SERTP Southeastern Regional Transmission Planning

November 20, 2020

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 twelve (12) 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 several times in size and scope. The SERTP region's implementation of FERC's Order 1000, issued in 2011, to establish regional and interregional transmission planning and cost allocation requirements, became effective beginning June 1, 2014. 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 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 SERTP 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 2020 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

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 19,000 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)

GeorgiaTransmission

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) Gulf Power (Gulf)

Gulf Power

Gulf Power provides electric service to the eleven counties in the northwest panhandle of Florida. Headquartered in Pensacola, Florida, Gulf Power serves approximately 465,000 customers and owns over 1600 miles of transmission lines.

6) 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 2,690 miles of transmission lines.

7) 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.

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 three electric utility companies that provide electric service across 112,500 square miles in three states. Headquartered in Atlanta, Georgia, Southern Company serves approximately 4.68 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 12 states, roughly spanning over 600 miles north to south and 1,100 miles east to west. The SERTP region is one of the largest transmission planning regions in the Eastern Interconnect in terms of transmission line miles and based upon customer peak demand. The eight (8) NERC Balancing Authority Areas ("BAAs") in the SERTP region serve combined peak loads totaling more than 124,450 MWs.

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

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

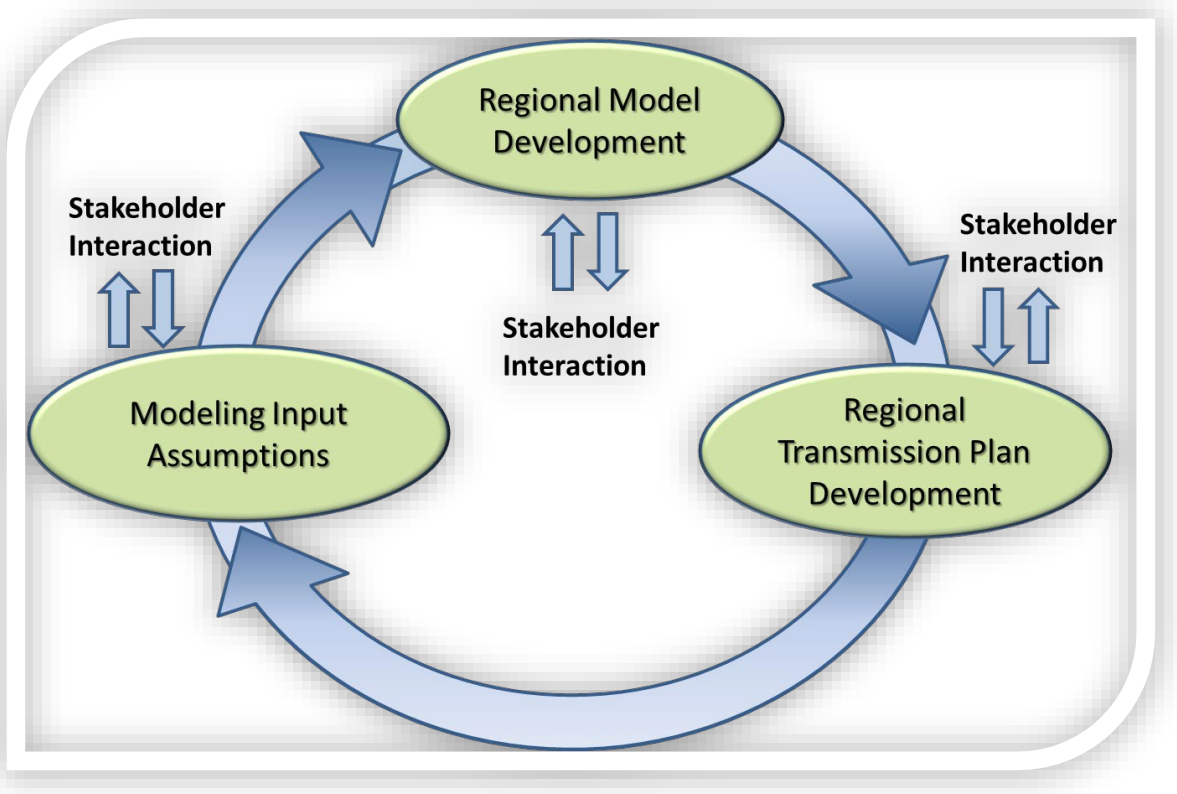
Transmission planning in the SERTP region is focused on identifying reliable, cost-effective transmission projects to meet the long-term firm transmission delivery service obligations to transmission customers, and thereby assisting in serving their forecasted load obligations from their desired resource 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 incorporates 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 works 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 strives 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 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

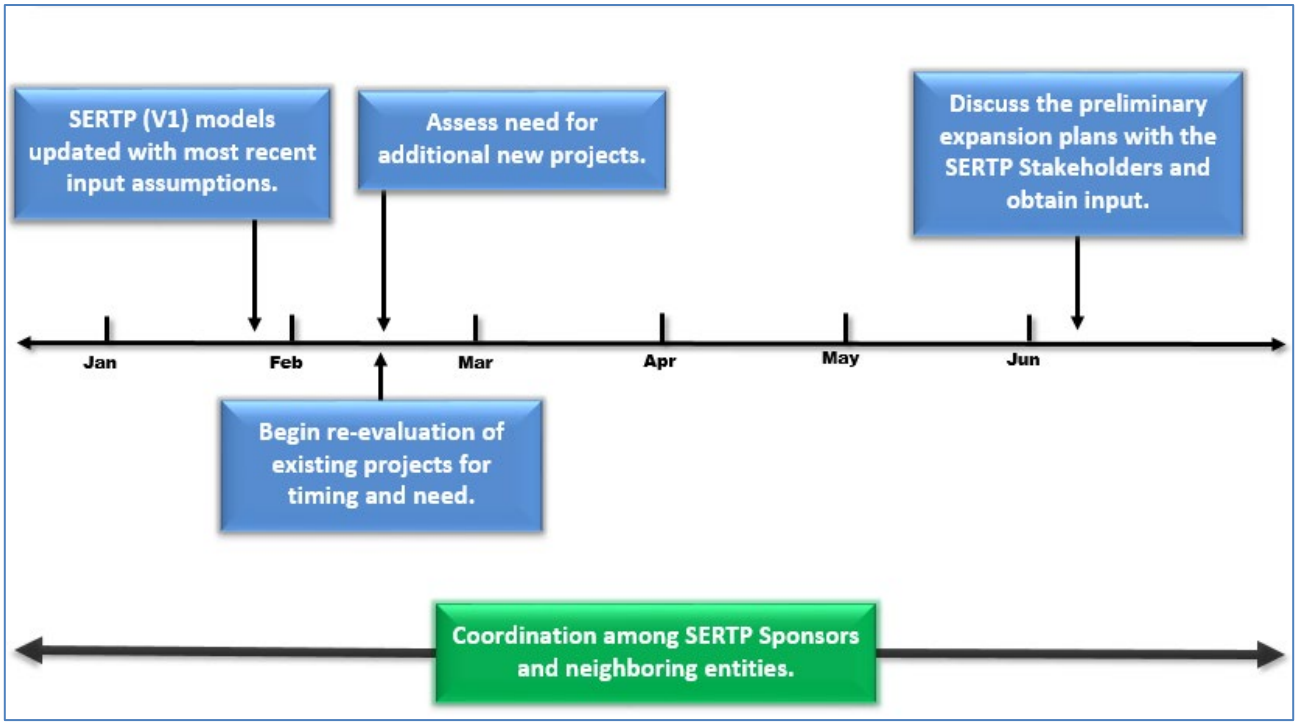
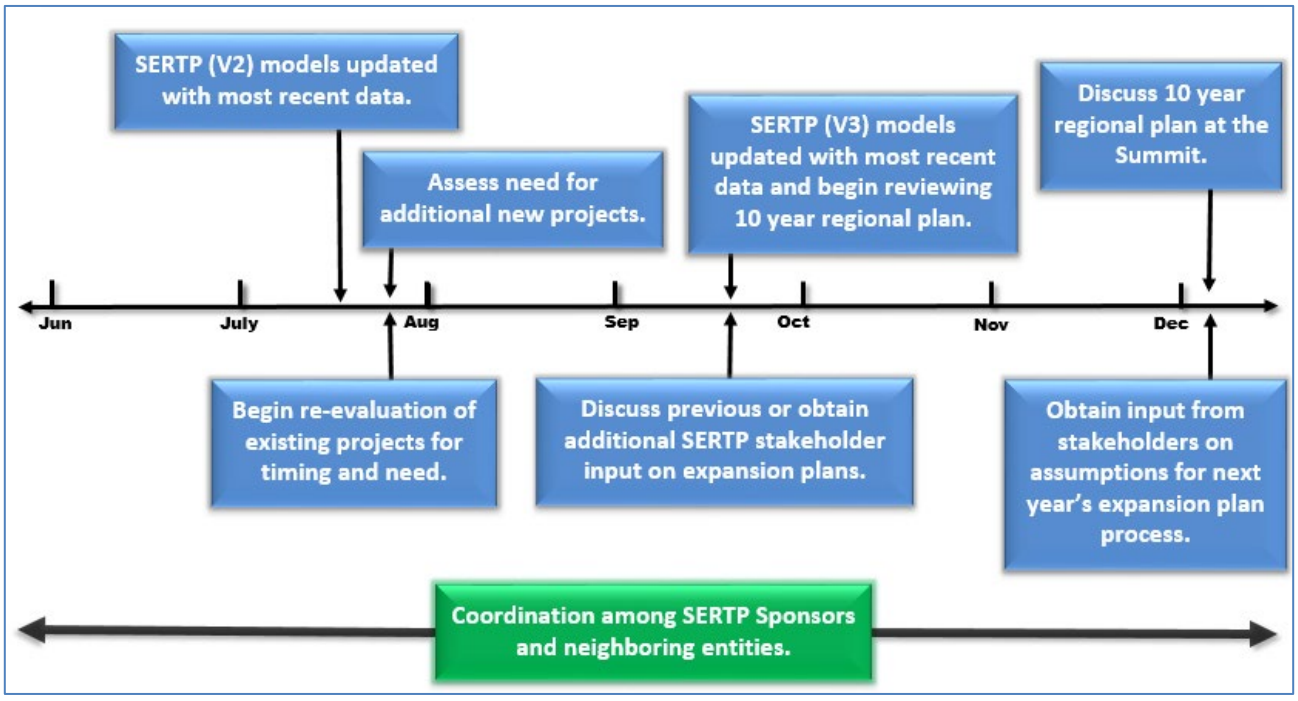


Diagram II.3: SERTP Process – Quarters 3 & 4



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

The SERTP 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 one of the largest transmission planning regions in the Eastern Interconnect in terms of transmission line miles with over 76,000-line miles.

The 2020 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 2020 SERTP Regional Transmission Plan – Transmission Project Snapshot

SERTP	Total
Transmission lines – New (Circuit Mi.)	741.1
Transmission Lines – Uprates[1] (Circuit Mi.)	1212.5
Transformers[2] – New	28
Transformers[2] – Replacements	12

[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 2020 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.)	242.8	1.0	329.3	168.0	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	680.7	--	229.3	302.5	--	--
Transformers[2] – New	1	--	4	19	2	2
Transformers[2] – Replacements	6	--	--	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 2020 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: 2020 Series set of SERTP Powerflow Models

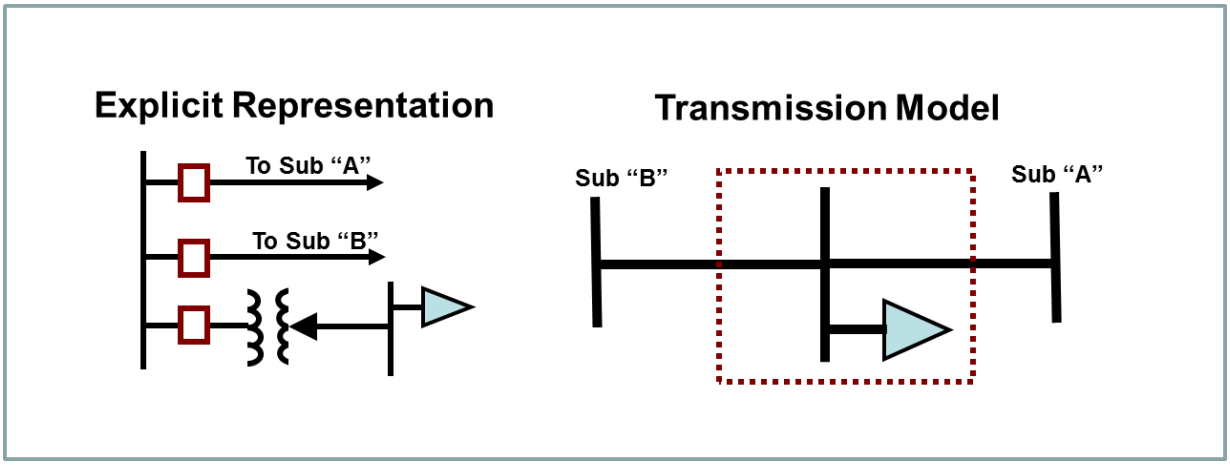
No.	Season	Year	MMWG Starting Point Case
1	Summer	2022	2021SUM
2	Summer	2025	2024SUM
3	Summer	2030	2029SUM
4	Shoulder	2025	2024SSH
5	Winter	2025	2024WIN
6	Winter	2030	2029WIN

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

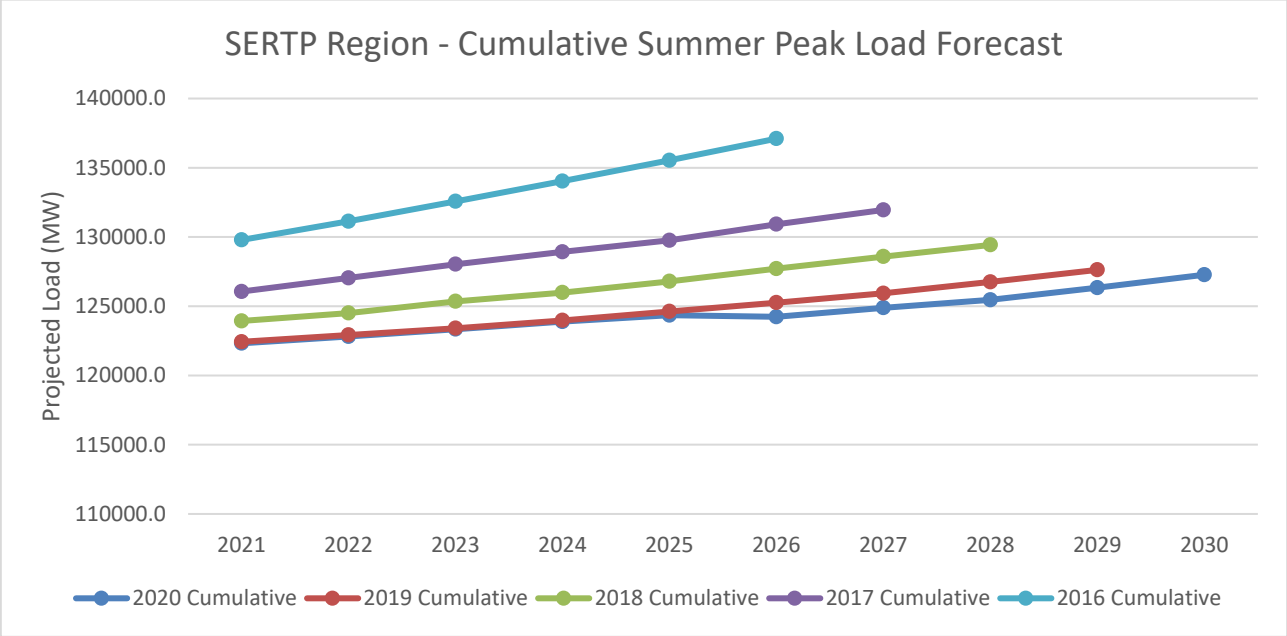
Vast amounts of data and information, such as the SERTP regional models, are available to all SERTP stakeholders, but are generally more geared towards an engineering audience. Therefore, the summaries below are intended to provide an overview of the modeling assumptions.
Section III and Appendices 1-9 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 2020 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 incorporates 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.

Diagram III.2: Cumulative SERTP Load Forecast



The SERTP powerflow models provide more detailed information on the forecasted load. The 2020 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

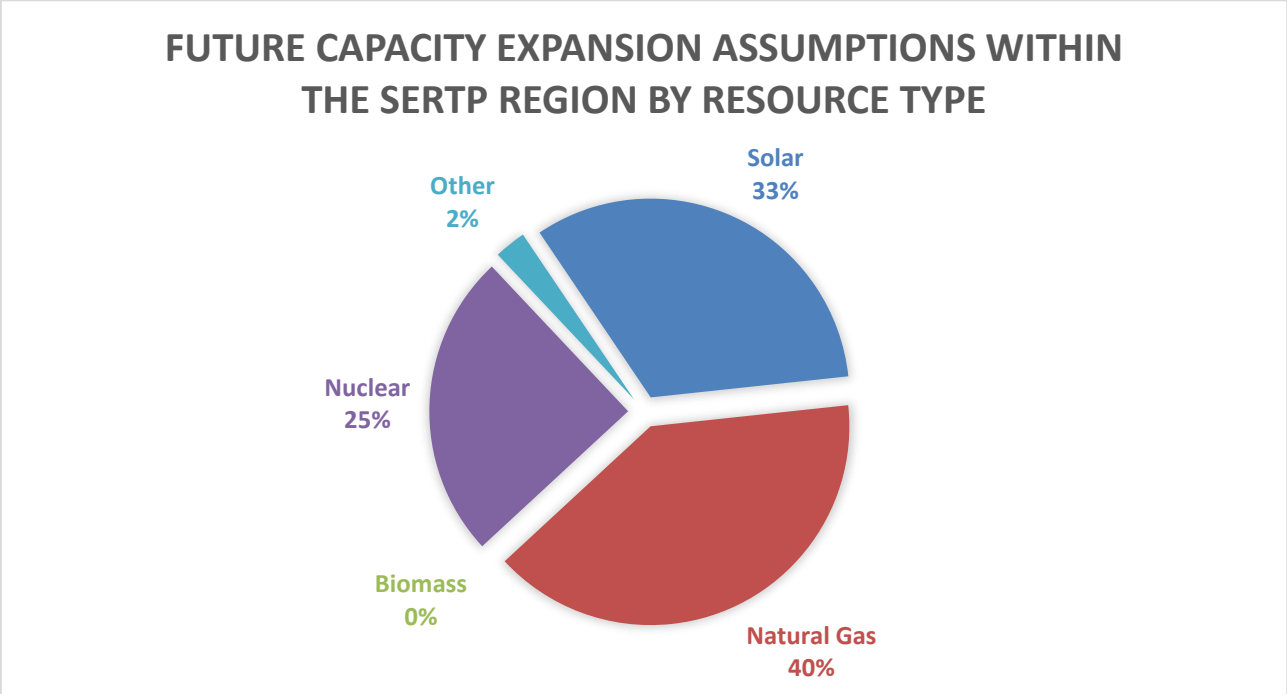
Generating Resources

The 2020 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 reflects 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 2020 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 2020 series SERTP regional powerflow models. Additional information on the long-term firm transmission service interface commitments considered in the 2020 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 2020 SERTP regional transmission plan, found in its entirety in Section V, consists of over 140 transmission projects, totaling an estimated $2.5 billion dollars, including: over 700 miles of new transmission lines, over 1200 miles of transmission line uprates (including upgrades, reconductors, and rebuilds), and 40 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.

