

BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
RALEIGH, NORTH CAROLINA

PITT SOLAR, LLC
DOCKET NO. EMP-102, SUB 1

PRE-FILED SUPPLEMENTAL TESTIMONY
OF
LINDA NWADIKE
IN RESPONSE TO ADDITIONAL QUESTIONS
FROM THE COMMISSION

JUNE 1, 2021

1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

3 A. My name is Linda Nwadike. I am the Director of Permitting and Community
4 Relations for SunEnergy1, LLC (“SunEnergy1” or the “Company”), the parent
5 and an affiliate of the Applicant Pitt Solar, LLC (“Pitt Solar” or “Applicant”). Pitt
6 Solar is a North Carolina limited liability company that was formed on September
7 25, 2020. My business address is 192 Raceway Drive, Mooresville, North
8 Carolina 28117. I previously filed direct and supplemental testimony in this
9 docket on behalf of the Applicant and in support of the issuance of the requested
10 Certificate of Public Convenience and Necessity (a “CPCN”).

11 **Q. What is the purpose of this round of your supplemental testimony?**

12 A. The purpose of this testimony is to provide the response of the Applicant to the
13 additional questions and requests for information made by the Commission in its
14 Order entered in this docket on May 7, 2021 (hereinafter the “May Order”). I will
15 try to respond to those questions or requests for information in the same order that
16 each was presented in that order.

17 **Q. The first item in the May Order directs the Applicant to file all**
18 **interconnection studies available for the Facility not previously filed in the**
19 **docket, and also all Affected System cost studies for the Facility not**
20 **previously filed in the docket. The Applicant also was directed to provide an**
21 **explanation of any interconnection or Affected System cost studies for the**
22 **Facility that the Applicant expects to receive after the Applicant’s provision**

1 **of additional testimony and information during this round of supplemental**
2 **testimony. What is the response of the Applicant?**

3 A. The Applicant has received and filed in this docket all PJM studies relating to
4 PJM Queue AC1-189, which relates to the 80 MW portion of the proposed
5 Facility initially planned by the Applicant.

6 The only study that has become available for the Facility since the last
7 filing of testimony in this docket is the PJM System Impact Study relating to PJM
8 queue AF2-080, which relates to the additional 70 MW portion of the total
9 proposed 150 MW Facility. That System Impact Study is attached here as Exhibit
10 1. The Applicant anticipates receiving the Facility Study material to Queue AF2-
11 080, the last PJM study for this portion of the Facility, around October 2022.

12 Additionally, the Duke Affected System Study has not been revised from
13 the version of that study that issued May 6, 2020. The Applicant currently is not
14 working with Duke on an Affected System cost study; however, the Applicant is
15 informed that other parties (such as American Beech Solar, LLC) has entered into
16 an affected system operating agreement with Duke Energy Progress, LLC. We
17 understand that the costs identified by the Affected System Study in 2020 may
18 increase. For example, the May 6, 2020 study estimated the upgrade costs to be
19 \$23,204,593; most recently, Duke has advised that the required upgrades will
20 likely cost \$31,285,275. But again, the revised study has not been issued as of
21 today, and Duke has not identified a specific date on which its 2020 Affected
22 System Study will be officially revised.

1 **Q. The May Order also directs the Applicant to file a narrative explanation of**
2 **the full cost of transmission upgrades for both the 80 MW of the Facility in**
3 **the AC1 cluster and the 70 MW in the AF2 cluster, including interconnection**
4 **facilities, Network Upgrade Costs, and Affected System upgrade costs. If the**
5 **Applicant does not know the full costs, the Applicant is to explain when the**
6 **cost estimates are expected. The Applicant also is to explain if any of the**
7 **above-stated costs provided in any of the cost studies are subject to change or**
8 **revision. If the costs are subject to change or revision, the Applicant's**
9 **explanation is to include an overview of the circumstances that would lead to**
10 **a change or revision of these costs. What is the response of the Applicant?**

11 A. The transmission upgrades for the initial 80 MW phase of the Facility (PJM
12 Queue AC1-189) are currently estimated by PJM to be \$8,922,829. The PJM
13 cost estimate will be reduced in part because Pitt Solar has opted to self-build
14 some of the attachment facilities that were included in the original study at an
15 estimated cost in the PJM Study of \$685,295, and also opted to self-build the
16 new switching station, which had an estimated cost in the PJM study of
17 \$6,474,940.

18 The Duke Affected System cost estimate for PJM Queue AC1-189 is
19 currently \$31,285,275. The Applicant understands that American Beech Solar,
20 LLC has entered into an Affected System Operating Agreement with Duke to
21 request and pay for this scope of work.

1 The transmission upgrades for the 70 MW phase (PJM Queue AF2-080)
2 have been identified in the PJM System Impact Study (Exhibit 1) to be
3 \$18,414,197. The PJM System Impact Study estimated \$1,383,864 as Duke's
4 Affected System costs. The Applicant has not entered an Affected System Study
5 with Duke for the additional 70 MW of the proposed Facility. The PJM
6 Facilities Study is targeted to be completed by October 31, 2022.

7 The Applicant anticipates that forecasts of projected future costs will
8 change over time. With regard to PJM's estimates of its network costs, and the
9 responsibilities for those costs, the estimates may change due to decisions related
10 to other proposed projects included in earlier study queues on whether to move
11 forward or to withdraw from the queue. Indeed, all costs identified in the PJM and
12 Duke studies are estimated costs that may change throughout the engineering and
13 construction phases of the 80 MW phase of the Facility, and throughout the
14 engineering and construction phases of the additional 70 MW of the total
15 proposed 150 MW Facility.

16 **Q. The May Order also directs the Applicant to recalculate the LCOT for the**
17 **entire Facility, including both the 80 MW of the Facility in the AC1 cluster,**
18 **and the 70 MW in the AF2 cluster, using the costs of both the Network**
19 **Upgrade Costs and the Affected System upgrade costs for both portions of**
20 **the total facility. In order to examine the Applicant's calculated LCOT in**
21 **perspective with the costs of interconnecting other generation projects, the**
22 **Applicant's LCOT is to include the upgrade costs for the entire Facility,**

1 **including the upgrade costs on all utility systems affected by the Facility.**

2 **Can you please explain what the Applicant has done in response to these**
3 **requests for additional calculations?**

4 A. The Applicant has recalculated the LCOT for the entire 150 MW Facility. See
5 Exhibit 2 for the revised LCOT for the entire Facility. The Applicant revised the
6 PJM Network Upgrades for the full 150 MW facility based on the estimates in the
7 most recently received studies.

8 **Q. Public Staff witness Metz recommends the CPCN be denied or revoked if the**
9 **Applicant seeks reimbursement of “any interconnection facilities, network**
10 **upgrade costs, affected system costs, or other costs required to allow**
11 **energization and operation of the facility.” Witness Metz further**
12 **recommends that the Commission weigh these costs consistent with the**
13 **Commission’s Friesian Order if DEP’s policy regarding reimbursement is**
14 **changed for any reason. Does the Applicant consent to a CPCN subject to**
15 **revocation if the Applicant were to seek reimbursement of these costs? Does**
16 **the Applicant consent to a CPCN subject to revocation if the reimbursement**
17 **of these costs is changed for any reason, including changes to the**
18 **reimbursement policy that result from no action of the Applicant?**

19 A. The Applicant previously confirmed for the record that it is willing to accept a
20 CPCN issued by this Commission subject to the conditions stated in the pre-filed
21 testimony of Public Staff witness Metz. The Applicant acknowledges that under
22 Duke's Affected Systems Business Procedure and PJM's OATT as currently in

1 force, the Applicant, as the Interconnection Customer, is responsible for all
2 affected system and Network Upgrade costs assigned to the Applicant's proposed
3 facility, if any. The Applicant presently does not anticipate seeking reimbursement
4 for these costs.

5 That said, due to financing and operational considerations, the Applicant
6 cannot consent to the issuance of a CPCN that is expressly made subject to
7 revocation based on future policy decisions made by others over whom the
8 Applicant has no control, such as other project developers, this Commission, or the
9 Federal Energy Regulatory Commission (the "FERC").

10 As this Commission is aware, the parent of the Applicant, SunEnergy1,
11 uses project financing as a source to build out and interconnect solar generation
12 facilities as those facilities approach commercial operation. As a practical matter, a
13 CPCN that is expressly subject to revocation for events or actions beyond the
14 control of the Applicant would likely be incapable of obtaining project financing at
15 any cost, much less at a reasonable cost. Operationally, the Applicant must
16 assume that the output of the proposed facility will not be committed for the
17 expected life of the facility. As a result, the output of the facility will need to
18 remain competitive with that of other resources, including other solar facilities, in
19 this and surrounding regions. If the generation resource proposed here by the
20 Applicant must compete in the future with other facilities that are not subject to
21 similar constraints on receiving reimbursements (whether required or permitted by
22 a regulatory body with authority over the facility or some portion of the market),

1 the proposed facility or its output could become non-competitive for reasons
2 unrelated to the quality of the Facility or its operation. The Applicant cannot
3 consent to revocation as a condition to obtaining a CPCN in light of these market-
4 related realities.

5 Finally, accepting a CPCN made subject to automatic revocation based on
6 the actions of a third-party could cause extreme difficulties for managing the
7 development of the Facility and/or extreme hardship for investors in the Facility or
8 its output. Because the occurrence and the timing of an event that could “trigger”
9 revocation would be beyond the control of the Applicant, such an event could
10 occur at a critical time, such as when a sale or pledge of the Facility or an interest
11 in the Facility might be in process or when construction was largely or totally
12 completed, which would likely cause significant undue hardship.

13 **Q. The May Order notes that one of the conditions to the CPCN recommended**
14 **by the Public Staff is that the Applicant file any changes to the costs of the**
15 **Facility within 30 days of becoming aware of the changes. The condition**
16 **further provides that “subsequent steps and actions along with a respective**
17 **timeline for additional actions can be defined on an as needed basis” after the**
18 **updated costs are provided. If the Commission were to issue a CPCN with**
19 **this condition prior to the Applicant providing the interconnection facilities,**
20 **Network Upgrade Costs and Affected System upgrade costs, does the**
21 **Applicant consent to a CPCN subject to revocation if the interconnection**
22 **facilities, Network Upgrade Costs and/or Affected System upgrade costs that**

1 **are later provided result in a determination that the siting of the Facility in**
2 **this area is not consistent with the Commission’s obligation under N.C.G.S. §**
3 **62-110.1(d) for the provision of “reliable, efficient and economical service” in**
4 **the state, as articulated by the Commission in the Friesian Order?**

5 A. The Applicant already has consented to filing any changes to the costs of the
6 Facility within 30 days of becoming aware of such changes. However, for the
7 reasons previously stated, the Applicant does not believe that it can consent to
8 a CPCN made subject to revocation based on changes to future regulatory policies
9 or changes to the costs for upgrades to interconnection facilities, Network
10 Upgrade Costs and/or Affected System upgrade costs beyond the Applicant’s
11 control.

12 The normal phases of the Applicant’s development process, however,
13 may provide alternative routes for the Commission to consider.

14 For example, the Commission could consider issuing the CPCN with
15 conditions. The CPCN could have a condition that states construction for the
16 80 MW portion of the proposed 150 MW Facility in PJM’s AC1 cluster could
17 be commenced, subject to the accepted conditions proposed in the testimony of
18 Public Staff witness Metz. However, another condition could state that
19 construction on the remaining 70MW facility cannot be started until the Applicant
20 submits the Facilities Study it is awaiting from PJM and adheres to the condition
21 to provide any changes in estimated cost to the Commission.

22

1 Or, the Commission could consider issuing the CPCN in stages based
2 on the two different PJM queues involved. The CPCN for the 80 MW portion
3 of the proposed 150 MW Facility in PJM's AC1 cluster could be issued, subject
4 to the accepted conditions proposed in the testimony of Public Staff witness Metz,
5 and also subject to the continuing jurisdiction of this Commission over the
6 Applicant's still-pending CPCN application for the remaining 70 MW of the
7 proposed Facility.

8 The Applicant could then commence construction on the 80 MW phase,
9 subject to the obligation to provide updates as to changes in costs, and the other
10 accepted conditions. The Applicant, in the ordinary course of business, would
11 continue to obtain updated cost information related to the second phase of the
12 proposed Facility, including changes to Network Upgrade or Affected System
13 Costs. The Applicant would regularly report new information relating to costs in
14 this docket as required by the Public Staff's condition.

15 For reasons of business prudence, the Applicant also must receive and
16 analyze the results of the Facilities Study for PJM queue AF2-080 to determine
17 whether construction of the additional 70 MW makes business sense before
18 construction of that portion of the Facility can commence. In the interim, the
19 Commission and the Public Staff would continue to collect information, including
20 revisions to or newly estimated transmission upgrade costs, to reduce the risk that
21 network or affected system costs that are later-provided result in a determination
22 that the siting of the entire 150 MW Facility in this area is not consistent with the

1 Commission's obligation under N.C.G.S. § 62-110.1(d) for the provision of
2 "reliable, efficient and economical service" in the state, as articulated by the
3 Commission in the Friesian Order.

4 The Applicant respectfully submits that a condition allowing revocation of
5 an issued CPCN for the 80 MW phase of the project due to later-received PJM
6 studies pertaining primarily to the 70 MW second phase of the Facility is
7 unwarranted, and could raise barriers for obtaining financing partners, or undue
8 hardship as to the 80 MW phase. From the perspective of the Applicant, issuance
9 of the CPCN with conditions or by phases is far superior to revocation of an
10 issued CPCN, or the denial of the 70 MW portion of the application for the total
11 proposed 150 MW Facility.

12 Either of these approaches would allow the Applicant to commence
13 construction of the first 80MW phase of the project, while also allowing the
14 Applicant, Public Staff and the Commission additional time for cost estimates to
15 be developed and finalized for the 70 MW portion associated with PJM AF2
16 cluster, without requiring the Applicant to undergo the expense and delays of an
17 entirely new application once that additional cost information has become
18 available. The Applicant respectfully requests that consideration be given to
19 issuance of the requested CPCN, with such conditions, for the reasons provided
20 above.

21 **Q: Does that conclude this round of your supplemental testimony in response to**
22 **the May Order?**

1 A: Yes.

2

1 STATE OF NORTH CAROLINA

2 COUNTY OF IREDELL

3 VERIFICATION

4 I, Linda Nwadike, being first duly sworn, depose and say that I am duly authorized to act
5 on behalf of Pitt Solar, LLC as Director of Permitting and Community Relations for SunEnergy1,
6 LLC, the parent and an affiliate of the Petitioner; that I have read the foregoing Pre-Filed Direct
7 Testimony and that the same is true and accurate to my personal knowledge and belief except
8 where otherwise indicated, and in those instances, I believe my answers to be true.

9 This 1 day of June 2021.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

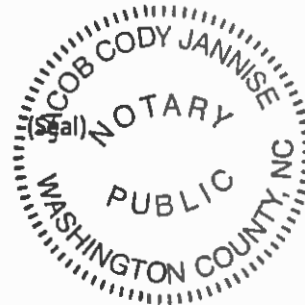


Linda Nwadike
SunEnergy1, LLC

Sworn to and subscribed to before me
this 1 day of June 2021.


Notary Public (Signature)

Jacob Cody Jannise
Notary Public (Printed)



My Commission Expires: March 16, 2024

EXHIBIT 1

Generation Interconnection System Impact Study Report

For

**Queue Project AF2-080
Chinquapin-Everetts 230 KV
48.5 MW Capacity/70 MW Energy**



**Generation Interconnection
System Impact Study Report
for
Queue Project AF2-080
CHINQUAPIN-EVERETTS 230 KV
48.5 MW Capacity / 70 MW Energy**

February 2021

Table of Contents

- 1 Introduction..... 4
- 2 Preface..... 4
- 3 General 5
- 4 Point of Interconnection..... 6
- 5 Cost Summary 6
- 6 Transmission Owner Scope of Work..... 7
- 7 Schedule..... 8
- 8 Transmission Owner Analysis..... 8
 - 8.1 Power Flow Analysis 8
- 9 Interconnection Customer Requirements..... 8
 - 9.1 System Protection..... 8
 - 9.2 Compliance Issues and Interconnection Customer Requirements 8
 - 9.3 Power Factor Requirements..... 9
- 10 Revenue Metering and SCADA Requirements 9
 - 10.1 PJM Requirements..... 9
 - 10.2 Meteorological Data Reporting Requirements 9
 - 10.3 Interconnected Transmission Owner Requirements..... 10
- 11 Summer Peak Analysis 11
 - 11.1 Generation Deliverability 11
 - 11.2 Multiple Facility Contingency 11
 - 11.3 Contribution to Previously Identified Overloads..... 11
 - 11.4 Steady-State Voltage Requirements..... 13
 - 11.5 Potential Congestion due to Local Energy Deliverability..... 13
 - 11.6 System Reinforcements..... 15
 - 11.7 Flow Gate Details..... 25
 - 11.7.1 Index 1 26
 - 11.7.2 Index 2 29
 - 11.7.3 Index 3 32
 - 11.7.4 Index 4 35
 - 11.7.5 Index 5 37
 - 11.7.6 Index 6 41

11.7.7	Index 7	45
11.7.8	Index 8	47
11.7.9	Index 9	49
11.7.10	Index 10.....	51
11.7.11	Index 11.....	55
11.7.12	Index 12.....	59
11.7.13	Index 13.....	62
11.7.14	Index 14.....	65
11.7.15	Index 15.....	68
11.7.16	Index 16.....	71
11.7.17	Index 17.....	73
11.7.18	Index 18.....	76
11.7.19	Index 19.....	78
11.7.20	Index 20.....	80
11.7.21	Index 21.....	83
11.8	Queue Dependencies	86
11.9	Contingency Descriptions.....	90
12	Light Load Analysis	96
13	Short Circuit Analysis.....	96
13.1	System Reinforcements - Short Circuit.....	96
14	Stability and Reactive Power	97
15	Affected Systems	98
15.1	TVA.....	98
15.2	Duke Energy Progress.....	98
16	Attachment 1: One Line Diagram	99

1 Introduction

This System Impact Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 205, as well as the System Impact Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is Dominion.

2 Preface

The intent of the System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation will be deferred until the System Impact Study is performed.

The System Impact Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

The Interconnection Customer seeking to interconnect a wind or solar generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per Schedule H to the Interconnection Service Agreement and Section 8 of Manual 14D.

An Interconnection Customer with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.

3 General

The Interconnection Customer (IC) has proposed an uprate to a planned Solar generating facility located in Pitt, North Carolina. This project is an increase to the Interconnection Customer's AC1-189 project, which will share the same point of interconnection. The AF2-080 queue position is a 70 MW uprate (48.5 MW Capacity uprate) to the previous project. The total installed facilities will have a capability of 150 MW with 101.9 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this uprate project is June 30, 2022. This study does not imply a TO commitment to this in-service date.

Queue Number	AF2-080
Project Name	CHINQUAPIN-EVERETTS 230 KV
State	North Carolina
County	Pitt
Transmission Owner	Dominion
MFO	150
MWE	70
MWC	48.5
Fuel	Solar
Basecase Study Year	2023

Any new service customers who can feasibly be commercially operable prior to June 1st of the basecase study year are required to request interim deliverability analysis.

4 Point of Interconnection

AF2-080 will interconnect with the Dominion on transmission system as an update to AC1-189 which is tapping the Chinguapin to Everetts 230 kV line.

5 Cost Summary

The AF2-080 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	\$ 0
Total System Network Upgrade Costs (Summer Peak)	\$ 18,414,197
Total Costs	\$ 18,414,197

*As your project progresses through the study process and other projects modify their request or withdraw, then your cost allocation could change.

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 88-129. If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

Note 1: PJM Open Access Transmission Tariff (OATT) section 217.3A outline cost allocation rules. The rules are further clarified in PJM Manual 14A Attachment B. The allocation of costs for a network upgrade will start with the first Queue project to cause the need for the upgrade. Later queue projects will receive cost allocation contingent on their contribution to the violation and are allocated to the queues that have not closed less than 5 years following the execution of the first Interconnection Service Agreement which identifies the need for this upgrade.

Note 2: For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates \$0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently \$0, your project may need this system reinforcement completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

Note 3: If the AC1-189 project withdraws from the New Services Queue, then the AF2-080 customer will be responsible for the interconnection facilities described in the AC1-189 Facilities Study Agreement.

6 Transmission Owner Scope of Work

Dominion assessed the impact of the proposed Queue Project AF2-080. The project was evaluated as a 48.5 MW Capacity (70.0 MW energy) injection at the AC1-189 230 kV substation in the Dominion Transmission System, for compliance with NERC Reliability Criteria on Dominion Transmission System. The system was assessed using the summer 2023 AF2 case provided to Dominion by PJM. When performing a generation analysis, Dominion's main analysis will be load flow study results under single contingency (both normal and stressed system conditions). Dominion Criteria considers a transmission facility overloaded if it exceeds 94% of its emergency rating under normal and stressed system conditions. A full listing of Dominion's Planning Criteria and interconnection requirements can be found in the Company's Facility Connection Requirements which are publicly available at: <http://www.dominionenergy.com>.

The results of these studies evaluate the system under a limited set of operating conditions and do not guarantee the full delivery of the capacity and associated energy of this proposed generation facility under all operating conditions. NERC Planning and Operating Reliability Criteria allow for the re-dispatch of generating units to resolve projected and actual deficiencies in real time and planning studies. Specifically, in Planning Studies, NERC Planning Event 3 and 6 Contingency Conditions (Loss of generator, transmission circuit, transformer, shunt device, or Single Pole of a DC line followed by the loss of a generator, transmission circuit, transformer, shunt device or single pole of a DC line) allow for re-dispatch of generating units to resolve potential reliability deficiencies. For Dominion Planning Criteria the re-dispatch of generating units for these contingency conditions is allowed as long as the projected loading does not exceed 100% of a facility Load Dump Rating.

Note that the ITO findings were made from a conceptual review of this project and cost estimate data contained in this document should be considered high level estimates since it was produced without a detailed engineering review. The applicant will be responsible for the actual cost of construction. ITO herein reserves the right to return to any issues in this document and, upon appropriate justification, request additional monies to complete any reinforcements to the transmission systems.

The total physical interconnection costs is given in the table below:

Description	Total Cost
Total Physical Interconnection Costs	\$ 0

Remote Terminal Work: During the Facilities Study, ITO's System Protection Engineering Department will review transmission line protection as well as anti-islanding required to accommodate the new generation and interconnection substation. System Protection Engineering will determine the minimal acceptable protection requirements to reliably interconnect the proposed generating facility with the transmission system. The review is based on maintaining system reliability by reviewing ITO's protection requirements with the known

transmission system configuration which includes generating facilities in the area. This review may determine that transmission line protection and communication upgrades are required at remote substations.

7 Schedule

Based on the scope of work for the interconnection facilities, it is expected to take a minimum of XX months (populate with TO schedule) after the signing of an [Interconnection Construction Service Agreement (if FERC connection) or Interconnection Agreement (if non-FERC connection)] and construction kickoff call to complete the installation of the physical connection work. This assumes that there will be no environmental issues with any of the new properties associated with this project, that there will be no delays in acquiring the necessary permits for implementing the defined interconnection work, and that all system outages will be allowed when requested.

The schedule for any required Network Impact Reinforcements will be more clearly identified in future study phases. The estimated time to complete each of the required reinforcements is identified in the "System Reinforcements" section of the report.

8 Transmission Owner Analysis

8.1 Power Flow Analysis

PJM performed a power flow analysis of the transmission system using a 2023 summer peak load flow model and the results were verified by Dominion. Additionally, Dominion performed an analysis of its transmission system and no further deficiencies were identified.

9 Interconnection Customer Requirements

9.1 System Protection

The IC must design its Customer Facilities in accordance with all applicable standards, including the standards in Dominion's "Dominion Energy Electric Transmission Generator Interconnection Requirements" documented in Dominion's Facility Interconnection Requirements "Exhibit C" located at:

<https://www.dominionenergy.com/company/moving-energy/electric-transmission-access>. Preliminary Protection requirements will be provided as part of the Facilities Study. Detailed Protection Requirements will be provided once the project enters the construction phase.

9.2 Compliance Issues and Interconnection Customer Requirements

The proposed Customer Facilities must be designed in accordance with Dominion's "Dominion's Facility Interconnection Requirements" document located at: <https://www.dominionenergy.com/company/moving-energy/electric-transmission-access>. In particular, the IC is responsible for the following:

1. The purchase and installation of a fully rated protection device (circuit breaker, circuit switcher, fuse) to protect the IC's GSU transformer(s).
2. The purchase and installation of the minimum required Dominion generation interconnection relaying and control facilities as described in the System Protection noted above. This includes over/under voltage protection, over/under frequency protection, and zero sequence voltage protection relays.
3. The purchase and installation of supervisory control and data acquisition ("SCADA") equipment to provide information in a compatible format to the Dominion Transmission System Control Center.
4. Compliance with the Dominion and PJM generator power factor and voltage control requirements.

The GSU(s) associated with the IC queue request shall meet the grounding requirements as noted in Dominion's "Dominion's Facility Interconnection Requirements" document located at:

<https://www.dominionenergy.com/company/moving-energy/electric-transmission-access>.

The IC will also be required to meet all PJM, SERC, and NERC reliability criteria and operating procedures for standards compliance. For example, the IC will need to properly locate and report the over and under voltage and over and under frequency system protection elements for its units as well as the submission of the generator model and protection data required to satisfy the PJM and SERC audits. Failure to comply with these requirements may result in a disconnection of service if the violation is found to compromise the reliability of the Dominion system.

9.3 Power Factor Requirements

The IC shall design its non-synchronous Customer Facility with the ability to maintain a power factor of at least 0.95 leading (absorbing VARs) to 0.95 lagging (supplying VARs) measured at the high-side of the facility substation transformer(s) connected to the Dominion transmission system.

10 Revenue Metering and SCADA Requirements

10.1 PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

10.2 Meteorological Data Reporting Requirements

The solar generation facility shall provide the Transmission Provider with site-specific meteorological data including:

- Back Panel temperature (Fahrenheit) - (Required for plants with Maximum Facility Output of 3 MW or higher)
- Irradiance (Watts/meter²) - (Required for plants with Maximum Facility Output of 3 MW or higher)

- Ambient air temperature (Fahrenheit) - (Accepted, not required)
- Wind speed (meters/second) - (Accepted, not required)
- Wind direction (decimal degrees from true north) - (Accepted, not required)

10.3 Interconnected Transmission Owner Requirements

The IC will be required to comply with all Interconnected Transmission Owner's revenue metering requirements for generation interconnection customers located at the following link:

<http://www.pjm.com/planning/design-engineering/to-tech-standards/>

11 Summer Peak Analysis

The Queue Project AF2-080 was evaluated as a 70.0 MW (Capacity 48.5 MW) injection as an uprate to AC1-189 which is tapping the Chinquapin to Everetts 230 kV line in the Dominion area. Project AF2-080 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-080 was studied with a commercial probability of 100.0 %. Potential network impacts were as follows:

11.1 Generation Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
97916021	314285	6CHRL249	230.0	DVP	314316	6LOCKS	230.0	DVP	1	DVP_P1-2: LN 2003	single	559.3	99.95	100.47	AC	3.06
97916228	314316	6LOCKS	230.0	DVP	314301	6HARR205	230.0	DVP	1	DVP_P1-2: LN 563	single	441.8	99.69	100.28	AC	2.62
97915925	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	Base Case	single	375.06	99.74	101.35	AC	6.21
96847384	314924	8SURRY	500.0	DVP	314903	8CHCKAHM	500.0	DVP	1	DVP_P1-2: LN 563	single	2442.12	99.9	100.14	AC	9.09

11.2 Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

11.3 Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADIN G %	POST PROJECT LOADIN G %	AC DC	MW IMPACT
95657987	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P4_#11112_05 J.FERR 765_A1	breaker	402.0	113.95	114.93	AC	4.65
95657989	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P4_#11111_05 J.FERR 765_B1	breaker	402.0	108.32	109.33	AC	4.78
157895528	313714	6PERQUIMANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P1-2: LN 246-B	single	733.2	117.68	118.76	AC	7.88
157895529	313714	6PERQUIMANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	DVP_P1-2: LN 246-A	single	733.2	117.5	118.58	AC	7.88
157895646	313885	6WALBMRL	230.0	DVP	313714	6PERQUIMANS	230.0	DVP	1	DVP_P1-2: LN 246-B	single	733.2	112.56	113.64	AC	7.88
157895647	313885	6WALBMRL	230.0	DVP	313714	6PERQUIMANS	230.0	DVP	1	DVP_P1-2: LN 246-A	single	733.2	112.39	113.47	AC	7.88
157895609	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DVP	1	DVP_P1-2: LN 246-B	single	731.32	116.62	117.7	AC	7.88
157895610	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DVP	1	DVP_P1-2: LN 246-A	single	731.32	116.45	117.54	AC	7.88
97720570	314299	6HARROWG	230.0	DVP	314263	6TYLER1	230.0	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	128.7	129.68	AC	6.17

97720565	314331	6POE	230.0	DVP	314299	6HARROWG	230.0	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	128.71	129.69	AC	6.17
97655204	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P2-2: BREMO B1	bus	830.0	109.3	110.27	AC	9.4
97655205	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	AEP_P2-2_#1377_051.FERR 765_1	bus	830.0	110.47	111.45	AC	9.55
97720626	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P4-2: 2012T2014	breaker	830.0	120.01	120.98	AC	9.41
98542550	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	120.77	122.02	AC	12.14
98542551	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P7-1: LN 56-2012-B	tower	830.0	122.36	123.23	AC	8.43
118368451	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P4-2: 2012T2146	breaker	830.0	116.15	117.01	AC	8.34
157895341	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P4-2: 206042	breaker	830.0	115.97	116.83	AC	8.33
96847727	314554	3BTLEBRO	115.0	DVP	304223	3ROCKYMT1 15T	115.0	CPL E	1	DVP_P7-1: LN 2058-2181	tower	93.0	419.38	427.67	AC	7.96
97720440	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P4-2: 209222-2	breaker	699.0	208.26	210.5	DC	15.59
97720441	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	208.26	210.5	DC	15.59
97720442	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P4-2: 2020T2144	breaker	699.0	205.06	207.29	DC	15.56
97915748	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.52	141.5	143.39	AC	10.8
97915749	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.52	140.45	142.34	AC	10.8
96847732	314574	6EVERETS	230.0	DVP	304451	6GREENVILLE	230.0	CPL E	1	DVP_P7-1: LN 2058-2181	tower	478.0	169.54	173.88	AC	20.44
145339886	314574	6EVERETS	230.0	DVP	304451	6GREENVILLE	230.0	CPL E	1	DVP_P4-2: 2020T2144	breaker	478.0	169.53	173.08	DC	16.94
157895162	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P4-2: 209222-2	breaker	699.0	203.04	205.28	DC	15.59
157895163	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	203.04	205.28	DC	15.59
157895164	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P4-2: 2020T2144	breaker	699.0	199.83	202.05	DC	15.56
157895573	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.52	134.87	136.75	AC	10.8
157895574	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.52	133.82	135.7	AC	10.8
157895682	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	DVP_P1-2: LN 246-B	single	375.06	125.37	127.48	AC	7.92
157895683	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	DVP_P1-2: LN 246-A	single	375.06	125.19	127.3	AC	7.92
157895635	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P1-2: LN 246-B	single	733.2	112.56	113.64	AC	7.88
157895636	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	DVP_P1-2: LN 246-A	single	733.2	112.39	113.48	AC	7.88
157895137	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P4-2: 246T247-A	breaker	699.0	231.18	232.56	DC	9.66
157895562	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P1-2: LN 246-B	single	733.2	115.78	116.86	AC	7.88
157895563	314662	6SHERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	DVP_P1-2: LN 246-A	single	733.2	115.61	116.69	AC	7.88
97915815	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	314572 3EMPORIA 115 925170 AB2-174 TAP 115 1	single	375.06	137.51	139.28	AC	6.63
97915819	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	Base Case	single	375.06	116.05	117.68	AC	6.19
157895663	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	DVP_P1-2: LN 246-B	single	375.06	141.92	144.04	AC	7.9
97655199	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P2-2: BREMO B1	bus	830.0	116.06	117.03	AC	9.4
97655200	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	AEP_P2-2_#1377_051.FERR 765_1	bus	830.0	115.98	116.96	AC	9.55
97720620	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P4-2: 2012T2014	breaker	830.0	120.52	121.49	AC	9.42

