning Solar	S1	383411	3BENNING SLR	30.0
Fort Rucker Solar	S1	386034	3RUCKER SLR	10.6
Franklin	1	383671	1FRANKLIN1ST	221.0
Franklin	1A	383672	1FRANKLIN 1A	187.0
Franklin	1B	383673	1FRANKLIN 1B	187.0
Franklin	2	383674	1FRANKLIN2ST	282.4
Franklin	2A	383675	1FRANKLIN 2A	183.1
Franklin	2B	383676	1FRANKLIN 2B	183.1

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Franklin	3	383677	1FRANKLIN3ST	277.0
Franklin	3A	383678	1FRANKLIN 3A	174.0
Franklin	3B	383679	1FRANKLIN 3B	174.0
Gadsden	1	386421	1GADSDEN1	64.0
Gadsden	2	386422	1GADSDEN2	66.0
Gaston	1	386411	1GASTON 1	127.0
Gaston	1L	386411	1GASTON 1	127.0
Gaston	2	386412	1GASTON 2	129.5
Gaston	2L	386412	1GASTON 2	129.5
Gaston	3	386413	1GASTON 3	130.0
Gaston	3L	386413	1GASTON 3	130.0
Gaston	4	386414	1GASTON 4	128.0
Gaston	4L	386414	1GASTON 4	128.0
Gaston	5	386415	1GASTON 5	871.5
Gaston	A	386416	1GASTON A	16.0
George Dam	1	383539	1GEORGE 1-2	84.6
George Dam	3	383540	1GEORGE 3-4	79.6
Goat Rock Dam	3	383520	1GOATROCK	5.0
Goat Rock Dam	4	383520	1GOATROCK	5.0
Goat Rock Dam	7	383520	1GOATROCK	9.3
Goat Rock Dam	8	383520	1GOATROCK	9.3
Goat Rock Dam	5	383521	1GOATRK 56	5.0
Goat Rock Dam	6	383521	1GOATRK 56	5.0
Gordon Solar	S1	383412	1GORDON SLR	30.0
Gorgas	8	386408	1GORGAS 8	165.8
Gorgas	9	386409	1GORGAS 9	175.2
Gorgas	10	386410	1GORGAS10	740.9

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Greene County	1	386441	1GREENE CO	265.8
Greene County	2	386442	1GREENE CO	266.3
Greene County	A	386450	1GREENCOA	84.0
Greene County	B	386451	1GREENCOB	82.0
Greene County	C	386452	1GREENCOC	81.0
Greene County	D	386453	1GREENCOD	82.0
Greene County	E	386454	1GREENCOE	81.0
Greene County	F	386455	1GREENCOF	80.0
Greene County	G	386456	1GREENCOG	83.0
Greene County	H	386457	1GREENCOH	82.0
Greene County	I	386458	1GREENCOI	85.0
GRP Franklin Bio	1	383481	1GRP FRK BIO	65.0
GRP Madison Bio	1	383486	1GRP MAD BIO	65.0
Hammond	1	383651	1HAMMOND 1	111.9
Hammond	2	383652	1HAMMOND 2	111.9
Hammond	3	383653	1HAMMOND 3	111.9
Hammond	4	383654	1HAMMOND 4	532.3
Harris	1	386491	1HARRIS 1ST	283.6
Harris	1A	386492	1HARRIS 1A	172.1
Harris	1B	386493	1HARRIS 1B	172.1
Harris	2	386494	1HARRIS 2ST	286.0
Harris	2A	386495	1HARRIS 2A	185.0
Harris	2B	386496	1HARRIS 2B	185.0
Harris Dam	1	386531	1HARISGEN	62.0
Harris Dam	2	386531	1HARISGEN	62.0
Hatch	1	383811	1HATCH 1	880.2
Hatch	2	383812	1HATCH 2	889.7

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Hattiesburg Solar	S1	386888	1HATTIESB SL	50.8
Hawk Road	1	383927	1HAWK RD 1	152.8
Hawk Road	2	383928	1HAWK RD 2	151.6
Hawk Road	3	383929	1HAWK RD 3	152.8
Hazelhurst Solar	S1	383428	3HAZLE I SLR	20.0
Hazlehurst Solar	S1	383427	1HAZLEH2 SLR	52.5
Henry Dam	1	386501	1HENRYGEN	62.0
Hillabee	1	386437	1HILL ST1	300.0
Hillabee	1A	386438	1HILLCT1A	250.0
Hillabee	1B	386439	1HILLCT1B	250.0
Hog Bayou	1	386089	1HOGBAYOU 1	75.0
Hog Bayou	1A	386090	1HOGBAYOU1A	150.0
Holt Dam	1	384355	1HOLT GEN	45.0
Jordan Dam	1	386561	1JORD1GEN	56.0
Jordan Dam	3	386563	1JORD3GEN	56.0
Kingsbay Solar	S1	383414	1KNGSBAY SLR	30.0
Lansing Smith	A	386780	1LSMITH A	32.0
Lansing Smith	3	386783	1LSMITH 3ST	232.5
Lansing Smith	3A	386784	1LSMITH 3A	172.3
Lansing Smith	3B	386785	1LSMITH 3B	172.3
Lansing Smith	1	387843	1LSMITH CT1	230.0
Lay Dam	1	386541	1LAY1-3GN	87.0
Lay Dam	4	386544	1LAY4-6GN	87.0
LG&E Monroe	1	383862	1LGEMONROE1	149.0
LG&E Monroe	2	383863	1LGEMONROE2	149.0
LG&E Monroe	3	383864	1LGEMONROE3	148.9
Lindsay Hill	1	386423	1LHILL 1ST	361.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Lindsay Hill	1A	386424	1LHILL 1A	163.0
Lindsay Hill	1B	386425	1LHILL 1B	163.0
Lindsay Hill	1C	386426	1LHILL 1C	163.0
LIVEOAK SOLAR	S1	383403	1LIVEOAK SLR	51.0
Lloyd Shoals Dam	1	383501	1LLOYD SHL	19.6
Lowndes County	1	386083	1LOWDN CO1	13.0
Lowndes County	1A	386084	1LOWDN CO2	79.0
Martin Dam	1	386521	1LMARTGEN	120.0
Martin Dam	1	386551	1MART1GEN	45.2
Martin Dam	2	386552	1MART2GEN	40.3
Martin Dam	3	386553	1MART3GEN	39.3
Martin Dam	4	386554	1MART4GEN	54.1
McDonough	3B	383600	1MCDON 3B	40.0
McDonough	4	383878	1MCDON 4ST	315.5
McDonough	4A	383879	1MCDON 4A	252.8
McDonough	4B	383880	1MCDON 4B	252.8
McDonough	6	383883	1MCDON 6ST	344.0
McDonough	6A	383884	1MCDON 6A	243.0
McDonough	6B	383885	1MCDON 6B	243.0
McDonough	3A	383886	1MCDON 3A	40.0
McDonough	5	383961	1MCDON 5ST	339.0
McDonough	5A	383962	1MCDON 5A	244.0
McDonough	5B	383963	1MCDON 5B	244.0
McIntosh	1	389002	1MCINTOSH	142.5
McIntosh	1	389122	1MCINCT-1	82.2
McIntosh	2	389123	1MCINCT-2	82.2
McIntosh	3	389124	1MCINCT-3	82.2

