Facilities Study Report

For: [Company Name](“Customer”)

Queue #: 41219-02

Service Location: Anderson, South Carolina

Total Output: 754MW

Commercial Operation Date: 5/1/2016

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Table of Contents

1.0 Introduction

The Customer has proposed to install new generation in the control area owned and operated by Duke Energy Carolinas, LLC ("the Company"). The Customer's requested interconnection point will require the modification of an existing switching station located on property in Anderson, South Carolina. ***Appendix A - Schematic 6.1.1*** ***provides a representative schematic of the interconnection station.*** **The Customer's proposed facility shall be a Combined Cycle Plant capable of generating 754MW of power. The Customer has a requested commercial operation date of May 1, 2016.**

This Facilities Study interconnection request (Queue # 41219-02) reports on the interconnection and the network modifications.

At the request of the Customer, the Company performed and delivered to the Customer an Interconnection System Impact Study ("SIS"). The SIS, dated, August 22, 2013 summarized all thermal, short circuit, stability, and reactive capability constraints resulting from the interconnection of the Customer's proposed generating facility. This Facilities Study quantifies the cost, work scope, and tentative schedules associated with the design and installation of all required interconnection facilities and network modifications. Certain adjustments in critical clearing times will be evaluated to address stability issues. It will be the responsibility of the Customer to address the stability issues on its side of the interconnection point.

The Interconnection Point (IP) between the Company and the Customer shall be the point where the Generator bus lines attach to the first switch located inside Duke's Interconnection Switchyard.

For the purposes of this Facilities Study the Customer Interconnection Facilities are defined as those facilities between the Customer's generator step up transformers up to and including the connection point (IP) inside The Company's switching station.

The interconnection shall be realized through the development of selected network facilities which may be directly associated with those grid elements found on the transmission side of the IP. These facilities henceforth are referred to as Associated Facilities in this Facilities study.

The Customer has requested interconnection as either a Network Resource Interconnection Service (NRIS) provider or an Energy Resource Interconnection Service (ERIS) provider. The Associated Facilities between the two options are similar but network modifications are significantly different.

As an NRIS provider, the Associated Facilities include facilities as summarized below and further described in more detail in the section labeled, "Facilities Directly Associated with Customers Interconnection" and "Required Network Modifications".

- Significant modification to the existing Anderson Tie station.

As an ERIS provider, the Assiociated Facilities will be as defined in the section labeled "Facilities Directly Associated with Customers Interconnection"

Subsequent to the requirements and preparation listed in this document a design review shall take place prior to any facilities construction to maintain compliance with the North American Electric Reliability Corporation (NERC) Reliability Standard FAC-002-1, or its successor. The objective of this review is to assure Customer's facilities are properly coordinated with The Company's.

Also in compliance with the NERC Reliability Standard FAC-002-1, or its successor a testing and inspection activity will take place prior to the in- service (back feed) date.

2.0 Baseline Assumptions

The Company's Facilities are based on application of Industry standard equipment. As such the total energy handling capability of the proposed switching station and network modifications could potentially accommodate energy flows greater than the requested 754MW in the Generation Interconnection Request. In the event the Customer decides to interconnect an additional increment of capacity, a new Generation Interconnection Request will be required to evaluate the impacts. Any constraints that may result will be identified as part of the new study request.

The following assumptions have been used to establish the project scope and cost estimates for the identified facilities.

This Facilities Study is premised on the Company providing a turnkey design and installation of all Associated Facilities and network modifications in conjunction with a 230kV interconnection of the Customer Facilities.

The interconnection voltage will be 230kV.

The Customer shall address the stability issues as identified in the SIS by installing Out of Step Relay Protection on their generators.

Any required outages necessary to support construction of the Company Associated Facilities must occur during a spring or fall time frame. If an outage of sufficient duration cannot be obtained to support any of the required construction activity, temporary facilities may have to be constructed to maintain integrity of grid. No provisions have been made for temporary work in the estimates provided herein.

The protection schemes installed by the Company at its Associated Facilities are intended to protect The Company's Network from the Customer's Facilities.

Electrical protection schemes for the generator step up transformers interconnecting the plant to the Network shall be the responsibility of the Customer. The protection scheme

must include separate primary and secondary schemes whose operation shall be coordinated with the interconnection substation's protection schemes.

Customer's generator step-up transformers and underground bus lines shall be equipped with suitable surge protection to properly protect the transformer from lightning and switching surges. The arresters shall be coordinated with the Company's standard insulation levels of the interconnection substation. The Customer should refer to the Company's *Facility Connection Requirements* ("FCR") document for further guidance.

Any required communications and control circuits between interconnecting switching station and the generating plant shall be the responsibility of the Customer.

All relay settings for the breaker at the interconnecting tie station will be the responsibility of the Company. For those breakers where joint use may be necessary, close coordination between representatives from both the Company and the Customer will be required. The protection schemes deployed for the bus line remains the responsibility of the Customer but are subject to the review of the Company.

To support this interconnection the following must be provided by the Customer:

- **The Customer shall provide an underground duct bank to support the Customers underground bus lines. The design and construction shall be the responsibility of the Customer and must be coordinated with and accepted by the Company.**
- **The Customer shall provide the termination structures to support the underground bus lines. It is assumed that the Customer will install one structure within the existing Duke Energy's facility known as Anderson Tie. All design and construction shall be the responsibility of the Customer and must be coordinated with and accepted by the Company.**

The Company maintains all rights for the commission testing of any substation facility that it owns. The Company reserves the right to inspect and witness commission testing of any switchyard, transmission line, or other facility constructed on behalf of the Customer for the purpose of interconnecting to the Company's transmission grid. This shall include but not be limited to any required relay and control protection systems.

Metering responsibilities shall be in accordance with Section 7.1 of the Company's Open Access Transmission Tariff ("OATT"). Reference the metering section of this Facilities Study to get an overview of a typical meter requirement. Specific metering requirements will be provided as part of the design coordination.

All telemetry circuits that provide the generation plant operational and billing data to The Company's System Operations Center (SOC) will be the responsibility of the Customer.

All estimates prepared for this Facilities Study are considered to be good faith estimates represented in present day dollars as of the date of the study. The estimates are further

premised on being able to perform work during normal business hours with minimum overtime or weekend work. The Customer will be responsible for all actual costs.

The Customer's financial responsibilities for the Company's regulated facilities will be determined in accordance with the The Company's OATT in effect at the time of design and construction.

This Facilities Study assumes other generation projects which are in the the Company Generator Interconnection Queue are viable projects and are progressing as planned. In the event any of those projects are delayed, removed or assigned new queue dates, reassignment for Network Upgrades associated with those projects may shift to others in the Generation Queue based on their respective queue position. At the time this study was performed no other generation projects appear to have any pending upgrades which would fall to the responsibility of the Customer. If a change of responsibility becomes necessary, the reassignment will be done in accordance with the Company's OATT and FERC policy.