98542536	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P7-1: LN 2058-2181	tower	830.0	122.12	123.37	AC	12.14
98542537	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	DVP_P7-1: LN 56-2012-B	tower	830.0	122.62	123.48	AC	8.44
97720430	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P4-2: 209222-2	breaker	699.0	207.39	209.62	DC	15.59
97720431	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	207.39	209.62	DC	15.59
97915724	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2092	single	571.52	138.43	140.23	AC	10.8
97915725	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2131	single	571.52	137.4	139.21	AC	10.8
157895159	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P4-2: 2020T2144	breaker	699.0	203.02	205.24	DC	15.56

11.4 Steady-State Voltage Requirements

To be determined

11.5 Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

ID	FROM BUS#	FROM BUS	kV	FROM BUS AREA	TO BUS#	TO BUS	kV	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJE CT LOADI NG %	POST PROJE CT LOADI NG %	AC D C	MW IMPA CT
95658259	242631	05EDAN 1	138.0	AEP	242620	05DANVL2	138.0	AEP	1	AEP_P1-2_#1377	operati on	402.0	108.28	109.29	AC	4.78
97916327	313701	6CHINQUAP IN	230.0	DVP	314609	6TARBORO	230.0	DVP	1	DVP_P1-2: LN 218	operati on	441.8	102.99	111.14	AC	36.35
97915772	313714	6PERQUIM ANS	230.0	DVP	314662	6S HERTFORD	230.0	DVP	1	Base Case	operati on	733.2	195.84	196.96	AC	7.72
96847356	313845	6HATHAWA Y	230.0	DVP	304222	6ROCKYMT2 30T	230.0	CPL E	1	DVP_P1-2: LN 2181	operati on	478.0	128.19	131.46	AC	15.99
97915964	313845	6HATHAWA Y	230.0	DVP	314591	6NASH	230.0	DVP	1	DVP_P1-2: LN 2058	operati on	449.32	140.38	144.05	AC	16.69
97915859	313885	6WALBMRL	230.0	DVP	313714	6PERQUIMA NS	230.0	DVP	1	Base Case	operati on	733.2	164.28	165.36	AC	7.72
97915833	314203	6MACKEYS	230.0	DVP	314637	6EDENTON	230.0	DVP	1	Base Case	operati on	731.32	168.62	169.7	AC	7.72
97915953	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	DVP_P1-2: LN 2012-B	operati on	678.68	129.36	130.41	AC	8.32
97915957	314435	6SAPONY	230.0	DVP	314282	6CARSON	230.0	DVP	1	Base Case	operati on	678.68	114.09	115.25	AC	9.25
97916007	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	Base Case	operati on	678.68	116.26	117.43	AC	9.26
157895772	314563	6CLUBHSE	230.0	DVP	940480	AE2-033 TAP	230.0	DVP	1	DVP_P1-2: LN 246-A	operati on	678.68	150.99	152.49	AC	11.9
97916069	314564	6EDGECOM	230.0	DVP	313845	6HATHAWAY	230.0	DVP	1	DVP_P1-2: LN 218	operati on	441.8	90.67	98.68	AC	36.35
97915743	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	DVP_P1-2: LN 2092	operati on	571.52	248.61	251.34	DC	15.59

97915750	314569	6EARLEYS	230.0	DVP	314575	6NUCO TP	230.0	DVP	1	Base Case	operati on	571.52	127.07	129.21	AC	12.17
96847303	314574	6EVERETS	230.0	DVP	304451	6GREENVILE T	230.0	CPL E	1	DVP_P1-2: LN 2092	operati on	478.0	169.5	173.04	DC	16.93
96847308	314574	6EVERETS	230.0	DVP	304451	6GREENVILE T	230.0	CPL E	1	Base Case	operati on	478.0	114.89	118.08	AC	15.57
157895568	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	DVP_P1-2: LN 2092	operati on	571.52	242.24	244.97	DC	15.59
157895575	314575	6NUCO TP	230.0	DVP	957820	AF2-076 TAP	230.0	DVP	1	Base Case	operati on	571.52	120.69	122.83	AC	12.17
97915919	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	Base Case	operati on	375.06	146.6	148.63	AC	8.96
157895676	314583	6LAKEVEW	230.0	DVP	924510	AB2-100 TAP	230.0	DVP	1	DVP_P1-2: LN 246-A	operati on	375.06	183.83	186.43	AC	11.43
96847362	314591	6NASH	230.0	DVP	304226	6PA- RMOUNT#4	230.0	CPL E	1	DVP_P1-2: LN 2058	operati on	478.0	124.44	127.86	AC	16.69
97916401	314609	6TARBORO	230.0	DVP	314610	6TOTDP4	230.0	DVP	1	DVP_P1-2: LN 218	operati on	441.8	92.79	100.96	AC	36.35
97916409	314610	6TOTDP4	230.0	DVP	314564	6EDGECOM	230.0	DVP	1	DVP_P1-2: LN 218	operati on	441.8	91.32	99.48	AC	36.35
97915871	314637	6EDENTON	230.0	DVP	313885	6WALBMRL	230.0	DVP	1	Base Case	operati on	733.2	164.28	165.36	AC	7.72
97915791	314638	6ELIZ CT	230.0	DVP	314647	6SHAWBRO	230.0	DVP	1	DVP_P1-2: LN 247	operati on	571.52	245.25	246.48	AC	6.57
97915784	314662	6S HERTFORD	230.0	DVP	314651	6WINFALL	230.0	DVP	1	Base Case	operati on	733.2	191.98	193.09	AC	7.72
97915813	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	Base Case	operati on	375.06	166.57	168.61	AC	8.94
157895657	924510	AB2-100 TAP	230.0	DVP	314563	6CLUBHSE	230.0	DVP	1	DVP_P1-2: LN 246-B	operati on	375.06	204.94	207.54	AC	11.4
97916430	927020	AC1-189 TAP	230.0	DVP	313701	6CHINQUAPI N	230.0	DVP	1	DVP_P1-2: LN 218	operati on	441.8	87.54	95.67	AC	36.37
97916079	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	314266 6NORTHAMP TON 230 936400 AD2- 051 TAP 230 1	operati on	678.68	142.22	143.27	AC	8.33
97916080	940480	AE2-033 TAP	230.0	DVP	314435	6SAPONY	230.0	DVP	1	Base Case	operati on	678.68	123.81	124.98	AC	9.26
97915719	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	DVP_P1-2: LN 2092	operati on	571.52	247.55	250.28	DC	15.59
97915726	957820	AF2-076 TAP	230.0	DVP	314537	6SUFFOLK	230.0	DVP	1	Base Case	operati on	571.52	127.51	129.59	AC	12.17

11.6 System Reinforcements

ID	Idx	Facility	Upgrade Description	Cost	Cost Allocated to AF2-080	Upgrade Number
95657987,95657989	6	05EDAN 1 138.0 kV - 05DANVL2 138.0 kV Ckt 1	<p>AEP ProjectId : n6124 Description : PJM Network Upgrade n6124. Increasing the Danville East Danville 138 kV circuit summer rating to 572/572/572 MVA will still require us to rebuild the line. The network project has a projected in-service date of 06/01/2021. Type : FAC Total Cost : \$9,000,000 Time Estimate : Months Ratings : 572.0/572.0/572.0</p> <p>Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	\$9,000,000	\$0	n6124
98542536,98542537,97655199,97655200,97720620	20	AE2-033 TAP 230.0 kV - 6SAPONY 230.0 kV Ckt 1	<p>DVP ProjectId : n6452 (dom-050) Description : Rebuild 2.47 miles of 230 kV Line 238 from AE2-033 TAP to Sapony with 2-795 150C ACSR. Type : FAC Total Cost : \$3,705,000 Time Estimate : 30-36 Months Ratings : 1225.0/1225.0/1409.0</p> <p>This constraint is driven by a prior queue. Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	\$3,705,000	\$0	n6452

97916021	1	6CHRL249 230.0 kV - 6LOCKS 230.0 kV Ckt 1	<p>DVP ProjectId : n6116 (dom-079) Description : Rebuild 2.86 miles of 230 kV Line 249 from Chaparral to Locks with 2-636 ACSR. Type : FAC Total Cost : \$7,150,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <p>Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	\$7,150,000	\$0	n6116																																																												
97720442,97720441,97720440,97915748,97915749	14	GEARLEYS 230.0 kV - 6NUCO TP 230.0 kV Ckt 1	<p>DVP ProjectId : n6138 (dom-017) Description : Rebuild 13.7 miles of 230 kV Line 246 from Earleys to Nucor Tap with 2-636 ACSR. Type : FAC Total Cost : \$20,550,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1" data-bbox="586 1131 1122 1381"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AF1-000</td><td>71.66</td><td>17.79%</td><td>\$3,655,578</td></tr> <tr><td>AE2-033</td><td>20.86</td><td>5.18%</td><td>\$1,064,127</td></tr> <tr><td>AE2-034</td><td>14.83</td><td>3.68%</td><td>\$756,520</td></tr> <tr><td>AE2-260</td><td>8.32</td><td>2.07%</td><td>\$424,427</td></tr> <tr><td>AF1-059</td><td>8.35</td><td>2.07%</td><td>\$425,957</td></tr> <tr><td>AF1-236</td><td>163.38</td><td>40.56%</td><td>\$8,334,473</td></tr> <tr><td>AF1-266</td><td>15.89</td><td>3.94%</td><td>\$810,594</td></tr> <tr><td>AF2-046</td><td>30.67</td><td>7.61%</td><td>\$1,564,563</td></tr> <tr><td>AF2-047</td><td>53.29</td><td>13.23%</td><td>\$2,718,473</td></tr> <tr><td>AF2-080</td><td>15.59</td><td>3.87%</td><td>\$795,290</td></tr> </tbody> </table> <p>ProjectId : n6138.1 (dom-315) Description : Rebuild 13.7 miles of 230 kV Line 246 from Earleys to Nucor Tap with 2-768.2 ACSS 250 C. Replace Wave Trap and Line Lead at Earleys terminal. Replace Line Switch at Nucor Tap Terminal. Type : FAC Total Cost : \$21,000,000 Time Estimate : 36-40 Months Ratings : 1573.0/1573.0/1593.0</p> <table border="1" data-bbox="586 1730 1122 1822"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AF2-046</td><td>30.67</td><td>30.81%</td><td>\$6,469,814</td></tr> <tr><td>AF2-047</td><td>53.29</td><td>53.53%</td><td>\$11,241,487</td></tr> <tr><td>AF2-080</td><td>15.59</td><td>15.66%</td><td>\$3,288,699</td></tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AF1-000	71.66	17.79%	\$3,655,578	AE2-033	20.86	5.18%	\$1,064,127	AE2-034	14.83	3.68%	\$756,520	AE2-260	8.32	2.07%	\$424,427	AF1-059	8.35	2.07%	\$425,957	AF1-236	163.38	40.56%	\$8,334,473	AF1-266	15.89	3.94%	\$810,594	AF2-046	30.67	7.61%	\$1,564,563	AF2-047	53.29	13.23%	\$2,718,473	AF2-080	15.59	3.87%	\$795,290	Queue	MW	Cost %	Cost \$	AF2-046	30.67	30.81%	\$6,469,814	AF2-047	53.29	53.53%	\$11,241,487	AF2-080	15.59	15.66%	\$3,288,699	\$20,550,000 + \$21,000,000	\$795,290 + \$3,288,699	n6138 n6138.1
Queue	MW	Cost %	Cost \$																																																															
AF1-000	71.66	17.79%	\$3,655,578																																																															
AE2-033	20.86	5.18%	\$1,064,127																																																															
AE2-034	14.83	3.68%	\$756,520																																																															
AE2-260	8.32	2.07%	\$424,427																																																															
AF1-059	8.35	2.07%	\$425,957																																																															
AF1-236	163.38	40.56%	\$8,334,473																																																															
AF1-266	15.89	3.94%	\$810,594																																																															
AF2-046	30.67	7.61%	\$1,564,563																																																															
AF2-047	53.29	13.23%	\$2,718,473																																																															
AF2-080	15.59	3.87%	\$795,290																																																															
Queue	MW	Cost %	Cost \$																																																															
AF2-046	30.67	30.81%	\$6,469,814																																																															
AF2-047	53.29	53.53%	\$11,241,487																																																															
AF2-080	15.59	15.66%	\$3,288,699																																																															

<p>157895574,157895163,157895162,157895164,157895573</p>	<p>15</p>	<p>6NUCO TP 230.0 kV - AF2-076 TAP 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n7157 (dom-317) Description : Rebuild 26.63 miles of 230 kV Line 246 from Nucor Tap to AF2-076 Tap with 2-768.2 ACSS 250 C. Replace Line Switch at Nucor Tap terminal. Type : FAC Total Cost : \$40,195,000 Time Estimate : 36-40 Months Ratings : 1572.0/1572.0/1808.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AF2-046</td> <td>30.67</td> <td>30.81%</td> <td>\$12,383,532</td> </tr> <tr> <td>AF2-047</td> <td>53.29</td> <td>53.53%</td> <td>\$21,516,741</td> </tr> <tr> <td>AF2-080</td> <td>15.59</td> <td>15.66%</td> <td>\$6,294,727</td> </tr> </tbody> </table> <p>ProjectId : n7158 (dom-243) Description : Rebuild 2.8 miles of 230 kV Line 246 from AF2-076 Tap to Suffolk with 2-768 ACSS. Type : FAC Total Cost : \$4,200,000 Time Estimate : 36-40 Months Ratings : 1195.0/1195.0/1593.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AF2-046</td> <td>30.67</td> <td>21.60%</td> <td>\$907,396</td> </tr> <tr> <td>AF2-047</td> <td>53.29</td> <td>37.54%</td> <td>\$1,576,627</td> </tr> <tr> <td>AF2-076</td> <td>42.41</td> <td>29.87%</td> <td>\$1,254,734</td> </tr> <tr> <td>AF2-080</td> <td>15.59</td> <td>10.98%</td> <td>\$461,243</td> </tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AF2-046	30.67	30.81%	\$12,383,532	AF2-047	53.29	53.53%	\$21,516,741	AF2-080	15.59	15.66%	\$6,294,727	Queue	MW	Cost %	Cost \$	AF2-046	30.67	21.60%	\$907,396	AF2-047	53.29	37.54%	\$1,576,627	AF2-076	42.41	29.87%	\$1,254,734	AF2-080	15.59	10.98%	\$461,243	<p>\$40,195,000 + \$4,200,000 + \$4,200,000</p>	<p>\$6,294,727 + \$461,243 + \$1,850,098</p>	<p>n7157 n7158 n6849</p>								
Queue	MW	Cost %	Cost \$																																															
AF2-046	30.67	30.81%	\$12,383,532																																															
AF2-047	53.29	53.53%	\$21,516,741																																															
AF2-080	15.59	15.66%	\$6,294,727																																															
Queue	MW	Cost %	Cost \$																																															
AF2-046	30.67	21.60%	\$907,396																																															
AF2-047	53.29	37.54%	\$1,576,627																																															
AF2-076	42.41	29.87%	\$1,254,734																																															
AF2-080	15.59	10.98%	\$461,243																																															
<p>97915724,97915725,97720430,97720431,157895159</p>	<p>21</p>	<p>AF2-076 TAP 230.0 kV - 6SUFFOLK 230.0 kV Ckt 1</p>	<p>ProjectId : n6849 (dom-221) Description : Rebuild 30.6 miles of 230 kV Line 246 from Nuco TP to Suffolk with 2-636 ACSR. Type : FAC Total Cost : \$45,900,000 Time Estimate : 48-60 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>TBD</td> <td>34.05</td> <td>8.80%</td> <td>\$4,040,785</td> </tr> <tr> <td>AE2-034</td> <td>14.83</td> <td>3.83%</td> <td>\$1,759,907</td> </tr> <tr> <td>AE2-260</td> <td>8.32</td> <td>2.15%</td> <td>\$987,352</td> </tr> <tr> <td>AF1-059</td> <td>8.35</td> <td>2.16%</td> <td>\$990,912</td> </tr> <tr> <td>AF1-236</td> <td>163.38</td> <td>42.24%</td> <td>\$19,388,650</td> </tr> <tr> <td>AF1-266</td> <td>15.89</td> <td>4.11%</td> <td>\$1,885,700</td> </tr> <tr> <td>AF2-046</td> <td>30.67</td> <td>7.93%</td> <td>\$3,639,674</td> </tr> <tr> <td>AF2-047</td> <td>53.29</td> <td>13.78%</td> <td>\$6,324,037</td> </tr> <tr> <td>AF2-076</td> <td>42.41</td> <td>10.96%</td> <td>\$5,032,884</td> </tr> <tr> <td>AF2-080</td> <td>15.59</td> <td>4.03%</td> <td>\$1,850,098</td> </tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	TBD	34.05	8.80%	\$4,040,785	AE2-034	14.83	3.83%	\$1,759,907	AE2-260	8.32	2.15%	\$987,352	AF1-059	8.35	2.16%	\$990,912	AF1-236	163.38	42.24%	\$19,388,650	AF1-266	15.89	4.11%	\$1,885,700	AF2-046	30.67	7.93%	\$3,639,674	AF2-047	53.29	13.78%	\$6,324,037	AF2-076	42.41	10.96%	\$5,032,884	AF2-080	15.59	4.03%	\$1,850,098			
Queue	MW	Cost %	Cost \$																																															
TBD	34.05	8.80%	\$4,040,785																																															
AE2-034	14.83	3.83%	\$1,759,907																																															
AE2-260	8.32	2.15%	\$987,352																																															
AF1-059	8.35	2.16%	\$990,912																																															
AF1-236	163.38	42.24%	\$19,388,650																																															
AF1-266	15.89	4.11%	\$1,885,700																																															
AF2-046	30.67	7.93%	\$3,639,674																																															
AF2-047	53.29	13.78%	\$6,324,037																																															
AF2-076	42.41	10.96%	\$5,032,884																																															
AF2-080	15.59	4.03%	\$1,850,098																																															

<p>157895563,157 895562</p>	<p>18</p>	<p>6S HERTFORD 230.0 kV - 6WINFALL 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6439 Description : Rebuild 3.3 miles of 230 kV Line 2131 from South Hertford to Winfall with 2-636 ACSR. Type : FAC Total Cost : \$4,950,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <p>This constraint is driven by a prior queue. Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	<p>\$4,950,000 + \$23,600,000</p>	<p>\$0 + \$148,677</p>	<p>n6869 n6439</p>																				
<p>157895529,157 895528</p>	<p>7</p>	<p>6PERQUIMANS 230.0 kV - 6S HERTFORD 230.0 kV Ckt 1</p>	<p>ProjectId : n6869 (dom-257) Description : Wreck and rebuild 8.0 miles of existing single circuit line 2131 between Winfall to Perquimans 230 kV. Add new circuit between Winfall to Perquimans 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a Breaker at Perquimans 230 kV and two breakers at Winfall 230 kV. Type : CON Total Cost : \$23,600,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1" data-bbox="586 1182 1123 1297"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AF1-236</td> <td>1094.3</td> <td>87.49%</td> <td>\$20,646,840</td> </tr> <tr> <td>AF2-046</td> <td>12.99</td> <td>1.04%</td> <td>\$245,090</td> </tr> <tr> <td>AF2-047</td> <td>135.65</td> <td>10.84%</td> <td>\$2,559,393</td> </tr> <tr> <td>AF2-080</td> <td>7.88</td> <td>0.63%</td> <td>\$148,677</td> </tr> </tbody> </table> <p>The upgrades will need to be tested during the Facilities Study phase to ensure the upgrade mitigates the identified violations and also does not cause any additional violations.</p>	Queue	MW	Cost %	Cost \$	AF1-236	1094.3	87.49%	\$20,646,840	AF2-046	12.99	1.04%	\$245,090	AF2-047	135.65	10.84%	\$2,559,393	AF2-080	7.88	0.63%	\$148,677			
Queue	MW	Cost %	Cost \$																							
AF1-236	1094.3	87.49%	\$20,646,840																							
AF2-046	12.99	1.04%	\$245,090																							
AF2-047	135.65	10.84%	\$2,559,393																							
AF2-080	7.88	0.63%	\$148,677																							

<p>97655204,9765 5205,11836845 1,157895341,97 720626,985425 50,98542551</p>	<p>12</p>	<p>6SAPONY 230.0 kV - 6CARSON 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6221 (dom-051) Description : Rebuild 11.79 miles of 230 kV Line 238 from Sapony to Carson with 2-795 150C ACSR. Type : FAC Total Cost : \$17,685,000 Time Estimate : 30-36 Months Ratings : 1225.0/1225.0/1409.0</p> <table border="1" data-bbox="586 457 1122 615"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AE1-148</td> <td>7.77</td> <td>4.69%</td> <td>\$829,535</td> </tr> <tr> <td>AE2-260</td> <td>46.16</td> <td>27.87%</td> <td>\$4,928,099</td> </tr> <tr> <td>AF1-059</td> <td>27.21</td> <td>16.43%</td> <td>\$2,904,973</td> </tr> <tr> <td>AF1-266</td> <td>53.56</td> <td>32.33%</td> <td>\$5,718,132</td> </tr> <tr> <td>AF2-046</td> <td>22.52</td> <td>13.59%</td> <td>\$2,404,263</td> </tr> <tr> <td>AF2-080</td> <td>8.43</td> <td>5.09%</td> <td>\$899,997</td> </tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AE1-148	7.77	4.69%	\$829,535	AE2-260	46.16	27.87%	\$4,928,099	AF1-059	27.21	16.43%	\$2,904,973	AF1-266	53.56	32.33%	\$5,718,132	AF2-046	22.52	13.59%	\$2,404,263	AF2-080	8.43	5.09%	\$899,997	<p>\$17,685,000</p>	<p>\$899,997</p>	<p>n6221</p>
Queue	MW	Cost %	Cost \$																															
AE1-148	7.77	4.69%	\$829,535																															
AE2-260	46.16	27.87%	\$4,928,099																															
AF1-059	27.21	16.43%	\$2,904,973																															
AF1-266	53.56	32.33%	\$5,718,132																															
AF2-046	22.52	13.59%	\$2,404,263																															
AF2-080	8.43	5.09%	\$899,997																															
<p>157895635,157 895636</p>	<p>16</p>	<p>6EDENTON 230.0 kV - 6WALBMRL 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6870 (dom-203) Description : Wreck and rebuild 16.7 miles of existing single circuit line 2131 between Mackeys to Perquimans 230 kV. Add new circuit between Mackeys to Perquimans 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a breaker at each 230 kV terminal. Type : CON Total Cost : \$44,150,000 Time Estimate : 36-40 Months Ratings : 1047.0/1047.0/1204.0</p>	<p>\$44,150,000</p>	<p>\$353,118</p>	<p>n6870</p>																												
<p>157895646,157 895647</p>	<p>8</p>	<p>6WALBMRL 230.0 kV - 6PERQUIMANS 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6870 (dom-203) Description : Wreck and rebuild 16.7 miles of existing single circuit line 2131 between Mackeys to Perquimans 230 kV. Add new circuit between Mackeys to Perquimans 230 kV, constructed as a double circuit line. Utilize 2-636 ACSR for all new and modified circuits. Add a breaker at each 230 kV terminal. Type : CON Total Cost : \$44,150,000 Time Estimate : 36-40 Months Ratings : 1047.0/1047.0/1204.0</p>	<p>\$44,150,000</p>	<p>\$353,118</p>	<p>n6870</p>																												
<p>157895610,157 895609</p>	<p>9</p>	<p>6MACKEYS 230.0 kV - 6EDENTON 230.0 kV Ckt 1</p>	<p>The upgrades will need to be tested during the Facilities Study phase to ensure the upgrade mitigates the identified violations and also does not cause any additional violations.</p>	<p></p>	<p></p>	<p></p>																												
<p>157895683,157 895682,979159 25</p>	<p>4</p>	<p>6LAKEVEW 230.0 kV - AB2- 100 TAP 230.0 kV Ckt 1</p>	<p>DVP ProjectId : b3121 Description : PJM Baseline Upgrade b3121. Rebuild Clubhouse-Lakeview 230 kV Line #254 with single-circuit wood pole equivalent structures at the current 230 kV standard with a minimum rating of 1047 MVA. The baseline project has a projected in-service date of 12/31/2024. Type : FAC Total Cost : \$0 Time Estimate : N/A Months Ratings : 1047.0/1047.0/1204.0</p>	<p>\$0</p>	<p>\$0</p>	<p>b3121</p>																												
<p>157895663,979 15819,9791581 5</p>	<p>19</p>	<p>AB2-100 TAP 230.0 kV - 6CLUBHSE 230.0 kV Ckt 1</p>	<p>Although Queue Project AF2-242 may not have cost responsibility for this upgrade, Queue Project AF2-242 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-242 comes into service prior to completion of the upgrade, Queue Project AF2-242 will need an interim study</p>	<p>\$0</p>	<p>\$0</p>	<p>b3121</p>																												

<p>145339886,968 47732,9684730 9</p>	<p>3</p>	<p>6EVERETS 230.0 kV - 6GREENVILE T 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6144 (dom-173) Description : Rebuild 20.32 miles of 230 kV Line 218 from Everetts to Greenville with 2-636 ACSR Type : FAC Total Cost : \$30,750,000 Time Estimate : 30-36 Months Ratings : 1046.0/1046.0/1203.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AD1-023</td><td>18.24</td><td>4.27%</td><td>\$1,313,475</td></tr> <tr><td>AD1-057</td><td>13.49</td><td>3.16%</td><td>\$971,424</td></tr> <tr><td>AD1-076</td><td>82.59</td><td>19.34%</td><td>\$5,947,362</td></tr> <tr><td>AD2-051</td><td>13.6</td><td>3.18%</td><td>\$979,345</td></tr> <tr><td>AE1-072</td><td>10.17</td><td>2.38%</td><td>\$732,349</td></tr> <tr><td>AE2-034</td><td>9.12</td><td>2.14%</td><td>\$656,737</td></tr> <tr><td>AE2-147</td><td>13.37</td><td>3.13%</td><td>\$962,783</td></tr> <tr><td>AE2-260</td><td>16.56</td><td>3.88%</td><td>\$1,192,497</td></tr> <tr><td>AF1-236</td><td>178.73</td><td>41.86%</td><td>\$12,870,469</td></tr> <tr><td>AF2-046</td><td>18.76</td><td>4.39%</td><td>\$1,350,920</td></tr> <tr><td>AF2-047</td><td>31.95</td><td>7.48%</td><td>\$2,300,741</td></tr> <tr><td>AF2-080</td><td>20.44</td><td>4.79%</td><td>\$1,471,898</td></tr> </tbody> </table> <p>ProjectId : dep0003 Description : Reconnector 2 miles with double 795 ACSS-TW per phase, upgrade disconnect switches and CT ratios Type : FAC Total Cost : \$9,000,000 Time Estimate : 36.0 Months Ratings : 1195/1195/1195 Notes : CPLE Reinforcement now cost allocated for 2021 AF2</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AD1-023</td><td>18.24</td><td>4.27%</td><td>\$384,432</td></tr> <tr><td>AD1-057</td><td>13.49</td><td>3.16%</td><td>\$284,319</td></tr> <tr><td>AD1-076</td><td>82.59</td><td>19.34%</td><td>\$1,740,691</td></tr> <tr><td>AD2-051</td><td>13.6</td><td>3.18%</td><td>\$286,638</td></tr> <tr><td>AE1-072</td><td>10.17</td><td>2.38%</td><td>\$214,346</td></tr> <tr><td>AE2-034</td><td>9.12</td><td>2.14%</td><td>\$192,216</td></tr> <tr><td>AE2-147</td><td>13.37</td><td>3.13%</td><td>\$281,790</td></tr> <tr><td>AE2-260</td><td>16.56</td><td>3.88%</td><td>\$349,023</td></tr> <tr><td>AF1-236</td><td>178.73</td><td>41.86%</td><td>\$3,766,966</td></tr> <tr><td>AF2-046</td><td>18.76</td><td>4.39%</td><td>\$395,391</td></tr> <tr><td>AF2-047</td><td>31.95</td><td>7.48%</td><td>\$673,388</td></tr> <tr><td>AF2-080</td><td>20.44</td><td>4.79%</td><td>\$430,799</td></tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AD1-023	18.24	4.27%	\$1,313,475	AD1-057	13.49	3.16%	\$971,424	AD1-076	82.59	19.34%	\$5,947,362	AD2-051	13.6	3.18%	\$979,345	AE1-072	10.17	2.38%	\$732,349	AE2-034	9.12	2.14%	\$656,737	AE2-147	13.37	3.13%	\$962,783	AE2-260	16.56	3.88%	\$1,192,497	AF1-236	178.73	41.86%	\$12,870,469	AF2-046	18.76	4.39%	\$1,350,920	AF2-047	31.95	7.48%	\$2,300,741	AF2-080	20.44	4.79%	\$1,471,898	Queue	MW	Cost %	Cost \$	AD1-023	18.24	4.27%	\$384,432	AD1-057	13.49	3.16%	\$284,319	AD1-076	82.59	19.34%	\$1,740,691	AD2-051	13.6	3.18%	\$286,638	AE1-072	10.17	2.38%	\$214,346	AE2-034	9.12	2.14%	\$192,216	AE2-147	13.37	3.13%	\$281,790	AE2-260	16.56	3.88%	\$349,023	AF1-236	178.73	41.86%	\$3,766,966	AF2-046	18.76	4.39%	\$395,391	AF2-047	31.95	7.48%	\$673,388	AF2-080	20.44	4.79%	\$430,799	<p>\$30,750,000 + \$30,750,000</p>	<p>\$1,471,898 + \$430,799</p>	<p>n6144</p>
Queue	MW	Cost %	Cost \$																																																																																																											
AD1-023	18.24	4.27%	\$1,313,475																																																																																																											
AD1-057	13.49	3.16%	\$971,424																																																																																																											
AD1-076	82.59	19.34%	\$5,947,362																																																																																																											
AD2-051	13.6	3.18%	\$979,345																																																																																																											
AE1-072	10.17	2.38%	\$732,349																																																																																																											
AE2-034	9.12	2.14%	\$656,737																																																																																																											
AE2-147	13.37	3.13%	\$962,783																																																																																																											
AE2-260	16.56	3.88%	\$1,192,497																																																																																																											
AF1-236	178.73	41.86%	\$12,870,469																																																																																																											
AF2-046	18.76	4.39%	\$1,350,920																																																																																																											
AF2-047	31.95	7.48%	\$2,300,741																																																																																																											
AF2-080	20.44	4.79%	\$1,471,898																																																																																																											
Queue	MW	Cost %	Cost \$																																																																																																											
AD1-023	18.24	4.27%	\$384,432																																																																																																											
AD1-057	13.49	3.16%	\$284,319																																																																																																											
AD1-076	82.59	19.34%	\$1,740,691																																																																																																											
AD2-051	13.6	3.18%	\$286,638																																																																																																											
AE1-072	10.17	2.38%	\$214,346																																																																																																											
AE2-034	9.12	2.14%	\$192,216																																																																																																											
AE2-147	13.37	3.13%	\$281,790																																																																																																											
AE2-260	16.56	3.88%	\$349,023																																																																																																											
AF1-236	178.73	41.86%	\$3,766,966																																																																																																											
AF2-046	18.76	4.39%	\$395,391																																																																																																											
AF2-047	31.95	7.48%	\$673,388																																																																																																											
AF2-080	20.44	4.79%	\$430,799																																																																																																											