Plant	Unit	Bus #	Bus Name	Pmax (MW)
McIntosh	4	389125	1MCINCT-4	82.2
McIntosh	5	389126	1MCINCT-5	82.2
McIntosh	6	389127	1MCINCT-6	82.2
McIntosh	7	389128	1MCINCT-7	82.2
McIntosh	8	389129	1MCINCT-8	82.2
McIntosh	10	389131	1MCINT 10ST	275.0
McIntosh	1A	389132	1MCINT 10A	193.0
McIntosh	1B	389133	1MCINT 10B	193.0
McIntosh	11	389134	1MCINT 11ST	275.0
McIntosh	1A	389135	1MCINT 11A	193.0
McIntosh	1B	389136	1MCINT 11B	193.0
Mclb Solar	S1	383415	1MCLB SOLAR	31.0
McManus	4A	383821	1MCMANUS 4A	46.0
McManus	4B	383822	1MCMANUS 4B	46.0
McManus	4C	383823	1MCMANUS 4C	46.0
McManus	4D	383824	1MCMANUS 4D	46.0
McManus	4E	383825	1MCMANUS 4E	46.0
McManus	4F	383826	1MCMANUS 4F	46.0
McManus	3A	383833	1MCMANUS 3A	46.0
McManus	3B	383834	1MCMANUS 3B	46.0
McManus	3C	383835	1MCMANUS 3C	46.0
Mid Georgia	1	383711	1MID GA 1ST	96.0
Mid Georgia	1A	383712	1MID GA 1A	102.0
Mid Georgia	1B	383713	1MID GA 1B	102.0
Miller	1	386401	1MILLER 1	697.3
Miller	2	386402	1MILLER 2	698.6
Miller	3	386403	1MILLER 3	695.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Miller	4	386404	1MILLER 4	707.0
Millers Ferry Dam	1	385402	1MILERSFY1	30.0
Millers Ferry Dam	2	385403	1MILERSFY2	30.0
Millers Ferry Dam	3	385404	1MILERSFY3	30.0
Mitchell Dam	4	386574	1MITC4GEN	17.9
Mitchell Dam	5	386575	1MITC5GEN	44.7
Mitchell Dam	6	386575	1MITC5GEN	44.7
Mitchell Dam	7	386575	1MITC5GEN	44.7
Monroe Power	1	383860	1MONROEPWR	160.0
Monroe Power	2	383861	1MONROEPWR	160.0
Monsanto	A	385411	1MONSANTO13	86.0
Moody Air Force Solar	S1	383417	1MAFB SLR	30.0
Morgan Falls Dam	1	383500	1MORGAN F	10.4
MS Bainbridge	1	383890	1MSBAINBR	78.0
North Highlands Dam	1	383525	1N HIGHLAND	34.4
Old Midville Solar	S1	383402	3OLD MIDVIL	20.0
Oliver Dam	1	383522	1OLIVER 1	17.7
Oliver Dam	2	383523	1OLIVER 2	17.7
Oliver Dam	3	383524	1OLIVER 3-4	17.7
Oliver Dam	4	383524	1OLIVER 3-4	6.0
OPC Hartwell	1	383881	1OPCHWE 1	150.0
OPC Hartwell	2	383882	1OPCHWE 2	149.0
Origis Solar	S1	386046	1ORIGIS SPR	80.0
Origis Solar	S1	386887	1ORIGIS SLR	52.0
Paw Solar	S1	383407	6PAW PAW SLR	30.0
Piedmont	1	383777	1PIEDMNT BIO	55.0
Pine Ridge	1	383497	1PINE RIDGE	8.2