Upon receipt of the Customer's notice to proceed, The Company will develop appropriate work plans and initiate certain design and procurement activities. The Customer will be responsible for all costs incurred by the Company associated with those efforts.

3.0 Facilities Directly Associated with Customers Interconnection

3.1 Cost Estimates

As per the requirements of the OATT, the following good faith estimate is provided. This estimate assumes no temporary facilities will be required to support construction efforts.

Table 1

Ref	Associated Facilities	NRIS	ERIS	Estimated Cost
A	Modify the existing Anderson Tie Station	x	x	$1,729,802
	TOTAL			$1,729,802

3.2 Work Scope

Interconnection Station Design and Construction Work Scope

3.2.1 General Description of The Companys Interconnection Facilities

The Company will modify the existing Anderson Tie Station which operates at the Customer's requested interconnection voltage. The Customer's combined cycle generation plant will connect to the Company's transmission system with a targeted commercial operation date of 5/1/2016. The scopes of the facilities which are required to support this interconnection are addressed by this section of the Facilities Study.

The modification of the tie station will leverage a single breaker and a double bus configuration. The generator bus line will be selective between the two buses. The switch yard will require the installation of one 242kV, 3000 amp class circuit breaker. The compliment of isolating switches will consist of single pole single throw and gang operated type manual hand operated switches. Refer to *Appendix A - Schematic 6.1.1* for a representative one line of the proposed associated facility.

The 230kV switchyard shall have a nominal continuous current rating of 3000A. The breakers associated with the interconnection shall have a minimum rating of 63kA. The open air Basic Impulse Insulation Levels (BIL) shall be 900kV.

The existing substation structure is a lattice steel design. Structural loadings must align with the Company's standard design practice for 230kV switchyards.

The scope of work shall include but not be limited to the following major tasks in the Interconnection Facilities (230kV yard):

- **Fencing**
- **Foundations**
- **Structure design and layout**
- **Grounding**
- **Lighting**
- **Lightning Protection**
- **Insulation Coordination**
- **Protective Relaying**
- **Station Auxiliary design**
- **DC system Design**
- **Conduit and trenching**
- **Equipment selection and installation**
- **Bus and wiring**

A gang operated disconnect switch shall be installed between the Customer's generator bus lines and the Associated Facilities; serving as the interconnection point while providing a means to physically and visibly isolate the Company's System from the Customer. It will be controlled by the Company.

The Company reserves the right to lock the switch in the open position:

- **If it is necessary for the protection of maintenance personnel when working on de-energized circuits.**
- **If Customer or the Company equipment presents a hazardous condition.**
- **If Customer or the Company equipment interferes with the operation of the The Company transmission network system.**
- **If the the Company transmission network system interferes with the operation of Customer.**

3.2.2 Relay, Controls and Communications

The transmission line relay protection circuits continuously monitor the conditions of the offsite power system and are designed to detect and isolate the faults with maximum speed and minimum disturbance to the system. The principal features of these schemes are described below:

The new 230kV underground bus line will be protected by two SEL 311L primary and secondary line current differential relays designed to clear a fault anywhere on the busline. The schemes will use relay to relay communications between the two stations utilizing OPGW fiber optic cable.

Both 230kV switchyard buses are protected by an independently operated bus differential relay scheme. The bus differential relays continuously monitor the current inflow and outflow from the bus section under their supervision.

The new 230kV busline breaker will be protected by an SEL351S breaker failure relay with current supervision from a separate bushing current transformer on the breaker. The breaker failure relays operate through a timing relay and should a breaker fail to trip within the time setting of its timing relay, the associated breaker failure trip relay will trip and lock out all breakers on the bus side.

The relay and electrical equipment to be installed consists of the following:

(a) Install a capacitor voltage transformer on "Z" phase of the new busline for line voltage input to the relays for synchronization.

(b) Install an SEL-2515 remote I/O module in the breaker mechanism for breaker alarms to go to the control house via fiber optic cable to the SEL-3610 port server on panel 12R.

3.3 Schedule

Appendix B - Associated Facilities Milestones Schedules 6.2 provides the cycle time which will be required to implement the design and construction of the various interconnection switching station. The cycle time represents the time activities must start relative to the required in service date. Should facilities be required earlier close coordination between the Company and the Customer will be required.

A more detailed work plan and project schedule will be developed once an authorization to proceed is received.

Once the Company is authorized to proceed the Customer will be liable for all costs incurred.

NOTE: No provisions have been made for the construction of any temporary facilities that might have to be constructed should outages not be granted.

Return to INTRODUCTION

4.0 Required Network Modifications

The SIS identified the constraining system elements resulting from the addition of the Customer's generation. Network Modifications are assigned based on queue position in accordance with FERC guidelines. Should other projects currently in the queue be delayed, cancelled, removed from the queue or assigned a different queue status, the assignment of responsibility for certain Network Modifications shift to the project creating the need for the modification based on the modified queue. Table 2 summarizes the required modifications along with the associated costs with a Commercial Operation Date of 5/1/2016.

Certain Network Modifications which are initially required by higher queued projects with later commercial operation dates may also be required by the lower queued projects. In such cases FERC regulations would require the project requiring the Network Modifications earlier due to their earlier commercial operation date pay for those Modifications but then collect from the higher queued project at such time that the higher queued project would have been required to have those modifications in place.

The cycle times required to design and construct the various network improvements are provided in Appendix C - Network Modification Schedules 6.3

The SIS did indicate under certain NERC Category D faults the proposed generating units might incur a condition in which the units might become transiently unstable. To address stability the Customer shall be required to install Out of Step Relay protection to adequately protect their generators for NERC Category D faults. The Company will work closely with the Customer to establish mutually agreeable critical clearing times to effectively mitigate instability conditions as much as practical.

4.1 Cost Estimate

As per the requirements of the OATT, the following good faith estimate is provided. This estimate assumes no temporary facilities will be required to support construction efforts.

Table 2

(If this project is built or built with queued project 40633-01 in Cleveland County of 355 MW.)

Ref	Required Network Modification	Date Required	Estimated Cost
A	Install Reactors on Fiber 100kV Lines (Anderson Tie to Toxaway Tie)	May 1, 2016	$1,774,628
B	Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap)(17.8 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$37,961,627
C	Upgrade Fisher 230kV Line Terminals @ Central Tie	May 1, 2016	$685,394
D	Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap	May 1, 2016	$115,586
E	Rebuild the Union 100kV Lines (O'Neal Retail to Pebble Creek Retail) (3.03 Miles) w/556kcmil ACSR	May 1, 2016	$3,387,031
	TOTAL		$43,924,266

Table 3

(If this project is built with queued project 40639-01 in Cleveland County of 937 MW.)