<p>96847727</p>	<p>13</p>	<p>3BTLEBRO 115.0 kV - 3ROCKYMT115T 115.0 kV Ckt 1</p>	<p>DVP Potential Remedies (See Note 2) ProjectId : n7147 (dom-007) Description : Build new 500 kV line between Everetts and Suffolk. Project Type : CON Cost : \$570,000,000 Time Estimate : 48-60 Months</p> <p>ProjectId : n6618 Description : 1. Split the 155 kV Bus at Hathaway into two separate buses with a 115 kV Line on each bus. 2. Rebuild Line #55 (Tarboro – Anaconda) and close the tie switch between Line 55 & 80. 3. Line #1001 is opened at Battleboro thus making Line #1001 radial from Chestnut Substation Project Type : CON Cost : \$6,900,000 Time Estimate : 20 Months</p> <p>CPLE ProjectId : dep0007 Description : Install a phase shifting transformer (PST), aka phase angle regulator (PAR), in the Rocky Mount - Battleboro 115kV line. Type : FAC Total Cost : \$25,000,000 Time Estimate : 36.0 Months Ratings : 301.0/301.0/301.0</p> <table border="1" data-bbox="586 999 1122 1360"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AC1-034</td><td>21.17</td><td>10.14%</td><td>\$2,534,722</td></tr> <tr><td>AC1-086</td><td>20.92</td><td>10.02%</td><td>\$2,504,789</td></tr> <tr><td>AC1-189</td><td>7.72</td><td>3.70%</td><td>\$924,330</td></tr> <tr><td>AC1-208</td><td>18.09</td><td>8.66%</td><td>\$2,165,948</td></tr> <tr><td>AC2-084</td><td>17.02</td><td>8.15%</td><td>\$2,037,835</td></tr> <tr><td>AD1-023</td><td>7.27</td><td>3.48%</td><td>\$870,450</td></tr> <tr><td>AD1-057</td><td>17.02</td><td>8.15%</td><td>\$2,037,835</td></tr> <tr><td>AE2-044</td><td>14.38</td><td>6.89%</td><td>\$1,721,743</td></tr> <tr><td>AE2-260</td><td>15.04</td><td>7.20%</td><td>\$1,800,766</td></tr> <tr><td>AF1-082</td><td>7.38</td><td>3.53%</td><td>\$883,621</td></tr> <tr><td>AF1-123</td><td>14.1</td><td>6.75%</td><td>\$1,688,218</td></tr> <tr><td>AF1-124</td><td>14.1</td><td>6.75%</td><td>\$1,688,218</td></tr> <tr><td>AF1-125</td><td>14.1</td><td>6.75%</td><td>\$1,688,218</td></tr> <tr><td>AF2-046</td><td>12.53</td><td>6.00%</td><td>\$1,500,239</td></tr> <tr><td>AF2-080</td><td>7.96</td><td>3.81%</td><td>\$953,065</td></tr> </tbody> </table> <p>Note 1: Mitigations have been identified to achieve a DEP end rating of 301/301/301 MVA. However, no queue customer has yet officially agreed to construct the upgrade. Therefore, no construction plans have been put in place to date.</p> <p>Note 2: PJM is coordinating with Duke Energy Progress (DEP) and Dominion Energy (DVP) to evaluate remedies to alleviate the higher loading seen in the AF2 study on the Battleboro to Rocky Mountain 115 kV line. Reinforcements for the PJM queue project driving the need for this upgrade have been scoped while the best solution for the loading seen in AF2 is still being evaluated by both DEP and DVP.</p> <p>The upgrades will need to be tested during the Facilities Study phase to ensure the upgrade mitigates the identified violations and also does not cause any additional violations.</p>	Queue	MW	Cost %	Cost \$	AC1-034	21.17	10.14%	\$2,534,722	AC1-086	20.92	10.02%	\$2,504,789	AC1-189	7.72	3.70%	\$924,330	AC1-208	18.09	8.66%	\$2,165,948	AC2-084	17.02	8.15%	\$2,037,835	AD1-023	7.27	3.48%	\$870,450	AD1-057	17.02	8.15%	\$2,037,835	AE2-044	14.38	6.89%	\$1,721,743	AE2-260	15.04	7.20%	\$1,800,766	AF1-082	7.38	3.53%	\$883,621	AF1-123	14.1	6.75%	\$1,688,218	AF1-124	14.1	6.75%	\$1,688,218	AF1-125	14.1	6.75%	\$1,688,218	AF2-046	12.53	6.00%	\$1,500,239	AF2-080	7.96	3.81%	\$953,065	<p>\$570,000,000 + \$6,900,000 + \$25,000,000</p>	<p>\$0 + \$0 + \$953,065</p>	<p>n7147 n6618</p>
Queue	MW	Cost %	Cost \$																																																																			
AC1-034	21.17	10.14%	\$2,534,722																																																																			
AC1-086	20.92	10.02%	\$2,504,789																																																																			
AC1-189	7.72	3.70%	\$924,330																																																																			
AC1-208	18.09	8.66%	\$2,165,948																																																																			
AC2-084	17.02	8.15%	\$2,037,835																																																																			
AD1-023	7.27	3.48%	\$870,450																																																																			
AD1-057	17.02	8.15%	\$2,037,835																																																																			
AE2-044	14.38	6.89%	\$1,721,743																																																																			
AE2-260	15.04	7.20%	\$1,800,766																																																																			
AF1-082	7.38	3.53%	\$883,621																																																																			
AF1-123	14.1	6.75%	\$1,688,218																																																																			
AF1-124	14.1	6.75%	\$1,688,218																																																																			
AF1-125	14.1	6.75%	\$1,688,218																																																																			
AF2-046	12.53	6.00%	\$1,500,239																																																																			
AF2-080	7.96	3.81%	\$953,065																																																																			

<p>97720570</p>	<p>10</p>	<p>6HARROWG 230.0 kV - 6TYLER1 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6178 (dom-036) Description : Rebuild 4.5 miles of 230 kV Line 2003 from Harrowgate to Tyler with 2-636 ACSR. Type : FAC Total Cost : \$11,250,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AE1-173</td><td>23.05</td><td>9.53%</td><td>\$1,072,027</td></tr> <tr><td>AE2-000B</td><td>11.36</td><td>4.70%</td><td>\$528,339</td></tr> <tr><td>AE2-031</td><td>22.29</td><td>9.21%</td><td>\$1,036,680</td></tr> <tr><td>AE2-033</td><td>21.38</td><td>8.84%</td><td>\$994,357</td></tr> <tr><td>AE2-040</td><td>7.41</td><td>3.06%</td><td>\$344,630</td></tr> <tr><td>AE2-052</td><td>6.17</td><td>2.55%</td><td>\$286,959</td></tr> <tr><td>AE2-094</td><td>23.32</td><td>9.64%</td><td>\$1,084,584</td></tr> <tr><td>AE2-260</td><td>23.63</td><td>9.77%</td><td>\$1,099,002</td></tr> <tr><td>AE2-313</td><td>24.1</td><td>9.96%</td><td>\$1,120,861</td></tr> <tr><td>AF1-059</td><td>7.49</td><td>3.10%</td><td>\$348,350</td></tr> <tr><td>AF1-069</td><td>7.27</td><td>3.01%</td><td>\$338,119</td></tr> <tr><td>AF1-246</td><td>6.43</td><td>2.66%</td><td>\$299,051</td></tr> <tr><td>AF1-266</td><td>10.67</td><td>4.41%</td><td>\$496,248</td></tr> <tr><td>AF2-042</td><td>31.91</td><td>13.19%</td><td>\$1,484,094</td></tr> <tr><td>AF2-046</td><td>9.24</td><td>3.82%</td><td>\$429,741</td></tr> <tr><td>AF2-080</td><td>6.17</td><td>2.55%</td><td>\$286,959</td></tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AE1-173	23.05	9.53%	\$1,072,027	AE2-000B	11.36	4.70%	\$528,339	AE2-031	22.29	9.21%	\$1,036,680	AE2-033	21.38	8.84%	\$994,357	AE2-040	7.41	3.06%	\$344,630	AE2-052	6.17	2.55%	\$286,959	AE2-094	23.32	9.64%	\$1,084,584	AE2-260	23.63	9.77%	\$1,099,002	AE2-313	24.1	9.96%	\$1,120,861	AF1-059	7.49	3.10%	\$348,350	AF1-069	7.27	3.01%	\$338,119	AF1-246	6.43	2.66%	\$299,051	AF1-266	10.67	4.41%	\$496,248	AF2-042	31.91	13.19%	\$1,484,094	AF2-046	9.24	3.82%	\$429,741	AF2-080	6.17	2.55%	\$286,959	<p>\$11,250,000</p>	<p>\$286,959</p>	<p>n6178</p>
Queue	MW	Cost %	Cost \$																																																																							
AE1-173	23.05	9.53%	\$1,072,027																																																																							
AE2-000B	11.36	4.70%	\$528,339																																																																							
AE2-031	22.29	9.21%	\$1,036,680																																																																							
AE2-033	21.38	8.84%	\$994,357																																																																							
AE2-040	7.41	3.06%	\$344,630																																																																							
AE2-052	6.17	2.55%	\$286,959																																																																							
AE2-094	23.32	9.64%	\$1,084,584																																																																							
AE2-260	23.63	9.77%	\$1,099,002																																																																							
AE2-313	24.1	9.96%	\$1,120,861																																																																							
AF1-059	7.49	3.10%	\$348,350																																																																							
AF1-069	7.27	3.01%	\$338,119																																																																							
AF1-246	6.43	2.66%	\$299,051																																																																							
AF1-266	10.67	4.41%	\$496,248																																																																							
AF2-042	31.91	13.19%	\$1,484,094																																																																							
AF2-046	9.24	3.82%	\$429,741																																																																							
AF2-080	6.17	2.55%	\$286,959																																																																							
<p>97720565</p>	<p>11</p>	<p>6POE 230.0 kV - 6HARROWG 230.0 kV Ckt 1</p>	<p>DVP ProjectId : n6179 (dom-037) Description : Rebuild 12.3 miles of 230 kV Line 2003 from Poe to Harrowgate with 2-636 ACSR. Type : FAC Total Cost : \$30,750,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr><td>AE1-173</td><td>22.4</td><td>9.20%</td><td>\$2,829,459</td></tr> <tr><td>AE2-000B</td><td>13.56</td><td>5.57%</td><td>\$1,712,833</td></tr> <tr><td>AE2-031</td><td>22.29</td><td>9.16%</td><td>\$2,815,564</td></tr> <tr><td>AE2-033</td><td>21.38</td><td>8.78%</td><td>\$2,700,617</td></tr> <tr><td>AE2-040</td><td>7.41</td><td>3.04%</td><td>\$935,995</td></tr> <tr><td>AE2-052</td><td>6.17</td><td>2.53%</td><td>\$779,213</td></tr> <tr><td>AE2-094</td><td>23.32</td><td>9.58%</td><td>\$2,945,668</td></tr> <tr><td>AE2-260</td><td>23.63</td><td>9.71%</td><td>\$2,984,826</td></tr> <tr><td>AE2-313</td><td>24.1</td><td>9.90%</td><td>\$3,044,194</td></tr> <tr><td>AF1-059</td><td>7.49</td><td>3.08%</td><td>\$946,100</td></tr> <tr><td>AF1-069</td><td>7.27</td><td>2.99%</td><td>\$918,311</td></tr> <tr><td>AF1-246</td><td>6.43</td><td>2.64%</td><td>\$812,206</td></tr> <tr><td>AF1-266</td><td>10.67</td><td>4.38%</td><td>\$1,347,782</td></tr> <tr><td>AF2-042</td><td>31.91</td><td>13.11%</td><td>\$4,030,715</td></tr> <tr><td>AF2-046</td><td>9.24</td><td>3.80%</td><td>\$1,167,152</td></tr> <tr><td>AF2-080</td><td>6.17</td><td>2.53%</td><td>\$779,364</td></tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AE1-173	22.4	9.20%	\$2,829,459	AE2-000B	13.56	5.57%	\$1,712,833	AE2-031	22.29	9.16%	\$2,815,564	AE2-033	21.38	8.78%	\$2,700,617	AE2-040	7.41	3.04%	\$935,995	AE2-052	6.17	2.53%	\$779,213	AE2-094	23.32	9.58%	\$2,945,668	AE2-260	23.63	9.71%	\$2,984,826	AE2-313	24.1	9.90%	\$3,044,194	AF1-059	7.49	3.08%	\$946,100	AF1-069	7.27	2.99%	\$918,311	AF1-246	6.43	2.64%	\$812,206	AF1-266	10.67	4.38%	\$1,347,782	AF2-042	31.91	13.11%	\$4,030,715	AF2-046	9.24	3.80%	\$1,167,152	AF2-080	6.17	2.53%	\$779,364	<p>\$30,750,000</p>	<p>\$779,364</p>	<p>n6179</p>
Queue	MW	Cost %	Cost \$																																																																							
AE1-173	22.4	9.20%	\$2,829,459																																																																							
AE2-000B	13.56	5.57%	\$1,712,833																																																																							
AE2-031	22.29	9.16%	\$2,815,564																																																																							
AE2-033	21.38	8.78%	\$2,700,617																																																																							
AE2-040	7.41	3.04%	\$935,995																																																																							
AE2-052	6.17	2.53%	\$779,213																																																																							
AE2-094	23.32	9.58%	\$2,945,668																																																																							
AE2-260	23.63	9.71%	\$2,984,826																																																																							
AE2-313	24.1	9.90%	\$3,044,194																																																																							
AF1-059	7.49	3.08%	\$946,100																																																																							
AF1-069	7.27	2.99%	\$918,311																																																																							
AF1-246	6.43	2.64%	\$812,206																																																																							
AF1-266	10.67	4.38%	\$1,347,782																																																																							
AF2-042	31.91	13.11%	\$4,030,715																																																																							
AF2-046	9.24	3.80%	\$1,167,152																																																																							
AF2-080	6.17	2.53%	\$779,364																																																																							

97916228	2	6LOCKS 230.0 kV - 6HARR205 230.0 kV Ckt 1	<p>DVP ProjectId : n6129 (dom-165) Description : Uprate 5.4 miles of 230 kV Line 205 from Locks to Harrowgate with 1033.5 ACSR. Upgrade Relays at Locks. Type : FAC Total Cost : \$2,280,000 Time Estimate : 30-36 Months Ratings : 1046.0/1046.0/1203.0</p> <p>This constraint is driven by a prior queue. Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	\$2,280,000	\$0	n6129
96847384	5	8SURRY 500.0 kV - 8CHCKAHM 500.0 kV Ckt 1	<p>DVP ProjectId : n6324 (dom-040) Description : Replace Terminal Equipment at Surry and Chickahominy Substations Type : FAC Total Cost : \$4,000,000 Time Estimate : 16-18 Months Ratings : 3424.0/3424.0/3938.0</p> <p>This constraint is driven by a prior queue. Per PJM cost allocation rules, Queue Project AF2-080 presently does not receive cost allocation for this upgrade.</p> <p>Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc., Queue Project AF2-080 could receive cost allocation.</p> <p>Note 2: Although Queue Project AF2-080 may not have cost responsibility for this upgrade, Queue Project AF2-080 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AF2-080 comes into service prior to completion of the upgrade, Queue Project AF2-080 will need an interim study</p>	\$4,000,000	\$0	n6324

157895137	17	6ELIZ CT 230.0 kV - 6SHAWBRO 230.0 kV Ckt 1	<p>DVP ProjectId : n6218 (dom-011) Description : Rebuild 10.28 miles of 230 kV Line 2021 from Elizabeth City to Shawboro with 2-636 ACSR. Type : FAC Total Cost : \$15,420,000 Time Estimate : 30-36 Months Ratings : 1047.0/1047.0/1204.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AD1-076</td> <td>143.87</td> <td>14.59%</td> <td>\$2,249,587</td> </tr> <tr> <td>AD2-051</td> <td>15.59</td> <td>1.58%</td> <td>\$243,769</td> </tr> <tr> <td>AE2-034</td> <td>27.61</td> <td>2.80%</td> <td>\$431,717</td> </tr> <tr> <td>AE2-147</td> <td>101.02</td> <td>10.24%</td> <td>\$1,579,574</td> </tr> <tr> <td>AF1-152</td> <td>33.71</td> <td>3.42%</td> <td>\$527,098</td> </tr> <tr> <td>AF1-236</td> <td>558.31</td> <td>56.61%</td> <td>\$8,729,874</td> </tr> <tr> <td>AF2-046</td> <td>16.99</td> <td>1.72%</td> <td>\$265,660</td> </tr> <tr> <td>AF2-047</td> <td>69.2</td> <td>7.02%</td> <td>\$1,082,028</td> </tr> <tr> <td>AF2-076</td> <td>10.21</td> <td>1.04%</td> <td>\$159,646</td> </tr> <tr> <td>AF2-080</td> <td>9.66</td> <td>0.98%</td> <td>\$151,046</td> </tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AD1-076	143.87	14.59%	\$2,249,587	AD2-051	15.59	1.58%	\$243,769	AE2-034	27.61	2.80%	\$431,717	AE2-147	101.02	10.24%	\$1,579,574	AF1-152	33.71	3.42%	\$527,098	AF1-236	558.31	56.61%	\$8,729,874	AF2-046	16.99	1.72%	\$265,660	AF2-047	69.2	7.02%	\$1,082,028	AF2-076	10.21	1.04%	\$159,646	AF2-080	9.66	0.98%	\$151,046	\$15,420,000 + \$17,140,000	\$151,046 + \$249,217	n6877 n6218
			Queue	MW	Cost %	Cost \$																																												
AD1-076	143.87	14.59%	\$2,249,587																																															
AD2-051	15.59	1.58%	\$243,769																																															
AE2-034	27.61	2.80%	\$431,717																																															
AE2-147	101.02	10.24%	\$1,579,574																																															
AF1-152	33.71	3.42%	\$527,098																																															
AF1-236	558.31	56.61%	\$8,729,874																																															
AF2-046	16.99	1.72%	\$265,660																																															
AF2-047	69.2	7.02%	\$1,082,028																																															
AF2-076	10.21	1.04%	\$159,646																																															
AF2-080	9.66	0.98%	\$151,046																																															
<p>ProjectId : n6874 (dom-255) Description : Rebuild 10.28 miles of 230 kV Line 2021 from Elizabeth City to Shawboro with 2-768.2 ACSS 250C. Replace Breaker, Breaker Lead, Wave Trap and Line lead at Elizabeth City 230 kV. Replace Wavetrap, relay (Secondary CT), Line Lead at Shawboro 230 kV. Type : FAC Total Cost : \$17,140,000 Time Estimate : 36-40 Months Ratings : 1315.0/1434.0/1745.0</p> <table border="1"> <thead> <tr> <th>Queue</th> <th>MW</th> <th>Cost %</th> <th>Cost \$</th> </tr> </thead> <tbody> <tr> <td>AF1-236</td> <td>558.31</td> <td>84.04%</td> <td>\$14,403,771</td> </tr> <tr> <td>AF2-046</td> <td>16.99</td> <td>2.56%</td> <td>\$438,323</td> </tr> <tr> <td>AF2-047</td> <td>69.2</td> <td>10.42%</td> <td>\$1,785,282</td> </tr> <tr> <td>AF2-076</td> <td>10.21</td> <td>1.54%</td> <td>\$263,407</td> </tr> <tr> <td>AF2-080</td> <td>9.66</td> <td>1.45%</td> <td>\$249,217</td> </tr> </tbody> </table>	Queue	MW	Cost %	Cost \$	AF1-236	558.31	84.04%	\$14,403,771	AF2-046	16.99	2.56%	\$438,323	AF2-047	69.2	10.42%	\$1,785,282	AF2-076	10.21	1.54%	\$263,407	AF2-080	9.66	1.45%	\$249,217																										
Queue	MW	Cost %	Cost \$																																															
AF1-236	558.31	84.04%	\$14,403,771																																															
AF2-046	16.99	2.56%	\$438,323																																															
AF2-047	69.2	10.42%	\$1,785,282																																															
AF2-076	10.21	1.54%	\$263,407																																															
AF2-080	9.66	1.45%	\$249,217																																															
TOTAL COST			\$944,625,000	\$18,414,197																																														

Note : For customers with System Reinforcements listed: If your present cost allocation to a System Reinforcement indicates \$0, then please be aware that as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, the cost responsibilities can change and a cost allocation may be assigned to your project. In addition, although your present cost allocation to a System Reinforcement is presently \$0, your project may need this system reinforcement completed to be deliverable to the PJM system. If your project comes into service prior to completion of the system reinforcement, an interim deliverability study for your project will be required.

11.7 Flow Gate Details

The following indices contain additional information about each facility presented in the body of the report. For each index, a description of the flowgate and its contingency was included for convenience. The intent of the indices is to provide more details on which projects/generators have contributions to the flowgate in question. All New Service Queue Requests, through the end of the Queue under study, that are contributors to a flowgate will be listed in the indices. Please note that there may be contributors that are subsequently queued after the queue under study that are not listed in the indices. Although this information is not used "as is" for cost allocation purposes, it can be used to gage the impact of other projects/generators. It should be noted the project/generator MW contributions presented in the body of the report are Full MW Impact contributions which are also noted in the indices column named "Full MW Impact", whereas the loading percentages reported in the body of the report, take into consideration the PJM Generator Deliverability Test rules such as commercial probability of each project as well as the ramping impact of "Adder" contributions. The MW Impact found and used in the analysis is shown in the indices column named "Gendeliv MW Impact".

11.7.1 Index 1

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97916021	314285	6CHRL249	DVP	314316	6LOCKS	DVP	1	DVP_P1-2: LN 2003	single	559.3	99.95	100.47	AC	3.06

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.2700	80/20	0.2700
314572	3EMPORIA	0.0286	80/20	0.0286
314574	6EVERETS	0.0531	80/20	0.0531
314582	3KELFORD	0.0952	80/20	0.0952
314589	3MURPHYS	0.0181	80/20	0.0181
314623	3WITAKRS	0.0514	80/20	0.0514
314704	3LAWRENC	0.1099	80/20	0.1099
314947	8GREENSVILLE	8.0365	80/20	8.0365
315102	1BRUNSWICKG1	1.3230	80/20	1.3230
315103	1BRUNSWICKG2	1.3230	80/20	1.3230
315104	1BRUNSWICKG3	1.3230	80/20	1.3230
315105	1BRUNSWICKS1	2.7485	80/20	2.7485
315126	1ROARAP2	0.4035	80/20	0.4035
315128	1ROARAP4	0.3850	80/20	0.3850
315136	1ROSEMG1	0.7056	80/20	0.7056
315137	1ROSEMS1	0.4376	80/20	0.4376
315138	1ROSEMG2	0.3307	80/20	0.3307
315139	1GASTONA	1.0625	80/20	1.0625
315141	1GASTONB	1.0625	80/20	1.0625
315158	1KERR 1	0.0844	80/20	0.0844
315159	1KERR 2	0.2363	80/20	0.2363
315160	1KERR 3	0.2363	80/20	0.2363
315161	1KERR 4	0.2363	80/20	0.2363
315162	1KERR 5	0.2363	80/20	0.2363
315163	1KERR 6	0.2363	80/20	0.2363
315164	1KERR 7	0.2363	80/20	0.2363
315601	1CONETOE2SOL	0.3093	80/20	0.3093
315602	1HOLLOMANSOL	0.2793	80/20	0.2793
315606	3AA2-053SOLA	0.3980	80/20	0.3980
315607	3AA1-063SOLA	0.3594	80/20	0.3594
315608	3AA2-088SOLA	0.2061	80/20	0.2061
315612	3AA2-057SOLA	0.2826	80/20	0.2826
920591	AA2-165 C	0.0335	80/20	0.0335
920671	AA2-174 C OP	0.0182	80/20	0.0182
922922	AB1-081 C OP	3.9010	80/20	3.9010
923262	AB1-132 C OP (Suspended)	9.5164	80/20	9.5164
923572	AB1-173 C OP	1.6174	80/20	1.6174
923582	AB1-173AC OP	1.6174	80/20	1.6174
923911	AB2-031 C O1	1.6055	80/20	1.6055
923991	AB2-040 C O1	5.2716	80/20	5.2716
924021	AB2-043 C O1	0.1006	80/20	0.1006

924151	AB2-059 C OP	0.3920	80/20	0.3920
924161	AB2-060 C OP	0.2865	80/20	0.2865
924301	AB2-077 C O1 (Suspended)	0.7463	80/20	0.7463
924311	AB2-078 C O1 (Suspended)	0.7463	80/20	0.7463
924321	AB2-079 C O1 (Suspended)	0.7463	80/20	0.7463
924501	AB2-099 C (Suspended)	0.2309	80/20	0.2309
924511	AB2-100 C	0.9590	80/20	0.9590
925121	AB2-169 C	0.1779	80/20	0.1779
925171	AB2-174 C O1	0.4489	80/20	0.4489
925331	AB2-190 C	-6.3213	Adder	-7.44
925591	AC1-034 C	2.9780	80/20	2.9780
925781	AC1-054 C O1	3.2503	80/20	3.2503
926071	AC1-086 C	14.0140	80/20	14.0140
926201	AC1-098 C	2.8219	80/20	2.8219
926211	AC1-099 C	0.9456	80/20	0.9456
927021	AC1-189 C	3.3637	80/20	3.3637
927141	AC1-208 C	4.3877	80/20	4.3877
932631	AC2-084 C	4.0227	80/20	4.0227
933261	AC2-137 C	-0.5742	Adder	-0.68
934331	AD1-057 C O1	5.4686	80/20	5.4686
936151	AD2-021	-0.0655	Adder	-0.08
936261	AD2-033 C	4.1808	80/20	4.1808
936361	AD2-046 C O1	3.5856	80/20	3.5856
936401	AD2-051 C O1	3.2766	80/20	3.2766
936481	AD2-063 C O1	5.2470	80/20	5.2470
938221	AE1-035 C	0.8190	80/20	0.8190
938491	AE1-068 C O1	18.7655	80/20	18.7655
938501	AE1-069 C O1	14.7177	80/20	14.7177
939181	AE1-148 C O1	3.5251	80/20	3.5251
940471	AE2-031 C	10.1825	80/20	10.1825
940481	AE2-033 C	19.7073	80/20	19.7073
940541	AE2-040 O1	3.6035	80/20	3.6035
940571	AE2-044 C	1.9505	80/20	1.9505
940641	AE2-051 C O1	4.8339	80/20	4.8339
940661	AE2-053 O1	1.3056	80/20	1.3056
941031	AE2-094 C	12.2393	80/20	12.2393
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.4295	80/20	0.4295
942451	AE2-258	0.8805	80/20	0.8805
942471	AE2-260 C O1	14.4477	80/20	14.4477
942931	AE2-313 C	11.0252	80/20	11.0252
943171	AE2-346 C	0.5542	80/20	0.5542
943911	AF1-059	9.7150	80/20	9.7150
944011	AF1-069 C	3.9990	80/20	3.9990
944141	AF1-082	1.2539	80/20	1.2539
946011	AF1-266	16.4965	80/20	16.4965
946281	AF1-292 C	1.2459	80/20	1.2459
957521	AF2-046 C	6.5619	80/20	6.5619
957861	AF2-080 C	3.0550	80/20	3.0550
959511	AF2-242 C	2.5029	80/20	2.5029
960081	AF2-299 C	2.0999	80/20	2.0999

960331	AF2-324 C O1	3.4262	80/20	3.4262
WEC	WEC	0.2561	Confirmed LTF	0.2561
LGEE	LGEE	0.4809	Confirmed LTF	0.4809
CPL	CPL	2.6910	Confirmed LTF	2.6910
CBM-W2	CBM-W2	10.2129	Confirmed LTF	10.2129
NY	NY	0.3008	Confirmed LTF	0.3008
TVA	TVA	2.1406	Confirmed LTF	2.1406
CBM-S2	CBM-S2	18.0452	Confirmed LTF	18.0452
CBM-S1	CBM-S1	11.9450	Confirmed LTF	11.9450
MADISON	MADISON	0.5947	Confirmed LTF	0.5947
MEC	MEC	1.5461	Confirmed LTF	1.5461
AA2-074	AA2-074	1.8342	LTF	1.8342
CBM-W1	CBM-W1	9.5827	Confirmed LTF	9.5827

11.7.2 Index 2

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97916228	314316	6LOCKS	DVP	314301	6HARR205	DVP	1	DVP_P1-2: LN 563	single	441.8	99.69	100.28	AC	2.62

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314314	3LOCKS	0.2202	80/20	0.2202
314435	6SAPONY	0.1807	80/20	0.1807
314572	3EMPORIA	0.0205	80/20	0.0205
314582	3KELFORD	0.0806	80/20	0.0806
314589	3MURPHYS	0.0158	80/20	0.0158
314623	3WITAKRS	0.0423	80/20	0.0423
314704	3LAWRENC	0.0802	80/20	0.0802
314947	8GREENSVILLE	8.4909	80/20	8.4909
315102	1BRUNSWICKG1	1.3941	80/20	1.3941
315103	1BRUNSWICKG2	1.3941	80/20	1.3941
315104	1BRUNSWICKG3	1.3941	80/20	1.3941
315105	1BRUNSWICKS1	2.8963	80/20	2.8963
315126	1ROARAP2	0.3124	80/20	0.3124
315128	1ROARAP4	0.2981	80/20	0.2981
315136	1ROSEMG1	0.5298	80/20	0.5298
315137	1ROSEMS1	0.3285	80/20	0.3285
315138	1ROSEMG2	0.2483	80/20	0.2483
315139	1GASTONA	0.7909	80/20	0.7909
315141	1GASTONB	0.7909	80/20	0.7909
315158	1KERR 1	0.0692	80/20	0.0692
315159	1KERR 2	0.1937	80/20	0.1937
315160	1KERR 3	0.1937	80/20	0.1937
315161	1KERR 4	0.1937	80/20	0.1937
315162	1KERR 5	0.1937	80/20	0.1937
315163	1KERR 6	0.1937	80/20	0.1937
315164	1KERR 7	0.1937	80/20	0.1937
315601	1CONETOE2SOL	0.2630	80/20	0.2630
315602	1HOLLOMANSOL	0.2477	80/20	0.2477
315606	3AA2-053SOLA	0.3128	80/20	0.3128
315607	3AA1-063SOLA	0.2902	80/20	0.2902
315608	3AA2-088SOLA	0.1839	80/20	0.1839
315612	3AA2-057SOLA	0.2310	80/20	0.2310
920591	AA2-165 C	0.0274	80/20	0.0274
920671	AA2-174 C OP	0.0143	80/20	0.0143
922922	AB1-081 C OP	3.2284	80/20	3.2284
923262	AB1-132 C OP (Suspended)	7.0837	80/20	7.0837
923572	AB1-173 C OP	1.1872	80/20	1.1872
923582	AB1-173AC OP	1.1872	80/20	1.1872
923911	AB2-031 C O1	1.1784	80/20	1.1784
923991	AB2-040 C O1	3.8694	80/20	3.8694
924151	AB2-059 C OP	0.3244	80/20	0.3244

924501	AB2-099 C (Suspended)	0.2001	80/20	0.2001
924511	AB2-100 C	0.6671	80/20	0.6671
925051	AB2-160 C O1	7.8511	80/20	7.8511
925171	AB2-174 C O1	0.3266	80/20	0.3266
925591	AC1-034 C	2.4645	80/20	2.4645
925781	AC1-054 C O1	2.6162	80/20	2.6162
926071	AC1-086 C	10.4316	80/20	10.4316
926201	AC1-098 C	2.3150	80/20	2.3150
926211	AC1-099 C	0.7758	80/20	0.7758
927021	AC1-189 C	2.8900	80/20	2.8900
927141	AC1-208 C	3.5362	80/20	3.5362
932581	AC2-078 C O1 (Withdrawn : 02/09/2021)	1.3089	80/20	1.3089
932631	AC2-084 C	3.3002	80/20	3.3002
934331	AD1-057 C O1	4.2659	80/20	4.2659
936361	AD2-046 C O1	2.9378	80/20	2.9378
936401	AD2-051 C O1	2.8830	80/20	2.8830
938221	AE1-035 C	0.7264	80/20	0.7264
938491	AE1-068 C O1	19.8671	80/20	19.8671
938501	AE1-069 C O1	15.5499	80/20	15.5499
938631	AE1-085 C O1	2.7970	80/20	2.7970
939181	AE1-148 C O1	2.8879	80/20	2.8879
939191	AE1-149 C O1	3.5550	80/20	3.5550
939411	AE1-173 C	21.3547	Adder	25.12
940431	AE2-027 C O1	11.7281	80/20	11.7281
940471	AE2-031 C	10.8037	80/20	10.8037
940481	AE2-033 C	13.2396	80/20	13.2396
940541	AE2-040 O1	2.4114	80/20	2.4114
940571	AE2-044 C	1.6142	80/20	1.6142
940641	AE2-051 C O1	5.3352	80/20	5.3352
940651	AE2-052	1.1850	80/20	1.1850
940661	AE2-053 O1	0.9092	Adder	1.07
941031	AE2-094 C	13.0059	80/20	13.0059
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.3708	80/20	0.3708
942371	AE2-250 C O1	13.9460	80/20	13.9460
942471	AE2-260 C O1	9.9935	80/20	9.9935
942931	AE2-313 C	11.6978	80/20	11.6978
943171	AE2-346 C	0.4802	80/20	0.4802
943911	AF1-059	7.2870	80/20	7.2870
944011	AF1-069 C	4.2495	80/20	4.2495
944141	AF1-082	1.0377	80/20	1.0377
945811	AF1-246 C O1	1.8832	Adder	2.22
946011	AF1-266	11.0826	80/20	11.0826
946281	AF1-292 C	0.8881	80/20	0.8881
957481	AF2-042 C	13.4512	Adder	15.82
957521	AF2-046 C	5.7355	80/20	5.7355
957861	AF2-080 C	2.6248	80/20	2.6248
958141	AF2-108	4.4535	80/20	4.4535
959681	AF2-259 C	6.6803	80/20	6.6803
960081	AF2-299 C	1.4969	80/20	1.4969
960331	AF2-324 C O1	2.8294	80/20	2.8294
WEC	WEC	0.2334	Confirmed LTF	0.2334