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Rabun Gap	1	383775	1RABUN BIO	18.0
Ratcliffe	1	386891	1RATCLF1ST_N	307.0
Ratcliffe	1A	386892	1RATCLF1A_N	221.0
Ratcliffe	1B	386893	1RATCLF1B_N	221.0
RF Henry Dam	1	385401	1RF HENRY 13	82.0
Richland Creek	1	383498	1RICHLD CK	10.6
Rincon Solar	S1	383422	1RINCON SLR	16.0
Robins Air Force Base	A	383741	1RAFB CT A	80.0
Robins Air Force Base	B	383742	1RAFB CT B	80.0
Rocky Mountain	1	383511	1ROCKY MTN	346.3
Rocky Mountain	2	383512	1ROCKY MTN	346.3
Rocky Mountain	3	383513	1ROCKY MTN	346.3
Rumble Road	1	383721	1RMBL CT1	94.0
Rumble Road	2	383722	1RMBL CT2	94.0
Sandhills Solar	S1	383409	1SANDHLS SLR	143.0
Santa Rosa	1	386087	1ST ROSA A	75.0
Santa Rosa	1A	386088	1ST ROSA B	150.0
Scherer	1	383681	1SCHERER 1	881.0
Scherer	2	383682	1SCHERER 2	881.0
Scherer	3	383683	1SCHERER 3	883.0
Scherer	4	383684	1SCHERER 4	869.0
Sewell Creek	21	383851	1SEWCRK 21	130.0
Sewell Creek	22	383852	1SEWCRK 22	132.0
Sewell Creek	11	383853	1SEWCRK 11	94.0
Sewell Creek	12	383854	1SEWCRK 12	93.0
Simon	S1	383798	1SSFGEN	30.0
Sinclair Dam	1	383548	1SINCLAIR 1	19.3

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Sinclair Dam	2	383549	1SINCLAIR 2	19.3
Smith Dam	1	384142	1SMITH GN	82.5
Smith Dam	2	384142	1SMITH GN	82.5
SOWEGA	1	383791	1SOWEGA 1	49.3
SOWEGA	2	383792	1SOWEGA 2	49.3
SOWEGA	3	383802	1SOWEGA 3	49.0
SOWEGA	4	383803	1SOWEGA 4	49.0
SOWEGA	5	383804	1SOWEGA 5	49.0
SOWEGA	6	383805	1SOWEGA 6	48.0
Stewart Solar	S1	383413	1STEWART SLR	30.0
Stone Container	A	385412	1STONECTR 13	8.0
Sweatt	A	386800	1SWEATT A	32.0
T.A. Smith I	1	383604	1TA SMITH 1S	322.5
T.A. Smith I	1A	383605	1TA SMITH 1A	162.3
T.A. Smith I	1B	383606	1TA SMITH 1B	162.3
T.A. Smith II	2	383607	1TA SMITH 2S	322.5
T.A. Smith II	2A	383608	1TA SMITH 2A	162.3
T.A. Smith II	2B	383609	1TA SMITH 2B	162.3
Talbot County	1	383911	1TALBOT 1	98.0
Talbot County	2	383912	1TALBOT 2	98.0
Talbot County	3	383913	1TALBOT 3	94.7
Talbot County	4	383914	1TALBOT 4	96.9
Talbot County	5	383915	1TALBOT 5	98.0
Talbot County	6	383916	1TALBOT 6	98.0
Tallulah Falls Dam	1	383542	1TALLULAH 1	11.4
Tallulah Falls Dam	2	383543	1TALLULAH 2	11.4
Tallulah Falls Dam	3	383544	1TALLULAH 3	11.4

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Tallulah Falls Dam	4	383545	1TALLULAH 4	11.4
Tallulah Falls Dam	5	383546	1TALLULAH 5	11.4
Tallulah Falls Dam	6	383547	1TALLULAH 6	11.4
Tenaska - Heard County	1	383921	1TENSKA GA	157.5
Tenaska - Heard County	2	383922	1TENSKA GA	157.5
Tenaska - Heard County	3	383923	1TENSKA GA	157.5
Tenaska - Heard County	4	383924	1TENSKA GA	157.5
Tenaska - Heard County	5	383925	1TENSKA GA	157.5
Tenaska - Heard County	6	383926	1TENSKA GA	157.5
Terrora Dam	1	383530	1TERRORA	14.5
Theodore	1	386085	1THEO 1	64.0
Theodore	1A	386086	1THEO A	167.0
Thurlgen	1	386591	1THURLGEN	69.4
Thurlgen	3	386591	1THURLGEN	10.0
Tiger Creek	1	383855	1TIGER CK1	157.9
Tiger Creek	2	383856	1TIGER CK2	155.0
Tiger Creek	3	383857	1TIGER CK3	154.6
Tiger Creek	4	383858	1TIGER CK4	156.6
Tugalo Dam	1	383532	1TUGALO 1-2	11.0
Tugalo Dam	3	383533	1TUGALO 3-4	22.1
Valparaiso Solar	S1	386610	1VALPAR SLR	30.0
Vogtle	1	383751	1VOGTLE1	1158.4
Vogtle	2	383752	1VOGTLE2	1160.5
Vogtle	3	383753	1VOGTLE3	1102.0
Vogtle	4	383754	1VOGTLE4	1102.0
Wallace Dam	1	383536	1WALLACE 1-3	50.7
Wallace Dam	2	383536	1WALLACE 1-3	50.7