Ref	Required Network Modification	Date Required	Estimated Cost
A	Install Reactors on Fiber 100kV Lines (Anderson Tie to Toxaway Tie)	May 1, 2016	$1,774,628

Ref	Required Network Modification	Date Required	Estimated Cost
B	Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap)(17.8 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$37,961,627
C	Upgrade Fisher 230kV Line Terminals @ Central Tie	May 1, 2016	$685,394
D	Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap	May 1, 2016	$115,586
	TOTAL		$40,537,235

Table 4

(If this project is built with queued project 41219-01 in Anderson County of 776 MW.)

Ref	Required Network Modification	Date Required	Estimated Cost
A	Install Reactors on Fiber 100kV Lines (Anderson Tie to Toxaway Tie)	May 1, 2016	$1,774,628
B	Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap)(17.8 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$37,961,627
C	Upgrade Fisher 230kV Line Terminals @ Central Tie	May 1, 2016	$685,394
D	Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap	May 1, 2016	$115,586
*E	Rebuild the Union 100kV Lines (O'Neal Retail to Pebble Creek Retail) (3.03 Miles) w/556kcmil ACSR	May 1, 2016	$0
F	Install Reactors on the Cokesbury 100kV Lines (Coronaca Tie to Hodges Tie)	May 1, 2016	$2,042,739
G	Rebuild the Duncan 100kV Lines (Inman Tie to Campton Retail) (2.1 Miles) w/556kcmil ACSR	May 1, 2016	$2,430,879
*H	Convert Greenbriar to a Switching Station	May 1, 2016	$0
*I	Rebuild the Greenbriar 100kV Lines (Shady Grove Tie to Moonville Retail) (4.5 Miles) w/1272kcmil ACSR	May 1, 2016	$0
*J	Upgrade Greenbriar 100kV Line Terminals @ Moonville Retail	May 1, 2016	$0
K	Rebuild the Harley 100kV Lines (Tiger Tie to Campobello Tie) (11.78 Miles) w/954kcmil ACSR	May 1, 2016	$15,849,400
L	Upgrade Harley 100kV Line Terminals @ Campobello Tie	May 1, 2016	$222,618
M	Rebuild the Oakvale 100kV Lines (Oakvale Tie to Shady Grove Tie) (4.09 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$5,732,848
N	Upgrade Oakvale 100kV Line Terminals @ Shady Grove Tie	May 1, 2016	$890,450
O	Upgrade Oakvale 100kV Line Terminals @ Oakvale Tie	May 1, 2016	$1,026,759
P	Rebuild the Piedmont 100kV Lines (Lee Switching Station to Shady Grove Tie) (12.66 Miles) w/Bundled 477kcmil ACSR	May 1, 2016	$17,619,860
Q	Upgrade Piedmont 100kV White Line Terminal @ Lee Switching Station	May 1, 2016	$117,985
R	Rebuild the Tiger 100kV Lines (Tiger Tie to Lelia Retail Tap) (5.27 Miles) w/556kcmil ACSR	May 1, 2016	$5,830,259

Ref	Required Network Modification	Date Required	Estimated Cost
S	Upgrade Tiger 100kV Line Terminals @ Tiger Tie	May 1, 2016	$5,636
T	Upgrade Tiger 100kV Line Terminals @ Jerry Meehan	May 1, 2016	$161,566
U	230kV OD Breaker @ Anderson Tie (1 Breaker)	May 1, 2016	$399,397
V	100kV OD Breaker @ Estes Tap (1 Breaker)	May 1, 2016	$281,205
W	Rebuild the Sevier 100kV Lines (Laurel Creek Retail Tap to Verdae Retail) (1.53 Miles) w/Bundled 477kcmil ACSR	May 1, 2016	$1,850,998
X	Upgrade Sevier 100kV Line Terminals @ Laurel Creek Retail	May 1, 2016	$98,918
	TOTAL		$95,098,752

* The Customer is not responsible for Network Modifications "E, H, I & J".

Table 5

(If this project is built with queued project 40633-01 in Cleveland County of 355MW and queued project 41219-01 in Anderson County of 776 MW.)

Or

(If this project is built with queued project 40639-01 in Cleveland County of 937MW and queued project 41219-01 in Anderson County of 776 MW.)

Ref	Required Network Modification	Date Required	Estimated Cost
A	Install Reactors on Fiber 100kV Lines (Anderson to Toxaway)	May 1, 2016	$1,774,628
B	Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap)(17.8 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$37,961,627
C	Upgrade Fisher 230kV Line Terminals @ Central Tie	May 1, 2016	$685,394
D	Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap	May 1, 2016	$115,586
*E	Rebuild the Union 100kV Lines (O'Neal Retail to Pebble Creek Retail) (3.03 Miles) w/556kcmil ACSR	May 1, 2016	$0
F	Install Reactors on the Cokesbury 100kV Lines (Coronaca Tie to Hodges Tie)	May 1, 2016	$2,042,739
G	Rebuild the Duncan 100kV Lines (Inman Tie to Campton Retail) (2.1 Miles) w/556kcmil ACSR	May 1, 2016	$2,430,879
*H	Convert Greenbriar to a Switching Station	May 1, 2016	$0
*I	Rebuild the Greenbriar 100kV Lines (Shady Grove Tie to Moonville Retail) (4.5 Miles) w/1272kcmil ACSR	May 1, 2016	$0
*J	Upgrade Greenbriar 100kV Line Terminals @ Moonville Retail	May 1, 2016	$0
K	Rebuild the Harley 100kV Lines (Tiger Tie to Campobello Tie) (11.78 Miles) w/954kcmil ACSR	May 1, 2016	$15,849,400
L	Upgrade Harley 100kV Line Terminals @ Campobello Tie	May 1, 2016	$222,618

Ref	Required Network Modification	Date Required	Estimated Cost
M	Rebuild the Oakvale 100kV Lines (Oakvale Tie to Shady Grove Tie) (4.09 Miles) w/Bundled 954kcmil ACSR	May 1, 2016	$5,732,848
N	Upgrade Oakvale 100kV Line Terminals @ Shady Grove Tie	May 1, 2016	$890,450
O	Upgrade Oakvale 100kV Line Terminals @ Oakvale Tie	May 1, 2016	$1,026,759
P	Rebuild the Piedmont 100kV Lines (Lee Switching Station to Shady Grove Tie) (12.66 Miles) w/Bundled 477kcmil ACSR	May 1, 2016	$17,619,860
Q	Upgrade Piedmont 100kV White Line Terminal @ Lee Switching Station	May 1, 2016	$117,985
R	Rebuild the Tiger 100kV Lines (Tiger Tie to Lelia Retail Tap) (5.27 Miles) w/556kcmil ACSR	May 1, 2016	$5,830,259
S	Upgrade Tiger 100kV Line Terminals @ Tiger Tie	May 1, 2016	$5,636
T	Upgrade Tiger 100kV Line Terminals @ Jerry Meehan	May 1, 2016	$161,566
U	230kV OD Breaker @ Anderson Tie	May 1, 2016	$399,397
	TOTAL		$92,867,631

* The Customer is not responsible for Network Modifications "E, H, I & J".