LGEE	LGEE	0.4410	Confirmed LTF	0.4410
CPL	CPL	2.5111	Confirmed LTF	2.5111
CBM-W2	CBM-W2	9.4922	Confirmed LTF	9.4922
NY	NY	0.3473	Confirmed LTF	0.3473
TVA	TVA	2.0034	Confirmed LTF	2.0034
CBM-S2	CBM-S2	16.9585	Confirmed LTF	16.9585
CBM-S1	CBM-S1	11.1527	Confirmed LTF	11.1527
MADISON	MADISON	0.5685	Confirmed LTF	0.5685
MEC	MEC	1.4222	Confirmed LTF	1.4222
AA2-074	AA2-074	1.7113	LTF	1.7113
CBM-W1	CBM-W1	8.6944	Confirmed LTF	8.6944

11.7.3 Index 3

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
145339886	314574	6EVERETS	DVP	304451	6GREENVILLE	CPL	1	DVP_P4-2: 2020T2144	breaker	478.0	169.53	173.08	DC	16.94

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314539	3UNCAMP	0.7576	Adder	0.89
314541	3WATKINS	0.2337	Adder	0.27
314574	6EVERETS	0.6020	50/50	0.6020
314582	3KELFORD	0.3351	50/50	0.3351
314589	3MURPHYS	0.0552	50/50	0.0552
315292	1DOMTR78	2.0327	50/50	2.0327
315294	1DOMTR10	15.6771	50/50	15.6771
315601	1CONETOE2SOL	1.8254	50/50	1.8254
315602	1HOLLOMANSOL	1.5720	50/50	1.5720
315611	6Z1-036WIND	8.3082	50/50	8.3082
315614	AA2-178 C	2.0045	50/50	2.0045
900672	V4-068 E	0.1800	50/50	0.1800
907092	X1-038 E	1.8939	Adder	2.23
916042	Z1-036 E (Suspended)	55.6647	50/50	55.6647
917332	Z2-043 E	0.8670	50/50	0.8670
917512	Z2-088 E OP1	4.6555	50/50	4.6555
918492	AA1-063AE OP	1.5533	Adder	1.83
918512	AA1-065 E OP	4.1887	50/50	4.1887
918532	AA1-067 E	1.5354	50/50	1.5354
919692	AA2-053 E OP	1.6446	Adder	1.93
919702	AA2-057 E OP	0.9683	Adder	1.14
920042	AA2-088 E OP	4.1949	Adder	4.94
920592	AA2-165 E	0.1331	Adder	0.16
920672	AA2-174 E OP	0.1900	Adder	0.22
920692	AA2-178 E	5.1122	50/50	5.1122
923262	AB1-132 C OP (Suspended)	5.7091	Adder	6.72
923263	AB1-132 E OP (Suspended)	2.4468	Adder	2.88
923572	AB1-173 C OP	0.7165	Adder	0.84
923573	AB1-173 E OP	0.3344	Adder	0.39
923582	AB1-173AC OP	0.7165	Adder	0.84
923583	AB1-173AE OP	0.3344	Adder	0.39
923801	AB2-015 C OP	2.8313	Adder	3.33
923802	AB2-015 E OP	2.3217	Adder	2.73
923911	AB2-031 C O1	0.7112	Adder	0.84
923912	AB2-031 E O1	0.3503	Adder	0.41
923991	AB2-040 C O1	2.3353	Adder	2.75
923992	AB2-040 E O1	1.9107	Adder	2.25
924501	AB2-099 C (Suspended)	0.4746	50/50	0.4746
924502	AB2-099 E (Suspended)	0.2034	50/50	0.2034
924512	AB2-100 E	1.6104	Adder	1.89

925121	AB2-169 C	1.7932	50/50	1.7932
925122	AB2-169 E	9.5767	50/50	9.5767
925172	AB2-174 E O1	1.9448	Adder	2.29
926071	AC1-086 C	8.4074	Adder	9.89
926072	AC1-086 E	3.8265	Adder	4.5
926201	AC1-098 C	2.6773	Adder	3.15
926202	AC1-098 E	1.5950	Adder	1.88
926211	AC1-099 C	0.8972	Adder	1.06
926212	AC1-099 E	0.5269	Adder	0.62
927021	AC1-189 C	12.9201	50/50	12.9201
927022	AC1-189 E	6.4359	50/50	6.4359
927141	AC1-208 C	3.1993	Adder	3.76
927142	AC1-208 E	1.4206	Adder	1.67
932631	AC2-084 C	3.8166	Adder	4.49
932632	AC2-084 E	1.8798	Adder	2.21
933991	AD1-023 C	15.7692	50/50	15.7692
933992	AD1-023 E	8.5848	50/50	8.5848
934331	AD1-057 C O1	3.1263	Adder	3.68
934332	AD1-057 E O1	1.6677	Adder	1.96
934521	AD1-076 C	68.3123	50/50	68.3123
934522	AD1-076 E	34.7845	50/50	34.7845
936401	AD2-051 C O1	9.0091	50/50	9.0091
936402	AD2-051 E O1	3.8684	50/50	3.8684
938221	AE1-035 C	2.3387	50/50	2.3387
938222	AE1-035 E	1.1519	50/50	1.1519
938771	AE1-103 C O1	1.1363	Adder	1.34
938772	AE1-103 E O1	1.5692	Adder	1.85
940491	AE2-034 C	8.9464	50/50	8.9464
940492	AE2-034 E	3.8342	50/50	3.8342
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.9540	50/50	0.9540
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.5137	50/50	0.5137
942471	AE2-260 C O1	3.8374	Adder	4.51
942472	AE2-260 E O1	5.4429	Adder	6.4
942851	AE2-304 C (Withdrawn : 10/26/2020)	0.7669	50/50	0.7669
942852	AE2-304 E (Withdrawn : 10/26/2020)	0.2982	50/50	0.2982
943171	AE2-346 C	1.1391	50/50	1.1391
943172	AE2-346 E	0.4882	50/50	0.4882
945711	AF1-236 C O1	97.9420	50/50	97.9420
945712	AF1-236 E O1	159.8001	50/50	159.8001
946281	AF1-292 C	0.4111	Adder	0.48
946282	AF1-292 E	0.2771	Adder	0.33
957521	AF2-046 C	10.7824	50/50	10.7824
957522	AF2-046 E	5.4236	50/50	5.4236
957531	AF2-047 C	21.2584	50/50	21.2584
957532	AF2-047 E	10.6931	50/50	10.6931
957821	AF2-076 C	1.3898	Adder	1.64
957822	AF2-076 E	0.9265	Adder	1.09
957861	AF2-080 C	11.7346	50/50	11.7346
957862	AF2-080 E	5.2019	50/50	5.2019
959511	AF2-242 C	13.4302	50/50	13.4302

959512	AF2-242 E	10.4457	50/50	10.4457
960081	AF2-299 C	0.6928	Adder	0.82
960082	AF2-299 E	0.4619	Adder	0.54
961091	AF2-400 C	0.1529	Adder	0.18
961092	AF2-400 E	0.2509	Adder	0.3
NEWTON	NEWTON	1.1411	Confirmed LTF	1.1411
FARMERCITY	FARMERCITY	0.0666	Confirmed LTF	0.0666
G-007A	G-007A	0.7528	Confirmed LTF	0.7528
VFT	VFT	1.9995	Confirmed LTF	1.9995
GIBSON	GIBSON	0.5460	Confirmed LTF	0.5460
PRAIRIE	PRAIRIE	3.1358	Confirmed LTF	3.1358
AC1-131	AC1-131	4.3245	LTF	4.3245
COFFEEN	COFFEEN	0.2139	Confirmed LTF	0.2139
CHEOAH	CHEOAH	0.9700	Confirmed LTF	0.9700
EDWARDS	EDWARDS	0.3420	Confirmed LTF	0.3420
TILTON	TILTON	0.6010	Confirmed LTF	0.6010
CALDERWOOD	CALDERWOOD	0.9453	Confirmed LTF	0.9453
BLUEG	BLUEG	1.6718	Confirmed LTF	1.6718
TRIMBLE	TRIMBLE	0.5298	Confirmed LTF	0.5298
CATAWBA	CATAWBA	1.0182	Confirmed LTF	1.0182

11.7.4 Index 4

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895683	314583	6LAKEVEW	DVP	924510	AB2-100 TAP	DVP	1	DVP_P1-2: LN 246-A	single	375.06	125.19	127.3	AC	7.92

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.1406	80/20	0.1406
314582	3KELFORD	0.2459	80/20	0.2459
314589	3MURPHYS	0.0381	80/20	0.0381
314623	3WITAKRS	0.1182	80/20	0.1182
315115	1S HAMPT1	0.3633	80/20	0.3633
315126	1ROARAP2	0.7108	80/20	0.7108
315128	1ROARAP4	0.6783	80/20	0.6783
315136	1ROSEMG1	2.2431	80/20	2.2431
315137	1ROSEMS1	1.3910	80/20	1.3910
315138	1ROSEMG2	1.0513	80/20	1.0513
315139	1GASTONA	3.4405	80/20	3.4405
315141	1GASTONB	3.4405	80/20	3.4405
315158	1KERR 1	0.0700	80/20	0.0700
315159	1KERR 2	0.1961	80/20	0.1961
315160	1KERR 3	0.1961	80/20	0.1961
315161	1KERR 4	0.1961	80/20	0.1961
315162	1KERR 5	0.1961	80/20	0.1961
315163	1KERR 6	0.1961	80/20	0.1961
315164	1KERR 7	0.1961	80/20	0.1961
315292	1DOMTR78	0.5766	80/20	0.5766
315294	1DOMTR10	8.7642	80/20	8.7642
315601	1CONETOE2SOL	0.7935	80/20	0.7935
315602	1HOLLOMANSOL	0.8987	80/20	0.8987
315606	3AA2-053SOLA	0.7548	80/20	0.7548
315607	3AA1-063SOLA	0.6374	80/20	0.6374
315608	3AA2-088SOLA	0.3643	80/20	0.3643
315611	6Z1-036WIND	2.1177	80/20	2.1177
315612	3AA2-057SOLA	0.6334	80/20	0.6334
315614	AA2-178 C	0.4828	80/20	0.4828
920591	AA2-165 C	0.0751	80/20	0.0751
920671	AA2-174 C OP	0.0346	80/20	0.0346
922922	AB1-081 C OP	9.2949	80/20	9.2949
923262	AB1-132 C OP (Suspended)	30.8162	80/20	30.8162
923801	AB2-015 C OP	3.5570	80/20	3.5570
924151	AB2-059 C OP	0.9340	80/20	0.9340
924501	AB2-099 C (Suspended)	0.6038	80/20	0.6038
925121	AB2-169 C	0.4729	80/20	0.4729
925591	AC1-034 C	7.0956	80/20	7.0956
925781	AC1-054 C O1	3.6766	80/20	3.6766
926071	AC1-086 C	45.3806	80/20	45.3806
926201	AC1-098 C	6.4367	80/20	6.4367

926211	AC1-099 C	2.1570	80/20	2.1570
927021	AC1-189 C	8.7159	80/20	8.7159
927141	AC1-208 C	9.2895	80/20	9.2895
932631	AC2-084 C	9.1758	80/20	9.1758
933991	AD1-023 C	11.3908	80/20	11.3908
934331	AD1-057 C O1	15.9055	80/20	15.9055
934521	AD1-076 C	41.3350	80/20	41.3350
936401	AD2-051 C O1	10.5366	80/20	10.5366
938221	AE1-035 C	2.6352	80/20	2.6352
938771	AE1-103 C O1	1.2963	80/20	1.2963
940491	AE2-034 C	4.2475	80/20	4.2475
940571	AE2-044 C	4.6474	80/20	4.6474
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.1943	80/20	1.1943
943171	AE2-346 C	1.4492	80/20	1.4492
944141	AF1-082	2.9876	80/20	2.9876
945711	AF1-236 C O1	46.4996	80/20	46.4996
957521	AF2-046 C	14.4520	80/20	14.4520
957531	AF2-047 C	10.0928	80/20	10.0928
957821	AF2-076 C	5.8983	80/20	5.8983
957861	AF2-080 C	7.9162	80/20	7.9162
959511	AF2-242 C	6.6452	80/20	6.6452
960331	AF2-324 C O1	8.5488	80/20	8.5488
961091	AF2-400 C	0.1921	80/20	0.1921
WEC	WEC	0.2693	Confirmed LTF	0.2693
LGEE	LGEE	0.5043	Confirmed LTF	0.5043
CPLE	CPLE	3.1699	Confirmed LTF	3.1699
CBM-W2	CBM-W2	10.6306	Confirmed LTF	10.6306
NY	NY	0.2726	Confirmed LTF	0.2726
TVA	TVA	2.2148	Confirmed LTF	2.2148
CBM-S2	CBM-S2	19.4150	Confirmed LTF	19.4150
CBM-S1	CBM-S1	12.3796	Confirmed LTF	12.3796
MADISON	MADISON	0.6088	Confirmed LTF	0.6088
MEC	MEC	1.6176	Confirmed LTF	1.6176
AA2-074	AA2-074	2.1604	LTF	2.1604
CBM-W1	CBM-W1	10.1206	Confirmed LTF	10.1206

11.7.5 Index 5

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
96847384	314924	8SURRY	DVP	314903	8CHCKAHM	DVP	1	DVP_P1-2: LN 563	single	2442.12	99.9	100.14	AC	9.09

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314295	6BIRDNECK	0.0739	80/20	0.0739
314491	3PENDLTN	0.5514	80/20	0.5514
314507	3THOMPSN	0.5508	80/20	0.5508
314638	6ELIZ CT	0.3606	80/20	0.3606
314639	6TANGLEW	0.6568	80/20	0.6568
314643	3O INLET	0.7269	80/20	0.7269
315098	1CHESPKA	0.7289	80/20	0.7289
315099	1CHESPKB (Deactivation : 31/05/2019)	1.2082	80/20	1.2082
315108	1ELIZAR1	5.3893	80/20	5.3893
315109	1ELIZAR2	5.2957	80/20	5.2957
315110	1ELIZAR3	5.4583	80/20	5.4583
315233	1SURRY 2	53.8247	80/20	53.8247
315260	1GOSPORTA	0.5817	80/20	0.5817
315261	1GOSPORTB	0.7430	80/20	0.7430
315262	1GOSPORTC	0.6306	80/20	0.6306
315294	1DOMTR10	12.5274	Adder	14.74
315603	6AA1-139SOLA	4.1009	80/20	4.1009
315605	6W1-029WIND	1.2441	80/20	1.2441
315611	6Z1-036WIND	10.3366	80/20	10.3366
315614	AA2-178 C	2.3282	80/20	2.3282
922922	AB1-081 C OP	8.2186	Adder	9.67
923262	AB1-132 C OP (Suspended)	13.3132	Adder	15.66
923572	AB1-173 C OP	2.0625	Adder	2.43
923582	AB1-173AC OP	2.0625	Adder	2.43
923801	AB2-015 C OP	10.0172	Adder	11.78
923831	AB2-022 C	3.6707	80/20	3.6707
923911	AB2-031 C O1	2.0472	Adder	2.41
923991	AB2-040 C O1	6.7223	Adder	7.91
924241	AB2-068 OP (Withdrawn : 01/11/2021)	-214.8705	Adder	-252.79
924301	AB2-077 C O1 (Suspended)	1.4592	Adder	1.72
924311	AB2-078 C O1 (Suspended)	1.4592	Adder	1.72
924321	AB2-079 C O1 (Suspended)	1.4592	Adder	1.72
924501	AB2-099 C (Suspended)	0.6388	Adder	0.75
925061	AB2-161 C O1	3.3618	Adder	3.96
925331	AB2-190 C	13.9097	Adder	16.36
925591	AC1-034 C	6.2740	Adder	7.38

925781	AC1-054 C O1	6.0993	Adder	7.18
926071	AC1-086 C	19.6053	Adder	23.07
926201	AC1-098 C	6.0973	Adder	7.17
926211	AC1-099 C	2.0433	Adder	2.4
926271	AC1-105 C O1	4.2366	Adder	4.98
926661	AC1-147 C	3.6679	80/20	3.6679
926751	AC1-161 C O1	57.6926	80/20	57.6926
927021	AC1-189 C	8.5029	Adder	10.0
927141	AC1-208 C	8.7060	Adder	10.24
927251	AC1-221 C	1.7580	Adder	2.07
927261	AC1-222 C	2.7062	Adder	3.18
932041	AC2-012 C	16.5927	80/20	16.5927
932581	AC2-078 C O1 (Withdrawn : 02/09/2021)	2.9967	Adder	3.53
932591	AC2-079 C O1	6.3764	Adder	7.5
932631	AC2-084 C	8.6919	Adder	10.23
932761	AC2-100 C	4.0458	Adder	4.76
933291	AC2-141 C	57.6926	80/20	57.6926
933731	AC2-196 C (Withdrawn : 02/08/2021)	2.9571	80/20	2.9571
933991	AD1-023 C	15.3726	Adder	18.09
934011	AD1-025 C	12.2267	Adder	14.38
934061	AD1-033 C	12.4051	80/20	12.4051
934311	AD1-055 C	1.8790	Adder	2.21
934331	AD1-057 C O1	9.3075	Adder	10.95
934341	AD1-058 C	4.4070	Adder	5.18
934521	AD1-076 C	64.5941	Adder	75.99
934571	AD1-082 C	7.6613	Adder	9.01
934611	AD1-087 C O1	7.1202	Adder	8.38
934991	AD1-131 C	1.4449	Adder	1.7
935111	AD1-144 C	2.5928	80/20	2.5928
935161	AD1-151 C O1	11.1774	Adder	13.15
935171	AD1-152 C O1	7.0759	Adder	8.32
936041	AD2-007 C	0.5841	Adder	0.69
936051	AD2-008 C	2.1286	Adder	2.5
936361	AD2-046 C O1	7.0410	Adder	8.28
936401	AD2-051 C O1	9.7975	Adder	11.53
936481	AD2-063 C O1	10.4445	Adder	12.29
936661	AD2-085 C	3.8074	Adder	4.48
937221	AD2-160 C O1	9.5783	80/20	9.5783
937481	AD2-202 C O1	1.8869	Adder	2.22
937541	AD2-215 C (Withdrawn : 01/14/2021)	2.6195	80/20	2.6195
938221	AE1-035 C	2.5162	Adder	2.96
938491	AE1-068 C O1	77.9611	80/20	77.9611
938501	AE1-069 C O1	51.7839	Adder	60.92
938531	AE1-072 C O1	28.4924	80/20	28.4924
938631	AE1-085 C O1	6.9007	Adder	8.12
938771	AE1-103 C O1	4.2733	Adder	5.03
939181	AE1-148 C O1	6.9180	Adder	8.14
939191	AE1-149 C O1	7.3925	Adder	8.7
939311	AE1-162 C	2.9016	80/20	2.9016
939411	AE1-173 C	134.2944	80/20	134.2944

939431	AE1-175 C	1.8329	Adder	2.16
940061	AE2-000B C	10.6162	Adder	12.49
940251	AE2-007 O1 (Withdrawn : 12/11/2020)	283.4100	80/20	283.4100
940471	AE2-031 C	42.4873	80/20	42.4873
940481	AE2-033 C	12.9452	Adder	15.23
940491	AE2-034 C	10.3912	80/20	10.3912
940541	AE2-040 O1	2.2716	Adder	2.67
940571	AE2-044 C	4.1093	Adder	4.83
940641	AE2-051 C O1	24.6339	80/20	24.6339
940651	AE2-052	2.4642	Adder	2.9
940661	AE2-053 O1	2.5622	Adder	3.01
940891	AE2-078 C	2.4131	Adder	2.84
940901	AE2-079 C	2.4131	Adder	2.84
941031	AE2-094 C	51.1867	80/20	51.1867
941101	AE2-104 C O1	4.9905	80/20	4.9905
941281	AE2-122 C O1	46.6292	80/20	46.6292
941291	AE2-123 C O1	47.9204	80/20	47.9204
941301	AE2-124 C O1	43.6115	80/20	43.6115
941501	AE2-147 C	24.6780	80/20	24.6780
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.1834	Adder	1.39
941591	AE2-156 O1	29.1900	80/20	29.1900
942131	AE2-225 C	3.3676	80/20	3.3676
942171	AE2-229 C	3.3676	80/20	3.3676
942341	AE2-247 C	1.6469	Adder	1.94
942401	AE2-253 C	10.0747	80/20	10.0747
942451	AE2-258	1.7073	Adder	2.01
942471	AE2-260 C O1	12.3951	Adder	14.58
942551	AE2-270	18.6290	Adder	21.92
942851	AE2-304 C (Withdrawn : 10/26/2020)	0.9715	80/20	0.9715
942931	AE2-313 C	46.0035	80/20	46.0035
943171	AE2-346 C	1.5331	Adder	1.8
943461	AF1-017 C	1.4901	Adder	1.75
943611	AF1-032 C	2.7502	80/20	2.7502
943621	AF1-033 C	2.4131	Adder	2.84
943901	AF1-058 C	1.5036	Adder	1.77
943911	AF1-059	13.3237	Adder	15.67
944011	AF1-069 C	16.7246	80/20	16.7246
944141	AF1-082	2.6417	Adder	3.11
944581	AF1-123 C O1	81.7453	80/20	81.7453
944591	AF1-124 C O1	81.7453	80/20	81.7453
944601	AF1-125 C O1	81.7453	80/20	81.7453
944871	AF1-152 C	8.2260	80/20	8.2260
945361	AF1-201 C O1	14.5128	Adder	17.07
945711	AF1-236 C O1	113.7591	80/20	113.7591
945811	AF1-246 C O1	7.2699	Adder	8.55
946011	AF1-266	10.8362	Adder	12.75
946281	AF1-292 C	1.3195	Adder	1.55
957481	AF2-042 C	51.9282	Adder	61.09
957491	AF2-043 C	3.3676	80/20	3.3676
957521	AF2-046 C	18.3258	Adder	21.56
957531	AF2-047 C	24.6915	80/20	24.6915

957631	AF2-057	5.8220	80/20	5.8220
957711	AF2-065 C	9.5008	Adder	11.18
957821	AF2-076 C	8.2566	80/20	8.2566
957831	AF2-077 C	1.6643	Adder	1.96
957861	AF2-080 C	7.7227	Adder	9.09
957871	AF2-081 C	16.2697	80/20	16.2697
958161	AF2-110 C	2.0574	80/20	2.0574
959511	AF2-242 C	7.9885	Adder	9.4
959751	AF2-266	7.9386	Adder	9.34
960061	AF2-297 C	6.0143	Adder	7.08
960081	AF2-299 C	2.2239	Adder	2.62
960331	AF2-324 C O1	7.1694	Adder	8.43
961091	AF2-400 C	0.5409	Adder	0.64
WEC	WEC	0.6224	Confirmed LTF	0.6224
LGEE	LGEE	1.1901	Confirmed LTF	1.1901
CPL	CPL	8.7034	Confirmed LTF	8.7034
CBM-W2	CBM-W2	28.7223	Confirmed LTF	28.7223
NY	NY	1.5810	Confirmed LTF	1.5810
TVA	TVA	6.3000	Confirmed LTF	6.3000
CBM-S2	CBM-S2	57.9387	Confirmed LTF	57.9387
CBM-S1	CBM-S1	34.5230	Confirmed LTF	34.5230
MADISON	MADISON	2.0926	Confirmed LTF	2.0926
MEC	MEC	4.0345	Confirmed LTF	4.0345
AA2-074	AA2-074	5.9283	LTF	5.9283
CBM-W1	CBM-W1	22.6556	Confirmed LTF	22.6556

11.7.6 Index 6

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CK T ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/D C	MW IMPACT
95657987	242631	05EDAN1	AEP	242620	05DANVL2	AEP	1	AEP_P4_#11112_05J.FER R 765_A1	breaker	402.0	113.95	114.93	AC	4.65

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
244012	05PINNACLE	-1.8084	Adder	-2.13
315294	1DOMTR10	2.9462	Adder	3.47
917332	Z2-043 E	0.3420	Adder	0.4
917342	Z2-044 E	0.2133	Adder	0.25
917512	Z2-088 E OP1	1.3843	Adder	1.63
918492	AA1-063AE OP	1.1330	Adder	1.33
918512	AA1-065 E OP	1.0934	Adder	1.29
918532	AA1-067 E	0.2428	Adder	0.29
919692	AA2-053 E OP	1.1006	Adder	1.29
919702	AA2-057 E OP	1.2092	Adder	1.42
920592	AA2-165 E	0.1662	Adder	0.2
920672	AA2-174 E OP	0.1272	Adder	0.15
922922	AB1-081 C OP	3.4296	Adder	4.03
922923	AB1-081 E OP	1.4698	Adder	1.73
923262	AB1-132 C OP (Suspended)	4.0677	Adder	4.79
923263	AB1-132 E OP (Suspended)	1.7433	Adder	2.05
923572	AB1-173 C OP	0.6359	Adder	0.75
923573	AB1-173 E OP	0.2968	Adder	0.35
923582	AB1-173AC OP	0.6359	Adder	0.75
923583	AB1-173AE OP	0.2968	Adder	0.35
923911	AB2-031 C O1	0.6312	Adder	0.74
923912	AB2-031 E O1	0.3109	Adder	0.37
923991	AB2-040 C O1	2.0727	Adder	2.44
923992	AB2-040 E O1	1.6959	Adder	2.0
924022	AB2-043 E O1	0.8886	Adder	1.05
924152	AB2-059 E OP	2.0822	Adder	2.45
924162	AB2-060 E OP	1.3378	Adder	1.57
924301	AB2-077 C O1 (Suspended)	0.6363	Adder	0.75
924302	AB2-077 E O1 (Suspended)	0.4242	Adder	0.5
924311	AB2-078 C O1 (Suspended)	0.6363	Adder	0.75
924312	AB2-078 E O1 (Suspended)	0.4242	Adder	0.5
924321	AB2-079 C O1 (Suspended)	0.6363	Adder	0.75
924322	AB2-079 E O1 (Suspended)	0.4242	Adder	0.5
924501	AB2-099 C (Suspended)	0.1612	Adder	0.19
924502	AB2-099 E (Suspended)	0.0691	Adder	0.08

925122	AB2-169 E	1.6862	Adder	1.98
925172	AB2-174 E O1	1.7710	Adder	2.08
925591	AC1-034 C	2.6181	Adder	3.08
925592	AC1-034 E	1.9751	Adder	2.32
925611	AC1-036 C	0.2688	Adder	0.32
925612	AC1-036 E	0.4386	Adder	0.52
925781	AC1-054 C O1	2.5002	Adder	2.94
925782	AC1-054 E O1	1.1518	Adder	1.36
926051	AC1-083 C O1	3.9653	50/50	3.9653
926052	AC1-083 E O1	6.4697	50/50	6.4697
926071	AC1-086 C	5.9901	Adder	7.05
926072	AC1-086 E	2.7263	Adder	3.21
926201	AC1-098 C	1.9901	Adder	2.34
926202	AC1-098 E	1.1856	Adder	1.39
926211	AC1-099 C	0.6669	Adder	0.78
926212	AC1-099 E	0.3917	Adder	0.46
926271	AC1-105 C O1	1.9600	Adder	2.31
926272	AC1-105 E O1	0.9757	Adder	1.15
927021	AC1-189 C	3.0153	Adder	3.55
927022	AC1-189 E	1.5020	Adder	1.77
927141	AC1-208 C	2.9935	Adder	3.52
927142	AC1-208 E	1.3292	Adder	1.56
927251	AC1-221 C	1.5658	50/50	1.5658
927252	AC1-221 E	1.5658	50/50	1.5658
927261	AC1-222 C	1.2530	Adder	1.47
927262	AC1-222 E	1.1928	Adder	1.4
932631	AC2-084 C	2.8370	Adder	3.34
932632	AC2-084 E	1.3973	Adder	1.64
932761	AC2-100 C	3.6036	50/50	3.6036
932762	AC2-100 E	1.7589	50/50	1.7589
933941	AD1-017 C	0.7931	50/50	0.7931
933942	AD1-017 E	1.2939	50/50	1.2939
934311	AD1-055 C	0.8700	Adder	1.02
934312	AD1-055 E	0.2243	Adder	0.26
934331	AD1-057 C O1	3.4160	Adder	4.02
934332	AD1-057 E O1	1.8222	Adder	2.14
934341	AD1-058 C	3.9253	50/50	3.9253
934342	AD1-058 E	0.9974	50/50	0.9974
934611	AD1-087 C O1	2.7909	Adder	3.28
934612	AD1-087 E O1	1.3117	Adder	1.54
934991	AD1-131 C	1.2870	50/50	1.2870
934992	AD1-131 E	0.8580	50/50	0.8580
935171	AD1-152 C O1	2.7736	Adder	3.26
935172	AD1-152 E O1	1.8491	Adder	2.18
936161	AD2-022 C O1	10.5840	50/50	10.5840
936162	AD2-022 E O1	6.3504	50/50	6.3504
936171	AD2-023 C O1	6.1740	50/50	6.1740
936172	AD2-023 E O1	3.3516	50/50	3.3516
936261	AD2-033 C	3.7552	Adder	4.42
936262	AD2-033 E	2.5035	Adder	2.95
936361	AD2-046 C O1	3.1525	Adder	3.71
936362	AD2-046 E O1	1.4497	Adder	1.71
936401	AD2-051 C O1	2.3918	Adder	2.81