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Wallace Dam	3	383536	1WALLACE 1-3	54.6
Wallace Dam	4	383537	1WALLACE 4-6	54.6
Wallace Dam	5	383537	1WALLACE 4-6	50.7
Wallace Dam	6	383537	1WALLACE 4-6	50.7
Walton Discover	1	383905	1WALT DISC 1	50.0
Walton Discover	2	383906	1WALT DISC 2	50.0
Wansley	5A	383620	1WANSLEY 5A	49.0
Wansley	1	383621	1WANSLEY 1	876.5
Wansley	2	383622	1WANSLEY 2	876.5
Wansley	6	383623	1WANSLEY 6ST	225.0
Wansley	6A	383624	1WANSLEY 6A	184.0
Wansley	6B	383625	1WANSLEY 6B	184.0
Wansley	7	383626	1WANSLEY 7ST	226.1
Wansley	7A	383627	1WANSLEY 7A	183.0
Wansley	7B	383628	1WANSLEY 7B	183.0
Wansley	1	383629	1WANSLEY 9ST	202.6
Wansley	1A	383630	1WANSLEY 9A	145.4
Wansley	1B	383631	1WANSLEY 9B	145.4
Warthen	1	383743	1WARTHEN 1	69.0
Warthen	2	383744	1WARTHEN 2	69.0
Warthen	3	383745	1WARTHEN 3	69.0
Warthen	4	383746	1WARTHEN 4	69.0
Warthen	5	383747	1WARTHEN 5	69.0
Warthen	6	383748	1WARTHEN 6	69.0
Warthen	7	383749	1WARTHEN 7	69.0
Warthen	8	383750	1WARTHEN 8	69.0
Washington County	1	386081	1WASH CO 1	22.8

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Washington County	1A	386082	1WASH CO 2	77.9
Watson	A	386850	1WATSON A	33.0
Watson	3	386853	1WATSON 3	113.0
Watson	4	386854	1WATSON 4	268.0
Watson	5	386855	1WATSON 5	516.0
Weiss Dam	1	386511	1WEISSGEN	71.0
West Point Dam	1	383508	1W PT DAM	87.0
Weyerhauser Biomass	1	389199	1WEYERPW BIO	40.0
Weyerhauser Biomass	2	389199	1WEYERPW BIO	25.0
White Oak Solar	S1	383404	1WHT OAK SLR	76.5
White Pine Solar	S1	383405	1WH PINE SLR	101.3
Wilson	A	383761	1WILSON A	41.0
Wilson	B	383762	1WILSON B	56.0
Wilson	C	383763	1WILSON C	49.0
Wilson	D	383764	1WILSON D	41.0
Wilson	E	383765	1WILSON E	54.0
Wilson	F	383766	1WILSON F	54.0
Yates	6	383646	1YATES 6	355.5
Yates	7	383647	1YATES 7	358.5
Yates 8	8	383807	1YATES 8ST	504.0
Yates 8	8A	383808	1YATES 8A	363.0
Yates 8	8B	383809	1YATES 8B	363.0
Yates Dam	1	384448	1YATE GEN	46.0
Yonah Dam	1	383534	1YONAH	25.4

Appendix 9: TVA BAA

The following information provides a more granular overview of the TVA BAA input assumptions and transmission expansion plan that are incorporated in the development of the SERTP regional transmission plan.

Table A9.1: 2018 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (TVA BAA)

TVA BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	--	--	89.5	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	146.2	--	--	--
Transformers[2] – New	--	--	--	--	--	2
Transformers[2] – Replacements	--	--	--	--	--	--

[1]A transmission line uprate may be the result of reconductoring and/or increasing the operating temperature/voltage along the transmission line.
[2]The voltages shown represent the operating voltages on the high side terminals of the transformer

Table A9.2: Interface commitments[1] modeled in the SERTP Summer Peak models – TVA BAA

To	2019	2021	2023	2024	2026	2028
PJM	-400	-400	-400	-400	-400	-400
MISO	1096	1096	1096	1096	1096	1096
Duke Progress West	14	14	14	14	14	14
Southern	44.7	45.8	46.3	45.4	46.9	44.9
LG&E/KU	35	35	35	35	35	35
Brookfield/Smoky Mountain	-99	-99	-99	-99	-99	-99
APGI-Tapoco	91	91	91	91	91	91
Total	781.7	782.8	783.3	782.4	783.9	781.9

[1]A positive number represents a net export from the TVA BAA

A detailed listing of the changes in generation assumptions within the TVA BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A9.3 below. Furthermore, supplemental information regarding noteworthy generation expansion and retirements/decertifications included in the 2018 series set of SERTP powerflow models is provided below, while Table A9.4 provides a listing of generation assumptions based upon long-term, firm point-to-point commitments. The capacity (MW) values shown for each year reflect summer peak conditions. Table A9.5 provides a listing of all generators modeled in the 2019 Version 2 Summer Peak powerflow model.

Table A9.3: Changes in Generation Assumptions Based Upon LSEs – TVA BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Browns Ferry Unit 1	1262	1262	1262	1262	1262	1262	1262	1262	1262	1262
Browns Ferry Unit 2	1266	1266	1266	1266	1266	1266	1266	1266	1266	1266
Millington Solar	53	53	53	53	53	53	53	53	53	53

Table A9.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – TVA BAA

Site	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Reliant	800	800	800	800	800	800	800	800	800	800