Dalton Utilities

Duke Energy

Georgia Transmission

Gulf Power

LG&E KU

MEAG Power

PowerSouth Energy Cooperative

Southern Company

TVA

November 20, 2020

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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:	2021
Project Name:	**RIVERBEND STEAM STATION**
Description:	Install two 230/100 kV, 400 MVA transformers at Riverbend Steam Station. Reconfigure switchyard
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:	2023
Project Name:	**GREAT FALLS SW STA - WATEREE TIE 100KV TRANSMISSION LINE**
Description:	6-wire the Great Falls Sw Sta - Wateree Tie 100kV Transmission Line
Supporting Statement:	The Great Falls Sw Sta - Wateree Tie 100kV double circuit transmission line can overload for the loss of a parallel circuit with the replacement of the DEP owned 100/115kV transformers at Wateree Tie

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In-Service Year:	2023
Project Name:	**HODGES TIE - CORONACA TIE 100KV TRANSMISSION LINE**
Description:	Rebuild approximately 9.2 miles of the Hodges Tie - Coronaca Tie 100kV transmission line with 795 ACSS/TW at 200°C
Supporting Statement:	The loss of a parallel Hodes Tie - Coronaca Tie 100kV transmission line causes the remaining circuit to overload

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In-Service Year:	2023
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:	2023
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:	2025
Project Name:	**ALLEN STEAM STATION TRANSFORMER REPLACEMENT**
Description:	To facilitate the generation retirement at Allen Steam Station, both 230/100kV transformers need to be replaced with larger 448MVA units
Supporting Statement:	Allen Steam Station transformers overload under contingency

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In-Service Year:	2021
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:	2021
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:	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:	2021
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:	2021
Project Name:	**RAEFORD 230 KV SUB 115 KV CAPACITOR BANK**
Description:	Add a 36 MVAR 115 kV capacitor bank at the Raeford 230 kV Substation.
Supporting Statement:	Additional voltage support is needed in the Raeford area under contingency.

In-Service Year:	2021
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:	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:	2022
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:	2023
Project Name:	**CHERRY POINT #2 115 KV CAPACITOR BANK**
Description:	Add a 25 MVAR 115kV capacitor bank at the Cherry Point #2 115 kV Substation
Supporting Statement:	Additional voltage support is needed in the Cherry Point area under contingency.

In-Service Year:	2023
Project Name:	**WATEREE 115KV PLANT REPLACE TRANSFORMERS**
Description:	Replace existing 150 MVA, 115/100kV transformer bank with two 168 MVA, 115/100kV transformers.
Supporting Statement:	The existing Wateree transformer bank 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:	2027
Project Name:	**IND 304405 115 KV CAPACITOR BANK**
Description:	Install one 18 MVAR capacitor bank at IND 304405 115 kV substation.
Supporting Statement:	Additional voltage support is needed in the Hope Mills Church Street area under contingency.

In-Service Year:	2027
Project Name:	**JACKSONVILLE 230 KV CAPACITOR BANK**
Description:	Add a second 70 MVAR capacitor bank at the Jacksonville 230 kV Substation.
Supporting Statement:	Various contingencies cause low voltage in the Jacksonville area.

In-Service Year:	2021
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:	2025
Project Name:	**CRAGGY-ENKA 230 KV TRANSMISSION LINE**
Description:	Construct approximately 10.0 miles of new 230 Kv transmission line from the Craggy 230 Kv substation to the Enka 230 Kv substation with 3-954 ACSS-TW or equivalent conductor rated for 710 MVA.
Supporting Statement:	The Enka–West Asheville 115 kV line overloads under contingency.

In-Service Year:	2020
Project Name:	**CRIST GENERATION EXPANSION PROJECT**
Description:	Construct new 230kV Crist CT switchyard to connect 4-235MW CTs. Loop existing Crist-Alligator Swamp #2-230kV and Crist-Bellview 230kV lines into new Crist CT switchyard. Required transmission upgrades: - Brentwood-Crist 230kV (1928A, 768MVA)(7.6miles) - Crist-Scenic Hills 115kV #1 (1800A, 359MVA)(2.9miles) - Bellview-Crist 230kV (1928A, 768MVA)(8.9miles) - Bellview 230/115kV Transformer (increase to 500MVA) - Eastgate-Scenic Hills 115kV (1005A, 200MVA)(4.8miles) - Crystal Beach-Bluewater 115kV 7-minutes Emergency Rating (1110A, 221MVA) - 1-55MVAR, 230kV cap bank at Laguna Beach
Supporting Statement:	Revised resource integration in Gulf Power Area.

In-Service Year:	2020
Project Name:	**RAVEN-SINAI CEMETARY 161KV TRANSMISSION LINE**
Description:	Build a new 161kV line of approximately 176 miles rated at 3,210 Amps (895 MVA) from Raven (FPL) to Sinai Cemetery (GP) substations. Add a 230/161kV transformer at Raven and Sinai substations.
Supporting Statement:	This project will help meet future load growth and continue to improve reliability in a low cost manner for Gulf Power's customers by implementing a direct transmission connection between Gulf Power and FPL.

In-Service Year:	2021
Project Name:	**ARGYLE INJECTION**
Description:	Build a new 115kV line of approximately 35 miles rated at 1495 Amps (298 MVA) from new Argyle substation to Santa Rosa substation. Build a new 115kV line of approximately 7.4 miles (common structure) from Santa Rosa to Sandestin substations. Build a 3-breaker ring bus substation at Sandestin site.
Supporting Statement:	Avoids potential consequential load shedding in the area under N-1-1 contingencies

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In-Service Year:	2021
Project Name:	**SINAI-GASKIN 115KV TRANSMISSION LINE**
Description:	Upgrade/reconductor Sinai-Altha (PS) 115kV line section to a minimum of 567Amps (113MVA)
Supporting Statement:	The Sinai-Callaway 115 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**DEATON INJECTION PHASE I**
Description:	Build a new 115kV substation (Deaton) looping-in the existing Crist-South Crestview #1 & #2-115kV lines.
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:	**ARGYLE – SANTA ROSA 115 KV TRANSMISSION LINE**
Description:	Build a new 115kV line of approximately 35 miles rated at 1495 Amps (298 MVA) from the new Argyle substation to Santa Rosa substation. Build a new 115kV line of approximately 7.4 miles (common structure) from Santa Rosa to Sandestin substations. Build a 3-breaker ring bus substation at Sandestin site.
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:	2024
Project Name:	**HOLMES CREEK – SOUTH CRESTVIEW 115 KV TRANSMISSION LINE**
Description:	Rebuild the ~54.4 mile section of 336.4 ACSR 26/7 at 75°C from Holmes Creek-Pittman-Geneva Tap-Glendale Tap-East Crestview Tap-South Crest View with 795 26/7 ACSR at 100°C (1,086A)
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:	2021
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:	2021
Project Name:	**EAST FRANKFORT - TYRONE 138 KV TRANSMISSION LINE**
Description:	Replace breaker 136-704 and associated Bushing CTs at East Frankfort associated with the East Frankfort to Tyrone 138 kV line with 1600 amp equipment. Set the relays at Tyrone (065-724 Panel) associated with the East Frankfort to Tyrone 138 kV line such that they do not trip for load less than 1914 amps. Change out anything else that is rated less than 1300 amps winter emergency associated with the East Frankfort to Tyrone 138 kV line.
Supporting Statement:	The East Frankfort - Tyrone 138 kV transmission line overloads under contingency.

In-Service Year:	2021
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:	2021
Project Name:	**MOVE ROGERS GAP LOAD TO 138KV**
Description:	Convert the Rogers Gap 69 kV distribution station to a 138 kV station by tapping the existing Scott Co-Toyota North 138 kV line, adding 138 kV terminal equipment and replacing the distribution transformers.
Supporting Statement:	The Adams - Delaplain Tap 69 kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**HARDIN COUNTY SUBSTATION ADDITIONS**
Description:	Install a second 345/138 kV, 450 MVA transformer at Hardin County. Install a second 138/69kV, transformer at Hardin County. Install a second 69kV line Elizabethtown - Hardin County.
Supporting Statement:	Additional voltage support is needed in the Elizabethtown area under contingency.

In-Service Year:	2023
Project Name:	**CANE RUN SWITCHING TO CANE RUN 11 TAP 138KV TRANSMISSION LINE**
Description:	Upgrade approximately 1.82 miles of the Cane Run Switching to Cane Run 11 Tap 138 kV transmission line (795 MCM 26X7 ACSR) to a maximum operating temperature of 212°F.
Supporting Statement:	The Cane Run Switching to Cane Run 11 Tap 138kV line overloads under contingency.

In-Service Year:	2023
Project Name:	**WEST LEXINGTON 345/138 #2 TRANSFORMER**
Description:	Install a second West Lexington 450 MVA, 345/138 kV transformer and necessary 345kV breakers to create a 345kV ring bus configured such that the two transformers do not share a single breaker.
Supporting Statement:	The West Lexington 345/138 kV Transformer overloads under contingency.

In-Service Year:	2026
Project Name:	**PADDYS WEST 345/138 KV TRANSFORMER**
Description:	Replace the 138kV breaker and associated bushing CTs for the Paddy's West 345/138kV transformer.
Supporting Statement:	The Paddy's West 345/138kV transformer overloads under contingency.

In-Service Year:	2028
Project Name:	**BLUE LICK TO CEDAR GROVE TAP 161KV TRANSMISSION LINE**
Description:	Replace 0.1 miles of 795MCM 61XAA, 4.6 miles of 500MCM 19XCU conductor, and 795MCM 61XAA line risers and jumper in the Blue Lick to Cedar Grove 161kV line with 795MCM 26X7 SSAC or better.
Supporting Statement:	The Blue Lick to Cedar Grove Tap 161kV transmission line overloads.

In-Service Year:	2021
Project Name:	**FOUNTAIN 115KV CAP BANK**
Description:	Install a 30 Mar capacitor bank at the Fountain 115kV substation.
Supporting Statement:	There is a need for voltage support in the immediate area under contingency and additional reactive resources are needed in this area to resolve those issues.

In-Service Year:	2021
Project Name:	**LIBERTY 230/115 KV TRANSFORMER ADD THIRD TRANSFORMER**
Description:	Add a third 150 MVA transformer
Supporting Statement:	The existing 230/115 kV, 150 MVA transformers at Liberty Substation overload under contingency.

In-Service Year:	2022
Project Name:	**BREWTON - FREEMANVILLE 115KV DESIGN TEMP UPGRADE**
Description:	Upgrade the designed operating temperature for approximately 25 miles of 115 kV transmission line from Brewton to Fremanville. This 556 ACSR line will have a designed operating temperature of 212°F (100°C) following the completion of the project.
Supporting Statement:	The Brewton - Freemanville transmission line overloads under contingency and additional line capacity is needed to prevent system reconfiguration during contingency.

In-Service Year:	2022
Project Name:	**ELSANOR-MIFLIN 115KV SECOND LINE**
Description:	Construct approximately 12 miles of new 115kV transmission line from Elsanor to Miflin with 795 ACSR at 100°C.
Supporting Statement:	The existing Elsanor-Miflin 115kV transmission line overloads under contingency.

In-Service Year:	2022
Project Name:	**WING 115KV SWITCHING STATION**
Description:	Construct a new 115kV switching station for the purpose of interconnection the Wing Solar facility.
Supporting Statement:	This station is needed to serve as the POI for a new 80MW solar facility.

In-Service Year:	2023
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:	2024
Project Name:	**BELLEVILLE - GANTT 230 KV DESIGN TEMPERATURE UPGRADE**
Description:	Operating temperature upgrade on approximately 40.0 miles of 230 kV transmission line from Belleville 230kV Station to Gantt 230kV Substation to 212°F (100°C).
Supporting Statement:	The existing 230kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**EREC 115KV CONVERSION**
Description:	This project will convert 21.36 miles of 46kV transmission to 115kV operation. Three 46kV distribution delivery points will also be upgraded to 115kV service as part of the project.
Supporting Statement:	To support additional load growth in the area.

In-Service Year:	2024
Project Name:	**OAK GROVE SWITCHING TO CHUMUCKLA 115KV CONVERSION**
Description:	Construct a new 115kV transmission line from Oak Grove Switching 115kV to Chumuckla 115kV which will replace the existing 46kV transmission line.
Supporting Statement:	This line will complete a 115kV network path from Wye 115kV Switching to Oak Grove 115kV Switching to provide transmission redundancy for area delivery points.

In-Service Year:	2020
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:	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 overloaded 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:	**HEIDELBERG DENBURY TAP - PACHUTA 115 KV LINE RECONDUCTOR**
Description:	Reconductor / Rebuild Heidelberg Denbury Tap to Pachuta 115 kV TL.
Supporting Statement:	The Heidelberg Denbury - Pachuta 115 kV transmission line overloads under contingency. This project also provides additional operational and maintenance flexibility which then increases reliability.

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:	**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:	2020
Project Name:	**SYLACAUGA - NORTH SYLACAUGA 115 KV TRANSMISSION LINE**
Description:	Retire approximately 2.1 miles of 2/0 copper from Sylacauga T.S. to North Sylacauga T.S. Install approximately 2.1 miles of 397.5 kcmil 26/7 ACSR.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2021
Project Name:	**AUGUSTA CORPORATE PARK - VOGTLE 230 KV SECOND PILOT**
Description:	Add another pilot protection scheme on the Augusta Corporate Park - Vogtle 230 kV line.
Supporting Statement:	Ensure the Augusta Corporte Park - Vogtle 230 kV line is redundently protected.

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:	There are multiple transmission lines in the local area that overload under contingency. These projects provide additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2021
Project Name:	**BOULEVARD - NORCROSS 115 KV TRANSMISSION LINE**
Description:	Replace the 600 amp disconnect switches with devices adequate to carry a minimum of 2000 amps at North Druid Hills on the Boulevard - Norcross 115 kV line.
Supporting Statement:	The Boulevard - Norcross 115 kV line overloads under contingency.

In-Service Year:	2021
Project Name:	**DAWSON PRIMARY: GTC LINE REROUTE AND UPGRADES**
Description:	Construct approximately 5 miles of new 115 kV line from Greenhouse road to Cordrays Mill. GTC will rebuild its 46 kV line from Cordrays Mill to Dawson Primary to 115 kV operation. GPC will add a line terminal in the Dawson Primary substation.
Supporting Statement:	Mitigates overloads on the Blakely Primary -Mitchell 115kV line.

In-Service Year:	2021
Project Name:	**FORTSON 500 KV RELAY REPLACEMENT**
Description:	Replacing breaker failure relay scheme at Fortson substation (MEAG).
Supporting Statement:	The Fortson 230 kV Relay Failure results in several thermal overloads.

In-Service Year:	2021
Project Name:	**GORDON - SANDERSVILLE #1 115 KV TRANSMISSION LINE UPGRADE**
Description:	Upgrade the 30 mile, 50°C 336.4 ACSR, Gordon - Robins Spring section of the Gordon - Sandersville #1 115 kV line for 100°C operation.
Supporting Statement:	The Gordon - Sandersville 115 kV line section overloads under contingency.

In-Service Year:	2021
Project Name:	**GOSHEN - VOGTLE 230 KV SECOND PILOT**
Description:	Add a second pilot projection scheme to the Goshen - Vogtle 230 kV line.
Supporting Statement:	Ensure the Goshen - Vogtle line is redundantly protected.

In-Service Year:	2021
Project Name:	**GOSHEN 230 KV REACTORS**
Description:	Install a series reactor at Goshen substation.
Supporting Statement:	The Goshen - South Augusta (white) 230 kV line overloads under contingency.

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.

In-Service Year:	2021
Project Name:	**HATTIESBURG INDUSTRIAL - PRVEPA SOUTH HATTIESBURG**
Description:	Construct approximately 1 mile of 115 kV transmission backup line from South Hattiesburg Tap to Camp Shelby Tap and rebuild the Camp Shelby Tap with 795 ACSR at 100°C operation.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2021
Project Name:	**JORDAN DAM - MARTIN DAM 115 KV TL (LINE A)**
Description:	Reconductor approximately 21 miles of 397 ACSR with 795 ACSS at 200°C between Jordan Dam and Martin Dam 115 kV TL (Line A).
Supporting Statement:	Provides additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2021
Project Name:	**KIMBERLY CLARK – BLAKELEY 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:	2021
Project Name:	**LAWRENCEVILLE – NORCROSS 230 KV LINE RECONDUCTOR**
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:	2021
Project Name:	**LINE CREEK - FAIRBURN #2 115 KV LINE UPGRADE**
Description:	Upgrade approximately 1.75 miles of the Line Creek-Owens #2 Junction line section from 50°C 336 ACSR to 100°C operation.
Supporting Statement:	The Line Creek - Fairburn #2 115 kV Line overloads.

In-Service Year:	2021
Project Name:	**LIVE OAK – STATESBORO PRIMARY TRANSMISSION LINE 115 KV UPGRADE**
Description:	Rebuild 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.
Supporting Statement:	The Live Oak – Statesboro Primary 115 kV transmission line overloads under contingency.

In-Service Year:	2021
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:	2021
Project Name:	**THURMOND DAM ANTI-ISLANDING**
Description:	Install a second anti-islanding scheme at Thurmond Dam.
Supporting Statement:	Thurmond Dam creates an island with distribution substations under contingency.

In-Service Year:	2021
Project Name:	**TIGER CREEK 230 KV SERIES REACTORS**
Description:	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:	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 enhances area reliability.

In-Service Year:	2022
Project Name:	**AUSTIN DRIVE - MORROW 115 KV TRANSMISSION LINE**
Description:	Rebuild approximately 7.1 miles of 100°C 336 ACSR conductor with 100°C 795 ACSR conductor on the Austin Drive - Morrow 115 kV line.
Supporting Statement:	This project addresses Maintenance needs.

In-Service Year:	2022
Project Name:	**BASSETT CREEK – ELLICOTT 230 KV TRANSMISSION LINE**
Description:	Construct approximately 53 miles of 1351 ACSS at 200°C from Bassett Creek TS to Tensaw SS. Construct approximately 8 miles of 1351 ACSS at 200°C from Calvert SS to Ellicott SS.
Supporting Statement:	There are multiple transmission lines in the local area that overload under contingency. These projects provide additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2022
Project Name:	**BILOXI CEDAR LAKE RD - OCEAN SPRINGS NE 115 KV TRANSMISSION LINE**
Description:	Reconductor approximately 4.3 miles from Tucker Road to Cedar Lake Road 115 kV transmission line.
Supporting Statement:	The Biloxi Cedar Lake Road - Ocean Springs NE overloads under contingency.

In-Service Year:	2022
Project Name:	**BILOXI CEDAR LAKE ROAD DS BUS REPLACEMENT**
Description:	Replace the Strain bus and jumpers to the Ocean Springs 115 kV line at Biloxi Cedar Lake Rd DS.
Supporting Statement:	Equipmet at Biloxi Cedar Lake Road overloads under contingency.

In-Service Year:	2022
Project Name:	**DUNCANVILLE – SOUTH BESSEMER 230 KV TRANSMISSION LINE**
Description:	Upgrade approximately 27.0 miles of 1033.5 ACSR 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:	**GORDON - NORTH DUBLIN 115 KV TRANSMISSION LINE UPGRADE**
Description:	Upgrade the North Dublin - Northwest Dublin - Evergreen Church Road line sections (currently 50°C CU 4/0) for 75°C operation.
Supporting Statement:	The Gordon - North Dublin 115 kV line overloads under contingency.

In-Service Year:	2022
Project Name:	**LUMPKIN SOLAR IMPROVEMENTS**
Description:	Install reactors at Palmyra substation (GI-110).
Supporting Statement:	The Dawson Primary - Palmyra 115 kV line overloads under contingency.

In-Service Year:	2022
Project Name:	**PASS CHRISTIAN CAPACITOR BANKS**
Description:	Install two (2) 15 MVAR capacitor banks at Pass Christian.
Supporting Statement:	Some contingencies can create low voltages along the Mississippi Gulf coast.

In-Service Year:	2022
Project Name:	**POSSUM BRANCH 230/115 KV PROJECT**
Description:	Construct approximately 14 miles of new 230 kV line from Possum Branch to Roopville with 1351 ACSR conductor at 100°C. Install a 230/115 kV, 400 MVA transformer at Possum Branch with a 230 kV bus. (GPC): Construct a 230 kV a ring bus switching station at Roopville along with additional substation modifications.
Supporting Statement:	Project is necessary to facilitate planned maintenance in the Bremen area.

In-Service Year:	2022
Project Name:	**WEAVER CAPACITOR BANK**
Description:	Install a new 115 kV, 15 MVAR capacitor bank at Weaver DS.
Supporting Statement:	Low voltage in the area under contingency. This project provides voltage support under contingency scenarios.

In-Service Year:	2023
Project Name:	**BARRY NORTH MOBILE 115 KV UPGRADE**
Description:	Upgrade approximately 11.98 miles of 397 26/7 ACSR at 75°C to 100°C from Barry SP to Radcliffe DS Tap.
Supporting Statement:	The Barry - North Mobile 115 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**BIG CREEK - ELLICOTT 230 KV UPGRADE**
Description:	Upgrade approximately 30.4 miles of 1351 51/19 ACSR at 75°C to 100°C from Ellicott SS to Big Creek TS.
Supporting Statement:	The Big Creek - Ellicott 230 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**BONAIRE - KATHLEEN 115 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 6 miles of the Bonaire Primary - Kathleen 115 kV transmission line using 1351 ACSR conductor.
Supporting Statement:	The Bonaire - Kathleen 115 kV line overloads under contingency.