4.2 Work Scope

A. Install Reactors on Fiber 100kV Lines (Anderson Tie to Toxaway Tie)

It has been determined necessary, during the System Impact Study, to install shunt reactors in the Fiber 100kV lines. It has been determined for this Facilities Study Report to install the reactors at Anderson Tie station. The work will involve the following activities:

- Expand the existing station footprint to accommodate the shunt reactor installation.
- Install (2) sets of shunt reactors.

B. Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap) (17.8 Miles) w/Bundled 954kcmil ACSR

Work on the Fisher 230kV line consists of rebuilding approximately 17.8 miles of transmission line on an existing right of way between Central Tie and Shady Grove Tap in Pickens County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (90) existing 2F series tangent towers with 2N series tangent towers.
- Replace approximately (17) existing 2J series strain towers with 2Q series strain towers.
- Replace the (2) existing 1/2" overhead ground wires with (1) new 1/2" EHS overhead ground wires and (1) 48 strand overhead optical fiber/ground wire.

- Replace the existing 954ACSR 54/7 phase conductors with new bundled 954 ACSR 54/7 phase conductors.

C. Upgrade Fisher 230kV Line Terminals @ Central Tie

In conjunction with the upgrading of the Fisher 230kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminals at Central Tie from its' current rating of 1200 amps to 3000A. This will require the following activities:

- Replace (6) 1200A HO Gang Switches with 3000A HO Gang Switches.
- Replace the existing 1250kcmil Al wire bus with 2-2000kcmil Al wire bus.
- Replace the existing 2.5" Al pipe bus and 3" AL pipe bus.

D. Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap

In conjunction with the upgrading of the Fisher 230kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminals at Shady Grove Tap from its' current rating of 1200 amps to 3000A. This will require the following activities:

- Replace the existing 2000kcmil Al wire bus with 2-2000kcmil wire bus.

E. Rebuild the Union 100kV Lines (O'Neal Retail to Pebble Creek Retail) (3.03 Miles) w/556kcmil ACSR

Work on the Union 100kV line consists of rebuilding approximately 3.03 miles of transmission line on an existing right of way between O'Neal Retail and Pebble Creek Retail in Greenville County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (15) existing DL series tangent towers with 1AWL series tangent towers.
- Replace approximately (3) existing DT series strain towers with (3) 1AWL series strain towers.
- Replace the 2 existing 3/8" overhead ground wires with 2 new 3/8" EHS overhead ground wires.
- Replace the existing 2/0 CU 7 phase conductors with new 556 ACSR 18/1.

F. Install Reactors on Cokesbury 100kV Lines (Coronaca Tie to Hodges Tie)

It has been determined necessary, during the System Impact Study, to install shunt reactors in the Cokesbury 100kV lines. It has been determined for this Facilities Study Report to install the reactors at Hodges Tie station. The work will involve the following activities:

- Expand the existing 100kV capacitor station footprint to accommodate the shunt reactor installation.
- Install (2) sets of shunt reators.

G. Rebuild the Duncan 100kV Lines (Inman Tie to Campton Retail) (2.1 Miles) w/556kcmil ACSR

Work on the Duncan 100kV line consists of rebuilding approximately 2.1 miles of transmission line on an existing right of way between Inman Tie and Campton Retail in Spartanburg County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (10) existing L series tangent towers with 1AWL series tangent towers.
- Replace approximately (3) existing HX series strain towers with 1AWL series strain towers.
- Replace the (2) existing 3/8" overhead ground wires with new 3/8" EHS overhead ground wires.
- Replace the existing 2/0 CU 7 phase conductors with new 556 ACSR 18/1 phase conductors.

H. Convert Greenbriar to a Switching Station

It has been determined necessary during the System Impact Study to convert the existing Greenbriar Retail station to a 100kV switching station. This work is required to increase the thermal and electrical capacity of the existing transmission network. The work will involve the following activities:

- Provide temporay line work to allow the existing Greenbriar Retail Station to be by-passed in such a way to allow the existing distribution customers to remain inservice during the station 100kV highside converstion to a switching station.
- Expand the existing 100kV support structure to support the addition of the Perry Black and White lines that currently deadend just out side the existing station.
- Install (7) new 100kV 2000A 63kA line breakers.
- Replace (1) existing 100kV 1600A 40kA line breaker with (1) 100kV 2000A 63kA breaker.
- Replace (1) existing 100kV 800A 17.5kA HT breaker with (1) 100kV 2000A 63kA breaker
- Install (1) new relay control house.

I. Rebuild the Greenbriar 100kV Lines (Shady Grove Tie to Moonville Retail) (4.5 Miles) w/1272kcmil ACSR

Work on the Greenbriar 100kV line consists of rebuilding approximately 4.5 miles of transmission line on an existing right of way between Shady Grove Tie and Moonville

Retail in Greenville County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (20) existing LR series tangent towers with 1AWL series tangent towers.
- Replace approximately (5) existing HR series strain towers with 1AWL series strain towers.
- Replace the (2) existing 3/8" overhead ground wires with (1) new 3/8" EHS overhead ground wires and (1) 48 strand overhead optical fiber/ground wire.
- Replace the existing 477ACSR 26/7 phase conductors with new 1272 ACSR 54/19.
- Replace (1) existing 3/8" overhead ground wire from Moonville Ret to Greenbriar SS with (1) new 48 strand overhead optical fiber/ground wire –approximately 5.5 miles.

J. Upgrade Greenbriar 100kV line Terminals @ Moonville Retail

In conjunction with the upgrading of the Greenbriar 100kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminals at Moonville Retail from its' current rating of 1200 amps to 2000A. This will require the following activities:

- Replace (4) sets of 1200A SPST switches with new 2000A SPST switches.
- Upgrade the related station bus and jumpers as necessary.

K. Rebuild the Harley 100kV Lines (Tiger Tie to Campobello Tie) (11.78 Miles) w/954kcmil ACSR

Work on the Harley 100kV line consists of rebuilding approximately 11.78 miles of transmission line on an existing right of way between Tiger Tie and Campobello Tie in Spartanburg County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (60) existing HR series tangent towers with 1AWL series tangent towers.
- Replace approximately (12) existing HX series strain towers with 1AWL series strain towers.
- Replace the (2) existing 3/8" overhead ground wires with new 3/8" EHS overhead ground wires.
- Replace the existing 336 ACSR 26/7 phase conductors with new 954 ACSR 54/7 phase conductors.

L. Upgrade Harley 100kV line Terminals @ Campobello Tie

In conjunction with the upgrading of the Harley 100kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminals at Campobello Tie from its' current rating of 600 amps to 2000A. This will require the following activities:

- Replace (4) sets of 600A SPST switches with new 2000A SPST switches.