936402	AD2-051 E O1	1.0270	Adder	1.21
936481	AD2-063 C O1	4.5441	Adder	5.35
936482	AD2-063 E O1	3.0042	Adder	3.53
937481	AD2-202 C O1	0.7396	Adder	0.87
937482	AD2-202 E O1	0.4160	Adder	0.49
938221	AE1-035 C	0.6105	Adder	0.72
938222	AE1-035 E	0.3007	Adder	0.35
939181	AE1-148 C O1	3.0927	Adder	3.64
939182	AE1-148 E O1	2.0618	Adder	2.43
939441	AE1-176	-0.1147	Adder	-0.13
940081	AE1-250 C	14.0571	50/50	14.0571
940082	AE1-250 E	9.3714	50/50	9.3714
940241	AE2-006	0.1368	Adder	0.16
940571	AE2-044 C	1.7148	Adder	2.02
940572	AE2-044 E	0.7349	Adder	0.86
940661	AE2-053 O1	1.1455	Adder	1.35
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.3025	Adder	0.36
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.1629	Adder	0.19
942451	AE2-258	0.7414	Adder	0.87
943033	AE2-326 BAT	2.8026	Merchant Transmission	2.8026
943171	AE2-346 C	0.3870	Adder	0.46
943172	AE2-346 E	0.1659	Adder	0.2
943901	AF1-058 C	0.7064	Adder	0.83
943902	AF1-058 E	0.4709	Adder	0.55
943911	AF1-059	4.9317	Adder	5.8
944141	AF1-082	1.1024	Adder	1.3
945811	AF1-246 C O1	1.9446	Adder	2.29
945812	AF1-246 E O1	2.6854	Adder	3.16
946281	AF1-292 C	0.4030	Adder	0.47
946282	AF1-292 E	0.2717	Adder	0.32
957481	AF2-042 C	13.8898	Adder	16.34
957482	AF2-042 E	9.2599	Adder	10.89
957861	AF2-080 C	2.7386	Adder	3.22
957862	AF2-080 E	1.2140	Adder	1.43
959311	AF2-222 C	4.6504	Adder	5.47
959312	AF2-222 E	3.1157	Adder	3.67
959511	AF2-242 C	2.2640	Adder	2.66
959512	AF2-242 E	1.7609	Adder	2.07
959751	AF2-266	2.4752	Adder	2.91
960061	AF2-297 C	2.8254	Adder	3.32
960062	AF2-297 E	1.8836	Adder	2.22
960081	AF2-299 C	0.6792	Adder	0.8
960082	AF2-299 E	0.4528	Adder	0.53
960331	AF2-324 C O1	2.9932	Adder	3.52
960332	AF2-324 E O1	1.6070	Adder	1.89
NEWTON	NEWTON	0.3471	Confirmed LTF	0.3471
CPL	CPL	5.5222	Confirmed LTF	5.5222
BLUEG	BLUEG	1.2030	Confirmed LTF	1.2030
G-007A	G-007A	0.6042	Confirmed LTF	0.6042
VFT	VFT	1.5867	Confirmed LTF	1.5867
CBM-W2	CBM-W2	5.3399	Confirmed LTF	5.3399
TVA	TVA	1.9544	Confirmed LTF	1.9544

COFFEEN	COFFEEN	0.0549	Confirmed LTF	0.0549
EDWARDS	EDWARDS	0.1708	Confirmed LTF	0.1708
CBM-S2	CBM-S2	37.1249	Confirmed LTF	37.1249
CBM-S1	CBM-S1	8.6734	Confirmed LTF	8.6734
TILTON	TILTON	0.3805	Confirmed LTF	0.3805
MADISON	MADISON	1.8829	Confirmed LTF	1.8829
GIBSON	GIBSON	0.2861	Confirmed LTF	0.2861
TRIMBLE	TRIMBLE	0.4046	Confirmed LTF	0.4046
AA2-074	AA2-074	3.7503	LTF	3.7503

11.7.7 Index 7

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895529	313714	6PERQUIMANS	DVP	314662	6S HERTFORD	DVP	1	DVP_P1-2: LN 246-A	single	733.2	117.5	118.58	AC	7.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0161	80/20	0.0161
314574	6EVERETS	0.1703	80/20	0.1703
314582	3KELFORD	0.2456	80/20	0.2456
314589	3MURPHYS	0.0326	80/20	0.0326
314623	3WITAKRS	0.0789	80/20	0.0789
314704	3LAWRENC	0.0581	80/20	0.0581
315126	1ROARAP2	0.4490	80/20	0.4490
315128	1ROARAP4	0.4284	80/20	0.4284
315136	1ROSEMG1	0.7547	80/20	0.7547
315137	1ROSEMS1	0.4680	80/20	0.4680
315138	1ROSEMG2	0.3537	80/20	0.3537
315139	1GASTONA	1.0948	80/20	1.0948
315141	1GASTONB	1.0948	80/20	1.0948
315158	1KERR 1	0.0689	80/20	0.0689
315159	1KERR 2	0.1928	80/20	0.1928
315160	1KERR 3	0.1928	80/20	0.1928
315161	1KERR 4	0.1928	80/20	0.1928
315162	1KERR 5	0.1928	80/20	0.1928
315163	1KERR 6	0.1928	80/20	0.1928
315164	1KERR 7	0.1928	80/20	0.1928
315292	1DOMTR78	1.6459	80/20	1.6459
315294	1DOMTR10	25.0186	80/20	25.0186
315601	1CONETOE2SOL	0.7116	80/20	0.7116
315602	1HOLLOMANSOL	1.0984	80/20	1.0984
315606	3AA2-053SOLA	0.5455	80/20	0.5455
315607	3AA1-063SOLA	0.4131	80/20	0.4131
315608	3AA2-088SOLA	0.2422	80/20	0.2422
315611	6Z1-036WIND	27.9158	80/20	27.9158
315612	3AA2-057SOLA	0.4384	80/20	0.4384
315614	AA2-178 C	2.6001	80/20	2.6001
920591	AA2-165 C	0.0520	80/20	0.0520
920671	AA2-174 C OP	0.0250	80/20	0.0250
922922	AB1-081 C OP	5.9142	80/20	5.9142
923262	AB1-132 C OP (Suspended)	9.8062	80/20	9.8062
923572	AB1-173 C OP	1.1595	80/20	1.1595
923582	AB1-173AC OP	1.1595	80/20	1.1595
923831	AB2-022 C	-1.6399	Adder	-1.93
923911	AB2-031 C O1	1.1509	80/20	1.1509
923991	AB2-040 C O1	3.7792	80/20	3.7792
924151	AB2-059 C OP	0.5943	80/20	0.5943
924501	AB2-099 C (Suspended)	0.6347	80/20	0.6347

924511	AB2-100 C	0.4007	80/20	0.4007
925121	AB2-169 C	1.0759	80/20	1.0759
925171	AB2-174 C O1	0.2931	80/20	0.2931
925591	AC1-034 C	4.5148	80/20	4.5148
925781	AC1-054 C O1	2.9641	80/20	2.9641
926071	AC1-086 C	14.4407	80/20	14.4407
926201	AC1-098 C	5.2053	80/20	5.2053
926211	AC1-099 C	1.7443	80/20	1.7443
927021	AC1-189 C	8.6770	80/20	8.6770
927141	AC1-208 C	6.6486	80/20	6.6486
932631	AC2-084 C	7.4204	80/20	7.4204
933991	AD1-023 C	30.3131	80/20	30.3131
934331	AD1-057 C O1	6.8264	80/20	6.8264
934521	AD1-076 C	142.1150	80/20	142.1150
936361	AD2-046 C O1	2.8310	80/20	2.8310
936401	AD2-051 C O1	12.4172	80/20	12.4172
938221	AE1-035 C	3.2210	80/20	3.2210
939181	AE1-148 C O1	2.7572	80/20	2.7572
940491	AE2-034 C	22.8728	80/20	22.8728
940571	AE2-044 C	2.9571	80/20	2.9571
940661	AE2-053 O1	1.0212	80/20	1.0212
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.3134	80/20	1.3134
942471	AE2-260 C O1	5.3201	80/20	5.3201
942851	AE2-304 C (Withdrawn : 10/26/2020)	-0.7262	Adder	-0.85
943171	AE2-346 C	1.5233	80/20	1.5233
943911	AF1-059	5.3890	80/20	5.3890
944141	AF1-082	1.9010	80/20	1.9010
945711	AF1-236 C O1	250.4025	80/20	250.4025
946281	AF1-292 C	0.6332	80/20	0.6332
957521	AF2-046 C	12.9930	80/20	12.9930
957531	AF2-047 C	54.3501	80/20	54.3501
957821	AF2-076 C	7.2099	80/20	7.2099
957861	AF2-080 C	7.8808	80/20	7.8808
959511	AF2-242 C	12.3579	80/20	12.3579
960081	AF2-299 C	1.0673	80/20	1.0673
960331	AF2-324 C O1	5.2904	80/20	5.2904
WEC	WEC	0.2337	Confirmed LTF	0.2337
LGEE	LGEE	0.4364	Confirmed LTF	0.4364
CPL	CPL	2.6804	Confirmed LTF	2.6804
CBM-W2	CBM-W2	9.0499	Confirmed LTF	9.0499
NY	NY	0.2041	Confirmed LTF	0.2041
TVA	TVA	1.8732	Confirmed LTF	1.8732
CBM-S2	CBM-S2	16.2476	Confirmed LTF	16.2476
CBM-S1	CBM-S1	10.4966	Confirmed LTF	10.4966
MADISON	MADISON	0.5000	Confirmed LTF	0.5000
MEC	MEC	1.3904	Confirmed LTF	1.3904
AA2-074	AA2-074	1.8265	LTF	1.8265
CBM-W1	CBM-W1	8.8070	Confirmed LTF	8.8070

11.7.8 Index 8

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895647	313885	6WALBMRL	DVP	313714	6PERQUIMANS	DVP	1	DVP_P1-2: LN 246-A	single	733.2	112.39	113.47	AC	7.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0161	80/20	0.0161
314574	6EVERETS	0.1703	80/20	0.1703
314582	3KELFORD	0.2456	80/20	0.2456
314589	3MURPHYS	0.0326	80/20	0.0326
314623	3WITAKRS	0.0789	80/20	0.0789
314704	3LAWRENC	0.0581	80/20	0.0581
315126	1ROARAP2	0.4490	80/20	0.4490
315128	1ROARAP4	0.4284	80/20	0.4284
315136	1ROSEMG1	0.7547	80/20	0.7547
315137	1ROSEMS1	0.4680	80/20	0.4680
315138	1ROSEMG2	0.3537	80/20	0.3537
315139	1GASTONA	1.0948	80/20	1.0948
315141	1GASTONB	1.0948	80/20	1.0948
315158	1KERR 1	0.0689	80/20	0.0689
315159	1KERR 2	0.1928	80/20	0.1928
315160	1KERR 3	0.1928	80/20	0.1928
315161	1KERR 4	0.1928	80/20	0.1928
315162	1KERR 5	0.1928	80/20	0.1928
315163	1KERR 6	0.1928	80/20	0.1928
315164	1KERR 7	0.1928	80/20	0.1928
315292	1DOMTR78	1.6459	80/20	1.6459
315294	1DOMTR10	25.0186	80/20	25.0186
315601	1CONETOE2SOL	0.7116	80/20	0.7116
315602	1HOLLOMANSOL	1.0984	80/20	1.0984
315606	3AA2-053SOLA	0.5455	80/20	0.5455
315607	3AA1-063SOLA	0.4131	80/20	0.4131
315608	3AA2-088SOLA	0.2422	80/20	0.2422
315611	6Z1-036WIND	-9.4216	Adder	-11.08
315612	3AA2-057SOLA	0.4384	80/20	0.4384
315614	AA2-178 C	2.6001	80/20	2.6001
920591	AA2-165 C	0.0520	80/20	0.0520
920671	AA2-174 C OP	0.0250	80/20	0.0250
922922	AB1-081 C OP	5.9142	80/20	5.9142
923262	AB1-132 C OP (Suspended)	9.8062	80/20	9.8062
923572	AB1-173 C OP	1.1595	80/20	1.1595
923582	AB1-173AC OP	1.1595	80/20	1.1595
923831	AB2-022 C	-1.6399	Adder	-1.93
923911	AB2-031 C O1	1.1509	80/20	1.1509
923991	AB2-040 C O1	3.7792	80/20	3.7792
924151	AB2-059 C OP	0.5943	80/20	0.5943
924501	AB2-099 C (Suspended)	0.6347	80/20	0.6347

924511	AB2-100 C	0.4007	80/20	0.4007
925121	AB2-169 C	1.0759	80/20	1.0759
925171	AB2-174 C O1	0.2931	80/20	0.2931
925591	AC1-034 C	4.5148	80/20	4.5148
925781	AC1-054 C O1	2.9641	80/20	2.9641
926071	AC1-086 C	14.4407	80/20	14.4407
926201	AC1-098 C	5.2053	80/20	5.2053
926211	AC1-099 C	1.7443	80/20	1.7443
927021	AC1-189 C	8.6770	80/20	8.6770
927141	AC1-208 C	6.6486	80/20	6.6486
932631	AC2-084 C	7.4204	80/20	7.4204
933991	AD1-023 C	30.3131	80/20	30.3131
934331	AD1-057 C O1	6.8264	80/20	6.8264
934521	AD1-076 C	142.1150	80/20	142.1150
936361	AD2-046 C O1	2.8310	80/20	2.8310
936401	AD2-051 C O1	12.4172	80/20	12.4172
938221	AE1-035 C	3.2210	80/20	3.2210
939181	AE1-148 C O1	2.7572	80/20	2.7572
940491	AE2-034 C	22.8728	80/20	22.8728
940571	AE2-044 C	2.9571	80/20	2.9571
940661	AE2-053 O1	1.0212	80/20	1.0212
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.3134	80/20	1.3134
942471	AE2-260 C O1	5.3201	80/20	5.3201
942851	AE2-304 C (Withdrawn : 10/26/2020)	-0.7262	Adder	-0.85
943171	AE2-346 C	1.5233	80/20	1.5233
943911	AF1-059	5.3890	80/20	5.3890
944141	AF1-082	1.9010	80/20	1.9010
945711	AF1-236 C O1	250.4025	80/20	250.4025
946281	AF1-292 C	0.6332	80/20	0.6332
957521	AF2-046 C	12.9930	80/20	12.9930
957531	AF2-047 C	54.3501	80/20	54.3501
957821	AF2-076 C	7.2099	80/20	7.2099
957861	AF2-080 C	7.8808	80/20	7.8808
959511	AF2-242 C	12.3579	80/20	12.3579
960081	AF2-299 C	1.0673	80/20	1.0673
960331	AF2-324 C O1	5.2904	80/20	5.2904
WEC	WEC	0.2337	Confirmed LTF	0.2337
LGEE	LGEE	0.4364	Confirmed LTF	0.4364
CPL	CPL	2.6804	Confirmed LTF	2.6804
CBM-W2	CBM-W2	9.0499	Confirmed LTF	9.0499
NY	NY	0.2041	Confirmed LTF	0.2041
TVA	TVA	1.8732	Confirmed LTF	1.8732
CBM-S2	CBM-S2	16.2476	Confirmed LTF	16.2476
CBM-S1	CBM-S1	10.4966	Confirmed LTF	10.4966
MADISON	MADISON	0.5000	Confirmed LTF	0.5000
MEC	MEC	1.3904	Confirmed LTF	1.3904
AA2-074	AA2-074	1.8265	LTF	1.8265
CBM-W1	CBM-W1	8.8070	Confirmed LTF	8.8070

11.7.9 Index 9

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895610	314203	6MACKEYS	DVP	314637	6EDENTON	DVP	1	DVP_P1-2: LN 246-A	single	731.32	116.45	117.54	AC	7.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0161	80/20	0.0161
314574	6EVERETS	0.1703	80/20	0.1703
314582	3KELFORD	0.2456	80/20	0.2456
314589	3MURPHYS	0.0326	80/20	0.0326
314623	3WITAKRS	0.0789	80/20	0.0789
314704	3LAWRENC	0.0581	80/20	0.0581
315126	1ROARAP2	0.4490	80/20	0.4490
315128	1ROARAP4	0.4284	80/20	0.4284
315136	1ROSEMG1	0.7547	80/20	0.7547
315137	1ROSEMS1	0.4680	80/20	0.4680
315138	1ROSEMG2	0.3537	80/20	0.3537
315139	1GASTONA	1.0948	80/20	1.0948
315141	1GASTONB	1.0948	80/20	1.0948
315158	1KERR 1	0.0689	80/20	0.0689
315159	1KERR 2	0.1928	80/20	0.1928
315160	1KERR 3	0.1928	80/20	0.1928
315161	1KERR 4	0.1928	80/20	0.1928
315162	1KERR 5	0.1928	80/20	0.1928
315163	1KERR 6	0.1928	80/20	0.1928
315164	1KERR 7	0.1928	80/20	0.1928
315292	1DOMTR78	1.6459	80/20	1.6459
315294	1DOMTR10	25.0186	80/20	25.0186
315601	1CONETOE2SOL	0.7116	80/20	0.7116
315602	1HOLLOMANSOL	1.0984	80/20	1.0984
315606	3AA2-053SOLA	0.5455	80/20	0.5455
315607	3AA1-063SOLA	0.4131	80/20	0.4131
315608	3AA2-088SOLA	0.2422	80/20	0.2422
315611	6Z1-036WIND	-9.4216	Adder	-11.08
315612	3AA2-057SOLA	0.4384	80/20	0.4384
315614	AA2-178 C	2.6001	80/20	2.6001
920591	AA2-165 C	0.0520	80/20	0.0520
920671	AA2-174 C OP	0.0250	80/20	0.0250
922922	AB1-081 C OP	5.9142	80/20	5.9142
923262	AB1-132 C OP (Suspended)	9.8062	80/20	9.8062
923572	AB1-173 C OP	1.1595	80/20	1.1595
923582	AB1-173AC OP	1.1595	80/20	1.1595
923831	AB2-022 C	-1.6399	Adder	-1.93
923911	AB2-031 C O1	1.1509	80/20	1.1509
923991	AB2-040 C O1	3.7792	80/20	3.7792
924151	AB2-059 C OP	0.5943	80/20	0.5943
924501	AB2-099 C (Suspended)	0.6347	80/20	0.6347

924511	AB2-100 C	0.4007	80/20	0.4007
925121	AB2-169 C	1.0759	80/20	1.0759
925171	AB2-174 C O1	0.2931	80/20	0.2931
925591	AC1-034 C	4.5148	80/20	4.5148
925781	AC1-054 C O1	2.9641	80/20	2.9641
926071	AC1-086 C	14.4407	80/20	14.4407
926201	AC1-098 C	5.2053	80/20	5.2053
926211	AC1-099 C	1.7443	80/20	1.7443
927021	AC1-189 C	8.6770	80/20	8.6770
927141	AC1-208 C	6.6486	80/20	6.6486
932631	AC2-084 C	7.4204	80/20	7.4204
933991	AD1-023 C	30.3131	80/20	30.3131
934331	AD1-057 C O1	6.8264	80/20	6.8264
934521	AD1-076 C	142.1150	80/20	142.1150
936361	AD2-046 C O1	2.8310	80/20	2.8310
936401	AD2-051 C O1	12.4172	80/20	12.4172
938221	AE1-035 C	3.2210	80/20	3.2210
939181	AE1-148 C O1	2.7572	80/20	2.7572
940491	AE2-034 C	22.8728	80/20	22.8728
940571	AE2-044 C	2.9571	80/20	2.9571
940661	AE2-053 O1	1.0212	80/20	1.0212
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.3134	80/20	1.3134
942471	AE2-260 C O1	5.3201	80/20	5.3201
942851	AE2-304 C (Withdrawn : 10/26/2020)	-0.7262	Adder	-0.85
943171	AE2-346 C	1.5233	80/20	1.5233
943911	AF1-059	5.3890	80/20	5.3890
944141	AF1-082	1.9010	80/20	1.9010
945711	AF1-236 C O1	250.4025	80/20	250.4025
946281	AF1-292 C	0.6332	80/20	0.6332
957521	AF2-046 C	12.9930	80/20	12.9930
957531	AF2-047 C	54.3501	80/20	54.3501
957821	AF2-076 C	7.2099	80/20	7.2099
957861	AF2-080 C	7.8808	80/20	7.8808
959511	AF2-242 C	12.3579	80/20	12.3579
960081	AF2-299 C	1.0673	80/20	1.0673
960331	AF2-324 C O1	5.2904	80/20	5.2904
WEC	WEC	0.2337	Confirmed LTF	0.2337
LGEE	LGEE	0.4364	Confirmed LTF	0.4364
CPL	CPL	2.6804	Confirmed LTF	2.6804
CBM-W2	CBM-W2	9.0499	Confirmed LTF	9.0499
NY	NY	0.2041	Confirmed LTF	0.2041
TVA	TVA	1.8732	Confirmed LTF	1.8732
CBM-S2	CBM-S2	16.2476	Confirmed LTF	16.2476
CBM-S1	CBM-S1	10.4966	Confirmed LTF	10.4966
MADISON	MADISON	0.5000	Confirmed LTF	0.5000
MEC	MEC	1.3904	Confirmed LTF	1.3904
AA2-074	AA2-074	1.8265	LTF	1.8265
CBM-W1	CBM-W1	8.8070	Confirmed LTF	8.8070

11.7.10 Index 10

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97720570	314299	6HARROWG	DVP	314263	6TYLER1	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	128.7	129.68	AC	6.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.9733	50/50	0.9733
314539	3UNCAMP	1.0318	Adder	1.21
314541	3WATKINS	0.3195	Adder	0.38
314572	3EMPORIA	0.0972	50/50	0.0972
314704	3LAWRENC	0.3615	50/50	0.3615
315136	1ROSEMG1	2.3074	50/50	2.3074
315137	1ROSEMS1	1.4308	50/50	1.4308
315138	1ROSEMG2	1.0814	50/50	1.0814
315139	1GASTONA	3.5194	50/50	3.5194
315141	1GASTONB	3.5194	50/50	3.5194
315294	1DOMTR10	4.0021	Adder	4.71
900672	V4-068 E	0.1643	Adder	0.19
907092	X1-038 E	2.5796	Adder	3.03
917332	Z2-043 E	0.6384	Adder	0.75
917342	Z2-044 E	0.3171	Adder	0.37
917512	Z2-088 E OP1	1.8527	Adder	2.18
918492	AA1-063AE OP	2.8028	Adder	3.3
918512	AA1-065 E OP	1.9029	Adder	2.24
918532	AA1-067 E	0.3158	Adder	0.37
919692	AA2-053 E OP	2.7697	Adder	3.26
919702	AA2-057 E OP	1.9659	Adder	2.31
920042	AA2-088 E OP	5.7733	Adder	6.79
920592	AA2-165 E	0.2702	Adder	0.32
920672	AA2-174 E OP	0.3201	Adder	0.38
922922	AB1-081 C OP	4.6605	Adder	5.48
922923	AB1-081 E OP	1.9974	Adder	2.35
923262	AB1-132 C OP (Suspended)	15.9936	50/50	15.9936
923263	AB1-132 E OP (Suspended)	6.8544	50/50	6.8544
923572	AB1-173 C OP	2.7477	50/50	2.7477
923573	AB1-173 E OP	1.2822	50/50	1.2822
923582	AB1-173AC OP	2.7477	50/50	2.7477
923583	AB1-173AE OP	1.2822	50/50	1.2822
923801	AB2-015 C OP	3.8654	Adder	4.55
923802	AB2-015 E OP	3.1696	Adder	3.73
923852	AB2-025 E	2.6023	50/50	2.6023
923911	AB2-031 C O1	2.7273	50/50	2.7273
923912	AB2-031 E O1	1.3433	50/50	1.3433
923991	AB2-040 C O1	8.9553	50/50	8.9553
923992	AB2-040 E O1	7.3271	50/50	7.3271
924022	AB2-043 E O1	1.1914	Adder	1.4

924152	AB2-059 E OP	2.8296	Adder	3.33
924162	AB2-060 E OP	1.7806	Adder	2.09
924301	AB2-077 C O1 (Suspended)	0.8370	Adder	0.98
924302	AB2-077 E O1 (Suspended)	0.5580	Adder	0.66
924311	AB2-078 C O1 (Suspended)	0.8370	Adder	0.98
924312	AB2-078 E O1 (Suspended)	0.5580	Adder	0.66
924321	AB2-079 C O1 (Suspended)	0.8370	Adder	0.98
924322	AB2-079 E O1 (Suspended)	0.5580	Adder	0.66
924501	AB2-099 C (Suspended)	0.3109	Adder	0.37
924502	AB2-099 E (Suspended)	0.1333	Adder	0.16
924511	AB2-100 C	3.3551	50/50	3.3551
924512	AB2-100 E	9.8340	50/50	9.8340
925061	AB2-161 C O1	3.3324	50/50	3.3324
925062	AB2-161 E O1	5.4371	50/50	5.4371
925122	AB2-169 E	2.2559	Adder	2.65
925171	AB2-174 C O1	1.5119	50/50	1.5119
925172	AB2-174 E O1	8.1404	50/50	8.1404
925591	AC1-034 C	3.5578	Adder	4.19
925592	AC1-034 E	2.6840	Adder	3.16
925781	AC1-054 C O1	4.0091	Adder	4.72
925782	AC1-054 E O1	1.8469	Adder	2.17
926071	AC1-086 C	23.5525	50/50	23.5525
926072	AC1-086 E	10.7195	50/50	10.7195
926201	AC1-098 C	3.6716	Adder	4.32
926202	AC1-098 E	2.1873	Adder	2.57
926211	AC1-099 C	1.2304	Adder	1.45
926212	AC1-099 E	0.7226	Adder	0.85
927021	AC1-189 C	4.0002	Adder	4.71
927022	AC1-189 E	1.9926	Adder	2.34
927141	AC1-208 C	5.7389	Adder	6.75
927142	AC1-208 E	2.5483	Adder	3.0
932581	AC2-078 C O1 (Withdrawn : 02/09/2021)	6.5575	50/50	6.5575
932582	AC2-078 E O1 (Withdrawn : 02/09/2021)	10.6991	50/50	10.6991
932591	AC2-079 C O1	3.4286	Adder	4.03
932592	AC2-079 E O1	5.5940	Adder	6.58
932631	AC2-084 C	5.2339	Adder	6.16
932632	AC2-084 E	2.5779	Adder	3.03
933991	AD1-023 C	5.0141	Adder	5.9
933992	AD1-023 E	2.7297	Adder	3.21
934331	AD1-057 C O1	7.2546	Adder	8.53
934332	AD1-057 E O1	3.8699	Adder	4.55
934521	AD1-076 C	19.0217	Adder	22.38
934522	AD1-076 E	9.6858	Adder	11.4
934571	AD1-082 C	7.5944	50/50	7.5944

934572	AD1-082 E	4.3321	50/50	4.3321
936261	AD2-033 C	4.5362	Adder	5.34
936262	AD2-033 E	3.0242	Adder	3.56
936361	AD2-046 C O1	4.1377	Adder	4.87
936362	AD2-046 E O1	1.9027	Adder	2.24
936401	AD2-051 C O1	4.2714	Adder	5.03
936402	AD2-051 E O1	1.8341	Adder	2.16
936481	AD2-063 C O1	5.8232	Adder	6.85
936482	AD2-063 E O1	3.8498	Adder	4.53
936661	AD2-085 C	2.0957	Adder	2.47
936662	AD2-085 E	3.4193	Adder	4.02
938221	AE1-035 C	1.0625	Adder	1.25
938222	AE1-035 E	0.5233	Adder	0.62
938631	AE1-085 C O1	13.5695	50/50	13.5695
938632	AE1-085 E O1	6.7847	50/50	6.7847
938771	AE1-103 C O1	1.5478	Adder	1.82
938772	AE1-103 E O1	2.1374	Adder	2.51
939181	AE1-148 C O1	4.0631	Adder	4.78
939182	AE1-148 E O1	2.7087	Adder	3.19
939191	AE1-149 C O1	18.4746	50/50	18.4746
939192	AE1-149 E O1	12.3164	50/50	12.3164
940061	AE2-000B C	10.5234	50/50	10.5234
940062	AE2-000B E	7.0156	50/50	7.0156
940481	AE2-033 C	35.9346	50/50	35.9346
940482	AE2-033 E	24.2256	50/50	24.2256
940541	AE2-040 O1	6.5898	50/50	6.5898
940571	AE2-044 C	2.3303	Adder	2.74
940572	AE2-044 E	0.9987	Adder	1.17
940651	AE2-052	6.1582	50/50	6.1582
940661	AE2-053 O1	1.5048	Adder	1.77
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.5689	Adder	0.67
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.3063	Adder	0.36
942341	AE2-247 C	0.9153	Adder	1.08
942342	AE2-247 E	1.2641	Adder	1.49
942451	AE2-258	0.9940	Adder	1.17
942471	AE2-260 C O1	25.7569	50/50	25.7569
942472	AE2-260 E O1	36.5331	50/50	36.5331
943171	AE2-346 C	0.7462	Adder	0.88
943172	AE2-346 E	0.3198	Adder	0.38
943461	AF1-017 C	0.8282	Adder	0.97
943462	AF1-017 E	1.3512	Adder	1.59
943911	AF1-059	15.4310	50/50	15.4310
944141	AF1-082	1.4980	Adder	1.76
946011	AF1-266	30.0801	50/50	30.0801
946281	AF1-292 C	2.1576	50/50	2.1576
946282	AF1-292 E	1.4546	50/50	1.4546
957521	AF2-046 C	9.1896	Adder	10.81
957522	AF2-046 E	4.6224	Adder	5.44
957861	AF2-080 C	3.6332	Adder	4.27
957862	AF2-080 E	1.6106	Adder	1.89
958142	AF2-108 BAT	0.3532	Merchant Transmission	0.3532
959511	AF2-242 C	2.9954	Adder	3.52

959512	AF2-242 E	2.3297	Adder	2.74
960081	AF2-299 C	3.6365	50/50	3.6365
960082	AF2-299 E	2.4243	50/50	2.4243
960331	AF2-324 C O1	4.1044	Adder	4.83
960332	AF2-324 E O1	2.2036	Adder	2.59
961091	AF2-400 C	0.2087	Adder	0.25
961092	AF2-400 E	0.3425	Adder	0.4
WEC	WEC	0.2057	Confirmed LTF	0.2057
LGEE	LGEE	0.3874	Confirmed LTF	0.3874
CPL	CPL	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2719	Confirmed LTF	8.2719
NY	NY	0.2704	Confirmed LTF	0.2704
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8371	Confirmed LTF	3.8371
CBM-S2	CBM-S2	15.0453	Confirmed LTF	15.0453
CBM-S1	CBM-S1	9.6787	Confirmed LTF	9.6787
G-007	G-007	0.5990	Confirmed LTF	0.5990
MADISON	MADISON	0.4859	Confirmed LTF	0.4859
MEC	MEC	1.2458	Confirmed LTF	1.2458
AA2-074	AA2-074	1.6060	LTF	1.6060
CBM-W1	CBM-W1	7.6811	Confirmed LTF	7.6811

11.7.11 Index 11

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97720565	314331	6POE	DVP	314299	6HARROWG	DVP	1	DVP_P4-2: 24972-4	breaker	541.0	128.71	129.69	AC	6.17

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	0.9733	50/50	0.9733
314539	3UNCAMP	1.0318	Adder	1.21
314541	3WATKINS	0.3195	Adder	0.38
314572	3EMPORIA	0.0972	50/50	0.0972
314704	3LAWRENC	0.3615	50/50	0.3615
315136	1ROSEMG1	2.3074	50/50	2.3074
315137	1ROSEMS1	1.4308	50/50	1.4308
315138	1ROSEMG2	1.0814	50/50	1.0814
315139	1GASTONA	3.5194	50/50	3.5194
315141	1GASTONB	3.5194	50/50	3.5194
315294	1DOMTR10	4.0021	Adder	4.71
900672	V4-068 E	0.1643	Adder	0.19
907092	X1-038 E	2.5796	Adder	3.03
917332	Z2-043 E	0.6384	Adder	0.75
917342	Z2-044 E	0.3171	Adder	0.37
917512	Z2-088 E OP1	1.8527	Adder	2.18
918492	AA1-063AE OP	2.8028	Adder	3.3
918512	AA1-065 E OP	1.9029	Adder	2.24
918532	AA1-067 E	0.3158	Adder	0.37
919692	AA2-053 E OP	2.7697	Adder	3.26
919702	AA2-057 E OP	1.9659	Adder	2.31
920042	AA2-088 E OP	5.7733	Adder	6.79
920592	AA2-165 E	0.2702	Adder	0.32
920672	AA2-174 E OP	0.3201	Adder	0.38
922922	AB1-081 C OP	4.6605	Adder	5.48
922923	AB1-081 E OP	1.9974	Adder	2.35
923262	AB1-132 C OP (Suspended)	15.9936	50/50	15.9936
923263	AB1-132 E OP (Suspended)	6.8544	50/50	6.8544
923572	AB1-173 C OP	2.7477	50/50	2.7477
923573	AB1-173 E OP	1.2822	50/50	1.2822
923582	AB1-173AC OP	2.7477	50/50	2.7477
923583	AB1-173AE OP	1.2822	50/50	1.2822
923801	AB2-015 C OP	3.8654	Adder	4.55
923802	AB2-015 E OP	3.1696	Adder	3.73
923852	AB2-025 E	2.6023	50/50	2.6023
923911	AB2-031 C O1	2.7273	50/50	2.7273
923912	AB2-031 E O1	1.3433	50/50	1.3433
923991	AB2-040 C O1	8.9553	50/50	8.9553
923992	AB2-040 E O1	7.3271	50/50	7.3271
924022	AB2-043 E O1	1.1914	Adder	1.4