Table A9.5: Generating Units Modeled in the 2019 Version 2 Summer Peak Powerflow Model – TVA BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Allen CC	1	364325	1ALLENCC CT	322.0
Allen CC	1	364326	1ALLENCC CT	322.0
Allen CC	1	364327	1ALLENCC ST	433.0
Allen CT	1	364201	1ALLEN T1-4	18.0
Allen CT	2	364201	1ALLEN T1-4	18.0
Allen CT	3	364201	1ALLEN T1-4	18.0
Allen CT	4	364201	1ALLEN T1-4	18.0
Allen CT	5	364202	1ALLEN T5-8	18.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Allen CT	6	364202	1ALLEN T5-8	18.0
Allen CT	7	364202	1ALLEN T5-8	18.0
Allen CT	8	364202	1ALLEN T5-8	18.0
Allen CT	1	364203	1ALLEN T9-12	18.0
Allen CT	2	364203	1ALLEN T9-12	18.0
Allen CT	3	364203	1ALLEN T9-12	18.0
Allen CT	9	364203	1ALLEN T9-12	18.0
Allen CT	1	364204	1ALLENT13-16	18.0
Allen CT	2	364204	1ALLENT13-16	18.0
Allen CT	3	364204	1ALLENT13-16	18.0
Allen CT	4	364204	1ALLENT13-16	18.0
Allen CT	1	364205	1ALLEN T17	50.0
Allen CT	1	364206	1ALLEN T18	50.0
Allen CT	1	364207	1ALLEN T19	50.0
Allen CT	1	364208	1ALLEN T20	50.0
Apalachia Hydro	1	364421	1APALACH H1	41.2
Apalachia Hydro	1	364422	1APALACH H2	41.2
Barkley Hydro	1	364601	1BARKLEY H1	37.0
Barkley Hydro	1	364602	1BARKLEY H2	37.0
Barkley Hydro	1	364603	1BARKLEY H3	37.0
Barkley Hydro	1	364604	1BARKLEY H4	37.0
Blue Ridge Hydro	1	364423	1BLUERIDG H1	17.4
Boone Hydro	1	364424	1BOONE H1	37.8
Boone Hydro	1	364425	1BOONE H2	37.8
Boone Hydro	1	364426	1BOONE H3	37.8
Browns Ferry Nuclear	1	364001	1BR FERRY N1	1296.6
Browns Ferry Nuclear	1	364002	1BR FERRY N2	1299.4

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Browns Ferry Nuclear	1	364003	1BR FERRY N3	1302.5
Brownsville CT	1	364701	1BROWNSVL T1	112.0
Brownsville CT	2	364702	1BROWNSVL T2	112.0
Brownsville CT	3	364703	1BROWNSVL T3	118.0
Brownsville CT	4	364704	1BROWNSVL T4	118.0
Bull Run Fossil	1	364109	1BULLRUN F1H	463.6
Bull Run Fossil	1	364110	1BULLRUN F1L	465.7
Caledonia CC	1	364801	1COGCALED T1	164.0
Caledonia CC	2	364802	1COGCALED S1	107.5
Caledonia CC	3	364803	1COGCALED T2	164.0
Caledonia CC	4	364804	1COGCALED S2	107.5
Caledonia CC	5	364805	1COGCALED T3	164.0
Caledonia CC	6	364806	1COGCALED S3	107.5
Calpine Morgan CC	1	364771	1MEC CT1	161.0
Calpine Morgan CC	1	364772	1MEC CT2	161.0
Calpine Morgan CC	1	364773	1MEC CT3	161.0
Calpine Morgan CC	1	364774	1MEC STG	271.0
Center Hill Hydro	1	364605	1CENTHILL H1	52.0
Center Hill Hydro	1	364606	1CENTHILL H2	52.0
Center Hill Hydro	1	364607	1CENTHILL H3	52.0
Chatuge Hydro	1	364428	1CHATUGE H1	13.9
Cheatham Hydro	1	364608	1CHEATHAM H1	13.8
Cheatham Hydro	1	364609	1CHEATHAM H2	13.8
Cheatham Hydro	1	364610	1CHEATHAM H3	13.8
Cherokee Hydro	1	364511	1CHEROKEE H1	37.2
Cherokee Hydro	2	364512	1CHEROKEE H2	39.8
Cherokee Hydro	3	364513	1CHEROKEE H3	39.8