- Replace (2) 600A HO Gang Switches with 2000A HO Gang Switches.
- Replace the existing 3/0 copper wire bus and 2.5" steel angled bus with 1250kcmil aluminum wire and 2.5" aluminum pipe bus as necessary.

M. Rebuild the Oakvale 100kV Lines (Shady Grove Tie to Oakvale Tie) (4.09 Miles) w/bundled 954kcmil ACSR

Work on the Oakvale 100kV line consists of rebuilding approximately 4.09 miles of transmission line on an existing right of way between Shady Grove Tie and Oakvale Tie in Greenville County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (20) existing HR series tangent towers with 1AWL series tangent towers.
- Replace approximately (7) existing HT series strain towers with (7) 1AWL series strain towers.
- Replace the 2 existing 3/8" overhead ground wires with 2 new 3/8" EHS overhead ground wires.
- Replace the existing bundled 477 ACSR 26/7 phase conductors with new bundled 954 ACSR 54/7.

N. Upgrade Oakvale 100kV Line Terminals @ Shady Grove Tie

In conjunction with the upgrading of the Oakvale 100kV line, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminal at Shady Grove Tie from its' current rating of 1200 amps to 3000A. This will require the following activities:

- Replace the 100kV Oakvale Black and Oakvale White breakers with new, 3000 amp, 63kA rated breakers.
- Replace (4) sets of 1200A SPST switches with new 3000A SPST switches.
- Replace (2) 1200A gang switches with new 3000A gang switches.
- Upgrade the related station bus and jumpers as necessary.
- A cable termination box will be installed near each breaker to be used as an interface box and point of termination between the existing breaker control cables and the new breaker wiring.
- Install an SEL2515 Remote I/O Module in the mechanisms of both breakers for alarms that go back to the SEL3610 utilizing fiber optic cable.
- Replace the 100kV coupling capacitors with capacitor voltage transformers on the line side, "Z" phase, of both breakers.
- Replace the 100kV, 2000 amp Line traps and line tuners on both Oakvale lines with 3000 amp traps and Trench single frequency tuners.
- Modify the auxiliary AC for 240 volt, 50 amps for each breaker.
- Replace the 100kv Red and Yellow bus differential GE, type PVD21D1A relays with GE, type SBD11B2A relays.

O. Upgrade Oakvale 100kV Line Terminals @ Oakvale Tie

In conjunction with the upgrading of the Oakvale 100kV line, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminal at Oakvale Tie from its' current rating of 1200 amps to 3000A. This will require the following activities:

- Replace the 100kV Oakvale Black and Oakvale White breakers with new, 3000 amp, 63kA rated breakers.
- Replace (4) sets of 1200A SPST switches with new 3000A SPST switches.
- Replace (2) 1200A gang switches with new 3000A gang switches.
- Upgrade the related station bus and jumpers as necessary.
- A cable termination box will be installed near each breaker to be used as an interface box and point of termination between the existing breaker control cables and the new breaker wiring.
- Install an SEL2505 Remote I/O Module in the mechanisms of both breakers for alarms that go back to the SEL relays utilizing fiber optic cable.
- Replace the 100kv, 1200 amp line traps on both Oakvale lines with 3000 amp traps.
- Modify the auxiliary AC for 240 volt, 50 amps for each breaker.
- Replace the 100kv Red and Yellow bus differential GE, type PVD21D1A relays with GE, type SBD11B2A relays.

P. Rebuild the Piedmont 100kV Lines (Lee Switching Station to Shady Grove Tie) (12.66 Miles) w/Bundled 477kcmil ACSR

Work on the Piedmont 100kV line consists of rebuilding approximately 12.66 miles of transmission line on an existing right of way between Lee Switching Station and Shady Grove Tie in Greenville County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (65) existing L series tangent towers with 1AWL series tangent towers.
- Replace approximately (14) existing HX series strain towers with 1AWL series strain towers.
- Replace the (2) existing 3/8" overhead ground wires with new 3/8" EHS overhead ground wires.
- Replace the existing 477 ACSR 26/7 phase conductors with new bundled 477 ACSR 26/7 phase conductors.

Q. Upgrade Piedmont 100kV line Terminal @ Lee Switching Station

In conjunction with the upgrading of the Piedmont 100kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the Piedmont White line terminal at Lee Switching Station from its' current rating of 600 amps to 2000A. This will require the following activities:

- Replace (2) sets of 600A SPST switches with new 2000A SPST switches.
- Replace (1) 600A Gang Switch with a new 2000A Gang Switch.
- Upgrade the related station bus and jumpers as necessary.

R. Rebuild the Tiger 100kV Lines (Tiger Tie to Lelia Retail Tap) (5.27 Miles) w/556kcmil ACSR

Work on the Tiger 100kV line consists of rebuilding approximately 5.27 miles of transmission line on an existing right of way between Tiger Tie and Lelia Retail Tap in Spartanburg County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (25) existing AR series tangent towers with 1AWL series tangent towers.
- Replace approximately (8) existing HT series strain towers with (8) 1AWL series strain towers.
- Replace the 2 existing 3/8" overhead ground wires with 2 new 3/8" EHS overhead ground wires.
- Replace the existing 266 ACSR 26/7 phase conductors with new 556 ACSR 18/1.

S. Upgrade Tiger 100kV Line Terminals @ Tiger Tie

In conjunction with the upgrading of the Tiger 100kV line, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. This will require relay setting changes.

T. Upgrade Tiger 100kV Line Terminals @ Jerry Meehan

In conjunction with the upgrading of the Tiger 100kV line, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminal at Jerry Meehan from its' current rating of 600 amps to 1200A. This will require the following activities:

- Replace (4) sets of 600A SPST switches with new 1200A SPST switches.

Upgrade the related station bus and jumpers as necessary.Replace both of the 100kV Capacitor Voltage Transformers on "A" phase of each line with new Trench units.

U. 230kV OD Breaker @ Anderson Tie (1 Breaker)

With the addition of the proposed Combined Cycle generators, the available fault current as seen at the Anderson Tie 230kV bus will be increased. Fault studies indicate that the 230kV Akens Black breaker would be subject to interrupting current levels greater than its interrupting capability. This will require the following activities:

- This breaker was identified by the SIS to become over duty after the Commercial Operation Date of May 1, 2016.
- Replace one 230kV breakers with a new 63kA rated breaker.
- A cable termination box will be installed near the breaker to be used as an interface box and point of termination between the existing breaker control cables and the new breaker wiring.
- Replace the coupling capacitor on "Z" phase of the breaker with a 230kv CVT with carrier accessories.
- Replace the line trap and tuner on the line with a new 3000a trap and single frequency tuner.
- Install an SEL2515 Remote I/O Module in the mechanism of the breaker for alarms.
- Install fiber optic cable from each cable termination cabinet to the STIP communications panel 12R located in the control house.
- Modify Modify the auxiliary AC to 240v, 50a and install a new 3c. #6 feeder cable.