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

In-Service Year:	2023
Project Name:	**CROOKED CREEK CAPACITOR BANKS**
Description:	Install two new 115 kV, 15 MVAR capacitor banks at Crooked Creek TS.
Supporting Statement:	Low voltage in the area under contingency. This project provides voltage support under contingency scenarios.

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 Tap.
Supporting Statement:	Provides additional operational and maintenance flexibility, which increases reliability.

In-Service Year:	2023
Project Name:	**EAST WATKINSVILLE - RUSSELL DAM 230 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 48.3 miles of 100°C 1351.5 ACSR/SD conductor, with 200°C 1351.5 ACCR conductor. Replace the Over Head Ground Wire.
Supporting Statement:	The existing self-damping conductor has reached the end of its service life. Also, the existing rating is exceeded under contingency in import scenarios.

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

In-Service Year:	2023
Project Name:	**GILLONVILLE - GREENHOUSE ROAD 115KV LINE AND GREENHOUSE RD RING BUS**
Description:	Construct a new 115 kV line from Greenhouse Rd to Gillionville Substation (GTC).
Supporting Statement:	The Dawson - Palmyra 115 kV line overloads under contingency.

In-Service Year:	2023
Project Name:	**HIGHWAY 11 BROOKWOOD SOLUTION**
Description:	Construct approximately 6.0 miles of 795 ACSR from Vance SS to Scott Davis DS 115 kV transmission line. Construct a new approximately 5.2 mile 115 kV transmission line from South Bessemer to Scott Davis Tap with 795 26/7 ACSR at 100°C. Construct a new approximately 4 mile 115 kV TL from Brookwood TS to Cedar Cove Tap with 795 26/7 ACSR at 100°C.
Supporting Statement:	The Vance SS - South Bessemer TS 115 kV transmission line overloads under contingency. This project also addresses voltage constraints under contingency.

In-Service Year:	2023
Project Name:	**HOPE HULL AREA SOLUTION PHASE 1**
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:	**JORDAN DAM - MARTIN DAM 115 KV TL (LINE B)**
Description:	Reconductor approximately 21 miles of 397 ACSR with 795 ACSS at 200°C between Jordan Dam and Martin Dam 115 kV TL (Line B).
Supporting Statement:	Provides additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2023
Project Name:	**LAFAYETTE - ROANOKE 115 KV UPGRADE**
Description:	Phase 1: Upgrade approximately 2.5 miles 397 ACSR to 100° C from City of Lafayette No. 1 to Lafayette TS. Phase 2: Upgrade approximately 12.2 miles from Lafayette TS - Roanoke TS & ~1.2 miles Roanoke TS - East Roanoke DS Tap 115 kV TL 397 ACSR to 100° C.
Supporting Statement:	The LaFayette to Roanoke 115 kV transmission line overloads under contingency.

In-Service Year:	2023
Project Name:	**MCEVER ROAD - SHOAL CREEK 115 KV TRANSMISSION LINE 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:	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:	**PALMYRA REACTOR REMOVAL**
Description:	Remove reactor at Palmyra.
Supporting Statement:	Permanent solution renders reactor no longer needed.

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:	2024
Project Name:	**ALCOVY ROAD - SKC 115 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 0.53 miles of 336 ACSR conductor with 1033 ACSR conductor from Alcovy Road to Alcovy Road Jct. on the Alcovy Road - SKC 115 kV line.
Supporting Statement:	The Alcovy - SKC 115 kV line overloads during contingency.

In-Service Year:	2024
Project Name:	**AVALON JUNCTION - BIO 115 KV TRANSMISSION LINE REBUILD**
Description:	Rebuild approximately 9 miles of the Avalon Junction - Bio 115 kV transmission line (636 ACSR/795 ACSR) with 100°C 1351 ACSR and replace the terminal equipment at various substations.
Supporting Statement:	The Avalon Junction - Bio 115 kV transmission line overloads under contingency in import scenarios.

In-Service Year:	2024
Project Name:	**BASSETT CREEK – THOMASVILLE 115 KV TRANSMISSION LINE**
Description:	Upgrade approximately 11.3 miles of 397.5 ACSR 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:	2024
Project Name:	**CONYERS 230 KV BUS REPLACEMENT (ON CONYERS - KLONDIKE 230 KV LINE)**
Description:	Replace the 230 kV, 1590 AAC bus at Conyers with a bus that can carry at least 2000 A.
Supporting Statement:	The Conyers 230 kV bus overloads during contingency.

In-Service Year:	2024
Project Name:	**DALTON CITY #12 BUS REPLACEMENT**
Description:	Replace the 90°C ,477 ACSR Bus at Dalton City #12 (DU).
Supporting Statement:	ast Dalton - Oostanaula 115 kV line overloads under contingency.

In-Service Year:	2024
Project Name:	**ELLICOTT SUBSTATION EXPANSION PROJECT**
Description:	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.

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:	**JORDAN DAM - NORTH SELMA 115 KV TL RECONDUCTOR**
Description:	Reconductor approximately 24 miles of 397 ACSR 115 kV TL with 795 ACSS at 200°C between Jordan Dam & Vida TS.
Supporting Statement:	The Jordan Dam - North Selma 115 kV transmission line overloads under contingency. This project also provides additional operational and maintenance flexibility which then increases reliability.

In-Service Year:	2024
Project Name:	**LUCEDALE - VESTRY TAP 115 KV TRANSMISSION LINE REBUILD**
Description:	Rebuild approximately 18 miles on the Lucedale - Vestry Tap 115 kV line segment with 795 ACSR at 100°C.
Supporting Statement:	The Lucedale - Vestry Tap 115 kV line overloads under contingency.

In-Service Year:	2024
Project Name:	**OCEAN SPRINGS NORTHEAST - PLANT WATSON 230 KV TRANSMISSION LINE RECONDU**
Description:	Reconductor approximately 18 miles of the Ocean Springs Northeast - Plant Watson 230 kV transmission line from 1351.5 ACSR to 1351.5 ACSS at 200°C.
Supporting Statement:	The Ocean Springs Northeast - Plant Watson 230 kV line overloads under contingency.

In-Service Year:	2024
Project Name:	**OHARA 230 KV SUBSTATION BUS TIE BREAKERS**
Description:	Install 230 kV 3000 A series bus tie breakers between O'Hara Bus 1 & Bus 2.
Supporting Statement:	Overloads occur at O'Hara Substation under contingency.

In-Service Year:	2024
Project Name:	**THOMSON PRIMARY - WARRENTON PRIMARY (WHITE) 115 KV LINE REBUILD**
Description:	Reconductor approximately 16.8 miles of 336 ACSR at 100°C on the Thomson Primary - Warrenton Primary 115 kV (White) transmission line with 795 ACSR at 100°C.
Supporting Statement:	The Thomson Primary - Warrenton Primary line overloads under contingency.

In-Service Year:	2025
Project Name:	**ALBERTA CITY - HOLT 115 KV TL RECONDUCTOR**
Description:	Reconductor approximately 4 miles of 795 ACSR at 100°C on the Alberta City - Holt 115 kV transmission line to 795 ACSS at 200°C.
Supporting Statement:	The Alberta City - Holt 115 kV line overloads under contingency.

In-Service Year:	2025
Project Name:	**BAY CREEK - CONYERS 230 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 4.42 miles of 795 ACSR at 100°C on the Bay Creek - Conyers 230 kV transmission line with 1351 ACSS at 100°C.
Supporting Statement:	The Bay Creek - Conyers 230 kV line overloads under contigency.

In-Service Year:	2025
Project Name:	**EUFAULA – FORT MITCHELL 115 KV TRANSMISSION LINE RECONDUCTOR**
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:	2025
Project Name:	**JONESBORO - OHARA 230 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 6 miles of existing 1351 ACSR using 160°C 1351 ACSS. Replace the jumpers and bus with 2-1590 AAC at the Jonesboro substation. Replace the jumpers with 2-1590 AAC and line trap with a 2000A line trap at the O'Hara substation.
Supporting Statement:	The Jonesboro - O'Hara 230 kV line overloads under contingency.

In-Service Year:	2025
Project Name:	**LEEDS TS – MOODY SS 115 KV TRANSMISSION LINE RECONDUCTOR**
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:	2025
Project Name:	**LITTLE OGEECHEE REDUNDANT RELAY INSTALLATION**
Description:	Add a redundant relay scheme at Little Ogeechee 230 kV substation.
Supporting Statement:	the Jesup - Offerman 115 kV line overloads under contingency.

In-Service Year:	2025
Project Name:	**SILVERHILL TS 3RD AUTOBANK**
Description:	Add 3rd 230/115 kV Autobank at Silverhill TS during infrastructure project.
Supporting Statement:	The Silverhill 230/115 kV autobank overloads under contingency.

In-Service Year:	2026
Project Name:	**BLANKETS CREEK – WOODSTOCK 115 KV TRANSMISSION LINE REBUILD**
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:	2026
Project Name:	**FULLER ROAD - COLUMBUS FIRST AVE 115 KV TL RECONDUCTOR**
Description:	Reconductor approximately 3 miles of 397 ACSR 115 kV TL at 100°C to 795 ACSR at 100°C from Columbus First Ave to Phenix Lumber.
Supporting Statement:	The Fuller Road - Columbus First Avenue 115 kV transmission line overloads under contingency.

In-Service Year:	2026
Project Name:	**GADSDEN – GULF STATES STEEL 115 KV TRANSMISSION LINE**
Description:	(1.) Reconductor approximately 2.5 miles 397 26/7 ACSR to 795 ACSR 267/ from Gulf States Steel to Morgan's Crossroads. (2.) Replace Gulf States Steel DS with a new 5-terminal, 4-breaker 115 kV ring bus SS across the street from the existing substation. (3.) Rebuild Praxair DS (115/6.9 kV) and connect it to the ring via a single terminal.
Supporting Statement:	The Gulf States Steel to Morgan's Crossroads 115 kV transmission line overloads under contingency.

In-Service Year:	2026
Project Name:	**MILLER - GORGAS 230 KV TL UPGRADE**
Description:	Upgrade approximately 16 miles of 1351 54/19 ACSR at 100° to 125°C on the Miller - Gorgas 230 kV transmission line.
Supporting Statement:	This line overloads under contingency.

In-Service Year:	2026
Project Name:	**MITCHELL - NORTH TIFTON 230 KV RECONDUCTOR**
Description:	Reconductor approximately 35.2 miles of the Mitchell - North Tifton 230 kV transmission line with 1033 ACSR at 100°C.
Supporting Statement:	The Mitchell - North Tifton 230 kV 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:	2026
Project Name:	**NELSON 230/115 KV AUTOBANK REPLACEMENT**
Description:	Replace both existing 230/115 kV autotransformers at Nelson substation with a new 400 MVA 230/115 kV autotransformer.
Supporting Statement:	The existing 230/115 kV autobanks overload during contingency.

In-Service Year:	2026
Project Name:	**NORTH MARIETTA – SMYRNA (BLACK & WHITE) 115 KV TRANSMISSION LINE RECONDU**
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 – Smyrna Black and White 115 kV transmission lines overload under contingency.

In-Service Year:	2027
Project Name:	**ANNISTON - CROOKED CREEK 115 KV TL UPGRADE**
Description:	Upgrade approximately 24 miles of 397 ACSR 115 kV TL from 75°C to 100°C from Friendship DS to Crooked Creek TS.
Supporting Statement:	The Anniston - Crooked Creek 115 kV transmission line overloads under contingency.

In-Service Year:	2027
Project Name:	**DAWSON CROSSING - NELSON (WHITE) 115 KV LINE REBUILD**
Description:	Rebuild approximately 14 miles of 336 ACSR the Dawson Crossing - Nelson (White) 115 kV line from Dawson Crossing - Reavis Mountain using 100°C 795 ACSR Drake.
Supporting Statement:	The Dawson Crossing - Nelson (White) 115 kV line overloads under contingnecy.

In-Service Year:	2027
Project Name:	**KLONDIKE - MORROW 230 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 11.2 miles of 1351 ACSR with 2-795 ACSR conductor on the Klondike - Morrow 230 kV line. Replace terminal equipment at both substations.
Supporting Statement:	The Klondike - Morrow 230 kV transmission line overloads under contingency.

In-Service Year:	2028
Project Name:	**CLARKSTON - SCOTTDALE 115 KV TRANSMISSION LINE UPGRADE**
Description:	Upgrade the Clarkston - Scottdale 115 kV transmission line to a 160°C rating.
Supporting Statement:	The Clarkston - Scottdale 115 kV line overloads under contingency.

In-Service Year:	2028
Project Name:	**CONYERS - KLONDIKE 230 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 6.64 miles 100°C 1622 ACSR/TW on the Conyers - Klondike 230 kV transmission line with 160°C 1351 ACSS.
Supporting Statement:	The Conyers - Klondike 230 kV line overloads during contingency.

In-Service Year:	2028
Project Name:	**DOUGLAS - LAKE BEATRICE 115 KV TRANSMISSION LINE UPGRADE**
Description:	Upgrade approximately 3.2 miles of 336 ACSR on the Douglas - Lake Beatrice 115 kV transmission line from 50°C to 100°C.
Supporting Statement:	The Douglas - Lake Beatrice 115 kV line overloads under contingency.

In-Service Year:	2028
Project Name:	**KETTLE CREEK - PINE GROVE 115 KV TRANSMISSION LINE UPGRADE PHASE ONE**
Description:	Upgrade approximately 20.5 miles of 4/0 ACSR at 50°C to 75°C from Kettle Creek Primary to Pearson Tap.
Supporting Statement:	The Kettle Creek Primary – Pine Grove 115 kV transmission line overloads under contingency.

In-Service Year:	2029
Project Name:	**HOPEWELL 230/115 KV AUTOBANK**
Description:	Replace the 280 MVA 230/115 kV autobank at Hopewell with a 400MVA bank.
Supporting Statement:	The Hopewell 230/115kV autobank A overloads under contingency.

In-Service Year:	2029
Project Name:	**JESUP - OFFERMAN 115 KV TRANSMISSION LINE RECONDUCTOR**
Description:	Reconductor approximately 8.4 miles of 4/0 ACSR at 100°C on the Jesup - Offerman 115 kV transmission line with 795 ACSR 100°C.
Supporting Statement:	The Jesup - Offerman 115 kV transmission line overloads under contingency.

In-Service Year:	2029
Project Name:	**S. COWETA - S. GRIFFIN 115 KV TRANSMISSION LINE, (S. COWETA-BROOKS)**
Description:	Reconductor approximately 5 miles of the South Coweta - South Griffin 115 kV transmission line section from South Coweta to Brooks with 1033 ACSR conductor.
Supporting Statement:	The South Coweta – South Griffin 115 kV transmission line overloads under contingency.

In-Service Year:	2029
Project Name:	**SINCLAIR DAM - WARRENTON 115 KV RECONDUCTOR PHASE I**
Description:	Reconductor approximately 17.4 miles of 4/0 CU at 50°C on the Sinclair Dam - Warrenton Primary 115 kV transmission line with 100°C 795 ACSR. Replace 4/0 CU jumpers with 1590 AAC at Buffalo Road substation.
Supporting Statement:	Sinclair Dam - Warrenton Primary 115 kV line overloads under contingency.

In-Service Year:	2030
Project Name:	**BULL SLUICE - GLAZE DRIVE 230 KV TRANSMISSION LINE**
Description:	Re-sag 160°C 1351 SSAC on the Bull Sluice - Glaze Drive 230 kV transmission line to 200°C.
Supporting Statement:	Bull Sluice - Glaze Drive 230 kV Line overloads under contingency.

In-Service Year:	2030
Project Name:	**NORTH BAY MINETTE AREA SOLUTION**
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:	2030
Project Name:	**NORTH SPRINGS SWITCH AND BUS REPLACEMENT (ON BULL SLUICE - NORTHPARK 230**
Description:	Replace switches, bus and jumpers at North Springs.
Supporting Statement:	Switches at North Springs overload under contingency.

In-Service Year:	2030
Project Name:	**THOMSON PRIMARY ADD SECOND 230/115 KV BANK**
Description:	Install a 2nd 300 MVA, 230/115 kV transformer at Thomson Primary.
Supporting Statement:	The Thomson Primary 230/115 kV transformer overloads under contingency.

In-Service Year:	2021
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:	2021
Project Name:	**ATHENS, TN 161KV SUBSTATION**
Description:	Upgrade bus work and terminal equipment at the Athens, TN 161 kV substation to 836 MVA.
Supporting Statement:	The terminal equipment and bus work at Athens TN 161 kV 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:	**GALLATIN - CAIRO BEND 161 KV TRANSMISSION LINE**
Description:	Reconductor approximately 2.2 miles of the Gallatin - Cairo Bend 161 kV transmission line section with 954 ACSS at 150°C and upgrade terminal equipment to 440 MVA at Gallatin 161 kV.
Supporting Statement:	The Gallatin FP - Cairo Bend 161 kV transmission line section 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:	2022
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:	2022
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:	2023
Project Name:	**ANDERSON 500 KV SUBSTATION**
Description:	Build new Anderson 500kV Substation and build Anderson 500/161 kV transformer.
Supporting Statement:	500/161 kV transformer in the area overloads under contingency.

In-Service Year:	2023
Project Name:	**BATESVILLE AREA IMPROVEMENT PLAN**
Description:	Construct approximately 18.0 miles of new 161kV transmission line from North Oakland - Coffeeville using 954 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:	**NORTH DAYTON 161 KV TRANSMISSION LINE**
Description:	Construct North Dayton 161 kV substation. Loop in Sequoyah - WBHP 161 kV transmission line into new substation by constructing approximately 27.0 miles of transmission line using 1351 ACSR.
Supporting Statement:	Thermal overloads and voltage support is needed in the North Dayton, TN area under contingency.

In-Service Year:	2023
Project Name:	**WILSON - LEBANON 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 substation.
Supporting Statement:	The Wilson - Lebanon 161 kV transmission line overloads under contingency.

In-Service Year:	2024
Project Name:	**NORTH OAKLAND - COFFEEVILLE 161 KV TRANSMISSION LINE**
Description:	Construct approximately 18.0 miles of new 161 kV transmission line from North Oakland - Coffeeville using 954 ACSR at 100°C and upgrade terminal equipment to 472 MVA at Batesville 161 kV substation.
Supporting Statement:	Multiple 161 kV transmission lines overload under contingency.

In-Service Year:	2025
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.