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Cherokee Hydro	4	364514	1CHEROKEE H4	36.8
Chickamauga Hydro	1	364431	1CHICKAMG H1	35.8
Chickamauga Hydro	1	364432	1CHICKAMG H2	35.8
Chickamauga Hydro	1	364433	1CHICKAMG H3	35.8
Chickamauga Hydro	1	364434	1CHICKAMG H4	35.8
Choctaw CC	1	364721	1SUEZCHOC T1	230.0
Choctaw CC	1	364722	1SUEZCHOC T2	230.0
Choctaw CC	1	364723	1SUEZCHOC S1	295.0
Colbert CT	1	364211	1COLBERT T1	49.0
Colbert CT	2	364212	1COLBERT T2	49.0
Colbert CT	3	364213	1COLBERT T3	49.0
Colbert CT	4	364214	1COLBERT T4	49.0
Colbert CT	5	364215	1COLBERT T5	49.0
Colbert CT	6	364216	1COLBERT T6	49.0
Colbert CT	7	364217	1COLBERT T7	49.0
Colbert CT	8	364218	1COLBERT T8	49.0
Cordell Hull Hydro	1	364611	1CORDELL H1	38.0
Cordell Hull Hydro	1	364612	1CORDELL H2	38.0
Cordell Hull Hydro	1	364613	1CORDELL H3	38.0
Cumberland Fossil	1	364119	1CUMBRL F1HL	663.0
Cumberland Fossil	2	364119	1CUMBRL F1HL	663.0
Cumberland Fossil	1	364120	1CUMBRL F2HL	667.5
Cumberland Fossil	2	364120	1CUMBRL F2HL	656.5
Dale Hollow Hydro	1	364614	1DALE HOL H1	20.7
Dale Hollow Hydro	1	364615	1DALE HOL H2	20.7
Dale Hollow Hydro	1	364616	1DALE HOL H3	20.7
Decatur EC CC	1	364731	1DEC CT1	161.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Decatur EC CC	1	364732	1DEC CT2	161.0
Decatur EC CC	1	364733	1DEC CT3	161.0
Decatur EC CC	1	364734	1DEC STG	271.0
Douglas Hydro	1	364435	1DOUGLAS H1	45.8
Douglas Hydro	1	364436	1DOUGLAS H2	45.8
Douglas Hydro	1	364437	1DOUGLAS H3	45.8
Douglas Hydro	1	364438	1DOUGLAS H4	45.8
E McMinnville	1	364904	1E MCMIN1-12	20.0
Fontana Hydro	1	364439	1FONTANA H1	103.0
Fontana Hydro	1	364440	1FONTANA H2	103.0
Fontana Hydro	1	364441	1FONTANA H3	103.0
Fort Loudoun Hydro	1	364442	1FTLOUD H1	40.0
Fort Loudoun Hydro	3	364443	1FTLOUD H3	45.3
Fort Loudoun Hydro	1	364444	1FTLOUD H2	38.0
Fort Loudoun Hydro	4	364445	1FTLOUD H4	45.3
Fort Patrick Henry Hydro	1	364446	1FT PAT H1-2	20.4
Fort Patrick Henry Hydro	2	364446	1FT PAT H1-2	20.3
Gallatin CT	1	364221	1GALLATIN T1	77.0
Gallatin CT	2	364222	1GALLATIN T2	77.0
Gallatin CT	3	364223	1GALLATIN T3	77.0
Gallatin CT	4	364224	1GALLATIN T4	77.0
Gallatin CT	5	364225	1GALLATIN T5	84.0
Gallatin CT	6	364226	1GALLATIN T6	84.0
Gallatin CT	7	364227	1GALLATIN T7	84.0
Gallatin CT	8	364228	1GALLATIN T8	84.0
Gallatin Fossil	1	364121	1GALLATIN F1	240.0
Gallatin Fossil	1	364122	1GALLATIN F2	240.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Gallatin Fossil	1	364123	1GALLATIN F3	281.0
Gallatin Fossil	1	364124	1GALLATIN F4	281.0
Gleason CT	1	364231	1GLEASON T1	174.0
Gleason CT	2	364232	1GLEASON T2	174.0
Gleason CT	3	364233	1GLEASON T3	166.0
Great Falls Hydro	1	364447	1GFALLS H1-2	15.9
Great Falls Hydro	2	364447	1GFALLS H1-2	19.5
Guntersville Hydro	1	364448	1GUNTERSV H1	28.8
Guntersville Hydro	1	364449	1GUNTERSV H2	30.6
Guntersville Hydro	1	364450	1GUNTERSV H3	29.8
Guntersville Hydro	1	364451	1GUNTERSV H4	31.3
Hiwassee Hydro	1	364452	1HIWASSEE H1	87.7
Hiwassee Hydro	1	364453	1HIWASSEE H2	94.2
Hiwassee Hydro	P	364453	1HIWASSEE H2	0.0
John Sevier CC	1	364321	1J SEVIER C1	166.0
John Sevier CC	2	364322	1J SEVIER C2	166.0
John Sevier CC	3	364323	1J SEVIER C3	166.0
John Sevier CC	4	364324	1J SEVIER S4	377.0
Johnsonville CT	1	364241	1JVILLE T1	56.0
Johnsonville CT	2	364242	1JVILLE T2	56.0
Johnsonville CT	3	364243	1JVILLE T3	56.0
Johnsonville CT	4	364244	1JVILLE T4	56.0
Johnsonville CT	5	364245	1JVILLE T5	56.0
Johnsonville CT	6	364246	1JVILLE T6	56.0
Johnsonville CT	7	364247	1JVILLE T7	56.0
Johnsonville CT	8	364248	1JVILLE T8	56.0
Johnsonville CT	9	364249	1JVILLE T9	56.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Johnsonville CT	1	364250	1JVILLE T10	56.0
Johnsonville CT	1	364251	1JVILLE T11	56.0
Johnsonville CT	1	364252	1JVILLE T12	56.0
Johnsonville CT	1	364253	1JVILLE T13	56.0
Johnsonville CT	1	364254	1JVILLE T14	56.0
Johnsonville CT	1	364255	1JVILLE T15	56.0
Johnsonville CT	1	364256	1JVILLE T16	56.0
Johnsonville CT	1	364257	1JVILLE T17	84.0
Johnsonville CT	1	364258	1JVILLE T18	84.0
Johnsonville CT	1	364259	1JVILLE T19	84.0
Johnsonville CT	1	364260	1JVILLE T20	84.0
Kemper CT	1	364261	1KEMPER T1	84.0
Kemper CT	1	364262	1KEMPER T2	84.0
Kemper CT	1	364263	1KEMPER T3	84.0
Kemper CT	1	364264	1KEMPER T4	84.0
Kentucky Hydro	1	364456	1KY HYDRO H1	44.6
Kentucky Hydro	1	364457	1KY HYDRO H2	46.1
Kentucky Hydro	1	364458	1KY HYDRO H3	45.1
Kentucky Hydro	1	364459	1KY HYDRO H4	45.8
Kentucky Hydro	1	364460	1KY HYDRO H5	45.3
Kingston Fossil	1	364151	1KINGSTON F1	159.7
Kingston Fossil	1	364152	1KINGSTON F2	144.0
Kingston Fossil	1	364153	1KINGSTON F3	144.0
Kingston Fossil	1	364154	1KINGSTON F4	144.0
Kingston Fossil	1	364155	1KINGSTON F5	190.0
Kingston Fossil	1	364156	1KINGSTON F6	190.0
Kingston Fossil	1	364157	1KINGSTON F7	190.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Kingston Fossil	1	364158	1KINGSTON F8	190.0
Kingston Fossil	1	364159	1KINGSTON F9	203.6
Kyles Ford	1	364907	1KYLESF 1-11	20.0
Lagoon Creek CC	1	364301	1LAG CRK CT1	180.0
Lagoon Creek CC	1	364302	1LAG CRK CT2	180.0
Lagoon Creek CC	1	364303	1LAG CRK STG	230.0
Lagoon Creek CT	1	364271	1LAG CRK T1	85.0
Lagoon Creek CT	1	364272	1LAG CRK T2	85.0
Lagoon Creek CT	1	364273	1LAG CRK T3	85.0
Lagoon Creek CT	1	364274	1LAG CRK T4	85.0
Lagoon Creek CT	1	364275	1LAG CRK T5	85.0
Lagoon Creek CT	1	364276	1LAG CRK T6	85.0
Lagoon Creek CT	1	364277	1LAG CRK T7	85.0
Lagoon Creek CT	1	364278	1LAG CRK T8	85.0
Lagoon Creek CT	1	364279	1LAG CRK T9	84.0
Lagoon Creek CT	1	364280	1LAG CRK T10	84.0
Lagoon Creek CT	1	364281	1LAG CRK T11	84.0
Lagoon Creek CT	1	364282	1LAG CRK T12	84.0
Magnolia CC	1	364761	1MAGNOL T1	156.0
Magnolia CC	1	364762	1MAGNOL T2	156.0
Magnolia CC	1	364763	1MAGNOL T3	156.0
Magnolia CC	1	364764	1MAGNOL S1	150.0
Magnolia CC	1	364765	1MAGNOL S2	150.0
Magnolia CC	1	364766	1MAGNOL S3	150.0
Marshall CT	1	364291	1MARSHALL T1	80.0
Marshall CT	1	364292	1MARSHALL T2	80.0
Marshall CT	1	364293	1MARSHALL T3	80.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Marshall CT	1	364294	1MARSHALL T4	80.0
Marshall CT	1	364295	1MARSHALL T5	80.0
Marshall CT	1	364296	1MARSHALL T6	80.0
Marshall CT	1	364297	1MARSHALL T7	80.0
Marshall CT	1	364298	1MARSHALL T8	80.0
Melton Hill Hydro	1	364461	1MELTON H H1	39.5
Melton Hill Hydro	1	364462	1MELTON H H2	39.7
Milington Solar	1	364055	0MILNGTN SOL	52.0
Mulberry Solar	1	364053	0MULB SOLAR 0	16.0
Nickajack Hydro	1	364521	1NICKAJACK 1	30.7
Nickajack Hydro	1	364522	1NICKAJACK 2	27.3
Nickajack Hydro	1	364523	1NICKAJACK 3	26.0
Nickajack Hydro	1	364524	1NICKAJACK 4	26.1
Norris Hydro	1	364465	1NORRIS H1	63.5
Norris Hydro	1	364466	1NORRIS H2	63.5
Nottely Hydro	1	364467	1NOTTELY H1	19.2
Ocoee 1 Hydro	1	364468	1OCOEE#1H1-3	4.8
Ocoee 1 Hydro	2	364468	1OCOEE#1H1-3	4.8
Ocoee 1 Hydro	3	364468	1OCOEE#1H1-3	4.8
Ocoee 1 Hydro	1	364469	1OCOEE#1H4-5	4.8
Ocoee 1 Hydro	2	364469	1OCOEE#1H4-5	4.8
Ocoee 2 Hydro	1	364470	1OCOEE#2H1-2	10.9
Ocoee 2 Hydro	2	364470	1OCOEE#2H1-2	12.6
Ocoee 3 Hydro	1	364471	1OCOEE #3 H1	29.3
Old Hickory Hydro	1	364617	1OLDHICKH1-2	28.7
Old Hickory Hydro	2	364617	1OLDHICKH1-2	29.0
Old Hickory Hydro	1	364618	1OLDHICKH3-4	29.0