V. 100kV OD Breaker @ Estes Tap (1 Breaker)

With the addition of the proposed Combined Cycle generators, the available fault current as seen at the Estes Tap 100kV bus will be increased. Fault studies indicate that the 100kV Stevens Tap breaker would be subject to interrupting current levels greater than its interrupting capability. This will require the following activities:

- These breakers were identified by the SIS to become over duty after the Commercial Operation Date of May 1, 2016.
- Replace one 100kV breakers with a new 63kA rated breaker.
- A cable termination box will be installed near the breaker to be used as an interface box and point of termination between the existing breaker control cables and the new breaker wiring.
- Install 100kv CVT's on "Z" phase of the breaker.
- Install an SEL2515 Remote I/O Modules in the breaker for alarms.
- Install a fiber optic cable from the SEL2515 to the SEL2032 processor in panel 3R located in the control house.
- Modify the auxiliary AC to 240v, 50a for each breaker and install a new 3c. #6 feeder cable.

W. Rebuild the Sevier 100kV Lines (Laurel Creek Retail Tap to Verdae Retail) (1.53 Miles) w/Bundled 477kcmil ACSR

Work on the Sevier 100kV line consists of rebuilding approximately 1.53 miles of transmission line on an existing right of way between Laurel Creek Retail Tap and Verdae Retail in Greenville County, South Carolina. This work is required to increase the thermal and electrical capacity of the line. The line work will involve the following activities:

- Replace approximately (7) existing HR series tangent towers with 1AWL series tangent towers.

- Replace approximately (3) existing HT series strain towers with (7) 1AWL series strain towers.
- Replace the (2) existing 3/8" overhead ground wires with new 3/8" EHS overhead ground wires.
- Replace the existing 477 ACSR 26/7 phase conductors with new bundled 477 ACSR 26/7.

X. **Upgrade Sevier 100kV Line Terminals @ Laurel Creek Retail Tap**

In conjunction with the upgrading of the Sevier 100kV lines, the line terminals must thermally coordinate and meet the electrical characteristics of the rebuilt line. It will be necessary to upgrade the double circuit line terminals at Laurel Creek Retail Tap from its' current rating of 1200 amps to 2000A. This will require the following activities:

- Replace (4) sets of 1200A SPST switches with new 2000A SPST switches.
- Upgrade the related station bus and jumpers as necessary.

4.3 Schedule

Appendix C - Network Modification Schedules 6.3 provides the cycle time which will be required to implement the design and construction of the various network modifications. The cycle time represents the time activities must start relative to the required in service date. Should facilities be required earlier close coordination between The Company and the Customer will be required.

A more detailed work plan and project schedule will be developed once an authorization to proceed is received.

Once The Company is authorized to proceed the Customer will be liable for all costs incurred.

NOTE: No provisions have been made for the construction of any temporary facilities that might have to be constructed should outages not be granted.

5.0 Connection Requirements

5.1 General

This Facilities Study document is intended to provide a basic scope definition of facilities on which The Company has based its facilities study and cost estimates. It shall serve as the basis for the facilities that The Company proposes to design, build, and operate in connection with interconnection of Customer generation in the Anderson County NC area.

All Facilities installed by Customer and connected to The Company's Network shall comply with *Facility Connection Requirements* ("FCR") dated August 21, 2008. This document shall supplement those requirements where necessary.

5.2 Short Circuit Withstand Capability

The Company assumes no responsibility for appropriately sizing the short circuit withstands capability of any equipment installed on the Customer's Side of the IP. The Company will provide upon request the maximum available short circuit current based on its current models. The Customer however must realize that significant numbers of new generation requests are constantly being received all of which will add to the available short circuit current. The Customer will need to exercise extreme care in appropriately sizing its equipment while providing for reasonable margin for future increases in available short circuit current. The Company bears no responsibility in the sizing decision. Available short circuit currents on The Company's system can be in excess of 80 kA depending upon location and voltage.

5.3 Equipment Ratings

Prior to finalizing specification of equipment necessary to interconnect to the power grid Customer shall consult with The Company to establish the required ratings necessary to reliably interconnect and provide the expected Voltage and Var support as defined in the Interconnection and Operating Agreement. Specific parameters shall include but are not limited to available transformer taps and short circuit withstands capabilities.

5.4 Insulation Requirements

The Company's standard requirements for equipment installed on the 230 kV systems shall meet the following minimum (BIL).

	230 BIL kV
Open Air	900
Transformer Winding	900

5.5 Instrument Transformer Requirements

Provisions must be made to provide meter function CT's in the transformer yard that will allow for metering of the plant output. This will require provisions of meter class CT's on the generator step-up transformer with accuracy class of 0.3W1.0 or better. It will also require the installation of CVT's.

5.6 Metering

THIS STUDY ASSUMES THAT THE CUSTOMER SHALL BEAR ALL REASONABLE DOCUMENTED COST ASSOCIATED WITH THE PURCHASE, INSTALLATION, OPERATION, TESTING AND MAINTENANCE OF THE PRIMARY METERING EQUIPMENT.

This section is intended to provide a high level overview of some of the metering that shall be required by The Company's SOC for both monitoring and billing purposes. All plant output shall be tracked on a unit basis and shall be compensated relative to the

point of interconnection. Adequate metering must be in place to determine each unit's performance relative to voltage support and how well it produces against the predefined schedule. For these applications revenue class metering is required. In addition appropriate metering to measure power consumption by the plant auxiliary systems when the plant is not running shall be necessary. In the event The Company determines that redundant metering is required, such metering will be done at a point mutually agreeable to all both parties.

All metered data shall be provided to The Company's SOC. Data from the substation will go to the Transmission Control Center (TCC). In addition, all meters shall be equipped with suitable communication ports to allow for direct access via a phone line or data circuit for downloading of data. This function shall be performed by The Company's Itron Enterprise Edition (IEE). Customer shall be responsible for providing all required phone circuits to allow for dial-up access.

Unless otherwise agreed by the Parties, The Company shall install metering equipment, compensated to the point of interconnection, prior to any operation of the Anderson County Combined Cycle Plant and shall own, operate, test and maintain such metering equipment. The Company reserves the right to witness meter calibration and testing.

Customer shall provide The Company all pertinent meter data prior to back feed of the power island. This will include, but is not limited to, meter type/style, calibration test results, copies of all algorithms required for meter operation, serial numbers of meters for establishment of unique addresses in support of IEE, phone number for access thereof, and factory test data for all instrument transformers associated with energy measurements.