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: 2020 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.)	--	1.0	13.3	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	95.1	--	--	--
Transformers[2] – New	--	--	3.0	--	--	--
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	2022	2025	2030
SPP	-799	-799	-799
MISO	-710	-710	-710
Total	-1509	-1509	-1509

[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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

Table A1.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – AECI BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Thomas Hill	1	300001	1THLG1 20.000	179
Thomas Hill	1	300002	1THLG2 22.000	288
Thomas Hill	1	300003	1THLG3 24.000	749
New Madrid	1	300006	1NM G1 22.000	617.34
New Madrid	1	300007	1NM G2 22.000	618.6
Gentry Generation	1	300008	1GNTRYG1 0.6000	56.7
Atchison	1	300009	1ACHSNG1 0.6000	50.4
St Francis	1	300010	1STFRG1 16.000	220
St Francis	1	300011	1STFRG2 16.000	228.87
Holden	1	300012	1HOLDNG1 13.800	109.17
Holden	1	300013	1HOLDNG2 13.800	109.19
Holden	1	300014	1HOLDNG3 13.800	107.17
Chouteau	1	300020	1CHOTCT4 16.000	155.68
Chouteau	1	300021	1CHOTCT5 16.000	155.9

Chouteau	1	300024	1CHOTST6 16.000	171
Nodaway	1	300025	1NDWYG1 13.800	93.11
Nodaway	1	300026	1NDWYG2 13.800	95.11
Essex	1	300029	1ESSEXG 13.800	104.13
Chouteau	1	300031	1CHOTST3 16.000	158
Chouteau	1	300032	1CHOTCT1 16.000	153
Chouteau	1	300033	1CHOTCT2 16.000	160.95
Clyde	1	300273	1CLYDEG1 0.6000	50.4
Winslow	1	301358	1WINSLOWG1 0.6900	168
Osage	1	301382	1OSAGEWINDG10.6900	75
White Cloud	1	301490	1WHITCLDG1 0.6900	214.5
White Cloud	0	301585	1WHITCLDG2 0.6900	22
Clear Creek	1	301493	1CLEARCKG1 0.6900	18
Clear Creek	1	301512	1CLEARCKG2 0.6900	212
Dell	1	338342	1EAI DELLCT1	163.06
Dell	1	338343	1EAI DELLCT2	157.8
Dell	1	338341	1EAI DELLST3	205.14

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: 2020 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.)	9	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	29	--	--	--	--	--
Transformers[2] – New	--	--	--	5	--	--
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	2022	2025	2030
Duke Progress East	1082	1157	1016
SCE&G	-2	-2	-2
SC	-213	-229	-253
Southern	-82	-44	0
PJM	100	100	100
SEPA	-293	-293	-293
Total	592	689	568

[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 2020 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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lincoln	--	--	--	402	402	402	402	402	402	402
Maiden Creek	--	69	69	69	69	69	69	69	69	69
Westminster	--	75	75	75	75	75	75	75	75	75
Bad Creek 1	420	420	420	420	420	420	420	420	420	420
Bad Creek 2	420	420	420	420	420	420	420	420	420	420
Bad Creek 3	340	420	420	420	420	420	420	420	420	420
Bad Creek 4	340	340	420	420	420	420	420	420	420	420
Catawba Unit 1	1188	1188	1188	1188	1188	1188	1188	1188	1188	1188
Catawba Unit 2	1169	1169	1169	1169	1169	1169	1169	1169	1169	1169

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
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 2022 Version 2 Summer Peak Powerflow Model – Duke Energy Carolinas BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Mill Creek	1	306082	1MILLCKG1 13.800	76
Mill Creek	2	306083	1MILLCKG2 13.800	76
Mill Creek	3	306084	1MILLCKG3 13.800	76
Mill Creek	4	306086	1MILLCKG4 13.800	76
Mill Creek	5	306087	1MILLCKG5 13.800	76
Mill Creek	6	306088	1MILLCKG6 13.800	76
Mill Creek	7	306090	1MILLCKG7 13.800	76
Mill Creek	8	306091	1MILLCKG8 13.800	76
Rutherford	PV	306146	RUTHPV 100.00	67
Bad Creek	1	306207	1BADCRK12 19.000	420
Bad Creek	2	306207	1BADCRK12 19.000	420
Bad Creek	3	306208	1BADCRK34 19.000	350
Bad Creek	4	306208	1BADCRK34 19.000	350
Broad River Energy	4	306222	1BRECG4 18.000	175
Broad River Energy	5	306224	1BRECG5 18.000	175
Broad River Energy	1	306314	1BRECG1 18.000	175
Broad River Energy	2	306315	1BRECG2 18.000	175
Broad River Energy	3	306316	1BRECG3 18.000	175
Cherokee	1	306325	1CHEROKEG 13.800	52
Cherokee	1	306326	1CHEROKES 13.800	32
Lincoln	1	306509	1LINCLN1 13.800	79
Lincoln	2	306510	1LINCLN2 13.800	79
Lincoln	3	306511	1LINCLN3 13.800	79
Lincoln	4	306512	1LINCLN4 13.800	79
Lincoln	5	306513	1LINCLN5 13.800	79
Lincoln	6	306514	1LINCLN6 13.800	79
Lincoln	7	306515	1LINCLN7 13.800	79
Lincoln	8	306516	1LINCLN8 13.800	79

Lincoln	9	306517	1LINCLN9 13.800	79
Lincoln	A	306518	1LINCLN10 13.800	79
Lincoln	B	306519	1LINCLN11 13.800	79
Lincoln	C	306520	1LINCLN12 13.800	79
Lincoln	D	306521	1LINCLN13 13.800	79
Lincoln	E	306522	1LINCLN14 13.800	79
Lincoln	F	306523	1LINCLN15 13.800	79
Lincoln	G	306524	1LINCLN16 13.800	79
Rockingham County	4	306828	1ROCKHMG04 18.000	165
Rockingham County	5	306829	1ROCKHMG05 18.000	165
Rockingham County	1	306831	1ROCKHMG01 18.000	165
Rockingham County	2	306832	1ROCKHMG02 18.000	165
Rockingham County	3	306833	1ROCKHMG03 18.000	165
West River	PV	306972	WESTRVRPV 100.00	40
Rowan	1	306991	1ROWANC1 18.000	154
Rowan	2	306992	1ROWANC2 18.000	154
Rowan	3	306993	1ROWANC3 18.000	154
Rowan	4	306994	1ROWANC4 18.000	154
Rowan	5	306995	1ROWANC5 18.000	154
Rowan	6	306996	1ROWANS1 18.000	170
Buzzard Roost	1	307037	1BUZZHYD 4.1600	4.3
Buzzard Roost	2	307037	1BUZZHYD 4.1600	4.3
Buzzard Roost	3	307037	1BUZZHYD 4.1600	4.3
Keowee	1	307195	1KEOWEE 13.800	80
Lee	3	307197	1LEE 3 18.000	120
Lee	7	307198	1LEE CT7 13.800	43
Oconee	1	307199	1OCONEE1 19.000	868
Oconee	3	307200	1OCONEE3 19.000	882
Oconee	2	307210	1OCONEE2 19.000	882
Jocassee	1	307370	1JOCASSE1 14.400	195
Jocassee	2	307371	1JOCASSE2 14.400	195

Jocassee	3	307372	1JOCASSE3 14.400	195
Jocassee	4	307373	1JOCASSE4 14.400	195
Gaston Shoals	1	307466	1GAST HY 2.4000	5.7
Turner	1	307599	1TURN HY 2.4000	1.5
Turner	2	307599	1TURN HY 2.4000	1.5
Tuxedo	1	307601	1TUX HYD 6.6000	3.2
Tuxedo	2	307601	1TUX HYD 6.6000	3.2
Cliffside	5	307610	1CLIFSID5 24.000	574
Mocksville	PV	307613	1MOCKSVPV 44.000	12.9
Monroe	PV	307614	MONROEPV 100.00	53.6
Great Falls	1	307702	1GTFALLS 2.4000	3
Great Falls	2	307702	1GTFALLS 2.4000	3
Great Falls	5	307702	1GTFALLS 2.4000	3
Great Falls	6	307702	1GTFALLS 2.4000	3
Ninety-Nine Islands	1	307749	1NINETY9 2.2000	15
Wylie	1	307840	1WYLIE H 6.6000	18
Wylie	2	307840	1WYLIE H 6.6000	18
Wylie	3	307840	1WYLIE H 6.6000	18
Wylie	4	307840	1WYLIE H 6.6000	18
Allen	5	307853	1ALLEN 5 16.000	139.3
Allen	L	307853	1ALLEN 5 16.000	112.7
Allen	1	307854	1ALLEN 1 18.000	158
Allen	3	307855	1ALLEN 3 16.000	143.098
Allen	L	307855	1ALLEN 3 16.000	115.902
Catawba	1	307856	1CATAWBA1 22.000	1172
Catawba	2	307857	1CATAWBA2 22.000	1142
Cedar Cliff	1	307858	1CEDAR CK 6.6000	13
Cedar Cliff	2	307858	1CEDAR CK 6.6000	15
Cedar Cliff	3	307858	1CEDAR CK 6.6000	15
Dearborn	1	307859	1DEARBN1 6.6000	14
Dearborn	2	307860	1DEARBN23 6.6000	14

Dearborn	3	307860	1DEARBN23 6.6000	14
Fishing Creek	1	307861	1FISHNG C 6.6000	11
Fishing Creek	2	307861	1FISHNG C 6.6000	9.5
Wateree	1	307862	1WATEREE 6.6000	17
Wateree	2	307862	1WATEREE 6.6000	17
Wateree	3	307862	1WATEREE 6.6000	17
Wateree	4	307862	1WATEREE 6.6000	17
Wateree	5	307862	1WATEREE 6.6000	17
Allen	2	307863	1ALLEN 2 18.000	155
Allen	4	307864	1ALLEN 4 16.000	136.1
Allen	L	307864	1ALLEN 4 16.000	120.9
Lee	8	307882	1LEE CT8 13.800	43
Bridgewater	1	308079	1BRIDGEW 6.6000	15.5
Lookout Tie	1	308080	1LOOKOUT 6.6000	9.33
Lookout Tie	2	308080	1LOOKOUT 6.6000	9.33
Lookout Tie	3	308080	1LOOKOUT 6.6000	9.33
Marshall	1	308081	1MARSHAL1 20.000	188.698
Marshall	L	308081	1MARSHAL1 20.000	189.302
Marshall	3	308082	1MARSHAL3 24.000	683
Oxford	1	308083	1OXFORD 6.6000	20
Rhodhiss	1	308084	1RHODHIS 6.6000	10
Rhodhiss	2	308084	1RHODHIS 6.6000	12
Rhodhiss	3	308084	1RHODHIS 6.6000	12
Marshall	2	308087	1MARSHAL2 20.000	191.693
Marshall	L	308087	1MARSHAL2 20.000	192.307
Marshall	4	308088	1MARSHAL4 24.000	675
Buck	11	308090	1BUCKG11 18.000	176.5
Buck	12	308091	1BUCKG12 18.000	176.5
Buck	10	308092	1BUCKS10 18.000	333
McBride	PV	308107	UNEMC14 100.00	74.9
Mountain Island	1	308179	1MT ISLE 6.6000	14

Mountain Island	2	308179	1MT ISLE 6.6000	14
Mountain Island	3	308179	1MT ISLE 6.6000	17
Mountain Island	4	308179	1MT ISLE 6.6000	17
Cowans Ford	1	308227	1COWANS1 13.800	81
McGuire	1	308228	1MCGUIRE1 24.000	1172
McGuire	2	308229	1MCGUIRE2 24.000	1165
Cowans Ford	2	308237	1COWANS2 13.800	81
Cowans Ford	3	308238	1COWANS3 13.800	81
Cowans Ford	4	308239	1COWANS4 13.800	81
Ayrshire	PV	308375	1AYRSHIRE 44.000	16.8
Belews Creek	1	308377	1BELEWS1 18.000	611.756
Belews Creek	L	308377	1BELEWS1 18.000	514.244
Belews Creek	2	308378	1BELEWS2 18.000	621.402
Belews Creek	L	308378	1BELEWS2 18.000	507.598
Apple	PV	308387	APPLEPV3 100.00	16.2
Apple	PV	308391	APPLEPV2 100.00	20
Cedar Creek	1	308516	1CEDARCL 6.6000	6.4
Bear Creek	1	308517	1BEARCRK 4.1600	9
Tennessee Creek	1	308518	1TENNCRK 4.1600	10.8
Nantahala	1	308558	1NANTAHA 13.200	51
Thorpe	1	308600	1THORPE 6.6000	21.6
Thorpe	2	308600	1THORPE 6.6000	3
Dan River	8	308603	1DNRVRG8 18.000	176.5
Dan River	9	308604	1DNRVRG9 18.000	176.5
Dan River	7	308605	1DNRVRS7 18.000	333
Cleveland County	1	308607	1CLEVELAND1 16.500	178
Cleveland County	2	308608	1CLEVELAND2 16.500	178
Cleveland County	3	308609	1CLEVELAND3 16.500	178
Cleveland County	4	308610	1CLEVELAND4 16.500	178
Lee	10	308613	1LEECCS10 22.000	329
Lee	11	308614	1LEECCG11 18.000	231

Lee	12	308615	1LEECCG12 18.000	231
Kings Mountain Energy Center	1	308653	1KMECS 18.000	208
Kings Mountain Energy Center	2	308654	1KMECG 21.000	244
Lancaster	PV	308671	1LANCASTERPV44.000	10
Stanly	PV	308673	STANLYPV 100.00	50
Gaston	PV	308675	1GASTONPV 44.000	25
Oxford	2	308683	1OXFORD2 6.6000	20
Maiden Creek	PV	308685	MAIDENCRKPV 100.00	69.3
Lincoln	H	308692	1LINCLN17 22.000	525
SunEd	PV	308784	SUNED100 100.00	15
Cliffside	6	308789	1CLFSDGEN 24.500	880
Clemson	1	308878	CLEMSONU 100.00	17.8
Keowee	2	308880	1KEOWEE2 13.800	80
Fishing Creek	3	308912	1FISHNG C2 6.6000	9.5
Fishing Creek	4	308912	1FISHNG C2 6.6000	11
Fishing Creek	5	308912	1FISHNG C2 6.6000	8
Bridgewater	2	308920	1BRIDGEW2 6.6000	15.5
Thinking Tree	PV	309604	THNKTREEPV 100.00	35
Partin	PV	309606	PARTINPV 100.00	50
Ruff	PV	309608	1RUFFPV 44.000	22
High Shoals	PV	309615	1HGHSHLPV 44.000	16
Cool Springs	BT	309696	COOLSPRNGPV 100.00	10
Cool Springs	PV	309696	COOLSPRNGPV 100.00	80
Westminster	BT	309707	WESTMINSTERP100.00	25
Westminster	PV	309707	WESTMINSTERP100.00	75
Oakboro	BT	309714	OAKBOROPV 100.00	13.5
Oakboro	PV	309714	OAKBOROPV 100.00	40
Pelham	PV	309716	1PELHAMPV 44.000	32
Stony Knoll	PV	309789	1STONYKNLLPV44.000	22.6
Apex	PV	309803	1APEXPV 44.000	30
Two Hearted	BT	309804	1TWOHRTDPV 44.000	7.5

Two Hearted	PV	309804	1TWOHRTDPV 44.000	22
Speedway	PV	309809	SPEEDWAYPV 100.00	22.6
Pinson	PV	309810	1PINSONPV 44.000	20
Broad River	PV	309814	BROADRVRPV 100.00	50
Lick Creek	PV	309853	LICKCRKPV 100.00	50
Sugar	PV	309857	SUGARPV 100.00	60

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: 2020 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.)	9	--	--	10	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	18	--	--	10	--	--
Transformers[2] – New	--	--	--	3	--	--
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 A3.2: Interface commitments[1] modeled in the SERTP Summer Peak models – Duke Progress East BAA

To	2022	2025	2030
Duke Carolinas	-1082	-1157	-1016
Duke Progress West	0	0	0
PJM	-30	-30	-30
Total	-1112	-1187	-1046

[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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Hamlet #1	55	55	55	55	55	55	555	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

Table A3.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – Duke Progress East BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
NCSU Gen	1	304011	NCSU GEN 115.00	11
Uwharrie LFG	1	304012	UWHARRIE LFG115.00	9
Aggregated Distribution Gen	BG	304058	HOLLY SPRG 230.00	7.3
Co-gen Roxboro	1	304063	COG ROX SUB 230.00	56
Aggregated Distribution Gen	PV	304065	ROXB SOUTH 230.00	3.94
Aggregated Distribution Gen	PV	304068	ROX BOWMAN 230.00	10.075
Aggregated Distribution Gen	PV	304073	RAL BL RIDGE230.00	1
Aggregated Distribution Gen	PV	304075	6BAHAMA 230.00	5
Aggregated Distribution Gen	PV	304080	OXFORD SOUTH230.00	15.358

Aggregated Distribution Gen	PV	304081	CASTALIA 230.00	18.909
Aggregated Distribution Gen	PV	304086	OXFORD NORTH230.00	22.748
Aggregated Distribution Gen	PV	304087	HENDER EAST 230.00	33.19
Aggregated Distribution Gen	PV	304092	ROXBOR 115TT115.00	8.971
Aggregated Distribution Gen	PV	304095	YANCYVILLE 230.00	14.945
Aggregated Distribution Gen	PV	304101	HENDER NORTH115.00	28.992
Aggregated Distribution Gen	PV	304103	WARRENTON 115.00	31.205
Aggregated Distribution Gen	PV	304108	LOUISBURG 115.00	13.782
Aggregated Distribution Gen	PV	304109	STALLING XRD115.00	20.998
Aggregated Distribution Gen	PV	304110	SPRING HOPE 115.00	6.715
Aggregated Distribution Gen	PV	304115	CARY TRENTON230.00	3.09
Aggregated Distribution Gen	PV	304116	NASHVILLE 115.00	6.998
Aggregated Distribution Gen	PV	304133	FUQUAY BELLS230.00	1.5
Aggregated Distribution Gen	HY	304134	MONCURE 115.00	5.9
Aggregated Distribution Gen	PV	304134	MONCURE 115.00	5
Aggregated Distribution Gen	PV	304151	GARNER W OAK230.00	3.55
Aggregated Distribution Gen	PV	304152	GARNER 115.00	4.998
Aggregated Distribution Gen	PV	304153	GARNER TRYON115.00	2.337
Aggregated Distribution Gen	PV	304165	ZEBULON SUB115.00	5.257
Aggregated Distribution Gen	PV	304170	CLAYTON 115.00	4
Aggregated Distribution Gen	PV	304177	SELMA 115 TT115.00	15.298
Aggregated Distribution Gen	PV	304178	AUBURN 230.00	1.04
Aggregated Distribution Gen	PV	304179	WILSON MILLS230.00	9.976
Aggregated Distribution Gen	PV	304186	EDMONDSON 230.00	8.654
Aggregated Distribution Gen	PV	304191	WENDELL 230.00	4.4
Aggregated Distribution Gen	BG	304193	FOUR OAKS 230.00	1.76
Aggregated Distribution Gen	PV	304193	FOUR OAKS 230.00	17.788
Aggregated Distribution Gen	PV	304194	BENSON 230.00	17.327
Aggregated Distribution Gen	PV	304197	DUNN 230.00	7.016
Aggregated Distribution Gen	PV	304198	BAILEY 230.00	24.68
Aggregated Distribution Gen	PV	304199	ARCH LODGE 230.00	6.99

Aggregated Distribution Gen	PV	304202	ERWIN115 SUB115.00	4.95
Aggregated Distribution Gen	PV	304207	NEWTON GROVE230.00	11.852
Aggregated Distribution Gen	PV	304213	FUQUAY 230.00	10.745
Aggregated Distribution Gen	PV	304214	ANGIER 230.00	9.4
Aggregated Distribution Gen	PV	304215	BUIES CREEK 230.00	12.308
Aggregated Distribution Gen	PV	304220	LILLINGTON 115.00	9.998
Aggregated Distribution Gen	PV	304225	PA-W-RE 115.00	5
Aggregated Distribution Gen	PV	304227	ELM CITY 115.00	9.975
Aggregated Distribution Gen	PV	304229	PA-FARMVILLE230.00	5
Aggregated Distribution Gen	PV	304235	PA-W-11 115.00	20
Aggregated Distribution Gen	PV	304236	PA-W-2&3 115.00	23.5
Aggregated Distribution Gen	BG	304240	FREMONT 115.00	4.2
Aggregated Distribution Gen	PV	304240	FREMONT 115.00	12.393
Aggregated Distribution Gen	PV	304244	PA-W-5 115.00	10
Aggregated Distribution Gen	PV	304245	PA-W-RW 115.00	5
Aggregated Distribution Gen	PV	304246	PA-W12 WEC 230.00	20
Aggregated Distribution Gen	PV	304250	ROSEWOOD 115.00	9.99
Aggregated Distribution Gen	PV	304252	PRINCETON 115.00	19.95
Aggregated Distribution Gen	BG	304256	CLINT FERREL115.00	1.76
Aggregated Distribution Gen	PV	304256	CLINT FERREL115.00	4.95
Aggregated Distribution Gen	PV	304258	CLINTON NTH 115.00	15
Aggregated Distribution Gen	BG	304260	ROSEBORO 115.00	9
Aggregated Distribution Gen	PV	304260	ROSEBORO 115.00	8.96
Aggregated Distribution Gen	BG	304267	GRANTHAM 230.00	3.18
Aggregated Distribution Gen	PV	304267	GRANTHAM 230.00	14.241
Aggregated Distribution Gen	PV	304269	MT OLV SUB 115.00	8.422
Aggregated Distribution Gen	PV	304270	MT OLV WEST 115.00	23.95
Aggregated Distribution Gen	PV	304273	KORNEGAY SUB115.00	16.781
Aggregated Distribution Gen	PV	304280	BEULAVILLE 115.00	20.987
Aggregated Distribution Gen	PV	304281	BELFAST 115.00	15
Aggregated Distribution Gen	PV	304282	GOLDSB LANGS115.00	6.999