924152	AB2-059 E OP	2.8296	Adder	3.33
924162	AB2-060 E OP	1.7806	Adder	2.09
924301	AB2-077 C O1 (Suspended)	0.8370	Adder	0.98
924302	AB2-077 E O1 (Suspended)	0.5580	Adder	0.66
924311	AB2-078 C O1 (Suspended)	0.8370	Adder	0.98
924312	AB2-078 E O1 (Suspended)	0.5580	Adder	0.66
924321	AB2-079 C O1 (Suspended)	0.8370	Adder	0.98
924322	AB2-079 E O1 (Suspended)	0.5580	Adder	0.66
924501	AB2-099 C (Suspended)	0.3109	Adder	0.37
924502	AB2-099 E (Suspended)	0.1333	Adder	0.16
924511	AB2-100 C	3.3551	50/50	3.3551
924512	AB2-100 E	9.8340	50/50	9.8340
925061	AB2-161 C O1	3.3324	50/50	3.3324
925062	AB2-161 E O1	5.4371	50/50	5.4371
925122	AB2-169 E	2.2559	Adder	2.65
925171	AB2-174 C O1	1.5119	50/50	1.5119
925172	AB2-174 E O1	8.1404	50/50	8.1404
925591	AC1-034 C	3.5578	Adder	4.19
925592	AC1-034 E	2.6840	Adder	3.16
925781	AC1-054 C O1	4.0091	Adder	4.72
925782	AC1-054 E O1	1.8469	Adder	2.17
926071	AC1-086 C	23.5525	50/50	23.5525
926072	AC1-086 E	10.7195	50/50	10.7195
926201	AC1-098 C	3.6716	Adder	4.32
926202	AC1-098 E	2.1873	Adder	2.57
926211	AC1-099 C	1.2304	Adder	1.45
926212	AC1-099 E	0.7226	Adder	0.85
927021	AC1-189 C	4.0002	Adder	4.71
927022	AC1-189 E	1.9926	Adder	2.34
927141	AC1-208 C	5.7389	Adder	6.75
927142	AC1-208 E	2.5483	Adder	3.0
932581	AC2-078 C O1 (Withdrawn : 02/09/2021)	6.5575	50/50	6.5575
932582	AC2-078 E O1 (Withdrawn : 02/09/2021)	10.6991	50/50	10.6991
932591	AC2-079 C O1	3.4286	Adder	4.03
932592	AC2-079 E O1	5.5940	Adder	6.58
932631	AC2-084 C	5.2339	Adder	6.16
932632	AC2-084 E	2.5779	Adder	3.03
933991	AD1-023 C	5.0141	Adder	5.9
933992	AD1-023 E	2.7297	Adder	3.21
934331	AD1-057 C O1	7.2546	Adder	8.53
934332	AD1-057 E O1	3.8699	Adder	4.55
934521	AD1-076 C	19.0217	Adder	22.38
934522	AD1-076 E	9.6858	Adder	11.4
934571	AD1-082 C	7.5944	50/50	7.5944

934572	AD1-082 E	4.3321	50/50	4.3321
936261	AD2-033 C	4.5362	Adder	5.34
936262	AD2-033 E	3.0242	Adder	3.56
936361	AD2-046 C O1	4.1377	Adder	4.87
936362	AD2-046 E O1	1.9027	Adder	2.24
936401	AD2-051 C O1	4.2714	Adder	5.03
936402	AD2-051 E O1	1.8341	Adder	2.16
936481	AD2-063 C O1	5.8232	Adder	6.85
936482	AD2-063 E O1	3.8498	Adder	4.53
936661	AD2-085 C	2.0957	Adder	2.47
936662	AD2-085 E	3.4193	Adder	4.02
938221	AE1-035 C	1.0625	Adder	1.25
938222	AE1-035 E	0.5233	Adder	0.62
938631	AE1-085 C O1	13.5695	50/50	13.5695
938632	AE1-085 E O1	6.7847	50/50	6.7847
938771	AE1-103 C O1	1.5478	Adder	1.82
938772	AE1-103 E O1	2.1374	Adder	2.51
939181	AE1-148 C O1	4.0631	Adder	4.78
939182	AE1-148 E O1	2.7087	Adder	3.19
939191	AE1-149 C O1	18.4746	50/50	18.4746
939192	AE1-149 E O1	12.3164	50/50	12.3164
940061	AE2-000B C	10.5234	50/50	10.5234
940062	AE2-000B E	7.0156	50/50	7.0156
940481	AE2-033 C	35.9346	50/50	35.9346
940482	AE2-033 E	24.2256	50/50	24.2256
940541	AE2-040 O1	6.5898	50/50	6.5898
940571	AE2-044 C	2.3303	Adder	2.74
940572	AE2-044 E	0.9987	Adder	1.17
940651	AE2-052	6.1582	50/50	6.1582
940661	AE2-053 O1	1.5048	Adder	1.77
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.5689	Adder	0.67
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.3063	Adder	0.36
942341	AE2-247 C	0.9153	Adder	1.08
942342	AE2-247 E	1.2641	Adder	1.49
942451	AE2-258	0.9940	Adder	1.17
942471	AE2-260 C O1	25.7569	50/50	25.7569
942472	AE2-260 E O1	36.5331	50/50	36.5331
943171	AE2-346 C	0.7462	Adder	0.88
943172	AE2-346 E	0.3198	Adder	0.38
943461	AF1-017 C	0.8282	Adder	0.97
943462	AF1-017 E	1.3512	Adder	1.59
943911	AF1-059	15.4310	50/50	15.4310
944141	AF1-082	1.4980	Adder	1.76
946011	AF1-266	30.0801	50/50	30.0801
946281	AF1-292 C	2.1576	50/50	2.1576
946282	AF1-292 E	1.4546	50/50	1.4546
957521	AF2-046 C	9.1896	Adder	10.81
957522	AF2-046 E	4.6224	Adder	5.44
957861	AF2-080 C	3.6332	Adder	4.27
957862	AF2-080 E	1.6106	Adder	1.89
958142	AF2-108 BAT	0.3532	Merchant Transmission	0.3532
959511	AF2-242 C	2.9954	Adder	3.52

959512	AF2-242 E	2.3297	Adder	2.74
960081	AF2-299 C	3.6365	50/50	3.6365
960082	AF2-299 E	2.4243	50/50	2.4243
960331	AF2-324 C O1	4.1044	Adder	4.83
960332	AF2-324 E O1	2.2036	Adder	2.59
961091	AF2-400 C	0.2087	Adder	0.25
961092	AF2-400 E	0.3425	Adder	0.4
WEC	WEC	0.2057	Confirmed LTF	0.2057
LGEE	LGEE	0.3874	Confirmed LTF	0.3874
CPL	CPL	2.3563	Confirmed LTF	2.3563
CBM-W2	CBM-W2	8.2719	Confirmed LTF	8.2719
NY	NY	0.2704	Confirmed LTF	0.2704
TVA	TVA	1.7374	Confirmed LTF	1.7374
O-066	O-066	3.8371	Confirmed LTF	3.8371
CBM-S2	CBM-S2	15.0453	Confirmed LTF	15.0453
CBM-S1	CBM-S1	9.6787	Confirmed LTF	9.6787
G-007	G-007	0.5990	Confirmed LTF	0.5990
MADISON	MADISON	0.4859	Confirmed LTF	0.4859
MEC	MEC	1.2458	Confirmed LTF	1.2458
AA2-074	AA2-074	1.6060	LTF	1.6060
CBM-W1	CBM-W1	7.6811	Confirmed LTF	7.6811

11.7.12 Index 12

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98542551	314435	6SAPONY	DVP	314282	6CARSON	DVP	1	DVP_P7-1: LN 56-2012-B	tower	830.0	122.36	123.23	AC	8.43

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314435	6SAPONY	1.7800	50/50	1.7800
314572	3EMPORIA	0.1895	50/50	0.1895
314704	3LAWRENC	0.6975	50/50	0.6975
315126	1ROARAP2	2.7149	50/50	2.7149
315136	1ROSEMG1	4.9417	50/50	4.9417
315137	1ROSEMS1	3.0644	50/50	3.0644
315138	1ROSEMG2	2.3160	50/50	2.3160
315139	1GASTONA	7.6281	50/50	7.6281
315141	1GASTONB	7.6281	50/50	7.6281
917332	Z2-043 E	0.7741	Adder	0.91
917342	Z2-044 E	0.5627	Adder	0.66
917512	Z2-088 E OP1	2.7383	Adder	3.22
918492	AA1-063AE OP	6.5523	Adder	7.71
919692	AA2-053 E OP	5.3774	Adder	6.33
919702	AA2-057 E OP	3.4991	Adder	4.12
920592	AA2-165 E	0.4809	Adder	0.57
920672	AA2-174 E OP	0.6214	Adder	0.73
922922	AB1-081 C OP	8.2562	Adder	9.71
922923	AB1-081 E OP	3.5384	Adder	4.16
923262	AB1-132 C OP (Suspended)	34.6651	50/50	34.6651
923263	AB1-132 E OP (Suspended)	14.8565	50/50	14.8565
923572	AB1-173 C OP	5.4608	50/50	5.4608
923573	AB1-173 E OP	2.5484	50/50	2.5484
923582	AB1-173AC OP	5.4608	50/50	5.4608
923583	AB1-173AE OP	2.5484	50/50	2.5484
923852	AB2-025 E	4.7591	50/50	4.7591
923911	AB2-031 C O1	5.4203	50/50	5.4203
923912	AB2-031 E O1	2.6697	50/50	2.6697
923991	AB2-040 C O1	17.7980	50/50	17.7980
923992	AB2-040 E O1	14.5620	50/50	14.5620
924022	AB2-043 E O1	2.2266	Adder	2.62
924152	AB2-059 E OP	5.0127	Adder	5.9
924162	AB2-060 E OP	3.3260	Adder	3.91
924301	AB2-077 C O1 (Suspended)	1.5624	Adder	1.84
924302	AB2-077 E O1 (Suspended)	1.0416	Adder	1.23
924311	AB2-078 C O1 (Suspended)	1.5624	Adder	1.84

924312	AB2-078 E O1 (Suspended)	1.0416	Adder	1.23
924321	AB2-079 C O1 (Suspended)	1.5624	Adder	1.84
924322	AB2-079 E O1 (Suspended)	1.0416	Adder	1.23
924511	AB2-100 C	6.4774	50/50	6.4774
924512	AB2-100 E	18.9859	50/50	18.9859
925171	AB2-174 C O1	2.9815	50/50	2.9815
925172	AB2-174 E O1	16.0531	50/50	16.0531
925591	AC1-034 C	6.3027	Adder	7.41
925592	AC1-034 E	4.7547	Adder	5.59
925611	AC1-036 C	0.5848	Adder	0.69
925612	AC1-036 E	0.9542	Adder	1.12
925781	AC1-054 C O1	7.9372	Adder	9.34
925782	AC1-054 E O1	3.6565	Adder	4.3
926071	AC1-086 C	51.0485	50/50	51.0485
926072	AC1-086 E	23.2339	50/50	23.2339
926201	AC1-098 C	5.9883	Adder	7.05
926202	AC1-098 E	3.5675	Adder	4.2
926211	AC1-099 C	2.0067	Adder	2.36
926212	AC1-099 E	1.1786	Adder	1.39
927021	AC1-189 C	5.4672	Adder	6.43
927022	AC1-189 E	2.7234	Adder	3.2
927141	AC1-208 C	10.4893	Adder	12.34
927142	AC1-208 E	4.6577	Adder	5.48
932631	AC2-084 C	8.5366	Adder	10.04
932632	AC2-084 E	4.2046	Adder	4.95
934331	AD1-057 C O1	14.6186	Adder	17.2
934332	AD1-057 E O1	7.7982	Adder	9.17
936261	AD2-033 C	8.4102	Adder	9.89
936262	AD2-033 E	5.6068	Adder	6.6
936361	AD2-046 C O1	7.9084	Adder	9.3
936362	AD2-046 E O1	3.6367	Adder	4.28
936401	AD2-051 C O1	21.4101	50/50	21.4101
936402	AD2-051 E O1	9.1933	50/50	9.1933
936481	AD2-063 C O1	10.8469	Adder	12.76
936482	AD2-063 E O1	7.1710	Adder	8.44
939181	AE1-148 C O1	7.7576	Adder	9.13
939182	AE1-148 E O1	5.1717	Adder	6.08
940241	AE2-006	0.2976	Adder	0.35
940481	AE2-033 C	66.0585	50/50	66.0585
940482	AE2-033 E	44.5338	50/50	44.5338
940541	AE2-040 O1	12.0512	50/50	12.0512
940571	AE2-044 C	4.1281	Adder	4.86
940572	AE2-044 E	1.7692	Adder	2.08
940661	AE2-053 O1	2.8732	Adder	3.38
942451	AE2-258	1.8577	Adder	2.19
942471	AE2-260 C O1	49.2611	50/50	49.2611
942472	AE2-260 E O1	69.8709	50/50	69.8709
943911	AF1-059	25.1507	Adder	29.59
944141	AF1-082	2.6538	Adder	3.12
946011	AF1-266	55.2961	50/50	55.2961
946281	AF1-292 C	4.1815	50/50	4.1815

946282	AF1-292 E	2.8190	50/50	2.8190
957861	AF2-080 C	4.9656	Adder	5.84
957862	AF2-080 E	2.2012	Adder	2.59
959311	AF2-222 C	9.9042	Adder	11.65
959312	AF2-222 E	6.6358	Adder	7.81
960081	AF2-299 C	7.0475	50/50	7.0475
960082	AF2-299 E	4.6983	50/50	4.6983
960331	AF2-324 C O1	7.2967	Adder	8.58
960332	AF2-324 E O1	3.9175	Adder	4.61
WEC	WEC	0.2835	Confirmed LTF	0.2835
LGEE	LGEE	0.5346	Confirmed LTF	0.5346
CPL	CPL	3.1726	Confirmed LTF	3.1726
CBM-W2	CBM-W2	11.1875	Confirmed LTF	11.1875
NY	NY	0.3550	Confirmed LTF	0.3550
TVA	TVA	2.3352	Confirmed LTF	2.3352
O-066	O-066	5.0534	Confirmed LTF	5.0534
CBM-S2	CBM-S2	20.0566	Confirmed LTF	20.0566
CBM-S1	CBM-S1	13.0612	Confirmed LTF	13.0612
G-007	G-007	0.7904	Confirmed LTF	0.7904
MADISON	MADISON	0.6330	Confirmed LTF	0.6330
MEC	MEC	1.7034	Confirmed LTF	1.7034
AA2-074	AA2-074	2.1618	LTF	2.1618
CBM-W1	CBM-W1	10.6085	Confirmed LTF	10.6085

11.7.13 Index 13

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
96847727	314554	3BTLBRO	DVP	304223	3ROCKYMT115T	CPL	1	DVP_P7-1: LN 2058-2181	tower	93.0	419.38	427.67	AC	7.96

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314541	3WATKINS	0.2106	Adder	0.25
314582	3KELFORD	0.3782	50/50	0.3782
314623	3WITAKRS	0.5394	50/50	0.5394
315126	1ROARAP2	0.8984	50/50	0.8984
315136	1ROSEMG1	1.5527	50/50	1.5527
315137	1ROSEMS1	0.9629	50/50	0.9629
315138	1ROSEMG2	0.7277	50/50	0.7277
315139	1GASTONA	1.9956	50/50	1.9956
315141	1GASTONB	1.9956	50/50	1.9956
315294	1DOMTR10	3.1561	Adder	3.71
315601	1CONETOE2SOL	1.2938	50/50	1.2938
315612	3AA2-057SOLA	2.4909	50/50	2.4909
900672	V4-068 E	0.1239	Adder	0.15
917332	Z2-043 E	0.9787	50/50	0.9787
917342	Z2-044 E	1.3757	50/50	1.3757
917512	Z2-088 E OP1	3.2998	50/50	3.2998
918492	AA1-063AE OP	1.9447	Adder	2.29
918512	AA1-065 E OP	1.4315	Adder	1.68
918532	AA1-067 E	0.2467	Adder	0.29
919692	AA2-053 E OP	1.9796	Adder	2.33
919702	AA2-057 E OP	6.9972	50/50	6.9972
920042	AA2-088 E OP	4.0189	Adder	4.73
920591	AA2-165 C	0.2953	50/50	0.2953
920592	AA2-165 E	0.9617	50/50	0.9617
920672	AA2-174 E OP	0.2288	Adder	0.27
922922	AB1-081 C OP	22.9712	50/50	22.9712
922923	AB1-081 E OP	9.8448	50/50	9.8448
923262	AB1-132 C OP (Suspended)	9.0686	50/50	9.0686
923263	AB1-132 E OP (Suspended)	3.8866	50/50	3.8866
923572	AB1-173 C OP	1.0083	Adder	1.19
923573	AB1-173 E OP	0.4705	Adder	0.55
923582	AB1-173AC OP	1.0083	Adder	1.19
923583	AB1-173AE OP	0.4705	Adder	0.55
923801	AB2-015 C OP	2.5130	Adder	2.96
923802	AB2-015 E OP	2.0607	Adder	2.42
923911	AB2-031 C O1	1.0008	Adder	1.18
923912	AB2-031 E O1	0.4930	Adder	0.58
923991	AB2-040 C O1	3.2863	Adder	3.87
923992	AB2-040 E O1	2.6888	Adder	3.16

924151	AB2-059 C OP	4.5494	50/50	4.5494
924152	AB2-059 E OP	13.9468	50/50	13.9468
924501	AB2-099 C (Suspended)	0.2638	Adder	0.31
924502	AB2-099 E (Suspended)	0.1130	Adder	0.13
924512	AB2-100 E	2.0942	Adder	2.46
925122	AB2-169 E	1.7731	Adder	2.09
925172	AB2-174 E O1	2.7100	Adder	3.19
925591	AC1-034 C	17.5360	50/50	17.5360
925592	AC1-034 E	13.2289	50/50	13.2289
926071	AC1-086 C	13.3547	50/50	13.3547
926072	AC1-086 E	6.0781	50/50	6.0781
926201	AC1-098 C	8.4852	50/50	8.4852
926202	AC1-098 E	5.0550	50/50	5.0550
926211	AC1-099 C	2.8434	50/50	2.8434
926212	AC1-099 E	1.6700	50/50	1.6700
927021	AC1-189 C	6.0721	50/50	6.0721
927022	AC1-189 E	3.0247	50/50	3.0247
927141	AC1-208 C	13.5242	50/50	13.5242
927142	AC1-208 E	6.0054	50/50	6.0054
932631	AC2-084 C	12.0959	50/50	12.0959
932632	AC2-084 E	5.9577	50/50	5.9577
933991	AD1-023 C	3.9046	Adder	4.59
933992	AD1-023 E	2.1257	Adder	2.5
934331	AD1-057 C O1	10.1850	50/50	10.1850
934332	AD1-057 E O1	5.4331	50/50	5.4331
936401	AD2-051 C O1	3.1717	Adder	3.73
936402	AD2-051 E O1	1.3619	Adder	1.6
938221	AE1-035 C	0.7992	Adder	0.94
938222	AE1-035 E	0.3937	Adder	0.46
940571	AE2-044 C	11.4856	50/50	11.4856
940572	AE2-044 E	4.9224	50/50	4.9224
941541	AE2-151 C (Withdrawn : 01/08/2021)	0.5013	Adder	0.59
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.2700	Adder	0.32
942471	AE2-260 C O1	4.9551	Adder	5.83
942472	AE2-260 E O1	7.0282	Adder	8.27
943171	AE2-346 C	0.6330	Adder	0.74
943172	AE2-346 E	0.2713	Adder	0.32
944141	AF1-082	7.3836	50/50	7.3836
946281	AF1-292 C	0.5554	Adder	0.65
946282	AF1-292 E	0.3744	Adder	0.44
957521	AF2-046 C	7.0850	Adder	8.34
957522	AF2-046 E	3.5638	Adder	4.19
957861	AF2-080 C	5.5149	50/50	5.5149
957862	AF2-080 E	2.4448	50/50	2.4448
959511	AF2-242 C	2.3486	Adder	2.76
959512	AF2-242 E	1.8267	Adder	2.15
960081	AF2-299 C	0.9361	Adder	1.1
960082	AF2-299 E	0.6241	Adder	0.73
960331	AF2-324 C O1	10.2207	50/50	10.2207
960332	AF2-324 E O1	5.4873	50/50	5.4873
961091	AF2-400 C	0.1357	Adder	0.16
961092	AF2-400 E	0.2227	Adder	0.26

NEWTON	NEWTON	0.8607	Confirmed LTF	0.8607
FARMERCITY	FARMERCITY	0.0494	Confirmed LTF	0.0494
G-007A	G-007A	0.4939	Confirmed LTF	0.4939
VFT	VFT	1.3094	Confirmed LTF	1.3094
GIBSON	GIBSON	0.4161	Confirmed LTF	0.4161
PRAIRIE	PRAIRIE	2.3247	Confirmed LTF	2.3247
COFFEEN	COFFEEN	0.1608	Confirmed LTF	0.1608
CHEOAH	CHEOAH	0.7012	Confirmed LTF	0.7012
EDWARDS	EDWARDS	0.2597	Confirmed LTF	0.2597
TILTON	TILTON	0.4593	Confirmed LTF	0.4593
CALDERWOOD	CALDERWOOD	0.6839	Confirmed LTF	0.6839
BLUEG	BLUEG	1.2829	Confirmed LTF	1.2829
TRIMBLE	TRIMBLE	0.4074	Confirmed LTF	0.4074
CATAWBA	CATAWBA	0.7385	Confirmed LTF	0.7385

11.7.14 Index 14

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97720441	314569	6EARLEYS	DVP	314575	6NUCO TP	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	208.26	210.5	DC	15.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.4537	50/50	0.4537
314582	3KELFORD	0.7640	50/50	0.7640
314589	3MURPHYS	0.1005	50/50	0.1005
314623	3WITAKRS	0.2299	50/50	0.2299
315136	1ROSEMG1	2.2907	50/50	2.2907
315137	1ROSEMS1	1.4204	50/50	1.4204
315138	1ROSEMG2	1.0736	50/50	1.0736
315139	1GASTONA	3.3501	50/50	3.3501
315141	1GASTONB	3.3501	50/50	3.3501
315292	1DOMTR78	2.7989	50/50	2.7989
315294	1DOMTR10	21.5862	50/50	21.5862
315601	1CONETOE2SOL	1.9402	50/50	1.9402
315602	1HOLLOMANSOL	3.4651	50/50	3.4651
315606	3AA2-053SOLA	1.6814	50/50	1.6814
315611	6Z1-036WIND	13.8540	50/50	13.8540
315612	3AA2-057SOLA	1.2947	50/50	1.2947
315614	AA2-178 C	3.3430	50/50	3.3430
900672	V4-068 E	0.3279	50/50	0.3279
916042	Z1-036 E (Suspended)	92.8216	50/50	92.8216
917332	Z2-043 E	1.9767	50/50	1.9767
917342	Z2-044 E	0.5863	50/50	0.5863
917512	Z2-088 E OP1	4.9483	50/50	4.9483
918492	AA1-063AE OP	3.0023	Adder	3.53
918512	AA1-065 E OP	9.2333	50/50	9.2333
918532	AA1-067 E	1.1571	50/50	1.1571
919692	AA2-053 E OP	4.2964	50/50	4.2964
919702	AA2-057 E OP	3.6368	50/50	3.6368
920042	AA2-088 E OP	6.0152	Adder	7.08
920591	AA2-165 C	0.1535	50/50	0.1535
920592	AA2-165 E	0.4998	50/50	0.4998
920671	AA2-174 C OP	0.0770	50/50	0.0770
920672	AA2-174 E OP	0.4965	50/50	0.4965
920692	AA2-178 E	8.5260	50/50	8.5260
922922	AB1-081 C OP	7.3056	Adder	8.59
922923	AB1-081 E OP	3.1310	Adder	3.68
923262	AB1-132 C OP (Suspended)	15.2242	50/50	15.2242
923263	AB1-132 E OP (Suspended)	6.5246	50/50	6.5246
923572	AB1-173 C OP	1.5321	Adder	1.8
923573	AB1-173 E OP	0.7150	Adder	0.84

923582	AB1-173AC OP	1.5321	Adder	1.8
923583	AB1-173AE OP	0.7150	Adder	0.84
923831	AB2-022 C	-0.8980	Adder	-1.06
923911	AB2-031 C O1	1.5208	Adder	1.79
923912	AB2-031 E O1	0.7490	Adder	0.88
923991	AB2-040 C O1	4.9936	Adder	5.87
923992	AB2-040 E O1	4.0857	Adder	4.81
924152	AB2-059 E OP	4.4356	Adder	5.22
924501	AB2-099 C (Suspended)	1.0075	50/50	1.0075
924502	AB2-099 E (Suspended)	0.4318	50/50	0.4318
924512	AB2-100 E	3.0729	Adder	3.62
925121	AB2-169 C	2.0241	50/50	2.0241
925122	AB2-169 E	10.8101	50/50	10.8101
925172	AB2-174 E O1	4.1108	Adder	4.84
925591	AC1-034 C	5.5771	Adder	6.56
925592	AC1-034 E	4.2073	Adder	4.95
925781	AC1-054 C O1	3.8763	Adder	4.56
925782	AC1-054 E O1	1.7857	Adder	2.1
926071	AC1-086 C	22.4194	50/50	22.4194
926072	AC1-086 E	10.2038	50/50	10.2038
926201	AC1-098 C	8.0381	50/50	8.0381
926202	AC1-098 E	4.7887	50/50	4.7887
926211	AC1-099 C	2.6936	50/50	2.6936
926212	AC1-099 E	1.5820	50/50	1.5820
927021	AC1-189 C	11.8965	50/50	11.8965
927022	AC1-189 E	5.9259	50/50	5.9259
927141	AC1-208 C	10.1482	50/50	10.1482
927142	AC1-208 E	4.5062	50/50	4.5062
932631	AC2-084 C	11.4586	50/50	11.4586
932632	AC2-084 E	5.6438	50/50	5.6438
933991	AD1-023 C	28.2020	50/50	28.2020
933992	AD1-023 E	15.3532	50/50	15.3532
934331	AD1-057 C O1	10.1868	50/50	10.1868
934332	AD1-057 E O1	5.4341	50/50	5.4341
934521	AD1-076 C	113.9319	50/50	113.9319
934522	AD1-076 E	58.0140	50/50	58.0140
935111	AD1-144 C	-0.7749	Adder	-0.91
936361	AD2-046 C O1	3.6826	Adder	4.33
936362	AD2-046 E O1	1.6935	Adder	1.99
936401	AD2-051 C O1	19.8659	50/50	19.8659
936402	AD2-051 E O1	8.5302	50/50	8.5302
937541	AD2-215 C (Withdrawn : 01/14/2021)	-0.7829	Adder	-0.92
938221	AE1-035 C	5.1552	50/50	5.1552
938222	AE1-035 E	2.5392	50/50	2.5392
939181	AE1-148 C O1	3.5871	Adder	4.22
939182	AE1-148 E O1	2.3914	Adder	2.81
940491	AE2-034 C	14.9205	50/50	14.9205
940492	AE2-034 E	6.3945	50/50	6.3945
940571	AE2-044 C	3.6528	Adder	4.3
940572	AE2-044 E	1.5655	Adder	1.84
940661	AE2-053 O1	1.3285	Adder	1.56
941541	AE2-151 C (Withdrawn : 01/08/2021)	2.0905	50/50	2.0905

941542	AE2-151 E (Withdrawn : 01/08/2021)	1.1256	50/50	1.1256
942131	AE2-225 C	-1.0770	Adder	-1.27
942171	AE2-229 C	-1.0770	Adder	-1.27
942471	AE2-260 C O1	7.0710	Adder	8.32
942472	AE2-260 E O1	10.0293	Adder	11.8
943171	AE2-346 C	2.4179	50/50	2.4179
943172	AE2-346 E	1.0363	50/50	1.0363
943911	AF1-059	7.0881	Adder	8.34
944141	AF1-082	2.3482	Adder	2.76
945711	AF1-236 C O1	163.3440	50/50	163.3440
945712	AF1-236 E O1	266.5086	50/50	266.5086
946281	AF1-292 C	0.8381	Adder	0.99
946282	AF1-292 E	0.5650	Adder	0.66
957521	AF2-046 C	20.4071	50/50	20.4071
957522	AF2-046 E	10.2649	50/50	10.2649
957531	AF2-047 C	35.4540	50/50	35.4540
957532	AF2-047 E	17.8336	50/50	17.8336
957861	AF2-080 C	10.8048	50/50	10.8048
957862	AF2-080 E	4.7898	50/50	4.7898
959511	AF2-242 C	13.0437	50/50	13.0437
959512	AF2-242 E	10.1451	50/50	10.1451
960081	AF2-299 C	1.4126	Adder	1.66
960082	AF2-299 E	0.9417	Adder	1.11
960331	AF2-324 C O1	6.4688	Adder	7.61
960332	AF2-324 E O1	3.4730	Adder	4.09
WEC	WEC	0.3330	Confirmed LTF	0.3330
LGEE	LGEE	0.6218	Confirmed LTF	0.6218
CPL	CPL	3.7752	Confirmed LTF	3.7752
CBM-W2	CBM-W2	12.8583	Confirmed LTF	12.8583
NY	NY	0.2865	Confirmed LTF	0.2865
TVA	TVA	2.6600	Confirmed LTF	2.6600
O-066	O-066	4.2403	Confirmed LTF	4.2403
CBM-S2	CBM-S2	22.9697	Confirmed LTF	22.9697
CBM-S1	CBM-S1	14.9100	Confirmed LTF	14.9100
G-007	G-007	0.6635	Confirmed LTF	0.6635
MADISON	MADISON	0.7056	Confirmed LTF	0.7056
MEC	MEC	1.9783	Confirmed LTF	1.9783
AA2-074	AA2-074	2.5726	LTF	2.5726
CBM-W1	CBM-W1	12.5475	Confirmed LTF	12.5475

11.7.15 Index 15

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC/DC	MW IMPACT
157895163	314575	6NUCO TP	DVP	957820	AF2-076 TAP	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	203.04	205.28	DC	15.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.4537	50/50	0.4537
314582	3KELFORD	0.7640	50/50	0.7640
314589	3MURPHYS	0.1005	50/50	0.1005
314623	3WITAKRS	0.2299	50/50	0.2299
315136	1ROSEMG1	2.2907	50/50	2.2907
315137	1ROSEMS1	1.4204	50/50	1.4204
315138	1ROSEMG2	1.0736	50/50	1.0736
315139	1GASTONA	3.3501	50/50	3.3501
315141	1GASTONB	3.3501	50/50	3.3501
315292	1DOMTR78	2.7989	50/50	2.7989
315294	1DOMTR10	21.5862	50/50	21.5862
315601	1CONETOE2SOL	1.9402	50/50	1.9402
315602	1HOLLOMANSOL	3.4651	50/50	3.4651
315606	3AA2-053SOLA	1.6814	50/50	1.6814
315611	6Z1-036WIND	13.8540	50/50	13.8540
315612	3AA2-057SOLA	1.2947	50/50	1.2947
315614	AA2-178 C	3.3430	50/50	3.3430
900672	V4-068 E	0.3279	50/50	0.3279
916042	Z1-036 E (Suspended)	92.8216	50/50	92.8216
917332	Z2-043 E	1.9767	50/50	1.9767
917342	Z2-044 E	0.5863	50/50	0.5863
917512	Z2-088 E OP1	4.9483	50/50	4.9483
918492	AA1-063AE OP	3.0023	Adder	3.53
918512	AA1-065 E OP	9.2333	50/50	9.2333
918532	AA1-067 E	1.1571	50/50	1.1571
919692	AA2-053 E OP	4.2964	50/50	4.2964
919702	AA2-057 E OP	3.6368	50/50	3.6368
920042	AA2-088 E OP	6.0152	Adder	7.08
920591	AA2-165 C	0.1535	50/50	0.1535
920592	AA2-165 E	0.4998	50/50	0.4998
920671	AA2-174 C OP	0.0770	50/50	0.0770
920672	AA2-174 E OP	0.4965	50/50	0.4965
920692	AA2-178 E	8.5260	50/50	8.5260
922922	AB1-081 C OP	7.3056	Adder	8.59
922923	AB1-081 E OP	3.1310	Adder	3.68
923262	AB1-132 C OP (Suspended)	15.2242	50/50	15.2242
923263	AB1-132 E OP (Suspended)	6.5246	50/50	6.5246
923572	AB1-173 C OP	1.5321	Adder	1.8
923573	AB1-173 E OP	0.7150	Adder	0.84