ALL METERING SYSTEMS SHALL BE THOROUGHLY TESTED FOR FUNTIONALITY PRIOR TO START OF FUNCTIONAL TESTING OF ANY GENERATOR. THE COMPANY RESERVES THE RIGHT TO WITNESS ALL TESTING ON SITE. TESTING WILL NOT BE DEEMED COMPLETE UNTIL TELEMETERED DATA FLOW BACK TO THE SYSTEM OPERATING CENTER IS VERIFIED AS BEING COMPLETE AND ACCURATE.

A high level description of minimum meter data can be found in the table on page 22 of 34

a. Metering Equipment Requirements

A solid state meter shall be used to measure the real and reactive power interchange between the The Company Balancing Authority Area and the Combined Cycle Plant. Three-element, three-phase, four-wire meters shall be utilized on wye connected power systems. Two-element, three-phase, three-wire meters shall be utilized on delta connected power systems.

The metering devices must be fully compatible (approved meter type and communication media) with The Company's remote metering and data acquisition system.

b. Meter Accuracy

Meters shall be calibrated to 100% registration with a maximum deviation of +/- 0.5% accuracy at unity power factor for both full load and light load. These meters shall be calibrated to100% registration with a maximum deviation of +/- 1.0-% accuracy for 0.5 power factor at full load. Metering accuracy limits are stated in the following table.

MAXIMUM DEVIATION OF METER REGISTRATION			
Watt-hour Function			Var-hour Function
Full Load	Power Factor	Light Load	Power Factor
+/- 0.5 %	+/- 1.0 %	+/- 0.5 %	+/- 1.0 %

Notes:

- **Watt-hour functions should be tested in both directions of energy flow (In and Out) (If applicable).**
- **Var-hour functions should be tested in both directions of energy flow (In and Out).**
- **When compensating for transformer or line loss, utilize stated limits above or 5% of desired compensation, whichever is greater.**
- **The meter shall be tested with compensation applied to obtain a true test of the installation.**

Test Points	Volts	Amps	Power Factor
Full Load	120	5	1.0
Power Factor	120	5	0.5
Light Load	120	0.5	1.0

c. Instrument Transformers

Potential devices and current transformers shall be 0.3% metering accuracy class or better for both magnitude and phase angle over the burden range of the installed metering circuit. Instrument transformer correction factors may be applied to the meter to adjust the meter for inaccuracies associated with the secondary burdens in

the current transformer and voltage transformer circuits. All instrument transformers shall comply with ANSI/IEEE Standard C57.13.

d. Loss Compensation

If the metering is not located at the Connection Point, then power transformer and/or line loss compensation shall be required. The Company approved power transformer and/or line loss compensation values shall be applied to the meter to properly compensate for the losses in the power transformer and/or line.

e. Standard Configuration

The meter's load profile recorder shall be configured with the channel assignments as follows:

Channel	Description
1	kWh Delivered
2	KVARH Delivered
3	KVARH Received
4	Available for optional data per *Transmission Provider's* request. For Example: kWh Delivered (Pulse Input from Check Meter) kWh Received

f. Access to Metering Data

If access to the meter is required, proper security measures must be taken to ensure the integrity of the meter is not compromised. If data pulses are required from the revenue meter, then the appropriate interface box with associated equipment must be installed to properly protect the revenue meter. If an additional meter is requested, good utility practices must be adhered to when terminating the connections in the meter circuit to ensure the integrity of the revenue-accuracy metering circuit is intact.

g. Station Service Power

Metering requirements for the plant auxiliary power will be determined on a case-by-case basis. Service to the plant auxiliary is considered to be a form of Retail Service and subject to various requirements as defined by the rate schedule selected for the particular service provided.

h. Check Meters

The Company shall have the right to install, at its own expense, suitable metering equipment at any other Metering Point for the purpose of checking the meters installed by the Customer. Customer shall be responsible for providing terminations of the current and voltage circuits to a test block specifically for the check meter.

i. Meter Enclosure

For metering equipment that might be located in Customer's Facility, a suitable enclosure for mounting the The Company's required meter equipment, which may include the check meter, shall be provided. All necessary terminations inside this enclosure, including, but not limited to, CT & VT circuits at a test block, telephone or other communications requirements shall be included. There shall be separate enclosures for Customer's and The Company's metering equipment.

j. Meter Operations

Calibration of Metering Facilities

Metering facilities shall be tested and calibrated if necessary every two years. More frequent test intervals may be negotiated. All interested parties or their representatives may witness the calibration tests. Calibration records shall be made available to all interested parties. The accuracy of the standard utilized for calibration purposes shall be traceable to the National Institute of Standards and Technology, (NIST).

Meter Verification / Audit

Customer will allow The Company access, upon reasonable notice, to its facilities for the purpose of verifying and inspecting the metering either at installation or as part of a periodic audit or testing. Customer must provide any requested meter configuration information (i.e. program constants, instrument transformer tap settings, compensation calculation parameters, etc.), relevant to their equipment, requested as part of an audit.

Meter Configuration Changes

Changes to the metering configuration (i.e. program constants, instrument transformer tap settings, compensation calculation parameters, etc.) will be communicated to The Company's meter engineering at least 30 days in advance. Changes due to equipment failures must be communicated to The Company's meter engineering within one business day after the failure is identified. In all cases, The Company's master station operator shall be notified immediately before and after any metering work is performed so that the meter device may be interrogated before and after the work. Any configuration changes shall be communicated at this time as well.

	DATA Use	Operation Functions						Billing & Generator Imbalance Calculations				
	Data Source	For SOC/TCC Needs From Revenue Class Meter or Transducer Compensated to						From Revenue Class Metering Devices For ET & Retail Billing				
AREA or DEVICE TO BE METERED		MW		MVARS				MW-	MVAR-Hours			
		Instantaneous	Hourly Integrated	Instantaneous		Hourly Integrated		Hourly Integrated	Instantaneous		Hourly Integrated	
				Del.	Rec.	Del.	Rec.		Del.	Rec.	Del.	Rec.
Unit 1		X	X	X	X	X	X	X			X	X
Unit 2		X	X	X	X	X	X	X			X	X
Aux "1" Total Usage With or Without generation on		X	X	N/A	X	N/A	X					
Aux 1 Total use with no Generation On Line				N/A	N/A	N/A	N/A	X				
Aux "X" Total Usage With or Without generation on		X	X	N/A	X		X					
Aux "X" Total use with no Generation On Line				N/A	N/A	N/A	N/A	X				

NOTES: Everything based on High Side of GSU or Aux Transformers

Rec. is defined as VARS received by The Company from Generator (Generator Operating at Lagging PF)