Aggregated Distribution Gen	PV	304288	LAGRANGE 115.00	19.973
Aggregated Distribution Gen	PV	304294	BISCOE SUB 115.00	25.02
Aggregated Distribution Gen	PV	304297	JONESBORO 230.00	10.066
Aggregated Distribution Gen	PV	304298	ROBBINS 115.00	5
Aggregated Distribution Gen	HY	304301	TROY 115.00	1.782
Aggregated Distribution Gen	PV	304301	TROY 115.00	4.95
Aggregated Distribution Gen	PV	304303	SEAGROVE 115.00	9.466
Aggregated Distribution Gen	PV	304306	CANDOR 115.00	14.84
Aggregated Distribution Gen	PV	304312	ASHEBOR E TT115.00	4.938
Aggregated Distribution Gen	PV	304319	ASHEBORO NO 115.00	7.84
Aggregated Distribution Gen	PV	304320	ROCKHAM SUB 115.00	4.938
Aggregated Distribution Gen	PV	304321	3IND 304321 115.00	6.994
Aggregated Distribution Gen	PV	304326	LIBERTY 115.00	10
Aggregated Distribution Gen	PV	304327	ELLERBE 230.00	1.999
Aggregated Distribution Gen	HY	304328	RAMSEUR 115 115.00	1.225
Aggregated Distribution Gen	PV	304333	PITTSBORO 230.00	9.953
Aggregated Distribution Gen	PV	304334	BYNUM 230.00	3.274
Aggregated Distribution Gen	PV	304335	SILER CITY 115.00	19.492
Aggregated Distribution Gen	PV	304341	MTGILEAD 115.00	3.5
Aggregated Distribution Gen	PV	304344	WADESBORO 230.00	14.998
Aggregated Distribution Gen	PV	304345	ROCKHAM WEST115.00	5
Aggregated Distribution Gen	PV	304355	HAMLET 230.00	14.972
Aggregated Distribution Gen	PV	304359	WADESBOW SUB230.00	12.198
Aggregated Distribution Gen	PV	304360	WEST END SUB230.00	20.012
Aggregated Distribution Gen	PV	304364	ABERDEEN 115.00	1.998
Aggregated Distribution Gen	PV	304367	LAKEVIEW 115.00	5
Aggregated Distribution Gen	PV	304374	SANF GARDEN 230.00	16.965
Aggregated Distribution Gen	PV	304376	SANF DP RVR 230.00	9.948
Aggregated Distribution Gen	PV	304381	RAEFORD SOU 115.00	9.975
Aggregated Distribution Gen	PV	304401	VANDERSUB TT115.00	5
Aggregated Distribution Gen	PV	304406	ST PAULS 115.00	19.969

Aggregated Distribution Gen	PV	304408	BEARD 115.00	20
Aggregated Distribution Gen	PV	304410	GODWIN 115.00	18.397
Aggregated Distribution Gen	PV	304413	RAEFORD NOR 115.00	5
Aggregated Distribution Gen	PV	304420	3IND 304420 115.00	19.8
Aggregated Distribution Gen	PV	304421	LAURNB115WTT115.00	16.192
Aggregated Distribution Gen	PV	304422	LAURINBGCITY230.00	14.985
Aggregated Distribution Gen	PV	304423	LAUREL HILL 230.00	19.95
Aggregated Distribution Gen	PV	304430	RED SPR SUB 115.00	19.896
Aggregated Distribution Gen	PV	304431	SHANNON 115.00	14.924
Aggregated Distribution Gen	PV	304435	MAXTON 115.00	18.572
Aggregated Distribution Gen	PV	304436	PEMBROKE 115.00	15.988
Aggregated Distribution Gen	PV	304439	PA-LUMB#4 115.00	2
Aggregated Distribution Gen	PV	304443	ROWLAND SUB 230.00	9.975
Aggregated Distribution Gen	PV	304445	CHOCOWINITY 230.00	34.45
Aggregated Distribution Gen	PV	304446	WEATHERSPOON230.00	26.288
Aggregated Distribution Gen	PV	304448	FAIRMONT SUB115.00	27.817
Industrial Customer Gen	A	304455	6IND 304455 230.00	42
Aggregated Distribution Gen	PV	304459	GRIFTON 115.00	19.949
Aggregated Distribution Gen	PV	304462	BAYBORO 230.00	9.998
Aggregated Distribution Gen	BG	304463	NEW BERN WES230.00	4
Aggregated Distribution Gen	PV	304463	NEW BERN WES230.00	25.46
Aggregated Distribution Gen	PV	304464	BRIDGETON 115.00	9.974
Craven County Wood Energy	1	304472	CC WD EN SUB230.00	45
Industrial Customer Gen	A	304476	3IND 304476 115.00	38
Aggregated Distribution Gen	PV	304483	SNOW HILL 115.00	13.964
Aggregated Distribution Gen	PV	304504	WARSAW 230 230.00	34.917
Aggregated Distribution Gen	PV	304505	ROSE HILL 230.00	13.898
Aggregated Distribution Gen	PV	304506	DOVER 230.00	14.946
Aggregated Distribution Gen	PV	304512	WALLACE SUB 115.00	16.986
Aggregated Distribution Gen	PV	304513	BURGAW SUB 115.00	19.492
Aggregated Distribution Gen	BG	304521	CATHERN LAKE230.00	1.753

Aggregated Distribution Gen	PV	304521	CATHERN LAKE230.00	4.992
Aggregated Distribution Gen	PV	304527	SWANSBORO 230.00	14.99
Aggregated Distribution Gen	PV	304528	RHEMS 230.00	20.82
Aggregated Distribution Gen	PV	304532	VISTA 115.00	4.59
Aggregated Distribution Gen	PV	304537	LEJEUNE#2 230.00	12.75
Aggregated Distribution Gen	PV	304565	EAGLE ISLAND115.00	3.083
Aggregated Distribution Gen	PV	304566	6IND 304566 115.00	10.049
Aggregated Distribution Gen	PV	304570	CLARKTON 115.00	11.947
Aggregated Distribution Gen	PV	304572	ELIZTOWN SUB115.00	4.8
Aggregated Distribution Gen	PV	304574	BLADENBORO 115.00	14.525
Aggregated Distribution Gen	PV	304575	LAKE WACCA 115.00	4.975
Aggregated Distribution Gen	PV	304584	GARLAND 230.00	9.998
Aggregated Distribution Gen	PV	304589	CHADBORN 115.00	13.8
Aggregated Distribution Gen	PV	304593	3IND 304593 115.00	5
Aggregated Distribution Gen	PV	304596	TABOR CITY 115.00	5
Aggregated Distribution Gen	PV	304599	FAIR BLUFF 115.00	5
Co-gen Southport	1	304601	COG SPRT SUB230.00	45
Co-gen Southport	2	304601	COG SPRT SUB230.00	45
Co-gen Lumberton	1	304603	COG LUMB SUB115.00	32
Aggregated Distribution Gen	PV	304609	SAMARIA 115.00	23.963
Aggregated Distribution Gen	PV	304613	FLOR MARBLUF115.00	10
Aggregated Distribution Gen	PV	304623	WHITEVL SUB 115.00	9.948
Aggregated Distribution Gen	PV	304627	DELCO 115.00	9.5
Aggregated Distribution Gen	PV	304629	NICHOLS 115.00	5
Aggregated Distribution Gen	PV	304632	MARION115 TT115.00	8.96
Aggregated Distribution Gen	PV	304637	TROY BURN ST115.00	9.998
Industrial Customer Gen	1	304641	3IND 304641 115.00	68
Aggregated Distribution Gen	PV	304644	PAMPLICO 115.00	6.799
Aggregated Distribution Gen	PV	304645	HEMINGWAY 115.00	10
Aggregated Distribution Gen	PV	304649	DARL PINEVIL115.00	2.02
Aggregated Distribution Gen	PV	304659	FLOSUB115WTT115.00	1.055

Aggregated Distribution Gen	PV	304660	DARLINGTON 115.00	10.586
Aggregated Distribution Gen	PV	304664	DILLON MAPLE230.00	9.996
Aggregated Distribution Gen	PV	304671	FLOR SARDIS 230.00	1.116
Aggregated Distribution Gen	PV	304672	6IND 304672 230.00	2.02
Aggregated Distribution Gen	PV	304675	LAKE CITY 230.00	3.98
Aggregated Distribution Gen	PV	304676	KINGSTREE N 230.00	1.018
Aggregated Distribution Gen	PV	304681	MANNING 115.00	4
Aggregated Distribution Gen	BG	304692	3IND 304692 115.00	1.546
Aggregated Distribution Gen	PV	304701	SUMMERTON 230.00	4.06
Aggregated Distribution Gen	PV	304705	SOCIETY HILL230.00	2
Aggregated Distribution Gen	PV	304711	ELLIOTT SUB 230.00	3.96
Aggregated Distribution Gen	PV	304712	BISHOPVILLE 230.00	11.6
Brunswick	1	304862	BRUNSWICK#1 24.000	938
Brunswick	1	304863	BRUNSWICK#2 24.000	932
Robinson	1	304864	ROBINSON#2 22.000	741
Harris	1	304865	HARRIS 22.000	976
Roxboro	1	304869	ROXBORO #1 22.000	379
Roxboro	1	304870	ROXBORO #2 24.000	668
Roxboro	1	304871	ROXBORO #3 24.000	694
Roxboro	1	304872	ROXBORO #4 24.000	698
Mayo	1	304873	MAYO #1 20.000	727
Tillery	1	304888	TILLERY #1 13.800	21
Tillery	1	304889	TILLERY #2 13.800	18
Tillery	1	304890	TILLERY #3 13.800	21
Tillery	1	304891	TILLERY #4 13.800	24
Blewett	1	304892	BLEWETTE 1-34.8000	4
Blewett	2	304892	BLEWETTE 1-34.8000	4
Blewett	3	304892	BLEWETTE 1-34.8000	4
Blewett	4	304893	BLEWETTE 4-64.0000	5
Blewett	5	304893	BLEWETTE 4-64.0000	5
Blewett	6	304893	BLEWETTE 4-64.0000	5

Darlington County	1	304897	DARL CO #1	13.800	50
Darlington County	2	304898	DARL CO #2	13.800	48
Darlington County	3	304899	DARL CO #3	13.800	50
Darlington County	4	304900	DARL CO #4	13.800	48
Darlington County	6	304902	DARL CO #6	13.800	43
Darlington County	7	304903	DARL CO #7	13.800	47
Darlington County	8	304904	DARL CO #8	13.800	44
Darlington County	10	304906	DARL CO #10	13.800	49
Darlington County	12	304908	DARL CO #12	13.800	118
Darlington County	13	304909	DARL CO #13	13.800	116
Sutton	4	304919	SUTTONCT4	13.800	42
Sutton	5	304920	SUTTONCT5	13.800	42
Weatherspoon	A	304924	WSPN IC#1	13.800	31
Weatherspoon	A	304925	WSPN IC#2	13.800	31
Weatherspoon	A	304927	WSPN IC#3	13.800	32
Weatherspoon	A	304928	WSPN IC#4	13.800	30
Blewett	C1	304933	BLW IC 1&2	13.800	13
Blewett	C2	304933	BLW IC 1&2	13.800	13
Blewett	C3	304934	BLW IC 3&4	13.800	13
Blewett	C4	304934	BLW IC 3&4	13.800	13
Fayetteville PWC	A	304940	FAY PWC1	13.800	20
Fayetteville PWC	A	304941	FAY PWC2	13.800	20
Fayetteville PWC	A	304942	FAY PWC3	13.200	20
Fayetteville PWC	A	304943	FAY PWC4	13.200	20
Fayetteville PWC	A	304944	FAY PWC5	13.800	20
Fayetteville PWC	A	304945	FAY PWC6	13.800	20
Fayetteville PWC	A	304946	FAY PWC7	13.800	20
Fayetteville PWC	A	304947	FAY PWC8	13.800	20
Fayetteville PWC	A	304948	FAY PWC ST	13.800	60
Wayne County	10	304956	WAYNE CO #10	18.000	177
Wayne County	11	304957	WAYNE CO #11	18.000	174

Wayne County	12	304958	WAYNE CO #1218.000	173
Wayne County	13	304959	WAYNE CO #1318.000	170
Wayne County	14	304960	WAYNE CO #1418.000	163
Lee	1A	304961	LEE CC_1A 16.500	170
Lee	1B	304962	LEE CC_1B 16.500	170
Lee	1C	304963	LEE CC_1C 16.500	170
Lee	S1	304964	LEE CC_S1 19.500	378
Richmond County	1	304971	RICH CT1 18.000	157
Richmond County	2	304972	RICH CT2 18.000	156
Richmond County	3	304973	RICH CT3 18.000	155
Richmond County	4	304974	RICH CT4 18.000	159
Richmond County	6	304975	RICH CT6 18.000	145
Richmond County	7	304976	RICH CT7 18.000	194
Richmond County	8	304977	RICH CT8 18.000	194
Richmond County	S4	304978	RICH ST4 18.000	182
Richmond County	9	304979	RICH CT9 16.500	174
Richmond County	10	304980	RICH CT10 16.500	175
Richmond County	S5	304981	RICH ST5 18.000	248
Hamlet	1	304987	HAMLET CT1 13.800	56
Hamlet	2	304988	HAMLET CT2 13.800	56
Hamlet	3	304989	HAMLET CT3 13.800	56
Hamlet	4	304990	HAMLET CT4 13.800	56
Hamlet	5	304991	HAMLET CT5 13.800	56
Hamlet	6	304992	HAMLET CT6 13.800	56
Anson	1	304993	ANSON CT1 13.800	62
Anson	2	304994	ANSON CT2 13.800	62
Anson	3	304995	ANSON CT3 13.800	62
Anson	4	304996	ANSON CT4 13.800	62
Anson	5	304997	ANSON CT5 13.800	62
Anson	6	304998	ANSON CT6 13.800	62
Fayetteville Solar	PV	305224	FAYSOL-GLV 0.4800	23.4

Elm City Solar	PV	305314	ELMCTYSOLGLV0.3600	40.7
Eden Solar	PV	305324	EDENSOL1GLV 0.3800	24.4
Eden Solar	PV	305327	EDENSOL2GLV 0.3800	24.4
Bladenboro Solar	PV	305334	BLADENSOLGLV0.3700	35
County Line Solar	PV	305384	COLINSOL1GLV0.3700	71
Rowan Solar	PV	305394	ROWANSOL1GLV0.3570	20.5
Rowan Solar	PV	305397	ROWANSOL2GLV0.3570	18.9
Sneedsboro Solar	PV	305404	SNEEDSOL1GLV0.3570	37.3
Sneedsboro Solar	PV	305407	SNEEDSOL2GLV0.3570	42.4
Roslin Solar	PV	305414	ROSLNSOL1GLV0.3700	40
Roslin Solar	PV	305417	ROSLNSOL2GLV0.3700	39
Maxton Solar	PV	305424	MAXTNSOLGLV 0.3700	34.4
Sandy Bottom Solar	PV	305454	SANDYBSOLGLV0.6000	49.6
Willard Solar	PV	305474	WILARDSOLGLV0.6000	34.7
Turnbull Creek Solar	PV	305534	TURNBLSOLGLV0.5500	51
Shoe Creek Solar	PV	305634	SHOECKSOLGLV0.3850	65.36
Bullocksville Solar	PV	305644	BULLOKSOLGLV0.3850	50.58
Fox Creek Solar	PV	305664	FOXCRKSOLGLV0.5500	50.2
Frazier Solar	PV	305674	FRAZERSOLGLV0.5500	51
Buckleberry Solar	PV	305714	BUKLEBSOLGLV0.5500	52.9
Crooked Run Solar	PV	305884	CROOKDSOLGLV0.5500	71.25
Warsaw Solar	PV	305903	WARSWSOL1GLV0.3600	40.2
Warsaw Solar	PV	305906	WARSWSOL2GLV0.3600	25.6
Sutton	1A	305911	SUT CC 1A 16.500	170
Sutton	1B	305912	SUT CC 1B 16.500	171
Sutton	ST	305913	SUT CC ST 21.000	266

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: 2020 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.)	--	--	--	--	--	--
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	2020	2022	2024
Duke Progress East	0	0	0
Duke Carolinas	0	0	0
SC	-22	-22	-22
TVA	-14	-14	-14
Total	-36	-36	-36

[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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

Table A4.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – Duke Progress West BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Aggregated Distribution Gen	PV	304743	CANTON115 TT115.00	1.5
Aggregated Distribution Gen	BG	304759	LEICESTER 115.00	1.415
Aggregated Distribution Gen	PV	304759	LEICESTER 115.00	3.59
Aggregated Distribution Gen	HY	304766	ELK MOUNTAIN115.00	2.5
Aggregated Distribution Gen	HY	304772	BARNARDSVILE115.00	1
Aggregated Distribution Gen	PV	304791	WESTASHEV TT115.00	1.857

Aggregated Distribution Gen	BA	304805	ASH ROCK HIL115.00	8.8
Aggregated Distribution Gen	PV	304818	BALDWIN 115.00	1.424
Walters	1	304853	WALTERS #1 13.800	36
Walters	1	304854	WALTERS #2 13.800	40
Walters	1	304855	WALTERS #3 13.800	36
Marshall	1	304856	MARSHAL 1&2 4.1600	2
Marshall	2	304856	MARSHAL 1&2 4.1600	2
Asheville	3	304858	ASHVL #3CT 18.000	160
Asheville	4	304859	ASHVL #4CT 18.000	160
Asheville	5	304875	ASHVCC1CT5 18.000	165
Asheville	6	304876	ASHVCC1ST6 13.800	95
Asheville	7	304877	ASHVCC2CT7 18.000	165
Asheville	8	304878	ASHVCC2ST8 13.800	95

Appendix 5: GULF POWER BAA

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

Table A5.1: 2020 SERTP Regional Transmission Plan – Transmission Project Snapshot by operating voltage (GULF POWER BAA)

GULF POWER BAA	100-120 kV	121-150 kV	151-199 kV	200-299 kV	300-399 kV	400-550 kV
Transmission lines – New (Circuit Mi.)	61.8	--	176	35	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	25	--	--	16.9	--	--
Transformers[2] – New	1	--	1	--	--	--
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 – GULF POWER BAA

To	2022	2025	2030
Southern	-1745.34	-865.492	-870.5
Total	-1745.34	-865.492	-870.5

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

A detailed listing of the changes in generation assumptions within the future GULF Power BAA throughout the ten (10) year planning horizon, including the year(s) in which they occur, is provided in Table A5.3 below. Table A5.4 provides a listing of generation assumptions based upon long-term, firm delivery service 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 2022 Version 2 Summer Peak powerflow model.

Table A5.3: Changes in Generation Assumptions Based Upon LSEs – GULF POWER BAA

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lansing Smith CC	660	660	660	660	660	660	660	660	660	660
Crist	924	1862	1862	1862	1862	1862	1862	1862	1862	1862
Blue Indigo	75	75	75	75	75	75	75	75	75	75
Cotton Creek	--	75	75	75	75	75	75	75	75	75
Blue Spring	--	75	75	75	75	75	75	75	75	75

Table A5.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – GULF POWER BAA

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Daniel	500	500	500	500	500	500	500	500	500	500
Scherer	220	220	220	220	220	220	220	220	220	220
Central Alabama	885	885	--	--	--	--	--	--	--	--

Table A5.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – GULF POWER BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
BLUE INDIGO 0.6000	1	397041	BLUE INDIGO 0.6000	74.5
GP-IC621_PV 0.6000	1	397042	GP-IC621_PV 0.6000	74.5
GP-IC643_PV 0.6000	1	397043	GP-IC643_PV 0.6000	74.5
CRIST8-CTA 18.000	30	397440	CRIST8-CTA 18.000	235

Plant	Unit	Bus #	Bus Name	Pmax (MW)
CRIST8-CTB 18.000	30	397441	CRIST8-CTB 18.000	235
CRIST8-CTC 18.000	30	397442	CRIST8-CTC 18.000	235
CRIST8-CTD 18.000	30	397443	CRIST8-CTD 18.000	235
LSMITH A 13.800	A	397680	LSMITH A 13.800	32
LSMITH 3ST 18.000	3	397683	LSMITH 3ST 18.000	233
LSMITH 3A 18.000	3A	397684	LSMITH 3A 18.000	221
LSMITH 3B 18.000	3B	397685	LSMITH 3B 18.000	221
CRIST 4 13.800	4	397704	CRIST 4 13.800	79
CRIST 5 13.800	5	397705	CRIST 5 13.800	79
CRIST 6 24.000	6	397706	CRIST 6 24.000	310
CRIST 7 20.000	7	397707	CRIST 7 20.000	504

Appendix 6: 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 A6.1: 2020 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.)	--	--	6.5	--	--	--
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 A6.2: Interface commitments[1] modeled in the SERTP Summer Peak models – LG&E/KU BAA

To	2022	2025	2030
PJM	800.8	800.8	800.8
OVEC	-179	-179	-179
MISO	-309	-309	-309
Owensboro Municipal	0	25.6	25.6
TVA	-36	-36	-36
Total	276.8	302.4	302.4

[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 A6.3 below. Furthermore, supplemental information regarding noteworthy generation expansion and retirements/decertifications included in the 2020 series set of SERTP powerflow models is provided below while 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 2022 Version 2 Summer Peak powerflow model.