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Old Hickory Hydro	2	364618	1OLDHICKH3-4	29.0
Paradise CC	1	364304	1PARADIS CT1	211.0
Paradise CC	2	364305	1PARADIS CT2	211.0
Paradise CC	3	364306	1PARADIS CT3	211.0
Paradise CC	1	364307	1PARADIS S1	467.0
Paradise Fossil	1	364164	1PARADISF3AB	527.7
Paradise Fossil	2	364164	1PARADISF3AB	525.6
Percy Priest Hydro	1	364619	1PERCY PR H1	30.0
Pickwick Hydro	1	364472	1PICKWICK H1	44.3
Pickwick Hydro	1	364473	1PICKWICK H2	42.9
Pickwick Hydro	1	364474	1PICKWICK H3	42.8
Pickwick Hydro	1	364475	1PICKWICK H4	43.6
Pickwick Hydro	1	364476	1PICKWICK H5	43.7
Pickwick Hydro	1	364477	1PICKWICK H6	43.2
Raccoon Mountain PS	1	364401	1RACCOON P1	429.0
Raccoon Mountain PS	P	364401	1RACCOON P1	-385.0
Raccoon Mountain PS	1	364402	1RACCOON P2	413.0
Raccoon Mountain PS	P	364402	1RACCOON P2	-385.0
Raccoon Mountain PS	1	364403	1RACCOON P3	413.0
Raccoon Mountain PS	P	364403	1RACCOON P3	-385.0
Raccoon Mountain PS	1	364404	1RACCOON P4	429.0
Raccoon Mountain PS	P	364404	1RACCOON P4	-385.0
Red Hills Fossil	1	364780	1REDHILLS F1	489.0
Reliant CC	1	364781	1RELIANT T1	162.4
Reliant CC	1	364782	1RELIANT T2	162.4
Reliant CC	1	364783	1RELIANT T3	162.4
Reliant CC	1	364784	1RELIANT S1	312.8