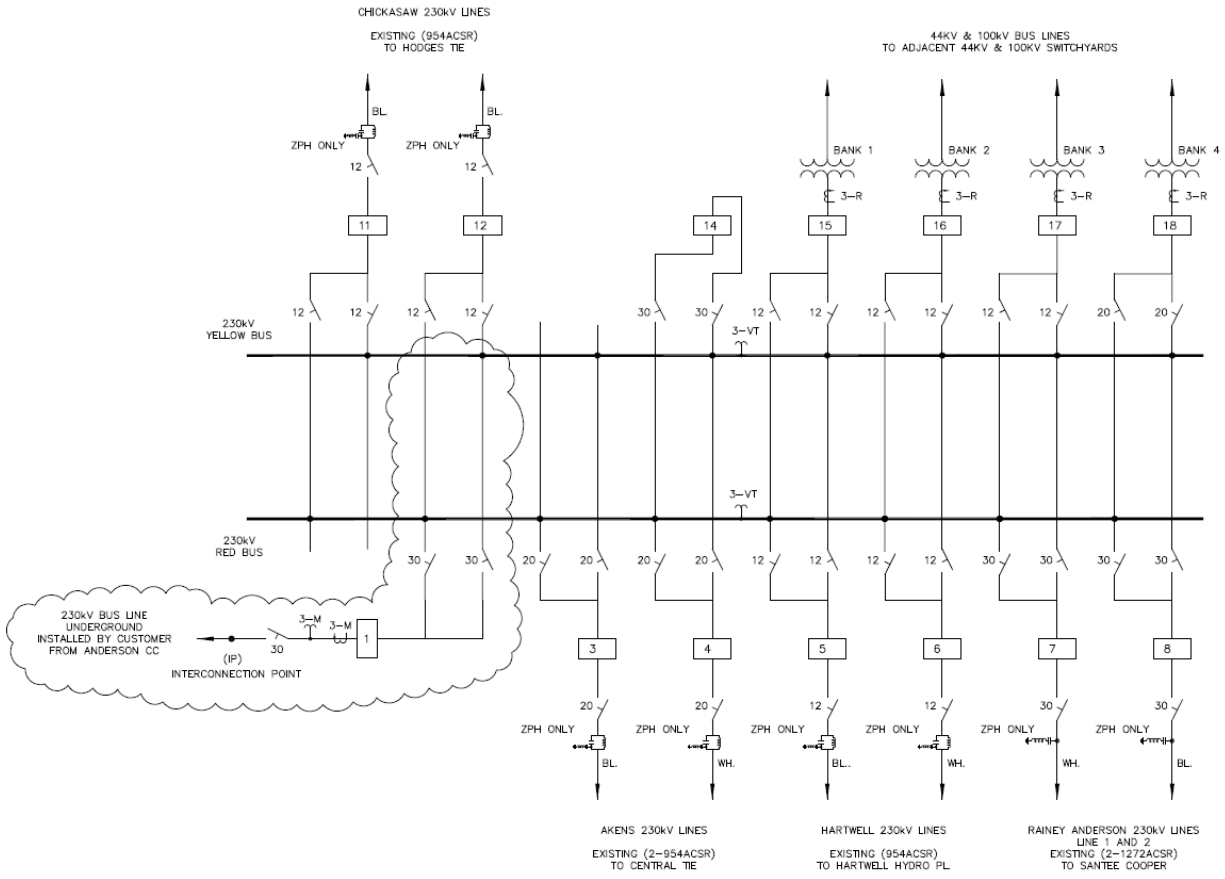
Del. Is defined as VARS consumed by generator off the system (Generator Operating at Leading PF)

6.0 Appendixes

6.1 Appendix A – SCHEMATICS

Return to INTRODUCTION or
Return to 3.2.1 General Description of The Companys Interconnection Facilities

6.1.1 Proposed One Line of the new 230kV Interconnection Point @ Anderson Tie



6.2 Appendix B – ASSOCIATED FACILITIES MILESTONES SCHEDULES

Return to SCHEDULE

Ref	Associated Facilities	Time Prior to Lee CC In Service Date or Back Feed For Start of Activity
A	**Modify the existing Anderson Tie Station**	**1.5 years**

6.3 Appendix C – NETWORK MODIFICATION SCHEDULES

Return to INTRODUCTION or
Return to REQUIRED NETWORK MODIFICATION or

Return to SCHEDULE

Network Modification Schedule Requirements

Ref	*Required Network Modification*	*Time Prior to COD for Start of Activity*
A	Install Reactors on Fiber 100kV Lines (Anderson to Toxaway)	1.5 years
B	Rebuild the Fisher 230kV Lines (Central Tie to Shady Grove Tap)(17.8 Miles) w/Bundled 954kcmil ACSR	4 years
C	Upgrade Fisher 230kV Line Terminals @ Central Tie	1 year
D	Upgrade Fisher 230kV Line Terminals @ Shady Grove Tap	1 year
E	Rebuild the Union 100kV Lines (O'Neal Retail to Pebble Creek Retail) (3.03 Miles) w/556kcmil ACSR	1.5 year
F	Install Reactors on the Cokesbury 100kV Liens (Coronaca to Hodges)	1.5 years
G	Rebuild the Duncan 100kV Lines (Inman Tie to Campton Retail) (2.1 Miles) w/556kcmil ACSR	1.5 years
H	Convert Greenbriar to a Switching Station	1.5 years
I	Rebuild the Greenbriar 100kV Lines (Shady Grove Tie to Moonville Retail) (4.5 Miles) w/1272kcmil ACSR	1.5 years
J	Upgrade Greenbriar 100kV Line Terminals @ Moonville Retail	1 year
K	Rebuild the Harley 100kV Lines (Tiger Tie to Campobello Tie) (11.78 Miles) w/954kcmil ACSR	3 years
L	Upgrade Harley 100kV Line Terminals @ Campobello Tie	1 year
M	Rebuild the Oakvale 100kV Lines (Oakvale Tie to Shady Grove Tie) (4.09 Miles) w/Bundled 954kcmil ACSR	1.5 year
N	Upgrade Oakvale 100kV Line Terminals @ Shady Grove Tie	1 year
O	Upgrade Oakvale 100kV Line Terminals @ Oakvale Tie	1 year
P	Rebuild the Piedmont 100kV Lines (Lee Sw Sta to Shady Grove) (12.66 Miles) w/Bundled 477kcmil ACSR	3 years
Q	Upgrade Piedmont 100kV Line Terminals @ Lee Switching Station	1 year
R	Rebuild the Tiger 100kV Lines (Tiger Tie to Lelia Retail Tap) (5.27 Miles) w/556kcmil ACSR	1.5 years
S	Upgrade Tiger 100kV Line Terminals @ Tiger Tie	1 year
T	Upgrade Tiger 100kV Line Terminals @ Jerry Meehan	1 year
U	230kV OD Breaker @ Anderson Tie (1 Breaker)	1 year

V	100kV OD Breaker @ Estes Tap (1 Breaker)	1 year
W	Rebuild the Sevier 100kV Lines (Laurel Creek Retail Tap to Verdae Retail) (1.53 Miles) w/Bundled 477kcmil ACSR	1.5 year
X	Upgrade Sevier 100kV Line Terminals @ Laurel Creek Retail Tap	1 year