Table A6.3: Changes in Generation Assumptions Based Upon LSEs – LG&E/KU BAA

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

Table A6.4: Generation Assumptions Based Upon Expected Long-term, Firm Point-to-Point Commitments – LG&E/KU BAA

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Trimble County	324	324	324	324	324	324	324	324	324	324

Table A6.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – LG&E/KU BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Brown	3	324002	1BROWN 3 24.000	459
Brown	5	324003	1BROWN 5 13.800	131
Brown	6	324004	1BROWN 6 18.000	155
Brown	7	324005	1BROWN 7 18.000	154
Brown	8	324006	1BROWN 8 13.800	122
Brown	9	324007	1BROWN 9 13.800	122
Brown	10	324008	1BROWN 10 13.800	122
Brown	11	324009	1BROWN 11 13.800	122
Dix Dam	1	324014	1DIX DAM 1 13.200	10.5
Dix Dam	2	324015	1DIX DAM 2 13.200	10.5
Dix Dam	3	324016	1DIX DAM 3 13.200	10.5

Ghent	1	324017	1GHENT 1 18.000	526
Ghent	2	324018	1GHENT 2 22.000	530
Ghent	3	324019	1GHENT 3 22.000	538
Ghent	4	324020	1GHENT 4 22.000	538
Haefling	1	324023	1HAEFLING 13.800	13
Haefling	2	324023	1HAEFLING 13.800	13
Mill Creek	1	324024	1MILL CRK 1 22.000	333
Mill Creek	2	324025	1MILL CRK 2 22.000	336
Mill Creek	3	324026	1MILL CRK 3 22.000	425
Mill Creek	4	324027	1MILL CRK 4 22.000	526
Paddy's Run	13	324031	1PADDY RN 1316.000	152
Trimble County	1	324034	1TRIM CO 1 22.000	530
Trimble County	2	324035	1TRIM CO 2 24.000	781
Trimble County	5	324036	1TRIM CO 5 18.000	160.437
Trimble County	6	324037	1TRIM CO 6 18.000	171.255
Trimble County	7	324038	1TRIM CO 7 18.000	163.175
Trimble County	8	324039	1TRIM CO 8 18.000	160
Trimble County	9	324040	1TRIM CO 9 18.000	165.988
Trimble County	10	324041	1TRIM CO 10 18.000	163.753
Zorn	1	324043	2ZORN 69.000	14
Buckner (Bluegrass)	1	324044	1BLUEGRASS 118.000	166
Buckner (Bluegrass)	2	324045	1BLUEGRASS 218.000	166
Buckner (Bluegrass)	3	324046	1BLUEGRASS 318.000	166
Lock	1	324052	1LOCK 7 2.4000	2
Ohio Falls	1	324234	1OHIO FALL 114.000	9
Ohio Falls	2	324234	1OHIO FALL 114.000	9
Ohio Falls	3	324234	1OHIO FALL 114.000	9
Ohio Falls	4	324234	1OHIO FALL 114.000	9
Ohio Falls	5	324235	1OHIO FALL 214.000	9
Ohio Falls	6	324235	1OHIO FALL 214.000	9
Ohio Falls	7	324235	1OHIO FALL 214.000	9

Ohio Falls	8	324235	1OHIO FALL 214.000	9
Paris	1	324677	2PARIS 12 69.000	11.27
Paducah	2	324697	1KMPA PAD2 13.800	54
Paducah	1	324933	1KMPA PAD1 13.800	54
Brown	S1	325012	1BROWN SOLAR13.200	10
Cane Run	71	325093	1CANERUN7CT118.000	231.5
Cane Run	72	325094	1CANERUN7CT218.000	231.5
Cane Run	7S	325095	1CANERUN7ST 18.000	235
Paddy's Run	11	326514	1PADDY RN 1114.000	12
Paddy's Run	12	326515	1PADDY RN 1214.000	23
EKPC Office	P1	326541	2EKPC OFFICE69.000	8.5

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: 2020 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.)	21	--	--	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	46	--	--	40	--	--
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 A7.2: Interface commitments[1] modeled in the SERTP Summer Peak models – PowerSouth BAA

To	2022	2025	2030
Southern	140	300	329.6
Total	140	300	329.6

[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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

Table A7.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – PowerSouth BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Point A	H	317071	1POINTA_HYD 4.1600	8
Vann	1	317701	1VANN 1G 18.000	166
Vann	2	317702	1VANN 2G 18.000	166
Vann	3	317703	1VANN 3G 18.000	174
Lowman	2	317712	1LOWMAN2G 22.000	235
Lowman	3	317713	1LOWMAN3G 22.000	238
McIntosh	1	317721	1MCNTSH1G 13.800	110
McIntosh	2	317722	1MCNTSH2G 13.200	114
McIntosh	3	317723	1MCNTSH3G 13.200	114
McWilliams	1	317731	1MCWLMS1G 4.1600	9
McWilliams	2	317732	1MCWLMS2G 4.1600	9
McWilliams	3	317733	1MCWLMS3G 13.800	17
McWilliams	4	317734	1MCWLMS4G 13.800	114

McIntosh	4	317754	1MCNTSH4G	13.200	173
McIntosh	5	317755	1MCNTSH5G	13.200	173

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: 2020 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.)	139.8	--	1.0	113.0	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	562.7	--	37.0	235.6	--	--
Transformers[2] – New	--	--	--	11	--	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	2022	2025	2030
Duke Carolinas	82	44	44
SCE&G	0	0	0
SCPSA	-50	-50	-50
TVA	-53.7	-48.1	-48.1
SEPA	-625	-625	-625
MISO	-69.2	-134.1	-134.1
PowerSouth	-140	-300	-300
Florida	824	774	774
Total	-31.9	-339.2	-339.2

[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 2020 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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gaston 1-4	465	465	465	515	515	515	515	515	515	515
Lansing Smith	--	--	--	230	230	230	230	230	230	230
North Escambia	--	--	--	610	610	610	610	610	610	610
Vogtle 3	504	504	504	504	504	504	504	504	504	504
Vogtle 4	--	504	504	504	504	504	504	504	504	504
Yates 6-7	649	649	649	714	714	714	714	714	714	714
Barry	--	--	685	685	685	685	685	685	685	685
Farley	1775	1799	1799	1799	1799	1799	1799	1799	1799	1799
Lansing Smith CC	593	593	593	593	593	593	593	593	593	593
Cool Springs	--	213	213	213	213	213	213	213	213	213
Broken Spoke	--	195	195	195	195	195	195	195	195	195
Quitman	--	150	150	150	150	150	150	150	150	150

[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	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Vogtle 3	330	330	330	330	330	330	330	330	330	330
Vogtle 4	--	330	330	330	330	330	330	330	330	330

Snipesville 1	86	86	86	86	86	86	86	86	86	86
Snipesville 2	--	107	107	107	107	107	107	107	107	107
Baxley	25	25	25	25	25	25	25	25	25	25
Terrell County	74	74	74	74	74	74	74	74	74	74
SR Desoto	--	250	250	250	250	250	250	250	250	250
SR Perry	--	68	68	68	68	68	68	68	68	68
SR Lumpkin	--	--	100	100	100	100	100	100	100	100
Lancaster	--	80	80	80	80	80	80	80	80	80
Odom	20	20	20	20	20	20	20	20	20	20
Sandhill	143	143	143	143	143	143	143	143	143	143

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Voglte 3	250	250	250	250	250	250	250	250	250	250
Voglte 4	--	250	250	250	250	250	250	250	250	250

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Voglte 3	19	19	19	19	19	19	19	19	19	19
Voglte 4	--	19	19	19	19	19	19	19	19	19

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Bowen	159	159	159	159	159	159	159	159	159	159
Central Alabama	885	885	890	890	890	890	890	890	890	890
DAHLBERG	494	494	494	494	494	494	494	494	494	494
Daniel	650	650	650	600	600	600	600	600	600	600
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	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131
Vogtle	206	206	206	206	206	206	206	206	206	206

Table A8.8: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – Southern BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Jeffersonville	S1	380813	3JEFFERSONVL115.00	20
Decatur County Industrial	S1	381031	3DEC CO IND 115.00	19
Spring Branch	S1	381493	3SPRING BRN 115.00	27.4
East Berlin	S1	381888	6E BERLIN 230.00	20
Decatur Solar	S1	383401	1DEC PKY SLR34.500	79.9
Old Midville Solar	S1	383402	3MIDVIL SLR 115.00	20
LIVEOAK SOLAR	S1	383403	1LIVEOAK SLR34.500	51
White Oak Solar	S1	383404	1WHT OAK SLR34.500	76.5
White Pine Solar	S1	383405	1WH PINE SLR34.500	101.3
Bulter Solar	S1	383406	1BUTLER SLR 34.500	100
Paw Solar	S1	383407	6PAW PAW SLR230.00	30
Fall Line Solar	S1	383408	3FALL LN SLR115.00	20
Sandhills Solar	S1	383409	1SANDHLS SLR34.500	143
Fort Benning Solar	S1	383411	3BENNING SLR115.00	30
Gordon Solar	S1	383412	1GORDON SLR 34.500	30
Stewart Solar	S1	383413	1STEWART SLR34.500	30
Kingsbay Solar	B1	383414	1KNGSBAY SLR34.500	1.3
Kingsbay Solar	S1	383414	1KNGSBAY SLR34.500	30
Mclb Solar	S1	383415	1MCLB SOLAR 34.500	31
Robins Solar	S1	383416	1RAFB SLR 34.500	133
Moody Air Force Solar	S1	383417	1MAFB SLR 34.500	46
Rincon Solar	S1	383422	1RINCON SLR 34.500	16
Camilla Solar	S1	383425	6CAMILLA SLR230.00	16
Hazlehurst Solar	S1	383427	1HAZLEH2 SLR34.500	52.5

Hazelhurst Solar	S1	383428	3HAZLE I SLR115.00	20
Hazelhurst Solar	S1	383429	1HAZLEH3 SLR34.500	40.8
Thrill Hill Solar	S1	383430	1TERRELL SLR34.500	83.1
Dougherty Solar	S1	383433	1DOUGH PV 34.500	130
Arlington Solar	S1	383434	1ARLINGTN PV34.500	123
Lancaster Solar	S1	383435	1LANCSTR SLR34.500	80
Clay Solar	S1	383438	1SR CLAY 34.500	106
Perry Solar	S1	383439	1SR PERRY 34.500	70
Southern Oak Solar (Camilla II)	S1	383440	1SO OAK PV 134.500	160
Twiggs Solar	S1	383443	1TWIGGS SLR 34.500	200
Quitman Solar	S1	383444	1QUITMAN1 PV34.500	150
Tanglewood Solar	S1	383446	1TANGLE SLR 34.500	60
Quitman II Solar	S1	383449	1QUITMAN2 PV34.500	150
Turkey Run Solar	S1	383450	1TRKY RUN PV34.500	195.5
Cool Springs Solar	S1	383452	1COOL SPR PV34.500	213
Tristate Solar	S1	383453	1TRISTATE PV34.500	189
Sonny Solar	S1	383454	1SONNY PV 34.500	40.75
Bird Dog Solar	S1	383455	1BIRD DOG PV34.500	40.7
Bulldog Solar	S1	383456	1BULLDOG PV 34.500	81.6
Snipesville Solar	S1	383471	1SR SNPSVL 134.500	86
Snipesville Solar II	S1	383472	1SR SNPSVL 234.500	107
Cedar Springs Solar	S1	383474	1SR CEDAR SP34.500	70
Desoto Solar	S1	383475	1DESOTO PV 34.500	250
Alb Green	1	383480	1ALB GRN NRG13.800	50
GRP Franklin Bio	1	383481	1GRP FRK BIO13.800	65
GRP Madison Bio	1	383486	1GRP MAD BIO13.800	65
Pine Ridge	1	383497	1PINE RIDGE 24.950	8.2
Richland Creek	1	383498	1RICHLD CK 4.2000	10.6
Morgan Falls Dam	1	383500	1MORGAN F 4.2000	10.4
Lloyd Shoals Dam	1	383501	1LLOYD SHL 2.3000	19.6

Carters Dam	1	383502	1CARTERSDAM113.800	148
Carters Dam	2	383503	1CARTERSDAM213.800	148
Carters Dam	3	383504	1CARTERSDAM313.800	148
Carters Dam	4	383505	1CARTERSDAM413.800	148
Allatoona Dam	1	383506	1ALLA DAM 13.800	72
West Point Dam	1	383508	1W PT DAM 13.800	87
Buford Dam	1	383509	1BUF DAM 1+313.800	60.1
Buford Dam	3	383509	1BUF DAM 1+313.800	6.8
Buford Dam	2	383510	1BUF DAM 2 13.800	60.1
Rocky Mountain	1	383511	1ROCKY MTN 120.000	346.3
Rocky Mountain	2	383512	1ROCKY MTN 220.000	346.3
Rocky Mountain	3	383513	1ROCKY MTN 320.000	346.3
Bartletts Ferry Dam	1	383514	1BARTLFY1 12.000	15.2
Bartletts Ferry Dam	2	383515	1BARTLFY2 12.000	15.2
Bartletts Ferry Dam	3	383516	1BARTLFY3 12.000	15.2
Bartletts Ferry Dam	4	383517	1BARTLFY4 6.9000	20.3
Bartletts Ferry Dam	5	383518	1BARTLFY6 13.800	54.7
Bartletts Ferry Dam	6	383518	1BARTLFY6 13.800	54.7
Goat Rock Dam	3	383520	1GOATROCK 12.000	5
Goat Rock Dam	4	383520	1GOATROCK 12.000	5
Goat Rock Dam	7	383520	1GOATROCK 12.000	9.3
Goat Rock Dam	8	383520	1GOATROCK 12.000	9.3
Goat Rock Dam	5	383521	1GOATRK 56 4.2000	5
Goat Rock Dam	6	383521	1GOATRK 56 4.2000	5
Oliver Dam	1	383522	1OLIVER 1 7.2000	17.7
Oliver Dam	2	383523	1OLIVER 2 7.6000	17.7
Oliver Dam	3	383524	1OLIVER 3-4 7.6000	17.7
Oliver Dam	4	383524	1OLIVER 3-4 7.6000	6
North Highlands Dam	1	383525	1N HIGHLAND 12.000	34.4
Terrora Dam	1	383530	1TERRORA 6.6000	14.5
Tugalo Dam	1	383532	1TUGALO 1-2 6.6000	11

Tugalo Dam	3	383533	1TUGALO 3-4 6.6000	22.1
Yonah Dam	1	383534	1YONAH 6.6000	25.4
Wallace Dam	1	383536	1WALLACE 1-314.400	50.7
Wallace Dam	2	383536	1WALLACE 1-314.400	50.7
Wallace Dam	3	383536	1WALLACE 1-314.400	54.6
Wallace Dam	4	383537	1WALLACE 4-614.400	54.6
Wallace Dam	5	383537	1WALLACE 4-614.400	50.7
Wallace Dam	6	383537	1WALLACE 4-614.400	50.7
Flint River Dam	1	383538	1FLINT HYDRO2.3000	6.5
Crisp Co. Dam	1	383541	1CRISPCO1 6.6000	23
Tallulah Falls Dam	1	383542	1TALLULAH 1 6.6000	11.4
Tallulah Falls Dam	2	383543	1TALLULAH 2 6.6000	11.4
Tallulah Falls Dam	3	383544	1TALLULAH 3 6.6000	11.4
Tallulah Falls Dam	4	383545	1TALLULAH 4 6.6000	11.4
Tallulah Falls Dam	5	383546	1TALLULAH 5 6.6000	11.4
Tallulah Falls Dam	6	383547	1TALLULAH 6 6.6000	11.4
Sinclair Dam	1	383548	1SINCLAIR 1 6.9000	19.3
Sinclair Dam	2	383549	1SINCLAIR 2 6.9000	19.3
George Dam	1	383551	1GEORGE 1 13.800	40.5
George Dam	2	383552	1GEORGE 2 13.800	79.6
George Dam	3	383553	1GEORGE 3 13.800	40.5
George Dam	4	383554	1GEORGE 4 13.800	40.5
McDonough	3B	383600	1MCDON 3B 13.800	40
T.A. Smith I	1	383604	1TA SMITH 1S18.000	322.5
T.A. Smith I	1A	383605	1TA SMITH 1A18.000	162.3
T.A. Smith I	1B	383606	1TA SMITH 1B18.000	162.3
T.A. Smith II	2	383607	1TA SMITH 2S18.000	322.5
T.A. Smith II	2A	383608	1TA SMITH 2A18.000	162.3
T.A. Smith II	2B	383609	1TA SMITH 2B18.000	162.3
Wansley	5A	383620	1WANSLEY 5A 13.800	49
Wansley	1	383621	1WANSLEY 1 18.000	879.5

Wansley	2	383622	1WANSLEY 2 18.000	879.5
Wansley	6	383623	1WANSLEY 6ST18.000	225
Wansley	6A	383624	1WANSLEY 6A 18.000	184
Wansley	6B	383625	1WANSLEY 6B 18.000	184
Wansley	7	383626	1WANSLEY 7ST18.000	226.1
Wansley	7A	383627	1WANSLEY 7A 18.000	183
Wansley	7B	383628	1WANSLEY 7B 18.000	183
Wansley	1	383629	1WANSLEY 9ST18.000	202.6
Wansley	1A	383630	1WANSLEY 9A 18.000	145.4
Wansley	1B	383631	1WANSLEY 9B 18.000	145.4
Chattahoochee Energy	1	383632	1CHAT EN 1ST18.000	167
Chattahoochee Energy	1A	383633	1CHAT EN 1A 18.000	150.3
Chattahoochee Energy	1B	383634	1CHAT EN 1B 18.000	152.2
Yates	6	383646	1YATES 6 22.000	355.5
Yates	7	383647	1YATES 7 22.000	358.5
Dahlberg	1	383661	1DAHLBERG 1 13.800	75
Dahlberg	2	383662	1DAHLBERG 2 13.800	74
Dahlberg	3	383663	1DAHLBERG 3 13.800	75
Dahlberg	4	383664	1DAHLBERG 4 13.800	73.2
Dahlberg	5	383665	1DAHLBERG 5 13.800	75
Dahlberg	6	383666	1DAHLBERG 6 13.800	74.9
Dahlberg	7	383667	1DAHLBERG 7 13.800	75
Dahlberg	8	383668	1DAHLBERG 8 13.800	74
Dahlberg	9	383669	1DAHLBERG 9 13.800	75
Dahlberg	10	383670	1DAHLBERG 1013.800	75.2
Franklin	1	383671	1FRANKLIN1ST18.000	221
Franklin	1A	383672	1FRANKLIN 1A18.000	187
Franklin	1B	383673	1FRANKLIN 1B18.000	187
Franklin	2	383674	1FRANKLIN2ST21.000	282.4
Franklin	2A	383675	1FRANKLIN 2A18.000	183.1
Franklin	2B	383676	1FRANKLIN 2B18.000	183.1

Franklin	3	383677	1FRANKLIN3ST21.000	277
Franklin	3A	383678	1FRANKLIN 3A18.000	174
Franklin	3B	383679	1FRANKLIN 3B18.000	174
Calhoun	4	383680	1CALHOUN GEN13.800	20
Scherer	1	383681	1SCHERER 1 25.000	881.0001
Scherer	2	383682	1SCHERER 2 25.000	881.0001
Scherer	3	383683	1SCHERER 3 25.000	881.0001
Scherer	4	383684	1SCHERER 4 25.000	881.0001
Mid Georgia	1	383711	1MID GA 1ST 13.800	96
Mid Georgia	1A	383712	1MID GA 1A 13.800	102
Mid Georgia	1B	383713	1MID GA 1B 13.800	102
Rumble Road	1	383721	1RMBL CT1 13.800	94
Rumble Road	2	383722	1RMBL CT2 13.800	94
Robins Air Force Base	A	383741	1RAFB CT A 13.800	80
Robins Air Force Base	B	383742	1RAFB CT B 13.800	80
Warthen	1	383743	1WARTHEN 1 13.800	69
Warthen	2	383744	1WARTHEN 2 13.800	69
Warthen	3	383745	1WARTHEN 3 13.800	69
Warthen	4	383746	1WARTHEN 4 13.800	69
Warthen	5	383747	1WARTHEN 5 13.800	69
Warthen	6	383748	1WARTHEN 6 13.800	69
Warthen	7	383749	1WARTHEN 7 13.800	69
Warthen	8	383750	1WARTHEN 8 13.800	69
Vogtle	1	383751	1VOGTLE1 25.000	1158
Vogtle	2	383752	1VOGTLE2 25.000	1160.1
Vogtle	3	383753	1VOGTLE3 26.000	1114
Vogtle	4	383754	1VOGTLE4 26.000	1114
Wilson	A	383761	1WILSON A 13.800	41
Wilson	B	383762	1WILSON B 13.800	56
Wilson	C	383763	1WILSON C 13.800	49
Wilson	D	383764	1WILSON D 13.800	41