Plant	Unit	Bus #	Bus Name	Pmax (MW)
River Bend Solar	1	364054	0RIVER BEND	75.0
Selmer Solar	1	364050	0SELMER SOLR0	16.0
Sequoyah Nuclear	1	364011	1SEQUOYAH N1	1209.2
Sequoyah Nuclear	1	364012	1SEQUOYAH N2	1197.2
Shawnee Fossil	1	364171	1SHAWNEE F1	143.0
Shawnee Fossil	1	364172	1SHAWNEE F2	143.0
Shawnee Fossil	1	364173	1SHAWNEE F3	143.0
Shawnee Fossil	1	364174	1SHAWNEE F4	143.0
Shawnee Fossil	1	364175	1SHAWNEE F5	143.0
Shawnee Fossil	1	364176	1SHAWNEE F6	143.0
Shawnee Fossil	1	364177	1SHAWNEE F7	143.0
Shawnee Fossil	1	364178	1SHAWNEE F8	143.0
Shawnee Fossil	1	364179	1SHAWNEE F9	143.0
South Holston Hydro	1	364478	1SHOLSTON H1	44.4
Southaven CC	1	364791	1S HAVEN T1	163.0
Southaven CC	3	364792	1S HAVEN T2	163.0
Southaven CC	5	364793	1S HAVEN T3	163.0
Southaven CC	2	364794	1S HAVEN S1	107.0
Southaven CC	4	364795	1S HAVEN S2	107.0
Southaven CC	6	364796	1S HAVEN S3	107.0
Tims Ford Hydro	1	364479	1TIMSFORD H1	40.1
Watauga Hydro	1	364480	1WATAUGA H1	37.9
Watauga Hydro	1	364481	1WATAUGA H2	32.0
Watts Bar Hydro	1	364482	1WBHP H1	39.3
Watts Bar Hydro	1	364483	1WBHP H2	39.3
Watts Bar Hydro	1	364484	1WBHP H3	39.3
Watts Bar Hydro	1	364485	1WBHP H4	39.2

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Watts Bar Hydro	1	364486	1WBHP H5	39.2
Watts Bar Nuclear	1	364021	1WBNP N1	1239.1
Watts Bar Nuclear	2	364022	1WBNP N2	1214.9
Weyerhaeuser	1	364911	1WEYERHSR G1	25.9
Weyerhaeuser	2	364912	1WEYERHSR G2	25.9
Weyerhaeuser	3	364913	1WEYERHSR G3	0.0
Weyerhaeuser	4	364913	1WEYERHSR G4	0.0
Wheeler Hydro	1	364487	1WHEELR H1-2	38.8
Wheeler Hydro	2	364487	1WHEELR H1-2	33.2
Wheeler Hydro	1	364488	1WHEELR H3-4	33.6
Wheeler Hydro	2	364488	1WHEELR H3-4	33.4
Wheeler Hydro	1	364489	1WHEELR H5-6	34.7
Wheeler Hydro	2	364489	1WHEELR H5-6	34.6
Wheeler Hydro	1	364490	1WHEELR H7-8	34.4
Wheeler Hydro	2	364490	1WHEELR H7-8	34.5
Wheeler Hydro	1	364491	1WHEELRH9-11	41.9
Wheeler Hydro	2	364491	1WHEELRH9-11	41.9
Wheeler Hydro	3	364491	1WHEELRH9-11	41.9
Wilbur Hydro	1	364492	1WILBUR H1-3	1.5
Wilbur Hydro	2	364492	1WILBUR H1-3	1.5
Wilbur Hydro	3	364492	1WILBUR H1-3	1.5
Wilbur Hydro	1	364493	1WILBUR H4	7.2
Wilson Hydro	1	364494	1WILSON H1-2	22.5
Wilson Hydro	2	364494	1WILSON H1-2	22.8
Wilson Hydro	1	364495	1WILSON H3-4	23.0
Wilson Hydro	2	364495	1WILSON H3-4	22.3
Wilson Hydro	1	364496	1WILSON H5-6	30.6

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Wilson Hydro	2	364496	1WILSON H5-6	30.4
Wilson Hydro	1	364497	1WILSON H7-8	29.3
Wilson Hydro	2	364497	1WILSON H7-8	30.9
Wilson Hydro	1	364498	1WILSON 9-10	30.0
Wilson Hydro	2	364498	1WILSON 9-10	29.7
Wilson Hydro	1	364499	1WILSON11-12	29.8
Wilson Hydro	2	364499	1WILSON11-12	29.5
Wilson Hydro	1	364500	1WILSON13-14	29.6
Wilson Hydro	2	364500	1WILSON13-14	29.6
Wilson Hydro	1	364501	1WILSON15-16	29.2
Wilson Hydro	2	364501	1WILSON15-16	29.2
Wilson Hydro	1	364502	1WILSON17-18	29.0
Wilson Hydro	2	364502	1WILSON17-18	29.0
Wilson Hydro	1	364503	1WILSON H19	55.0
Wilson Hydro	1	364504	1WILSON H20	56.1
Wilson Hydro	1	364505	1WILSON H21	55.0
Windrock Turbines	1	364915	1WINDROCK WG	27.0
Wolf Creek Hydro	1	364620	1WOLFCR H1-2	52.0
Wolf Creek Hydro	2	364620	1WOLFCR H1-2	52.0
Wolf Creek Hydro	1	364621	1WOLFCR H3-4	52.0
Wolf Creek Hydro	2	364621	1WOLFCR H3-4	52.0
Wolf Creek Hydro	1	364622	1WOLFCR H5-6	52.0
Wolf Creek Hydro	2	364622	1WOLFCR H5-6	52.0