923582	AB1-173AC OP	1.5321	Adder	1.8
923583	AB1-173AE OP	0.7150	Adder	0.84
923831	AB2-022 C	-0.8980	Adder	-1.06
923911	AB2-031 C O1	1.5208	Adder	1.79
923912	AB2-031 E O1	0.7490	Adder	0.88
923991	AB2-040 C O1	4.9936	Adder	5.87
923992	AB2-040 E O1	4.0857	Adder	4.81
924152	AB2-059 E OP	4.4356	Adder	5.22
924501	AB2-099 C (Suspended)	1.0075	50/50	1.0075
924502	AB2-099 E (Suspended)	0.4318	50/50	0.4318
924512	AB2-100 E	3.0729	Adder	3.62
925121	AB2-169 C	2.0241	50/50	2.0241
925122	AB2-169 E	10.8101	50/50	10.8101
925172	AB2-174 E O1	4.1108	Adder	4.84
925591	AC1-034 C	5.5771	Adder	6.56
925592	AC1-034 E	4.2073	Adder	4.95
925781	AC1-054 C O1	3.8763	Adder	4.56
925782	AC1-054 E O1	1.7857	Adder	2.1
926071	AC1-086 C	22.4194	50/50	22.4194
926072	AC1-086 E	10.2038	50/50	10.2038
926201	AC1-098 C	8.0381	50/50	8.0381
926202	AC1-098 E	4.7887	50/50	4.7887
926211	AC1-099 C	2.6936	50/50	2.6936
926212	AC1-099 E	1.5820	50/50	1.5820
927021	AC1-189 C	11.8965	50/50	11.8965
927022	AC1-189 E	5.9259	50/50	5.9259
927141	AC1-208 C	10.1482	50/50	10.1482
927142	AC1-208 E	4.5062	50/50	4.5062
932631	AC2-084 C	11.4586	50/50	11.4586
932632	AC2-084 E	5.6438	50/50	5.6438
933991	AD1-023 C	28.2020	50/50	28.2020
933992	AD1-023 E	15.3532	50/50	15.3532
934331	AD1-057 C O1	10.1868	50/50	10.1868
934332	AD1-057 E O1	5.4341	50/50	5.4341
934521	AD1-076 C	113.9319	50/50	113.9319
934522	AD1-076 E	58.0140	50/50	58.0140
935111	AD1-144 C	-0.7749	Adder	-0.91
936361	AD2-046 C O1	3.6826	Adder	4.33
936362	AD2-046 E O1	1.6935	Adder	1.99
936401	AD2-051 C O1	19.8659	50/50	19.8659
936402	AD2-051 E O1	8.5302	50/50	8.5302
937541	AD2-215 C (Withdrawn : 01/14/2021)	-0.7829	Adder	-0.92
938221	AE1-035 C	5.1552	50/50	5.1552
938222	AE1-035 E	2.5392	50/50	2.5392
939181	AE1-148 C O1	3.5871	Adder	4.22
939182	AE1-148 E O1	2.3914	Adder	2.81
940491	AE2-034 C	14.9205	50/50	14.9205
940492	AE2-034 E	6.3945	50/50	6.3945
940571	AE2-044 C	3.6528	Adder	4.3
940572	AE2-044 E	1.5655	Adder	1.84
940661	AE2-053 O1	1.3285	Adder	1.56
941541	AE2-151 C (Withdrawn : 01/08/2021)	2.0905	50/50	2.0905

941542	AE2-151 E (Withdrawn : 01/08/2021)	1.1256	50/50	1.1256
942131	AE2-225 C	-1.0770	Adder	-1.27
942171	AE2-229 C	-1.0770	Adder	-1.27
942471	AE2-260 C O1	7.0710	Adder	8.32
942472	AE2-260 E O1	10.0293	Adder	11.8
943171	AE2-346 C	2.4179	50/50	2.4179
943172	AE2-346 E	1.0363	50/50	1.0363
943911	AF1-059	7.0881	Adder	8.34
944141	AF1-082	2.3482	Adder	2.76
945711	AF1-236 C O1	163.3440	50/50	163.3440
945712	AF1-236 E O1	266.5086	50/50	266.5086
946281	AF1-292 C	0.8381	Adder	0.99
946282	AF1-292 E	0.5650	Adder	0.66
957521	AF2-046 C	20.4071	50/50	20.4071
957522	AF2-046 E	10.2649	50/50	10.2649
957531	AF2-047 C	35.4540	50/50	35.4540
957532	AF2-047 E	17.8336	50/50	17.8336
957861	AF2-080 C	10.8048	50/50	10.8048
957862	AF2-080 E	4.7898	50/50	4.7898
959511	AF2-242 C	13.0437	50/50	13.0437
959512	AF2-242 E	10.1451	50/50	10.1451
960081	AF2-299 C	1.4126	Adder	1.66
960082	AF2-299 E	0.9417	Adder	1.11
960331	AF2-324 C O1	6.4688	Adder	7.61
960332	AF2-324 E O1	3.4730	Adder	4.09
WEC	WEC	0.3330	Confirmed LTF	0.3330
LGEE	LGEE	0.6218	Confirmed LTF	0.6218
CPL	CPL	3.7752	Confirmed LTF	3.7752
CBM-W2	CBM-W2	12.8583	Confirmed LTF	12.8583
NY	NY	0.2865	Confirmed LTF	0.2865
TVA	TVA	2.6600	Confirmed LTF	2.6600
O-066	O-066	4.2403	Confirmed LTF	4.2403
CBM-S2	CBM-S2	22.9697	Confirmed LTF	22.9697
CBM-S1	CBM-S1	14.9100	Confirmed LTF	14.9100
G-007	G-007	0.6635	Confirmed LTF	0.6635
MADISON	MADISON	0.7056	Confirmed LTF	0.7056
MEC	MEC	1.9783	Confirmed LTF	1.9783
AA2-074	AA2-074	2.5726	LTF	2.5726
CBM-W1	CBM-W1	12.5475	Confirmed LTF	12.5475

11.7.16 Index 16

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895636	314637	6EDENTON	DVP	313885	6WALBMRL	DVP	1	DVP_P1-2: LN 246-A	single	733.2	112.39	113.48	AC	7.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0161	80/20	0.0161
314574	6EVERETS	0.1703	80/20	0.1703
314582	3KELFORD	0.2456	80/20	0.2456
314589	3MURPHYS	0.0326	80/20	0.0326
314623	3WITAKRS	0.0789	80/20	0.0789
314704	3LAWRENC	0.0581	80/20	0.0581
315126	1ROARAP2	0.4490	80/20	0.4490
315128	1ROARAP4	0.4284	80/20	0.4284
315136	1ROSEMG1	0.7547	80/20	0.7547
315137	1ROSEMS1	0.4680	80/20	0.4680
315138	1ROSEMG2	0.3537	80/20	0.3537
315139	1GASTONA	1.0948	80/20	1.0948
315141	1GASTONB	1.0948	80/20	1.0948
315158	1KERR 1	0.0689	80/20	0.0689
315159	1KERR 2	0.1928	80/20	0.1928
315160	1KERR 3	0.1928	80/20	0.1928
315161	1KERR 4	0.1928	80/20	0.1928
315162	1KERR 5	0.1928	80/20	0.1928
315163	1KERR 6	0.1928	80/20	0.1928
315164	1KERR 7	0.1928	80/20	0.1928
315292	1DOMTR78	1.6459	80/20	1.6459
315294	1DOMTR10	25.0186	80/20	25.0186
315601	1CONETOE2SOL	0.7116	80/20	0.7116
315602	1HOLLOMANSOL	1.0984	80/20	1.0984
315606	3AA2-053SOLA	0.5455	80/20	0.5455
315607	3AA1-063SOLA	0.4131	80/20	0.4131
315608	3AA2-088SOLA	0.2422	80/20	0.2422
315611	6Z1-036WIND	-9.4216	Adder	-11.08
315612	3AA2-057SOLA	0.4384	80/20	0.4384
315614	AA2-178 C	2.6001	80/20	2.6001
920591	AA2-165 C	0.0520	80/20	0.0520
920671	AA2-174 C OP	0.0250	80/20	0.0250
922922	AB1-081 C OP	5.9142	80/20	5.9142
923262	AB1-132 C OP (Suspended)	9.8062	80/20	9.8062
923572	AB1-173 C OP	1.1595	80/20	1.1595
923582	AB1-173AC OP	1.1595	80/20	1.1595
923831	AB2-022 C	-1.6399	Adder	-1.93
923911	AB2-031 C O1	1.1509	80/20	1.1509
923991	AB2-040 C O1	3.7792	80/20	3.7792
924151	AB2-059 C OP	0.5943	80/20	0.5943
924501	AB2-099 C (Suspended)	0.6347	80/20	0.6347

924511	AB2-100 C	0.4007	80/20	0.4007
925121	AB2-169 C	1.0759	80/20	1.0759
925171	AB2-174 C O1	0.2931	80/20	0.2931
925591	AC1-034 C	4.5148	80/20	4.5148
925781	AC1-054 C O1	2.9641	80/20	2.9641
926071	AC1-086 C	14.4407	80/20	14.4407
926201	AC1-098 C	5.2053	80/20	5.2053
926211	AC1-099 C	1.7443	80/20	1.7443
927021	AC1-189 C	8.6770	80/20	8.6770
927141	AC1-208 C	6.6486	80/20	6.6486
932631	AC2-084 C	7.4204	80/20	7.4204
933991	AD1-023 C	30.3131	80/20	30.3131
934331	AD1-057 C O1	6.8264	80/20	6.8264
934521	AD1-076 C	142.1150	80/20	142.1150
936361	AD2-046 C O1	2.8310	80/20	2.8310
936401	AD2-051 C O1	12.4172	80/20	12.4172
938221	AE1-035 C	3.2210	80/20	3.2210
939181	AE1-148 C O1	2.7572	80/20	2.7572
940491	AE2-034 C	22.8728	80/20	22.8728
940571	AE2-044 C	2.9571	80/20	2.9571
940661	AE2-053 O1	1.0212	80/20	1.0212
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.3134	80/20	1.3134
942471	AE2-260 C O1	5.3201	80/20	5.3201
942851	AE2-304 C (Withdrawn : 10/26/2020)	-0.7262	Adder	-0.85
943171	AE2-346 C	1.5233	80/20	1.5233
943911	AF1-059	5.3890	80/20	5.3890
944141	AF1-082	1.9010	80/20	1.9010
945711	AF1-236 C O1	250.4025	80/20	250.4025
946281	AF1-292 C	0.6332	80/20	0.6332
957521	AF2-046 C	12.9930	80/20	12.9930
957531	AF2-047 C	54.3501	80/20	54.3501
957821	AF2-076 C	7.2099	80/20	7.2099
957861	AF2-080 C	7.8808	80/20	7.8808
959511	AF2-242 C	12.3579	80/20	12.3579
960081	AF2-299 C	1.0673	80/20	1.0673
960331	AF2-324 C O1	5.2904	80/20	5.2904
WEC	WEC	0.2337	Confirmed LTF	0.2337
LGEE	LGEE	0.4364	Confirmed LTF	0.4364
CPL	CPL	2.6804	Confirmed LTF	2.6804
CBM-W2	CBM-W2	9.0499	Confirmed LTF	9.0499
NY	NY	0.2041	Confirmed LTF	0.2041
TVA	TVA	1.8732	Confirmed LTF	1.8732
CBM-S2	CBM-S2	16.2476	Confirmed LTF	16.2476
CBM-S1	CBM-S1	10.4966	Confirmed LTF	10.4966
MADISON	MADISON	0.5000	Confirmed LTF	0.5000
MEC	MEC	1.3904	Confirmed LTF	1.3904
AA2-074	AA2-074	1.8265	LTF	1.8265
CBM-W1	CBM-W1	8.8070	Confirmed LTF	8.8070

11.7.17 Index 17

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895137	314638	6ELIZ CT	DVP	314647	6SHAWBRO	DVP	1	DVP_P4-2: 246T247-A	breaker	699.0	231.18	232.56	DC	9.66

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.2850	50/50	0.2850
314582	3KELFORD	0.4125	50/50	0.4125
314589	3MURPHYS	0.0562	50/50	0.0562
314638	6ELIZ CT	0.9897	50/50	0.9897
314639	6TANGLEW	1.7395	50/50	1.7395
315292	1DOMTR78	2.7497	50/50	2.7497
315294	1DOMTR10	21.2071	50/50	21.2071
315601	1CONETOE2SOL	1.1911	50/50	1.1911
315602	1HOLLOMANSOL	1.8389	50/50	1.8389
315605	6W1-029WIND	3.0584	50/50	3.0584
315606	3AA2-053SOLA	0.9206	50/50	0.9206
315611	6Z1-036WIND	23.6391	50/50	23.6391
315614	AA2-178 C	4.3415	50/50	4.3415
900672	V4-068 E	0.1834	50/50	0.1834
901082	W1-029 E	122.0121	50/50	122.0121
913392	Y1-086 E	9.6098	50/50	9.6098
916042	Z1-036 E (Suspended)	158.3818	50/50	158.3818
917122	Z2-027 E	4.4365	50/50	4.4365
917332	Z2-043 E	1.0674	50/50	1.0674
917512	Z2-088 E OP1	3.0379	50/50	3.0379
918512	AA1-065 E OP	4.9001	50/50	4.9001
918532	AA1-067 E	0.7269	50/50	0.7269
919692	AA2-053 E OP	2.3524	50/50	2.3524
919702	AA2-057 E OP	1.7582	Adder	2.07
920592	AA2-165 E	0.2416	Adder	0.28
920671	AA2-174 C OP	0.0422	50/50	0.0422
920672	AA2-174 E OP	0.2718	50/50	0.2718
920692	AA2-178 E	11.0726	50/50	11.0726
923262	AB1-132 C OP (Suspended)	7.1007	Adder	8.35
923263	AB1-132 E OP (Suspended)	3.0432	Adder	3.58
923831	AB2-022 C	10.0747	50/50	10.0747
923832	AB2-022 E	5.4249	50/50	5.4249
924501	AB2-099 C (Suspended)	0.5432	50/50	0.5432
924502	AB2-099 E (Suspended)	0.2328	50/50	0.2328
925121	AB2-169 C	1.7980	50/50	1.7980
925122	AB2-169 E	9.6026	50/50	9.6026
926071	AC1-086 C	10.4567	Adder	12.3
926072	AC1-086 E	4.7592	Adder	5.6
926201	AC1-098 C	4.4391	50/50	4.4391

926202	AC1-098 E	2.6445	50/50	2.6445
926211	AC1-099 C	1.4876	50/50	1.4876
926212	AC1-099 E	0.8736	50/50	0.8736
927021	AC1-189 C	7.3676	50/50	7.3676
927022	AC1-189 E	3.6700	50/50	3.6700
927141	AC1-208 C	5.6752	50/50	5.6752
927142	AC1-208 E	2.5200	50/50	2.5200
932631	AC2-084 C	6.3280	50/50	6.3280
932632	AC2-084 E	3.1168	50/50	3.1168
933991	AD1-023 C	25.7001	50/50	25.7001
933992	AD1-023 E	13.9911	50/50	13.9911
934521	AD1-076 C	120.4453	50/50	120.4453
934522	AD1-076 E	61.3306	50/50	61.3306
936401	AD2-051 C O1	10.5476	50/50	10.5476
936402	AD2-051 E O1	4.5290	50/50	4.5290
938221	AE1-035 C	2.7359	50/50	2.7359
938222	AE1-035 E	1.3475	50/50	1.3475
940491	AE2-034 C	19.3771	50/50	19.3771
940492	AE2-034 E	8.3045	50/50	8.3045
941501	AE2-147 C	60.6690	50/50	60.6690
941502	AE2-147 E	40.4460	50/50	40.4460
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.1190	50/50	1.1190
941542	AE2-151 E (Withdrawn : 01/08/2021)	0.6026	50/50	0.6026
942851	AE2-304 C (Withdrawn : 10/26/2020)	2.3248	50/50	2.3248
942852	AE2-304 E (Withdrawn : 10/26/2020)	0.9041	50/50	0.9041
943171	AE2-346 C	1.3036	50/50	1.3036
943172	AE2-346 E	0.5587	50/50	0.5587
944871	AF1-152 C	20.2230	50/50	20.2230
944872	AF1-152 E	13.4820	50/50	13.4820
945711	AF1-236 C O1	212.1333	50/50	212.1333
945712	AF1-236 E O1	346.1123	50/50	346.1123
957521	AF2-046 C	11.3063	50/50	11.3063
957522	AF2-046 E	5.6872	50/50	5.6872
957531	AF2-047 C	46.0437	50/50	46.0437
957532	AF2-047 E	23.1603	50/50	23.1603
957821	AF2-076 C	6.1242	50/50	6.1242
957822	AF2-076 E	4.0828	50/50	4.0828
957861	AF2-080 C	6.6915	50/50	6.6915
957862	AF2-080 E	2.9664	50/50	2.9664
959511	AF2-242 C	10.4810	50/50	10.4810
959512	AF2-242 E	8.1519	50/50	8.1519
WEC	WEC	0.1928	Confirmed LTF	0.1928
LGEE	LGEE	0.3606	Confirmed LTF	0.3606
CPL	CPL	2.2676	Confirmed LTF	2.2676
CBM-W2	CBM-W2	7.5512	Confirmed LTF	7.5512
NY	NY	0.1836	Confirmed LTF	0.1836
TVA	TVA	1.5680	Confirmed LTF	1.5680
O-066	O-066	2.6813	Confirmed LTF	2.6813
CBM-S2	CBM-S2	13.7102	Confirmed LTF	13.7102
CBM-S1	CBM-S1	8.7671	Confirmed LTF	8.7671

G-007	G-007	0.4191	Confirmed LTF	0.4191
MADISON	MADISON	0.4254	Confirmed LTF	0.4254
MEC	MEC	1.1536	Confirmed LTF	1.1536
AA2-074	AA2-074	1.5453	LTF	1.5453
CBM-W1	CBM-W1	7.2558	Confirmed LTF	7.2558

11.7.18 Index 18

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895563	314662	6S HERTFORD	DVP	314651	6WINFALL	DVP	1	DVP_P1-2: LN 246-A	single	733.2	115.61	116.69	AC	7.88

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.0161	80/20	0.0161
314574	6EVERETS	0.1703	80/20	0.1703
314582	3KELFORD	0.2456	80/20	0.2456
314589	3MURPHYS	0.0326	80/20	0.0326
314623	3WITAKRS	0.0789	80/20	0.0789
314704	3LAWRENC	0.0581	80/20	0.0581
315126	1ROARAP2	0.4490	80/20	0.4490
315128	1ROARAP4	0.4284	80/20	0.4284
315136	1ROSEMG1	0.7547	80/20	0.7547
315137	1ROSEMS1	0.4680	80/20	0.4680
315138	1ROSEMG2	0.3537	80/20	0.3537
315139	1GASTONA	1.0948	80/20	1.0948
315141	1GASTONB	1.0948	80/20	1.0948
315158	1KERR 1	0.0689	80/20	0.0689
315159	1KERR 2	0.1928	80/20	0.1928
315160	1KERR 3	0.1928	80/20	0.1928
315161	1KERR 4	0.1928	80/20	0.1928
315162	1KERR 5	0.1928	80/20	0.1928
315163	1KERR 6	0.1928	80/20	0.1928
315164	1KERR 7	0.1928	80/20	0.1928
315292	1DOMTR78	1.6459	80/20	1.6459
315294	1DOMTR10	25.0186	80/20	25.0186
315601	1CONETOE2SOL	0.7116	80/20	0.7116
315602	1HOLLOMANSOL	1.0984	80/20	1.0984
315606	3AA2-053SOLA	0.5455	80/20	0.5455
315607	3AA1-063SOLA	0.4131	80/20	0.4131
315608	3AA2-088SOLA	0.2422	80/20	0.2422
315611	6Z1-036WIND	27.9158	80/20	27.9158
315612	3AA2-057SOLA	0.4384	80/20	0.4384
315614	AA2-178 C	2.6001	80/20	2.6001
920591	AA2-165 C	0.0520	80/20	0.0520
920671	AA2-174 C OP	0.0250	80/20	0.0250
922922	AB1-081 C OP	5.9142	80/20	5.9142
923262	AB1-132 C OP (Suspended)	9.8062	80/20	9.8062
923572	AB1-173 C OP	1.1595	80/20	1.1595
923582	AB1-173AC OP	1.1595	80/20	1.1595
923831	AB2-022 C	-1.6399	Adder	-1.93
923911	AB2-031 C O1	1.1509	80/20	1.1509
923991	AB2-040 C O1	3.7792	80/20	3.7792
924151	AB2-059 C OP	0.5943	80/20	0.5943
924501	AB2-099 C (Suspended)	0.6347	80/20	0.6347

924511	AB2-100 C	0.4007	80/20	0.4007
925121	AB2-169 C	1.0759	80/20	1.0759
925171	AB2-174 C O1	0.2931	80/20	0.2931
925591	AC1-034 C	4.5148	80/20	4.5148
925781	AC1-054 C O1	2.9641	80/20	2.9641
926071	AC1-086 C	14.4407	80/20	14.4407
926201	AC1-098 C	5.2053	80/20	5.2053
926211	AC1-099 C	1.7443	80/20	1.7443
927021	AC1-189 C	8.6770	80/20	8.6770
927141	AC1-208 C	6.6486	80/20	6.6486
932631	AC2-084 C	7.4204	80/20	7.4204
933991	AD1-023 C	30.3131	80/20	30.3131
934331	AD1-057 C O1	6.8264	80/20	6.8264
934521	AD1-076 C	142.1150	80/20	142.1150
936361	AD2-046 C O1	2.8310	80/20	2.8310
936401	AD2-051 C O1	12.4172	80/20	12.4172
938221	AE1-035 C	3.2210	80/20	3.2210
939181	AE1-148 C O1	2.7572	80/20	2.7572
940491	AE2-034 C	22.8728	80/20	22.8728
940571	AE2-044 C	2.9571	80/20	2.9571
940661	AE2-053 O1	1.0212	80/20	1.0212
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.3134	80/20	1.3134
942471	AE2-260 C O1	5.3201	80/20	5.3201
942851	AE2-304 C (Withdrawn : 10/26/2020)	2.7456	80/20	2.7456
943171	AE2-346 C	1.5233	80/20	1.5233
943911	AF1-059	5.3890	80/20	5.3890
944141	AF1-082	1.9010	80/20	1.9010
945711	AF1-236 C O1	250.4025	80/20	250.4025
946281	AF1-292 C	0.6332	80/20	0.6332
957521	AF2-046 C	12.9930	80/20	12.9930
957531	AF2-047 C	54.3501	80/20	54.3501
957821	AF2-076 C	7.2099	80/20	7.2099
957861	AF2-080 C	7.8808	80/20	7.8808
959511	AF2-242 C	12.3579	80/20	12.3579
960081	AF2-299 C	1.0673	80/20	1.0673
960331	AF2-324 C O1	5.2904	80/20	5.2904
WEC	WEC	0.2337	Confirmed LTF	0.2337
LGEE	LGEE	0.4364	Confirmed LTF	0.4364
CPL	CPL	2.6804	Confirmed LTF	2.6804
CBM-W2	CBM-W2	9.0499	Confirmed LTF	9.0499
NY	NY	0.2041	Confirmed LTF	0.2041
TVA	TVA	1.8732	Confirmed LTF	1.8732
CBM-S2	CBM-S2	16.2476	Confirmed LTF	16.2476
CBM-S1	CBM-S1	10.4966	Confirmed LTF	10.4966
MADISON	MADISON	0.5000	Confirmed LTF	0.5000
MEC	MEC	1.3904	Confirmed LTF	1.3904
AA2-074	AA2-074	1.8265	LTF	1.8265
CBM-W1	CBM-W1	8.8070	Confirmed LTF	8.8070

11.7.19 Index 19

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
157895663	924510	AB2-100 TAP	DVP	314563	6CLUBHSE	DVP	1	DVP_P1-2: LN 246-B	single	375.059997559	141.92	144.04	AC	7.9

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.1403	80/20	0.1403
314582	3KELFORD	0.2455	80/20	0.2455
314589	3MURPHYS	0.0380	80/20	0.0380
314623	3WITAKRS	0.1179	80/20	0.1179
315115	1S HAMPT1	0.3617	80/20	0.3617
315126	1ROARAP2	0.7093	80/20	0.7093
315128	1ROARAP4	0.6768	80/20	0.6768
315136	1ROSEMG1	2.2408	80/20	2.2408
315137	1ROSEMS1	1.3896	80/20	1.3896
315138	1ROSEMG2	1.0502	80/20	1.0502
315139	1GASTONA	3.4373	80/20	3.4373
315141	1GASTONB	3.4373	80/20	3.4373
315158	1KERR 1	0.0696	80/20	0.0696
315159	1KERR 2	0.1948	80/20	0.1948
315160	1KERR 3	0.1948	80/20	0.1948
315161	1KERR 4	0.1948	80/20	0.1948
315162	1KERR 5	0.1948	80/20	0.1948
315163	1KERR 6	0.1948	80/20	0.1948
315164	1KERR 7	0.1948	80/20	0.1948
315292	1DOMTR78	0.5750	80/20	0.5750
315294	1DOMTR10	8.7409	80/20	8.7409
315601	1CONETOE2SOL	0.7918	80/20	0.7918
315602	1HOLLOMANSOL	0.8971	80/20	0.8971
315606	3AA2-053SOLA	0.7533	80/20	0.7533
315607	3AA1-063SOLA	0.6358	80/20	0.6358
315608	3AA2-088SOLA	0.3632	80/20	0.3632
315611	6Z1-036WIND	2.1041	80/20	2.1041
315612	3AA2-057SOLA	0.6321	80/20	0.6321
315614	AA2-178 C	0.4812	80/20	0.4812
920591	AA2-165 C	0.0749	80/20	0.0749
920671	AA2-174 C OP	0.0345	80/20	0.0345
922922	AB1-081 C OP	9.2753	80/20	9.2753
923262	AB1-132 C OP (Suspended)	30.7868	80/20	30.7868
923801	AB2-015 C OP	3.5395	80/20	3.5395
924151	AB2-059 C OP	0.9320	80/20	0.9320
924501	AB2-099 C (Suspended)	0.6026	80/20	0.6026
924511	AB2-100 C	3.6349	80/20	3.6349
925121	AB2-169 C	0.4717	80/20	0.4717
925591	AC1-034 C	7.0807	80/20	7.0807
925781	AC1-054 C O1	3.6610	80/20	3.6610
926071	AC1-086 C	45.3373	80/20	45.3373

926201	AC1-098 C	6.4236	80/20	6.4236
926211	AC1-099 C	2.1526	80/20	2.1526
927021	AC1-189 C	8.6967	80/20	8.6967
927141	AC1-208 C	9.2701	80/20	9.2701
932631	AC2-084 C	9.1570	80/20	9.1570
933991	AD1-023 C	11.3636	80/20	11.3636
934331	AD1-057 C O1	15.8841	80/20	15.8841
934521	AD1-076 C	41.2228	80/20	41.2228
936401	AD2-051 C O1	10.5183	80/20	10.5183
938221	AE1-035 C	2.6306	80/20	2.6306
938771	AE1-103 C O1	1.2890	80/20	1.2890
940491	AE2-034 C	4.2328	80/20	4.2328
940571	AE2-044 C	4.6376	80/20	4.6376
941541	AE2-151 C (Withdrawn : 01/08/2021)	1.1920	80/20	1.1920
943171	AE2-346 C	1.4462	80/20	1.4462
944141	AF1-082	2.9813	80/20	2.9813
945711	AF1-236 C O1	46.3386	80/20	46.3386
957521	AF2-046 C	14.4171	80/20	14.4171
957531	AF2-047 C	10.0578	80/20	10.0578
957861	AF2-080 C	7.8987	80/20	7.8987
959511	AF2-242 C	6.6294	80/20	6.6294
960331	AF2-324 C O1	8.5317	80/20	8.5317
961091	AF2-400 C	0.1911	80/20	0.1911
WEC	WEC	0.2583	Confirmed LTF	0.2583
LGEE	LGEE	0.4844	Confirmed LTF	0.4844
CPLE	CPLE	3.1468	Confirmed LTF	3.1468
CBM-W2	CBM-W2	10.3440	Confirmed LTF	10.3440
NY	NY	0.2925	Confirmed LTF	0.2925
TVA	TVA	2.1658	Confirmed LTF	2.1658
CBM-S2	CBM-S2	19.2127	Confirmed LTF	19.2127
CBM-S1	CBM-S1	12.0814	Confirmed LTF	12.0814
MADISON	MADISON	0.6088	Confirmed LTF	0.6088
MEC	MEC	1.5620	Confirmed LTF	1.5620
AA2-074	AA2-074	2.1442	LTF	2.1442
CBM-W1	CBM-W1	9.6827	Confirmed LTF	9.6827

11.7.20 Index 20

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
98542537	940480	AE2-033 TAP	DVP	314435	6SAPONY	DVP	1	DVP_P7-1: LN 56-2012-B	tower	830.0	122.62	123.48	AC	8.44

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314572	3EMPORIA	0.1896	50/50	0.1896
314704	3LAWRENC	0.6976	50/50	0.6976
315126	1ROARAP2	2.7156	50/50	2.7156
315136	1ROSEMG1	4.9426	50/50	4.9426
315137	1ROSEMS1	3.0649	50/50	3.0649
315138	1ROSEMG2	2.3165	50/50	2.3165
315139	1GASTONA	7.6296	50/50	7.6296
315141	1GASTONB	7.6296	50/50	7.6296
917332	Z2-043 E	0.7745	Adder	0.91
917342	Z2-044 E	0.5629	Adder	0.66
917512	Z2-088 E OP1	2.7397	Adder	3.22
918492	AA1-063AE OP	6.5539	Adder	7.71
919692	AA2-053 E OP	5.3787	Adder	6.33
919702	AA2-057 E OP	3.5006	Adder	4.12
920592	AA2-165 E	0.4811	Adder	0.57
920672	AA2-174 E OP	0.6215	Adder	0.73
922922	AB1-081 C OP	8.2596	Adder	9.72
922923	AB1-081 E OP	3.5398	Adder	4.16
923262	AB1-132 C OP (Suspended)	34.6718	50/50	34.6718
923263	AB1-132 E OP (Suspended)	14.8594	50/50	14.8594
923572	AB1-173 C OP	5.4617	50/50	5.4617
923573	AB1-173 E OP	2.5488	50/50	2.5488
923582	AB1-173AC OP	5.4617	50/50	5.4617
923583	AB1-173AE OP	2.5488	50/50	2.5488
923911	AB2-031 C O1	5.4212	50/50	5.4212
923912	AB2-031 E O1	2.6702	50/50	2.6702
923991	AB2-040 C O1	17.8011	50/50	17.8011
923992	AB2-040 E O1	14.5645	50/50	14.5645
924022	AB2-043 E O1	2.2277	Adder	2.62
924152	AB2-059 E OP	5.0147	Adder	5.9
924162	AB2-060 E OP	3.3275	Adder	3.91
924301	AB2-077 C O1 (Suspended)	1.5631	Adder	1.84
924302	AB2-077 E O1 (Suspended)	1.0421	Adder	1.23
924311	AB2-078 C O1 (Suspended)	1.5631	Adder	1.84
924312	AB2-078 E O1 (Suspended)	1.0421	Adder	1.23