Wilson	E	383765	1WILSON E 13.800	54
Wilson	F	383766	1WILSON F 13.800	54
Rabun Gap	1	383775	1RABUN BIO 13.800	18
Piedmont	1	383777	1PIEDMNT BIO13.800	55
Flint Biomass	1	383786	1FLINT BIO 13.800	42
Flint Biomass	2	383786	1FLINT BIO 13.800	38.3
Dublin Biomass 1	1	383787	1DUBLIN B1 12.500	41
SOWEGA	1	383791	1BACNTN 1 13.800	49
SOWEGA	2	383792	1BACNTN 2 13.800	49
Simon	S1	383798	1SSFGEN 34.500	30
SOWEGA	3	383802	1BACNTN 3 13.800	46
SOWEGA	4	383803	1BACNTN 4 13.800	47
SOWEGA	5	383804	1BACNTN 5 13.800	47
SOWEGA	6	383805	1BACNTN 6 13.800	47
Hatch	1	383811	1HATCH 1 24.000	880.2
Hatch	2	383812	1HATCH 2 24.000	889.7
McManus	4A	383821	1MCMANUS 4A 13.800	46
McManus	4B	383822	1MCMANUS 4B 13.800	46
McManus	4C	383823	1MCMANUS 4C 13.800	46
McManus	4D	383824	1MCMANUS 4D 13.800	46
McManus	4E	383825	1MCMANUS 4E 13.800	46
McManus	4F	383826	1MCMANUS 4F 13.800	46
McManus	3A	383833	1MCMANUS 3A 13.800	46
McManus	3B	383834	1MCMANUS 3B 13.800	46
McManus	3C	383835	1MCMANUS 3C 13.800	46
Bowen	1	383841	1BOWEN 1 25.000	728
Bowen	2	383842	1BOWEN 2 25.000	736.5
Bowen	3	383843	1BOWEN 3 18.000	897
Bowen	4	383844	1BOWEN 4 18.000	904.5
Sewell Creek	21	383851	1SEWCRK 21 13.800	130
Sewell Creek	22	383852	1SEWCRK 22 13.800	132

Sewell Creek	11	383853	1SEWCRK 11 13.800	94
Sewell Creek	12	383854	1SEWCRK 12 13.800	93
Tiger Creek	1	383855	1TIGER CK1 18.000	157.9
Tiger Creek	2	383856	1TIGER CK2 18.000	157
Tiger Creek	3	383857	1TIGER CK3 18.000	157
Tiger Creek	4	383858	1TIGER CK4 18.000	156.6
Monroe Power	1	383860	1MONROEPWR 113.800	160
Monroe Power	2	383861	1MONROEPWR 213.800	160
LG&E Monroe	1	383862	1LGEMONROE1 16.000	160
LG&E Monroe	2	383863	1LGEMONROE2 16.000	160
LG&E Monroe	3	383864	1LGEMONROE3 16.000	160
Effingham	1	383867	1EFFHAM 1ST 18.000	182
Effingham	1A	383868	1EFFHAM 1A 18.000	159
Effingham	1B	383869	1EFFHAM 1B 18.000	159
Doyle	1	383871	1DOYLE 1 14.400	61
Doyle	2	383872	1DOYLE 2 13.800	62
Doyle	3	383873	1DOYLE 3 13.800	62
Doyle	4	383874	1DOYLE 4 13.800	75
Doyle	5	383875	1DOYLE 5 13.800	75
McDonough	4	383878	1MCDON 4ST 18.000	315.5
McDonough	4A	383879	1MCDON 4A 21.000	252.8
McDonough	4B	383880	1MCDON 4B 21.000	252.8
OPC Hartwell	1	383881	1OPCHWE 1 13.800	150
OPC Hartwell	2	383882	1OPCHWE 2 13.800	149
McDonough	6	383883	1MCDON 6ST 18.000	344
McDonough	6A	383884	1MCDON 6A 21.000	243
McDonough	6B	383885	1MCDON 6B 21.000	243
McDonough	3A	383886	1MCDON 3A 13.800	40
MS Bainbridge	1	383890	1MSBAINBR 13.800	78

Addison	1	383901	1ADDISON 1 18.000	148.6
Addison	2	383902	1ADDISON 2 18.000	148.6
Addison	3	383903	1ADDISON 3 18.000	150.5
Addison	4	383904	1ADDISON 4 18.000	150
Walton Discover	1	383905	1WALT DISC 113.800	50
Walton Discover	2	383906	1WALT DISC 213.800	50
Talbot County	1	383911	1TALBOT 1 13.800	98
Talbot County	2	383912	1TALBOT 2 13.800	98
Talbot County	3	383913	1TALBOT 3 13.800	94.7
Talbot County	4	383914	1TALBOT 4 13.800	96.9
Talbot County	5	383915	1TALBOT 5 13.800	98
Talbot County	6	383916	1TALBOT 6 13.800	98
Tenaska - Heard County	1	383921	1TENSKA GA 118.000	157.5
Tenaska - Heard County	2	383922	1TENSKA GA 218.000	157.5
Tenaska - Heard County	3	383923	1TENSKA GA 318.000	157.5
Tenaska - Heard County	4	383924	1TENSKA GA 418.000	157.5
Tenaska - Heard County	5	383925	1TENSKA GA 518.000	157.5
Tenaska - Heard County	6	383926	1TENSKA GA 618.000	157.5
Hawk Road	1	383927	1HAWK RD 1 18.000	166.5
Hawk Road	2	383928	1HAWK RD 2 18.000	166.5
Hawk Road	3	383929	1HAWK RD 3 18.000	166.5
McDonough	5	383961	1MCDON 5ST 18.000	339
McDonough	5A	383962	1MCDON 5A 21.000	244
McDonough	5B	383963	1MCDON 5B 21.000	244
Smith Dam	1	384142	1SMITH GN 13.800	82.5
Smith Dam	2	384142	1SMITH GN 13.800	82.5
Holt Dam	1	384355	1HOLT GEN 13.800	45
Bankhead Dam	1	384357	1BANK GEN 13.800	52
Yates Dam	1	384448	1YATE GEN 6.9000	46
RF Henry Dam	1	385401	1RF HENRY 1313.800	82
Millers Ferry Dam	1	385402	1MILERSFY1 13.800	30

Millers Ferry Dam	2	385403	1MILERSFY2 13.800	30
Millers Ferry Dam	3	385404	1MILERSFY3 13.800	30
Black Bear Solar	S1	386031	1BLK BR SLR 34.500	100
Fort Rucker Solar	S1	386034	3RUCKER SLR 115.00	10.6
Anniston Army Solar	S1	386035	3ANAD SLR 115.00	11
AMEA Sylacauga	1	386036	1AMEA CT1 13.800	47.5
AMEA Sylacauga	2	386037	1AMEA CT2 13.800	47.5
Origis Solar	S1	386046	1ORIGIS SPR 34.500	80
Anniston Solar	B1	386050	1ANSTN SLR G34.500	80
Annsiton Solar	S1	386050	1ANSTN SLR G34.500	80
Calhoun	1	386061	1CALHOUNCT1 18.000	158
Calhoun	2	386062	1CALHOUNCT2 18.000	158
Calhoun	3	386063	1CALHOUNCT3 18.000	158
Calhoun	4	386064	1CALHOUNCT4 18.000	158
Washington County	1	386081	1WASH CO 1 13.800	22.8
Washington County	1A	386082	1WASH CO 2 13.800	77.9
Lowndes County	1	386083	1LOWDN CO1 13.800	13
Lowndes County	1A	386084	1LOWDN CO2 13.800	79
Theodore	1	386085	1THEO 1 13.800	64
Theodore	1A	386086	1THEO A 18.000	167
Hog Bayou	1	386089	1HOGBAYOU 1 13.800	75
Hog Bayou	1A	386090	1HOGBAYOU1A 18.000	150
Miller	1	386401	1MILLER 1 24.000	698.3
Miller	2	386402	1MILLER 2 24.000	704.4
Miller	3	386403	1MILLER 3 24.000	696
Miller	4	386404	1MILLER 4 24.000	708
Gaston	1	386411	1GASTON 1 15.000	127
Gaston	1L	386411	1GASTON 1 15.000	127
Gaston	2	386412	1GASTON 2 15.000	129.5
Gaston	2L	386412	1GASTON 2 15.000	129.5
Gaston	3	386413	1GASTON 3 15.000	130

Gaston	3L	386413	1GASTON 3 15.000	130
Gaston	4	386414	1GASTON 4 15.000	128
Gaston	4L	386414	1GASTON 4 15.000	128
Gaston	5	386415	1GASTON 5 18.000	885.4999
Gaston	A	386416	1GASTON A 13.800	16
Gadsden	1	386421	1GADSDEN1 13.800	64
Gadsden	2	386422	1GADSDEN2 13.800	66
Lindsay Hill	1	386423	1LHILL 1ST 22.000	361
Lindsay Hill	1A	386424	1LHILL 1A 18.000	163
Lindsay Hill	1B	386425	1LHILL 1B 18.000	163
Lindsay Hill	1C	386426	1LHILL 1C 18.000	163
Central Alabama	2	386427	1CENTAL 2ST 22.000	393
Central Alabama	2A	386428	1CENTAL 2A 18.000	165.7
Central Alabama	2B	386429	1CENTAL 2B 18.000	165.7
Central Alabama	2C	386430	1CENTAL 2C 18.000	165.7
Hillabee	1	386437	1HILL ST1 23.000	300
Hillabee	1A	386438	1HILLCT1A 16.000	250
Hillabee	1B	386439	1HILLCT1B 16.000	250
Greene County	1	386441	1GREENE CO 120.000	265.8
Greene County	2	386442	1GREENE CO 220.000	266.3
Greene County	A	386450	1GREENCOA 13.800	84
Greene County	B	386451	1GREENCOB 13.800	82
Greene County	C	386452	1GREENCOC 13.800	81
Greene County	D	386453	1GREENCOD 13.800	82
Greene County	E	386454	1GREENCOE 13.800	81
Greene County	F	386455	1GREENCOF 13.800	80
Greene County	G	386456	1GREENCOG 13.800	83
Greene County	H	386457	1GREENCOH 13.800	82
Greene County	I	386458	1GREENCOI 13.800	85
Farley	1	386461	1FARLEY 1 22.000	920.2
Farley	2	386462	1FARLEY 2 22.000	923.8

Barry	1	386471	1BARRY 1 18.000	138
Barry	2	386472	1BARRY 2 18.000	137
Barry	4	386474	1BARRY 4 22.000	362
Barry	5	386475	1BARRY 5 26.000	792
Barry	6	386476	1BARRY 6ST 18.000	191
Barry	6A	386477	1BARRY 6A 18.000	187
Barry	6B	386478	1BARRY 6B 18.000	187
Barry	7	386479	1BARRY 7ST 18.000	193
Barry	7A	386480	1BARRY 7A 18.000	189
Barry	7B	386481	1BARRY 7B 18.000	189
Harris	1	386491	1HARRIS 1ST 21.000	294
Harris	1A	386492	1HARRIS 1A 18.000	174
Harris	1B	386493	1HARRIS 1B 18.000	174
Harris	2	386494	1HARRIS 2ST 21.000	286
Harris	2A	386495	1HARRIS 2A 18.000	185
Harris	2B	386496	1HARRIS 2B 18.000	185
Henry Dam	1	386501	1HENRYGEN 11.500	62
Weiss Dam	1	386511	1WEISSGEN 11.500	71
Martin Dam	1	386521	1LMARTGEN 13.800	120
Harris Dam	1	386531	1HARISGEN 13.800	62
Harris Dam	2	386531	1HARISGEN 13.800	62
Lay Dam	1	386541	1LAY1-3GN 11.500	87
Lay Dam	4	386544	1LAY4-6GN 11.500	87
Martin Dam	1	386551	1MART1GEN 12.000	45.2
Martin Dam	2	386552	1MART2GEN 12.000	38
Martin Dam	3	386553	1MART3GEN 12.000	38
Martin Dam	4	386554	1MART4GEN 12.000	56.8
Jordan Dam	1	386561	1JORD1GEN 12.000	56
Jordan Dam	3	386563	1JORD3GEN 12.000	56
Mitchell Dam	4	386574	1MITC4GEN 6.6000	19
Mitchell Dam	5	386575	1MITC5GEN 13.800	48

Mitchell Dam	6	386575	1MITC5GEN 13.800	48
Mitchell Dam	7	386575	1MITC5GEN 13.800	48
Bouldin Dam	1	386581	1BOULD1GN 13.800	75.3
Bouldin Dam	2	386582	1BOULD2GN 13.800	75.3
Bouldin Dam	3	386583	1BOULD3GN 13.800	75.3
Thurlgen	1	386591	1THURLGEN 13.800	69.4
Thurlgen	3	386591	1THURLGEN 13.800	10
Sweatt	A	386800	1SWEATT A 13.800	32
Chevron	1	386831	1CHEVRON1 13.200	15
Chevron	2	386832	1CHEVRON2 13.200	15
Chevron	3	386833	1CHEVRON3 13.200	16
Chevron	4	386834	1CHEVRON4 13.200	16
Chevron	5	386835	1CHEVRON5 13.800	70
Watson	A	386850	1WATSON A 13.800	33
Watson	4	386854	1WATSON 4 20.000	268
Watson	5	386855	1WATSON 5 24.000	516
Daniel	1	386871	1DANIEL 1 18.000	510
Daniel	2	386872	1DANIEL 2 18.000	510
Daniel	3	386873	1DANIEL 3ST 18.000	198.6
Daniel	3A	386874	1DANIEL 3A 18.000	169.7
Daniel	3B	386875	1DANIEL 3B 18.000	169.7
Daniel	4	386876	1DANIEL 4ST 18.000	201.6
Daniel	4A	386877	1DANIEL 4A 18.000	177.7
Daniel	4B	386878	1DANIEL 4B 18.000	177.7
Origis Solar	S1	386887	1ORIGIS SLR 34.500	52
Hattiesburg Solar	S1	386888	1HATTIESB SL34.500	50.8
Lauderdale East Solar	S1	386889	1LAUDR E SLR34.500	55
Ratcliffe	1	386891	1RATCLF1ST_N18.000	307
Ratcliffe	1A	386892	1RATCLF1A_N 18.000	221
Ratcliffe	1B	386893	1RATCLF1B_N 18.000	221
Boulevard	1	389017	1BLVD1 13.800	14

McIntosh	1	389122	1MCINCT-1 13.800	82.2
McIntosh	2	389123	1MCINCT-2 13.800	82.2
McIntosh	3	389124	1MCINCT-3 13.800	82.2
McIntosh	4	389125	1MCINCT-4 13.800	82.2
McIntosh	5	389126	1MCINCT-5 13.800	82.2
McIntosh	6	389127	1MCINCT-6 13.800	82.2
McIntosh	7	389128	1MCINCT-7 13.800	82.2
McIntosh	8	389129	1MCINCT-8 13.800	82.2
McIntosh	10	389131	1MCINT 10ST 21.000	275
McIntosh	1A	389132	1MCINT 10A 21.000	193
McIntosh	1B	389133	1MCINT 10B 21.000	193
McIntosh	11	389134	1MCINT 11ST 21.000	275
McIntosh	1A	389135	1MCINT 11A 21.000	193
McIntosh	1B	389136	1MCINT 11B 21.000	193
Weyerhauser Biomass	1	389199	1WEYERPW BIO13.800	40
Weyerhauser Biomass	2	389199	1WEYERPW BIO13.800	25

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: 2020 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.)	--	--	139.0	--	--	--
Transmission Lines – Uprates[1] (Circuit Mi.)	--	--	90.7	--	--	--
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 A9.2: Interface commitments[1] modeled in the SERTP Summer Peak models – TVA BAA

To	2020	2022	2024	2025	2027	2029
PJM	-400	-400	-400	-400	-400	-400
MISO	1018	1018	1018	1018	1018	1018
Duke Progress West	14	14	14	14	14	14
Southern	58	53	49	47	45	44
LG&E/KU	36	36	36	36	36	36
Brookfield/Smoky Mountain	-99	-99	-99	-99	-99	-99
APGI-Tapoco	91	91	91	91	91	91
SPP	-80	-80	-80	-80	-80	-80
Owensboro Municipal	25	25	25	25	25	25
Total	663	658	654	652	650	649

[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 2020 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 2022 Version 2 Summer Peak powerflow model.

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Watts Bar Nuc 2	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245
Decatur E.C. CT1	184	184	184	184	184	184	184	184	184	184
Decatur E.C. CT2	184	184	184	184	184	184	184	184	184	184
Decatur E.C. CT3	184	184	184	184	184	184	184	184	184	184
Decatur E.C. STG	296	296	296	296	296	296	296	296	296	296
NextEra Elora	0	150	150	150	150	150	150	150	150	150
Invenergy Yum Yum	0	147	147	147	147	147	147	147	147	147
NextEra Bellefonte	0	150	150	150	150	150	150	150	150	150
Horus Kentucky	0	0	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
Skyhawk Solar	0	0	100	100	100	100	100	100	100	100
McKellar	0	0	70	70	70	70	70	70	70	70
Golden Triangle Solar	0	0	200	200	200	200	200	200	200	200
Bell Buckle, LLC	0	0	35	35	35	35	35	35	35	35
Ridgely Solar	0	0	177	177	177	177	177	177	177	177

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

Site	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None										

Table A9.5: Generating Units Modeled in the 2022 Version 2 Summer Peak Powerflow Model – TVA BAA

Plant	Unit	Bus #	Bus Name	Pmax (MW)
Browns Ferry Nuclear	1	364001	1BR FERRY N122.000	1297.6
Browns Ferry Nuclear	1	364002	1BR FERRY N222.000	1299.4
Browns Ferry Nuclear	1	364003	1BR FERRY N322.000	1302.5
Sequoyah Nuclear	1	364011	1SEQUOYAH N124.000	1200.24
Sequoyah Nuclear	1	364012	1SEQUOYAH N224.000	1187.24
Watts Bar Nuclear	1	364021	1WBNP N1 24.000	1241.1
Watts Bar Nuclear	2	364022	1WBNP N2 24.000	1264.89
Latitude Solar	1	364048	1LATIT SOLAR13.000	15
Providence Solar	1	364049	0PROV SOLAR 0.8000	16.1
Selmer Solar	1	364050	0SELMER SOLR0.2000	17
Mulberry Solar	1	364053	0MULB SOLAR 0.2000	17
River Bend Solar	1	364054	0RIVER BEND 0.5500	75
Millington Solar	1	364055	0MILNGTN SOL0.6900	53
Wildberry Solar	1	364056	0WILDBRY SOL0.8000	17
Muscle Shoals Solar	1	364057	0MUS SHL SLR0.6000	228.5
Elora Solar	1	364058	0ELORA SOLAR0.5500	150
Yum Yum Solar	1	364059	0YUM YUM SOL0.5500	147
Bellefonte Solar	1	364060	0BELEFNT SOL0.5500	150
Ardmore Solar	1	364063	0ARDMORE SOL0.6500	15.7
North Selmer Solar	1	364064	0SELMER NOR10.3900	16.1
North Selmer Solar	1	364065	0SELMER NOR20.3900	8.5
Bull Run Steam	1	364109	1BULLRUN F1H24.000	463.6
Bull Run Steam	1	364110	1BULLRUN F1L24.000	465.7
Cumberland Steam	1	364119	1CUMBRL F1HL22.000	662.5
Cumberland Steam	2	364119	1CUMBRL F1HL22.000	662.5
Cumberland Steam	1	364120	1CUMBRL F2HL22.000	667.5
Cumberland Steam	2	364120	1CUMBRL F2HL22.000	656.5
Gallatin Steam	1	364121	1GALLATIN F124.000	240
Gallatin Steam	1	364122	1GALLATIN F224.000	240

Gallatin Steam	1	364123	1GALLATIN F324.000	281
Gallatin Steam	1	364124	1GALLATIN F424.000	281
Kingston Steam	1	364155	1KINGSTON F520.000	190
Kingston Steam	1	364156	1KINGSTON F620.000	190
Kingston Steam	1	364159	1KINGSTON F920.000	203.6
Shawnee Steam	1	364171	1SHAWNEE F1 18.000	143
Shawnee Steam	1	364172	1SHAWNEE F2 18.000	143
Shawnee Steam	1	364173	1SHAWNEE F3 18.000	143
Shawnee Steam	1	364174	1SHAWNEE F4 18.000	143
Shawnee Steam	1	364175	1SHAWNEE F5 18.000	143
Shawnee Steam	1	364176	1SHAWNEE F6 18.000	143
Shawnee Steam	1	364177	1SHAWNEE F7 18.000	143
Shawnee Steam	1	364178	1SHAWNEE F8 18.000	143
Shawnee Steam	1	364179	1SHAWNEE F9 18.000	143
Gallatin Steam	1	364221	1GALLATIN T113.800	77
Gallatin Steam	2	364222	1GALLATIN T213.800	77
Gallatin Steam	3	364223	1GALLATIN T313.800	77
Gallatin Steam	4	364224	1GALLATIN T413.800	77
Gallatin Steam	5	364225	1GALLATIN T513.800	84
Gallatin Steam	6	364226	1GALLATIN T613.800	84
Gallatin Steam	7	364227	1GALLATIN T713.800	84
Gallatin Steam	8	364228	1GALLATIN T813.800	84
Gleason Combustion Turbine	1	364231	1GLEASON T1 18.000	171
Gleason Combustion Turbine	2	364232	1GLEASON T2 18.000	171
Gleason Combustion Turbine	3	364233	1GLEASON T3 13.800	171
Johnsonville Steam	1	364241	1JVILLE T1 13.800	56
Johnsonville Steam	2	364242	1JVILLE T2 13.800	56
Johnsonville Steam	3	364243	1JVILLE T3 13.800	56
Johnsonville Steam	4	364244	1JVILLE T4 13.800	56
Johnsonville Steam	5	364245	1JVILLE T5 13.800	56
Johnsonville Steam	6	364246	1JVILLE T6 13.800	56

Johnsonville Steam	7	364247	1JVILLE T7 13.800	56
Johnsonville Steam	8	364248	1JVILLE T8 13.800	56
Johnsonville Steam	9	364249	1JVILLE T9 13.800	56
Johnsonville Steam	1	364250	1JVILLE T10 13.800	56
Johnsonville Steam	1	364251	1JVILLE T11 13.800	56
Johnsonville Steam	1	364252	1JVILLE T12 13.800	56
Johnsonville Steam	1	364253	1JVILLE T13 13.800	56
Johnsonville Steam	1	364254	1JVILLE T14 13.800	56
Johnsonville Steam	1	364255	1JVILLE T15 13.800	56
Johnsonville Steam	1	364256	1JVILLE T16 13.800	56
Johnsonville Steam	1	364257	1JVILLE T17 13.800	84
Johnsonville Steam	1	364258	1JVILLE T18 13.800	84
Johnsonville Steam	1	364259	1JVILLE T19 13.800	84
Johnsonville Steam	1	364260	1JVILLE T20 13.800	84
Kemper City Combustion Turbine	1	364261	1KEMPER T1 13.800	84
Kemper City Combustion Turbine	1	364262	1KEMPER T2 13.800	84
Kemper City Combustion Turbine	1	364263	1KEMPER T3 13.800	84
Kemper City Combustion Turbine	1	364264	1KEMPER T4 13.800	84
Lagoon Creek Combustion Turbine	1	364271	1LAG CRK T1 13.800	85
Lagoon Creek Combustion Turbine	1	364272	1LAG CRK T2 13.800	85
Lagoon Creek Combustion Turbine	1	364273	1LAG CRK T3 13.800	85
Lagoon Creek Combustion Turbine	1	364274	1LAG CRK T4 13.800	85
Lagoon Creek Combustion Turbine	1	364275	1LAG CRK T5 13.800	85

Lagoon Creek Combustion Turbine	1	364276	1LAG CRK T6 13.800	85
Lagoon Creek Combustion Turbine	1	364277	1LAG CRK T7 13.800	85
Lagoon Creek Combustion Turbine	1	364278	1LAG CRK T8 13.800	85
Lagoon Creek Combustion Turbine	1	364279	1LAG CRK T9 13.800	84
Lagoon Creek Combustion Turbine	1	364280	1LAG CRK T1013.800	84
Lagoon Creek Combustion Turbine	1	364281	1LAG CRK T1113.800	84
Lagoon Creek Combustion Turbine	1	364282	1LAG CRK T1213.800	84
Marshall Combustine Turbine	1	364291	1MARSHALL T113.800	85.6
Marshall Combustine Turbine	1	364292	1MARSHALL T213.800	85.6
Marshall Combustine Turbine	1	364293	1MARSHALL T313.800	85.6
Marshall Combustine Turbine	1	364294	1MARSHALL T413.800	85.6
Marshall Combustine Turbine	1	364295	1MARSHALL T513.800	85.6
Marshall Combustine Turbine	1	364296	1MARSHALL T613.800	85.6
Marshall Combustine Turbine	1	364297	1MARSHALL T713.800	85.6
Marshall Combustine Turbine	1	364298	1MARSHALL T813.800	85.6
Lagoon Creek Combined Cycle	1	364301	1LAG CRK CT116.500	179.8
Lagoon Creek Combined Cycle	1	364302	1LAG CRK CT216.500	179.8
Lagoon Creek Combined Cycle	1	364303	1LAG CRK STG18.000	230.4
Paradise Combined Cycle	1	364304	1PARADIS CT118.000	211
Paradise Combined Cycle	2	364305	1PARADIS CT218.000	211
Paradise Combined Cycle	3	364306	1PARADIS CT318.000	211
Paradise Combined Cycle	1	364307	1PARADIS S1 19.000	467
John Sevier Combined Cycle	1	364321	1J SEVIER C118.000	165.6
John Sevier Combined Cycle	2	364322	1J SEVIER C218.000	165.6
John Sevier Combined Cycle	3	364323	1J SEVIER C318.000	165.6

John Sevier Combined Cycle	4	364324	1J SEVIER S419.500	377.3
Allen Combined Cycle	1	364325	1ALLENCC CT125.000	333
Allen Combined Cycle	1	364326	1ALLENCC CT225.000	333
Allen Combined Cycle	1	364327	1ALLENCC ST119.000	439
Raccoon Mtn Pump Storage	1	364401	1RACCOON P1 23.000	440
Raccoon Mtn Pump Storage	1	364402	1RACCOON P2 23.000	440
Raccoon Mtn Pump Storage	1	364403	1RACCOON P3 23.000	440
Raccoon Mtn Pump Storage	1	364404	1RACCOON P4 23.000	440
Apalachia Hydro	1	364421	1APALACH H1 13.800	41.2
Apalachia Hydro	1	364422	1APALACH H2 13.800	41.2
Blueridge Hydro	1	364423	1BLUERIDG H112.500	17.4
Boone Hydro	1	364424	1BOONE H1 13.800	37.8
Boone Hydro	1	364425	1BOONE H2 13.800	37.8
Boone Hydro	1	364426	1BOONE H3 13.800	37.8
Chatuge Hydro	1	364428	1CHATUGE H1 6.9000	13.9
Chickamauga Hydro	1	364431	1CHICKAMG H113.800	35.8
Chickamauga Hydro	1	364432	1CHICKAMG H213.800	35.8
Chickamauga Hydro	1	364433	1CHICKAMG H313.800	35.8
Chickamauga Hydro	1	364434	1CHICKAMG H413.800	35.8
Douglas Hydro	1	364435	1DOUGLAS H1 13.800	45.8
Douglas Hydro	1	364436	1DOUGLAS H2 13.800	45.8
Douglas Hydro	1	364437	1DOUGLAS H3 13.800	45.8
Douglas Hydro	1	364438	1DOUGLAS H4 13.800	45.8
Fontana Hydro	1	364439	1FONTANA H1 13.800	103
Fontana Hydro	1	364440	1FONTANA H2 13.800	103
Fontana Hydro	1	364441	1FONTANA H3 13.800	103
Fort Loudoun Hydro	1	364442	1FTLOUD H1 13.800	40
Fort Loudoun Hydro	3	364443	1FTLOUD H3 13.800	45.3
Fort Loudoun Hydro	1	364444	1FTLOUD H2 13.800	38
Fort Loudoun Hydro	4	364445	1FTLOUD H4 13.800	45.3
Fort Patrick Henry Hydro	1	364446	1FT PAT H1-213.800	20.4

Fort Patrick Henry Hydro	2	364446	1FT PAT H1-213.800	20.3
Great Falls Hydro	1	364447	1GFALLS H1-26.6000	15.9
Great Falls Hydro	2	364447	1GFALLS H1-26.6000	19.5
Guntersville Hydro	1	364448	1GUNTERSV H113.800	28.8
Guntersville Hydro	1	364449	1GUNTERSV H213.800	30.6
Guntersville Hydro	1	364450	1GUNTERSV H313.800	29.8
Guntersville Hydro	1	364451	1GUNTERSV H413.800	31.3
Hiwassee Hydro	1	364452	1HIWASSEE H113.800	87.7
Hiwassee Hydro	1	364453	1HIWASSEE H213.800	94.2
Kentucky Hydro	1	364456	1KY HYDRO H113.800	44.6
Kentucky Hydro	1	364457	1KY HYDRO H213.800	46.1
Kentucky Hydro	1	364458	1KY HYDRO H313.800	45.1
Kentucky Hydro	1	364459	1KY HYDRO H413.800	45.8
Kentucky Hydro	1	364460	1KY HYDRO H513.800	45.3
Melton Hill Hydro	1	364461	1MELTON H H113.800	39.5
Melton Hill Hydro	1	364462	1MELTON H H213.800	39.7
Norris Hydro	1	364465	1NORRIS H1 13.800	63.5
Norris Hydro	1	364466	1NORRIS H2 13.800	63.5
Nottely Hydro	1	364467	1NOTTELY H1 13.800	19.2
Ocoee Hydro	1	364468	1OCOEE#1H1-32.3000	4.8
Ocoee Hydro	2	364468	1OCOEE#1H1-32.3000	4.8
Ocoee Hydro	3	364468	1OCOEE#1H1-32.3000	4.8
Ocoee Hydro	1	364469	1OCOEE#1H4-52.3000	4.8
Ocoee Hydro	2	364469	1OCOEE#1H4-52.3000	4.8
Ocoee Hydro	1	364470	1OCOEE#2H1-26.6000	10.9
Ocoee Hydro	2	364470	1OCOEE#2H1-26.6000	12.6
Ocoee Hydro	1	364471	1OCOEE #3 H113.800	29.3
Pickwick Hydro	1	364472	1PICKWICK H113.800	44.3
Pickwick Hydro	1	364473	1PICKWICK H213.800	42.9
Pickwick Hydro	1	364474	1PICKWICK H313.800	42.8
Pickwick Hydro	1	364475	1PICKWICK H413.800	43.6

Pickwick Hydro	1	364476	1PICKWICK H513.800	43.7
Pickwick Hydro	1	364477	1PICKWICK H613.800	43.2
South Holston Hydro	1	364478	1SHOLSTON H113.800	44.4
Tims Ford Hydro	1	364479	1TIMSFORD H113.800	40.1
Watauga Hydro	1	364480	1WATAUGA H1 13.800	37.9
Watauga Hydro	1	364481	1WATAUGA H2 13.800	32
Watts Bar Hydro	1	364482	1WBHP H1 13.800	39.3
Watts Bar Hydro	1	364483	1WBHP H2 13.800	39.3
Watts Bar Hydro	1	364484	1WBHP H3 13.800	39.3
Watts Bar Hydro	1	364485	1WBHP H4 13.800	39.2
Watts Bar Hydro	1	364486	1WBHP H5 13.800	39.2
Wilbur Hydro	1	364492	1WILBUR H1-32.3000	1.5
Wilbur Hydro	2	364492	1WILBUR H1-32.3000	1.5
Wilbur Hydro	3	364492	1WILBUR H1-32.3000	1.5
Wilbur Hydro	1	364493	1WILBUR H4 2.3000	7.2
Wilson Hydro	1	364494	1WILSON H1-212.000	22.5
Wilson Hydro	2	364494	1WILSON H1-212.000	22.8
Wilson Hydro	1	364495	1WILSON H3-412.000	23
Wilson Hydro	2	364495	1WILSON H3-412.000	22.3
Wilson Hydro	1	364496	1WILSON H5-612.000	30.6
Wilson Hydro	2	364496	1WILSON H5-612.000	30.4
Wilson Hydro	1	364497	1WILSON H7-812.000	29.3
Wilson Hydro	2	364497	1WILSON H7-812.000	30.9
Wilson Hydro	1	364498	1WILSON 9-1013.800	30
Wilson Hydro	2	364498	1WILSON 9-1013.800	29.7
Wilson Hydro	1	364499	1WILSON11-1213.800	29.8
Wilson Hydro	2	364499	1WILSON11-1213.800	29.5
Wilson Hydro	1	364500	1WILSON13-1413.800	29.6
Wilson Hydro	2	364500	1WILSON13-1413.800	29.6
Wilson Hydro	1	364501	1WILSON15-1613.800	29.2
Wilson Hydro	2	364501	1WILSON15-1613.800	29.2

Wilson Hydro	1	364502	1WILSON17-1813.800	29
Wilson Hydro	2	364502	1WILSON17-1813.800	29
Wilson Hydro	1	364503	1WILSON H19 13.800	55
Wilson Hydro	1	364504	1WILSON H20 13.800	56.1
Wilson Hydro	1	364505	1WILSON H21 13.800	55
Cherokee Hydro	1	364511	1CHEROKEE H113.800	37.2
Cherokee Hydro	2	364512	1CHEROKEE H213.800	39.8
Cherokee Hydro	3	364513	1CHEROKEE H313.800	39.8
Cherokee Hydro	4	364514	1CHEROKEE H413.800	36.8
Nickajack Hydro	1	364521	1NICKAJACK 113.800	30.7
Nickajack Hydro	1	364522	1NICKAJACK 213.800	27.3
Nickajack Hydro	1	364523	1NICKAJACK 313.800	26
Nickajack Hydro	1	364524	1NICKAJACK 413.800	26.1
Barkley Hydro	1	364601	1BARKLEY H1 13.800	37
Barkley Hydro	1	364602	1BARKLEY H2 13.800	37
Barkley Hydro	1	364603	1BARKLEY H3 13.800	37
Barkley Hydro	1	364604	1BARKLEY H4 13.800	37
Center Hill Hydro	1	364605	1CENTHILL H113.800	52
Center Hill Hydro	1	364606	1CENTHILL H213.800	52
Center Hill Hydro	1	364607	1CENTHILL H313.800	52
Cheatham Hydro	1	364608	1CHEATHAM H113.800	13.8
Cheatham Hydro	1	364609	1CHEATHAM H213.800	13.8
Cheatham Hydro	1	364610	1CHEATHAM H313.800	13.8
Cordell Hull Hydro	1	364611	1CORDELL H1 13.800	38
Cordell Hull Hydro	1	364612	1CORDELL H2 13.800	38
Cordell Hull Hydro	1	364613	1CORDELL H3 13.800	38
Dale Hollow Hydro	1	364614	1DALE HOL H113.800	20.7
Dale Hollow Hydro	1	364615	1DALE HOL H213.800	20.7
Dale Hollow Hydro	1	364616	1DALE HOL H313.800	20.7
Old Hickory Hydro	1	364617	1OLDHICKH1-213.800	28.7
Old Hickory Hydro	2	364617	1OLDHICKH1-213.800	29

Old Hickory Hydro	1	364618	1OLDHICKH3-413.800	29
Old Hickory Hydro	2	364618	1OLDHICKH3-413.800	29
Percy Priest Hydro	1	364619	1PERCY PR H113.800	30
Wolf Creek Hydro	1	364620	1WOLFCR H1-213.800	52
Wolf Creek Hydro	2	364620	1WOLFCR H1-213.800	52
Wolf Creek Hydro	1	364621	1WOLFCR H3-413.800	52
Wolf Creek Hydro	2	364621	1WOLFCR H3-413.800	52
Wolf Creek Hydro	1	364622	1WOLFCR H5-613.800	52
Wolf Creek Hydro	2	364622	1WOLFCR H5-613.800	52
Wheeler Hydro	1	364650	1WHEELER 1-213.800	38.8
Wheeler Hydro	2	364650	1WHEELER 1-213.800	33.2
Wheeler Hydro	1	364651	1WHEELER 3-413.800	33.6
Wheeler Hydro	2	364651	1WHEELER 3-413.800	33.4
Wheeler Hydro	1	364652	1WHEELER 5-613.800	34.7
Wheeler Hydro	2	364652	1WHEELER 5-613.800	34.6
Wheeler Hydro	1	364653	1WHEELER 7-813.800	34.4
Wheeler Hydro	2	364653	1WHEELER 7-813.800	34.5
Wheeler Hydro	1	364654	1WHEELER 9 13.800	41.9
Wheeler Hydro	2	364655	1WHEELER 10 13.800	41.9
Wheeler Hydro	3	364656	1WHEELER 11 13.800	41.9
Brownsville Combustion Turbine	1	364701	1BROWNSVL T113.800	115
Brownsville Combustion Turbine	2	364702	1BROWNSVL T213.800	115
Brownsville Combustion Turbine	3	364703	1BROWNSVL T313.800	116.86
Brownsville Combustion Turbine	4	364704	1BROWNSVL T413.800	115
Ackerman Combined Cycle	1	364721	1ACKERMAN T116.000	229.8
Ackerman Combined Cycle	1	364722	1ACKERMAN T216.000	229.8
Ackerman Combined Cycle	1	364723	1ACKERMAN S116.000	295.4
Decatur Combined Cycle	1	364731	1DEC CT1 18.000	161
Decatur Combined Cycle	1	364732	1DEC CT2 18.000	161
Decatur Combined Cycle	1	364733	1DEC CT3 18.000	161
Decatur Combined Cycle	1	364734	1DEC STG 18.000	271

Magnolia Combined Cycle	1	364761	1MAGNOL T1 18.000	167.2
Magnolia Combined Cycle	1	364762	1MAGNOL T2 18.000	167.2
Magnolia Combined Cycle	1	364763	1MAGNOL T3 18.000	167.2
Magnolia Combined Cycle	1	364764	1MAGNOL S1 18.000	160.8
Magnolia Combined Cycle	1	364765	1MAGNOL S2 18.000	160.8
Magnolia Combined Cycle	1	364766	1MAGNOL S3 18.000	160.8
Morgan Combined Cycle	1	364771	1MEC CT1 18.000	161
Morgan Combined Cycle	1	364772	1MEC CT2 18.000	161
Morgan Combined Cycle	1	364773	1MEC CT3 18.000	161
Morgan Combined Cycle	1	364774	1MEC STG 18.000	271
Red Hills Steam	1	364780	1REDHILLS F120.000	489
Reliant Combined Cycle	1	364781	1RELIANT T1 18.000	162.4
Reliant Combined Cycle	1	364782	1RELIANT T2 18.000	162.4
Reliant Combined Cycle	1	364783	1RELIANT T3 18.000	162.4
Reliant Combined Cycle	1	364784	1RELIANT S1 22.000	312.8
South Haven Combined Cycle	1	364791	1S HAVEN T1 18.000	185.2
South Haven Combined Cycle	3	364792	1S HAVEN T2 18.000	185.2
South Haven Combined Cycle	5	364793	1S HAVEN T3 18.000	185.2
South Haven Combined Cycle	2	364794	1S HAVEN S1 13.800	121.5
South Haven Combined Cycle	4	364795	1S HAVEN S2 13.800	121.5
South Haven Combined Cycle	6	364796	1S HAVEN S3 13.800	121.5
Caledonia Combined Cycle	1	364801	1COGCALED T118.000	180.4
Caledonia Combined Cycle	2	364802	1COGCALED S113.800	117.1
Caledonia Combined Cycle	3	364803	1COGCALED T218.000	180.4
Caledonia Combined Cycle	4	364804	1COGCALED S213.800	117.1
Caledonia Combined Cycle	5	364805	1COGCALED T318.000	180.4
Caledonia Combined Cycle	6	364806	1COGCALED S313.800	117.1
Buffalo Mountain Wind	1	364915	1WINDROCK WG0.6900	27