924321	AB2-079 C O1 (Suspended)	1.5631	Adder	1.84
924322	AB2-079 E O1 (Suspended)	1.0421	Adder	1.23
924511	AB2-100 C	6.4782	50/50	6.4782
924512	AB2-100 E	18.9882	50/50	18.9882
925171	AB2-174 C O1	2.9821	50/50	2.9821
925172	AB2-174 E O1	16.0561	50/50	16.0561
925591	AC1-034 C	6.3053	Adder	7.42
925592	AC1-034 E	4.7566	Adder	5.6
925611	AC1-036 C	0.5852	Adder	0.69
925612	AC1-036 E	0.9548	Adder	1.12
925781	AC1-054 C O1	7.9398	Adder	9.34
925782	AC1-054 E O1	3.6577	Adder	4.3
926071	AC1-086 C	51.0584	50/50	51.0584
926072	AC1-086 E	23.2384	50/50	23.2384
926201	AC1-098 C	5.9906	Adder	7.05
926202	AC1-098 E	3.5689	Adder	4.2
926211	AC1-099 C	2.0075	Adder	2.36
926212	AC1-099 E	1.1790	Adder	1.39
927021	AC1-189 C	5.4704	Adder	6.44
927022	AC1-189 E	2.7250	Adder	3.21
927141	AC1-208 C	10.4931	Adder	12.34
927142	AC1-208 E	4.6594	Adder	5.48
932631	AC2-084 C	8.5398	Adder	10.05
932632	AC2-084 E	4.2062	Adder	4.95
934331	AD1-057 C O1	14.6222	Adder	17.2
934332	AD1-057 E O1	7.8001	Adder	9.18
936261	AD2-033 C	8.4148	Adder	9.9
936262	AD2-033 E	5.6099	Adder	6.6
936361	AD2-046 C O1	7.9116	Adder	9.31
936362	AD2-046 E O1	3.6382	Adder	4.28
936401	AD2-051 C O1	21.4143	50/50	21.4143
936402	AD2-051 E O1	9.1951	50/50	9.1951
936481	AD2-063 C O1	10.8523	Adder	12.77
936482	AD2-063 E O1	7.1746	Adder	8.44
939181	AE1-148 C O1	7.7608	Adder	9.13
939182	AE1-148 E O1	5.1738	Adder	6.09
940241	AE2-006	0.2977	Adder	0.35
940481	AE2-033 C	66.0647	50/50	66.0647
940482	AE2-033 E	44.5380	50/50	44.5380
940542	AE2-040 BAT	3.6477	Merchant Transmission	3.6477
940571	AE2-044 C	4.1298	Adder	4.86
940572	AE2-044 E	1.7699	Adder	2.08
940661	AE2-053 O1	2.8744	Adder	3.38
942451	AE2-258	1.8586	Adder	2.19
942471	AE2-260 C O1	49.2669	50/50	49.2669
942472	AE2-260 E O1	69.8791	50/50	69.8791
943911	AF1-059	25.1566	Adder	29.6
944141	AF1-082	2.6549	Adder	3.12
946011	AF1-266	55.3013	50/50	55.3013
946281	AF1-292 C	4.1821	50/50	4.1821
946282	AF1-292 E	2.8194	50/50	2.8194
957861	AF2-080 C	4.9684	Adder	5.85

957862	AF2-080 E	2.2025	Adder	2.59
959311	AF2-222 C	9.9110	Adder	11.66
959312	AF2-222 E	6.6404	Adder	7.81
960081	AF2-299 C	7.0485	50/50	7.0485
960082	AF2-299 E	4.6990	50/50	4.6990
960331	AF2-324 C O1	7.2997	Adder	8.59
960332	AF2-324 E O1	3.9191	Adder	4.61
WEC	WEC	0.2857	Confirmed LTF	0.2857
LGEE	LGEE	0.5386	Confirmed LTF	0.5386
CPL	CPL	3.1772	Confirmed LTF	3.1772
CBM-W2	CBM-W2	11.2449	Confirmed LTF	11.2449
NY	NY	0.3506	Confirmed LTF	0.3506
TVA	TVA	2.3450	Confirmed LTF	2.3450
O-066	O-066	5.0064	Confirmed LTF	5.0064
CBM-S2	CBM-S2	20.0971	Confirmed LTF	20.0971
CBM-S1	CBM-S1	13.1208	Confirmed LTF	13.1208
G-007	G-007	0.7831	Confirmed LTF	0.7831
MADISON	MADISON	0.6330	Confirmed LTF	0.6330
MEC	MEC	1.7145	Confirmed LTF	1.7145
AA2-074	AA2-074	2.1654	LTF	2.1654
CBM-W1	CBM-W1	10.6961	Confirmed LTF	10.6961

11.7.21 Index 21

ID	FROM BUS#	FROM BUS	FROM BUS AREA	TO BUS#	TO BUS	TO BUS AREA	CKT ID	CONT NAME	Type	Rating MVA	PRE PROJECT LOADING %	POST PROJECT LOADING %	AC DC	MW IMPACT
97720431	957820	AF2-076 TAP	DVP	314537	6SUFFOLK	DVP	1	DVP_P4-2: 209222-1	breaker	699.0	207.39	209.62	DC	15.59

Bus #	Bus	Gendeliv MW Impact	Type	Full MW Impact
314574	6EVERETS	0.4537	50/50	0.4537
314582	3KELFORD	0.7640	50/50	0.7640
314589	3MURPHYS	0.1005	50/50	0.1005
314623	3WITAKRS	0.2299	50/50	0.2299
315136	1ROSEMG1	2.2907	50/50	2.2907
315137	1ROSEMS1	1.4204	50/50	1.4204
315138	1ROSEMG2	1.0736	50/50	1.0736
315139	1GASTONA	3.3501	50/50	3.3501
315141	1GASTONB	3.3501	50/50	3.3501
315292	1DOMTR78	2.7989	50/50	2.7989
315294	1DOMTR10	21.5862	50/50	21.5862
315601	1CONETOE2SOL	1.9402	50/50	1.9402
315602	1HOLLOMANSOL	3.4651	50/50	3.4651
315606	3AA2-053SOLA	1.6814	50/50	1.6814
315611	6Z1-036WIND	13.8540	50/50	13.8540
315612	3AA2-057SOLA	1.2947	50/50	1.2947
315614	AA2-178 C	3.3430	50/50	3.3430
900672	V4-068 E	0.3279	50/50	0.3279
916042	Z1-036 E (Suspended)	92.8216	50/50	92.8216
917332	Z2-043 E	1.9767	50/50	1.9767
917342	Z2-044 E	0.5863	50/50	0.5863
917512	Z2-088 E OP1	4.9483	50/50	4.9483
918492	AA1-063AE OP	3.0023	Adder	3.53
918512	AA1-065 E OP	9.2333	50/50	9.2333
918532	AA1-067 E	1.1571	50/50	1.1571
919692	AA2-053 E OP	4.2964	50/50	4.2964
919702	AA2-057 E OP	3.6368	50/50	3.6368
920042	AA2-088 E OP	6.0152	Adder	7.08
920591	AA2-165 C	0.1535	50/50	0.1535
920592	AA2-165 E	0.4998	50/50	0.4998
920671	AA2-174 C OP	0.0770	50/50	0.0770
920672	AA2-174 E OP	0.4965	50/50	0.4965
920692	AA2-178 E	8.5260	50/50	8.5260
922922	AB1-081 C OP	7.3056	Adder	8.59
922923	AB1-081 E OP	3.1310	Adder	3.68
923262	AB1-132 C OP (Suspended)	15.2242	50/50	15.2242
923263	AB1-132 E OP (Suspended)	6.5246	50/50	6.5246
923572	AB1-173 C OP	1.5321	Adder	1.8
923573	AB1-173 E OP	0.7150	Adder	0.84

923582	AB1-173AC OP	1.5321	Adder	1.8
923583	AB1-173AE OP	0.7150	Adder	0.84
923911	AB2-031 C O1	1.5208	Adder	1.79
923912	AB2-031 E O1	0.7490	Adder	0.88
923991	AB2-040 C O1	4.9936	Adder	5.87
923992	AB2-040 E O1	4.0857	Adder	4.81
924152	AB2-059 E OP	4.4356	Adder	5.22
924501	AB2-099 C (Suspended)	1.0075	50/50	1.0075
924502	AB2-099 E (Suspended)	0.4318	50/50	0.4318
924512	AB2-100 E	3.0729	Adder	3.62
925121	AB2-169 C	2.0241	50/50	2.0241
925122	AB2-169 E	10.8101	50/50	10.8101
925172	AB2-174 E O1	4.1108	Adder	4.84
925591	AC1-034 C	5.5771	Adder	6.56
925592	AC1-034 E	4.2073	Adder	4.95
925781	AC1-054 C O1	3.8763	Adder	4.56
925782	AC1-054 E O1	1.7857	Adder	2.1
926071	AC1-086 C	22.4194	50/50	22.4194
926072	AC1-086 E	10.2038	50/50	10.2038
926201	AC1-098 C	8.0381	50/50	8.0381
926202	AC1-098 E	4.7887	50/50	4.7887
926211	AC1-099 C	2.6936	50/50	2.6936
926212	AC1-099 E	1.5820	50/50	1.5820
927021	AC1-189 C	11.8965	50/50	11.8965
927022	AC1-189 E	5.9259	50/50	5.9259
927141	AC1-208 C	10.1482	50/50	10.1482
927142	AC1-208 E	4.5062	50/50	4.5062
932631	AC2-084 C	11.4586	50/50	11.4586
932632	AC2-084 E	5.6438	50/50	5.6438
933991	AD1-023 C	28.2020	50/50	28.2020
933992	AD1-023 E	15.3532	50/50	15.3532
934331	AD1-057 C O1	10.1868	50/50	10.1868
934332	AD1-057 E O1	5.4341	50/50	5.4341
934521	AD1-076 C	113.9319	50/50	113.9319
934522	AD1-076 E	58.0140	50/50	58.0140
935111	AD1-144 C	-0.7749	Adder	-0.91
936401	AD2-051 C O1	19.8659	50/50	19.8659
936402	AD2-051 E O1	8.5302	50/50	8.5302
937541	AD2-215 C (Withdrawn : 01/14/2021)	-0.7829	Adder	-0.92
938221	AE1-035 C	5.1552	50/50	5.1552
938222	AE1-035 E	2.5392	50/50	2.5392
940491	AE2-034 C	14.9205	50/50	14.9205
940492	AE2-034 E	6.3945	50/50	6.3945
940571	AE2-044 C	3.6528	Adder	4.3
940572	AE2-044 E	1.5655	Adder	1.84
941541	AE2-151 C (Withdrawn : 01/08/2021)	2.0905	50/50	2.0905
941542	AE2-151 E (Withdrawn : 01/08/2021)	1.1256	50/50	1.1256
942131	AE2-225 C	-1.0770	Adder	-1.27
942171	AE2-229 C	-1.0770	Adder	-1.27
942471	AE2-260 C O1	7.0710	Adder	8.32
942472	AE2-260 E O1	10.0293	Adder	11.8

943171	AE2-346 C	2.4179	50/50	2.4179
943172	AE2-346 E	1.0363	50/50	1.0363
943911	AF1-059	7.0881	Adder	8.34
944141	AF1-082	2.3482	Adder	2.76
945711	AF1-236 C O1	163.3440	50/50	163.3440
945712	AF1-236 E O1	266.5086	50/50	266.5086
946281	AF1-292 C	0.8381	Adder	0.99
946282	AF1-292 E	0.5650	Adder	0.66
957521	AF2-046 C	20.4071	50/50	20.4071
957522	AF2-046 E	10.2649	50/50	10.2649
957531	AF2-047 C	35.4540	50/50	35.4540
957532	AF2-047 E	17.8336	50/50	17.8336
957821	AF2-076 C	25.4472	50/50	25.4472
957822	AF2-076 E	16.9648	50/50	16.9648
957861	AF2-080 C	10.8048	50/50	10.8048
957862	AF2-080 E	4.7898	50/50	4.7898
959511	AF2-242 C	13.0437	50/50	13.0437
959512	AF2-242 E	10.1451	50/50	10.1451
960081	AF2-299 C	1.4126	Adder	1.66
960082	AF2-299 E	0.9417	Adder	1.11
960331	AF2-324 C O1	6.4688	Adder	7.61
960332	AF2-324 E O1	3.4730	Adder	4.09
WEC	WEC	0.3330	Confirmed LTF	0.3330
LGEE	LGEE	0.6218	Confirmed LTF	0.6218
CPL	CPL	3.7752	Confirmed LTF	3.7752
CBM-W2	CBM-W2	12.8583	Confirmed LTF	12.8583
NY	NY	0.2865	Confirmed LTF	0.2865
TVA	TVA	2.6600	Confirmed LTF	2.6600
O-066	O-066	4.2403	Confirmed LTF	4.2403
CBM-S2	CBM-S2	22.9697	Confirmed LTF	22.9697
CBM-S1	CBM-S1	14.9100	Confirmed LTF	14.9100
G-007	G-007	0.6635	Confirmed LTF	0.6635
MADISON	MADISON	0.7056	Confirmed LTF	0.7056
MEC	MEC	1.9783	Confirmed LTF	1.9783
AA2-074	AA2-074	2.5726	LTF	2.5726
CBM-W1	CBM-W1	12.5475	Confirmed LTF	12.5475

11.8 Queue Dependencies

The Queue Projects below are listed in one or more indices for the overloads identified in your report. These projects contribute to the loading of the overloaded facilities identified in your report. The percent overload of a facility and cost allocation you may have towards a particular reinforcement could vary depending on the action of these earlier projects. The status of each project at the time of the analysis is presented in the table. This list may change as earlier projects withdraw or modify their requests.

Queue Number	Project Name	Status
AA1-063	Huntsville (Cabin Creek) 69kV	Withdrawn
AA1-063A	Carolina–Seaboard 115kV	In Service
AA1-065	Earleys 230kV	In Service
AA1-067	Everetts 34.5kV	In Service
AA1-139	Hickory-Shawboro 230kV	In Service
AA2-053	Carolina-Jackson 115kV	In Service
AA2-057	Hornertown-Whitakers 115kV	In Service
AA2-074	CPLP-PJM	Confirmed
AA2-088	Boykins-Handsome 115kV	In Service
AA2-165	Hornertown-Whitakers 115kV	In Service
AA2-174	Carolina-Jackson 115kV	In Service
AA2-178	Mackeys 230kV	Partially in Service - Under Construction
AB1-081	Anaconda-Mayo Dunbar 115kV	In Service
AB1-132	Thelma 230kV	Suspended
AB1-173	Brink-Trego 115kV	Engineering and Procurement
AB1-173A	Brink-Trego 115kV	Engineering and Procurement
AB2-015	Franklin 115kV	Engineering and Procurement
AB2-022	Elizabeth City 34.5kV	Engineering and Procurement
AB2-025	Sapony 34.5kV	In Service
AB2-031	Brink-Trego 115kV	Engineering and Procurement
AB2-040	Brink 115kV	Engineering and Procurement
AB2-043	Chase City 115kV	Under Construction
AB2-059	Benson-Dunbar 115kV	Partially in Service - Under Construction
AB2-060	Chase City-Lunenburg 115kV	In Service
AB2-068	Chickahominy 500kV	Withdrawn
AB2-077	Buggs Island-Chase City 115kV	Suspended
AB2-078	Buggs Island-Chase City 115kV	Suspended
AB2-079	Buggs Island-Chase City 115kV	Suspended
AB2-099	Ahoskie 34.5kV	Suspended
AB2-100	Clubhouse-Lakeview 230kV	Partially in Service - Under Construction
AB2-160	Reams 115kV	Engineering and Procurement
AB2-161	Waverly #2 DP 115kV	Engineering and Procurement
AB2-169	Pantago-Five Points 115kV	Partially in Service - Under Construction
AB2-174	Emporia-Trego 115kV	In Service
AB2-190	Hopewell-Surry 230kV	Engineering and Procurement
AC1-034	Heartsease DP - Mayo Dunbar 115kV	Engineering and Procurement
AC1-036	Twittys Creek 34.5kV	Partially in Service - Under Construction
AC1-054	Kerr Dam–Eatons Ferry 115 kV	Engineering and Procurement
AC1-083	Smith Mountain-Bearskin 138kV	Engineering and Procurement

AC1-086	Thelma 230kV	Active
AC1-098	Dawson-South Justice 115kV	Engineering and Procurement
AC1-099	Dawson-South Justice 115kV	Engineering and Procurement
AC1-105	Halifax-Mt. Laurel 115kV	Engineering and Procurement
AC1-131	PJM-CPLE	Confirmed
AC1-147	Grassfield 34.5kV	Engineering and Procurement
AC1-161	Septa 500kV	Engineering and Procurement
AC1-189	Chinquapin-Everetts 230kV	Active
AC1-208	Cox-Whitakers 115kV	Engineering and Procurement
AC1-221	Halifax-Person 230kV	Engineering and Procurement
AC1-222	Crystal Hill-Halifax 115kV	Engineering and Procurement
AC2-012	Grassfield-Great Bridge 115kV	Active
AC2-078	Disputanta-Waverly 115kV	Withdrawn
AC2-079	Ivor-Oak Ridge 115kV	Engineering and Procurement
AC2-084	Dawson-South Justice 115kV	Active
AC2-100	Halifax-Person 230kV	Engineering and Procurement
AC2-137	Elko 34.5kV	Partially in Service - Under Construction
AC2-141	Septa 500kV	Active
AC2-196	Fentress 34.5kV	Withdrawn
AD1-017	Smith Mountain-Bearskin 138 kV	Engineering and Procurement
AD1-023	Cashie-Trowbridge 230 kV	Active
AD1-025	Hopewell-Surry 230 kV	Active
AD1-033	Fentress-Landstown 230 kV	Engineering and Procurement
AD1-055	Crystal Hill-Halifax 115 kV	Engineering and Procurement
AD1-057	Hornertown-Hathaway 230 kV	Active
AD1-058	Halifax-Person 230 kV	Engineering and Procurement
AD1-076	Trowbridge 230 kV	Active
AD1-082	Bakers Pond-Ivor 115kV	Engineering and Procurement
AD1-087	Clover-Sedge Hill 230 kV	Active
AD1-131	Sedge Hill-Person 230 kV	Engineering and Procurement
AD1-144	Kings Fork 34.5 kV	Partially in Service - Under Construction
AD1-151	Hopewell-Surry 230 kV	Active
AD1-152	Clover-Sedge Hill 230 kV	Active
AD2-007	Hopewell-Surry 230 kV	Active
AD2-008	Hopewell-Surry 230 kV	Active
AD2-021	Elko 34.5 kV	Partially in Service - Under Construction
AD2-022	East Danville-Roxborough 230 kV	Active
AD2-023	E. Danville-Roxborough 230 kV	Active
AD2-033	Chase City-Lunenburg 115 kV	Active
AD2-046	Boydton DP-Kerr Dam 115 kV	Active
AD2-051	Earleys – Northampton 230kV	Active
AD2-063	Central-Chase City 115kV	Active
AD2-085	Myrtle-Windsor DP 115kV	Engineering and Procurement
AD2-160	Hickory-Moyock 230kV	Active
AD2-202	Clover-Sedge Hill 230kV	Active
AD2-215	Kings Fork 34.5 kV	Withdrawn
AE1-035	Earleys 230 kV	Partially in Service - Under Construction
AE1-068	Carson-Rogers Rd 500 kV	Active
AE1-069	Carson-Rogers Road 500 kV	Active
AE1-072	Shawboro-Sligo 230 kV	Active
AE1-085	Bakers Pond-Bell Ave 115 kV	Active
AE1-103	Holland-Union Camp 115 kV	Active
AE1-148	Kerr Dam-Ridge Rd 115 kV	Active

AE1-149	Disputanta-Poe 115 kV	Active
AE1-162	Smithfield 34.5 kV	Engineering and Procurement
AE1-173	Carson-Suffolk 500 kV	Active
AE1-175	Light Foot 34.5 kV	Engineering and Procurement
AE1-176	Roanoke-Vinton 12 kV (Niagara Hydro)	In Service
AE1-250	Smith Mountain-E. Danville 138 kV	Active
AE2-000B	N/A	N/A
AE2-006	Twittys Creek 34.5 kV	Partially in Service - Under Construction
AE2-007	Chesapeake 230 kV	Withdrawn
AE2-027	Harrowgate-Locks 115kV	Active
AE2-031	Carson-Rawlins 500 kV	Active
AE2-033	Clubhouse-Sappony 230 kV	Active
AE2-034	Mackeys 230 kV	Active
AE2-040	Sapony 34.5 kV	Active
AE2-044	Anaconda-Dunbar 115 kV	Active
AE2-051	Carson-Septa 500 kV	Active
AE2-052	Disputanta-Poe 115 kV	Active
AE2-053	Kerr Dam-Ridge Road 115 kV	Active
AE2-078	Poolesville 34.5 kV	Engineering and Procurement
AE2-079	Poolesville 34.5 kV	Engineering and Procurement
AE2-094	Carson-Rogers Road 500 kV	Active
AE2-104	Suffolk 115 kV	Active
AE2-122	Birdneck-Landstown 230 kV	Active
AE2-123	Birdneck-Landstown 230 kV	Active
AE2-124	Landstown 230 kV	Active
AE2-147	Swamp 230 kV	Active
AE2-151	Earleys 34.5kV	Withdrawn
AE2-156	Yadkin 115 kV	Active
AE2-225	Suffolk 34 kV	Engineering and Procurement
AE2-229	Suffolk 34 kV	Engineering and Procurement
AE2-247	Myrtle-Windsor 115 kV	Active
AE2-250	Purdy Sw.-Reams 115 kV	Active
AE2-253	Hickory-Moyock 230 kV	Active
AE2-258	Chase City 115 kV	Active
AE2-260	Clubhouse 230 kV	Active
AE2-270	Hopewell-Surry 230 kV	Active
AE2-304	South Hertford 34 kV	Withdrawn
AE2-313	Carson-Rawlins 500 kV	Active
AE2-326	Jacksons Ferry 138 kV	Active
AE2-346	Ahoskie 34.5 kV	Active
AF1-017	Myrtle-Windsor 115 kV	Active
AF1-032	Suffolk 34.5 kV	Engineering and Procurement
AF1-033	Poolesville 34 kV	Engineering and Procurement
AF1-058	Welco 34.5 kV	Engineering and Procurement
AF1-059	Brodnax-South Hill 115 kV	Active
AF1-069	Carson-Rogers Rd 500 kV	Active
AF1-082	Heartsease-Mayo Dunbar DP	Active
AF1-123	Fentress 500 kV	Active
AF1-124	Fentress 500 kV	Active
AF1-125	Fentress 500 kV	Active
AF1-152	Swamp 230 kV	Active
AF1-201	Hayes-White Marsh 115 kV	Active
AF1-236	Mackeys 230 kV	Active

AF1-246	Clover-Rawlings 500 kV	Active
AF1-266	Clubhouse-Sapony 230 kV	Active
AF1-292	Fields 34.5kV	Active
AF2-042	Clover-Rawlings 500 kV	Active
AF2-043	Suffolk 34.5 kV	Engineering and Procurement
AF2-046	Tunis-Mapleton 115 kV	Active
AF2-047	Creswell-Riders Creek 115 kV	Active
AF2-057	Grassfield 34.5 kV	Active
AF2-065	Surry-Hopewell 230 kV	Active
AF2-076	Suffolk-Nucor Steel 230 kV	Active
AF2-077	White Marsh 34.5 kV	Active
AF2-080	Chinquapin-Everetts 230 kV	Active
AF2-081	Moyock 230 kV	Active
AF2-108	Locks 34.5 kV	Active
AF2-110	Suffolk 115 kV	Active
AF2-222	Madisonville DP-Twitty's Creek 115 kV	Active
AF2-242	Wharton 115 kV	Active
AF2-259	Locks 34.5 kV	Active
AF2-266	Clover 230 kV	Active
AF2-297	Sedge Hill 115 kV	Active
AF2-299	Fields 34.5 kV	Active
AF2-324	Edgcombe 230 kV	Active
AF2-400	Franklin 13.2 kV	Engineering and Procurement
V4-068	Murphy's 34.5kV	In Service
W1-029	Winfall 230kV	In Service
X1-038	Union Camp 115kV	In Service
Y1-086	Morgans Corner	In Service
Z1-036	WinFall-Chowan 230kV	Suspended
Z2-027	Pasquotank 34.5kV	In Service
Z2-043	Kelford 34.5kV	In Service
Z2-044	Whitakers 34.5kV	In Service
Z2-088	Tarboro-Everetts 230kV	In Service

11.9 Contingency Descriptions

Contingency Name	Contingency Definition
DVP_P1-2: LN 563	CONTINGENCY 'DVP_P1-2: LN 563' OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 - 8MDLTHAN 500.00 END
DVP_P1-2: LN 247	CONTINGENCY 'DVP_P1-2: LN 247' OPEN BRANCH FROM BUS 313713 TO BUS 314648 CKT 1 /* 6SWAMP 230.00 - 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314648 CKT 1 /* 6SUFFOLK 230.00 - 6SUNBURY 230.00 OPEN BUS 314648 /* ISLAND: 6SUNBURY 230.00 END
DVP_P2-2: BREMO B1	CONTINGENCY 'DVP_P2-2: BREMO B1' /* BREMO 230 KV OPEN BRANCH FROM BUS 314326 TO BUS 314747 CKT 1 /* 6BEARGRDN 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314326 TO BUS 315191 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN G118.000 OPEN BUS 315191 /* ISLAND: 1BEARGRDN G118.000 OPEN BRANCH FROM BUS 314326 TO BUS 314747 CKT 2 /* 6BEARGRDN 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314326 TO BUS 315192 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN G218.000 OPEN BRANCH FROM BUS 314326 TO BUS 315193 CKT 1 /* 6BEARGRDN 230.00 - 1BEARGRDN S122.000 OPEN BUS 315192 /* ISLAND: 1BEARGRDN G218.000 OPEN BUS 315193 /* ISLAND: 1BEARGRDN S122.000 OPEN BRANCH FROM BUS 314677 TO BUS 314747 CKT 1 /* 6BUCKING 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 313868 TO BUS 314747 CKT 1 /* 6CARTERV 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 313867 TO BUS 314747 CKT 1 /* 6BREMODIST 230.00 - 6BREMO 230.00 OPEN BRANCH FROM BUS 314744 TO BUS 314747 CKT 1 /* 3BREMO 115.00 - 6BREMO 230.00 OPEN BUS 314747 /* 6BREMO 230.00 KV OPEN BUS 314326 /* ISLAND: 6BEARGRDN 230.00 END

<p>DVP_P1-2: LN 2131</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2131' OPEN BRANCH FROM BUS 313714 TO BUS 313885 CKT 1 /* 6PERQUIMANS 230.00 - 6WALBMRL 230.00 OPEN BRANCH FROM BUS 313885 TO BUS 314637 CKT 1 /* 6WALBMRL 230.00 - 6EDENTON 230.00 OPEN BRANCH FROM BUS 314203 TO BUS 314637 CKT 1 /* 6MACKEYS 230.00 - 6EDENTON 230.00 OPEN BUS 313885 /* ISLAND: 6WALBMRL 230.00 OPEN BUS 314637 /* ISLAND: 6EDENTON 230.00 END</p>
<p>DVP_P7-1: LN 56-2012-B</p>	<p>CONTINGENCY 'DVP_P7-1: LN 56-2012-B' /* . OPEN BRANCH FROM BUS 313723 TO BUS 314604 CKT 1 /* 3PECAN 115.00 - 3SEABORD 115.00 OPEN BRANCH FROM BUS 314558 TO BUS 314587 CKT 1 /* 3BOYKINS 115.00 - 3MARGTSV 115.00 OPEN BRANCH FROM BUS 314587 TO BUS 314604 CKT 1 /* 3MARGTSV 115.00 - 3SEABORD 115.00 OPEN BUS 314587 /* ISLAND: 3MARGTSV 115.00 OPEN BUS 314604 /* ISLAND: 3SEABORD 115.00 OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP - 6EARLEYS 230.00 END</p>
<p>DVP_P7-1: LN 2058-2181</p>	<p>CONTINGENCY 'DVP_P7-1: LN 2058-2181' /* . OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BRANCH FROM BUS 313844 TO BUS 313845 CKT 2 /* 3HATHAWAY 115.00 - 6HATHAWAY 230.00 OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END</p>
<p>DVP_P4-2: 2012T2014</p>	<p>CONTINGENCY 'DVP_P4-2: 2012T2014' /* EARLEYS 230 KV OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314569 CKT 1 /* 6WINDSORDP 230.00 - 6EARLEYS 230.00 OPEN BRANCH FROM BUS 313857 TO BUS 314574 CKT 1 /* 6WINDSORDP 230.00 - 6EVERETS 230.00 OPEN BUS 313857 /* ISLAND: 6WINDSORDP 230.00 OPEN BUS 314552 /* ISLAND: 3WINDSORDP 115.00 END</p>
<p>DVP_P1-2: LN 246-A</p>	<p>CONTINGENCY 'DVP_P1-2: LN 246-A' OPEN BRANCH FROM BUS 314537 TO BUS 957820 CKT 1 /* 6SUFFOLK 230.00 - AF2-076 230.00 END</p>

<p>DVP_P1-2: LN 246-B</p>	<p>CONTINGENCY 'DVP_P1-2: LN 246-B' OPEN BRANCH FROM BUS 957820 TO BUS 314575 CKT 1 /* AF2-076 TAP 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314569 TO BUS 314575 CKT 1 /* 6EARLEYS 230.00 - 6NUCO TP 230.00 OPEN BRANCH FROM BUS 314575 TO BUS 314590 CKT 1 /* 6NUCO TP 230.00 - 6NUCOR 230.00 OPEN BUS 314575 /* ISLAND: 6NUCO TP 230.00 OPEN BUS 314590 /* ISLAND: 6NUCOR 230.00 END</p>
<p>DVP_P1-2: LN 2181</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2181' OPEN BUS 304226 /* ISLAND: 6PA-RMOUNT#4115.00 OPEN BRANCH FROM BUS 304226 TO BUS 314591 CKT 1 /* 6PA-RMOUNT#4230.00 - 6NASH 230.00 OPEN BRANCH FROM BUS 313845 TO BUS 314591 CKT 1 /* 6HATHAWAY 230.00 - 6NASH 230.00 OPEN BUS 314591 /* ISLAND: 6NASH 230.00 END</p>
<p>DVP_P1-2: LN 2012-B</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2012-B' OPEN BRANCH FROM BUS 936400 TO BUS 314569 CKT 1 /* AD2-051 TAP230.00 - 6EARLEYS 230.00 END</p>
<p>314266 6NORTHAMPTON 230 936400 AD2-051 TAP 230 1</p>	<p>CONTINGENCY '314266 6NORTHAMPTON 230 936400 AD2-051 TAP 230 1' OPEN BRANCH FROM BUS 314266 TO BUS 936400 CKT 1 END</p>
<p>314572 3EMPORIA 115 925170 AB2-174 TAP 115 1</p>	<p>CONTINGENCY '314572 3EMPORIA 115 925170 AB2-174 TAP 115 1' OPEN BRANCH FROM BUS 314572 TO BUS 925170 CKT 1 END</p>
<p>AEP_P2-2_#1377_05J.FERR 765_1</p>	<p>CONTINGENCY 'AEP_P2-2_#1377_05J.FERR 765_1' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END</p>
<p>AEP_P4_#11111_05J.FERR 765_B1</p>	<p>CONTINGENCY 'AEP_P4_#11111_05J.FERR 765_B1' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242514 TO BUS 242684 CKT 2 / 242514 05J.FERR 765 242684 05J.FERR 138 2 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END</p>

<p>DVP_P1-2: LN 218</p>	<p>CONTINGENCY 'DVP_P1-2: LN 218' OPEN BRANCH FROM BUS 304451 TO BUS 314574 CKT 1 /* 6GREENVILE T230.00 - 6EVERETS 230.00 END</p>
<p>DVP_P4-2: 2020T2144</p>	<p>CONTINGENCY 'DVP_P4-2: 2020T2144' /* WINFALL 230 KV OPEN BRANCH FROM BUS 313851 TO BUS 314638 CKT 1 /* 6ECITYDP2 230.00 - 6ELIZ CT 230.00 OPEN BRANCH FROM BUS 313851 TO BUS 314639 CKT 1 /* 6ECITYDP2 230.00 - 6TANGLEW 230.00 OPEN BRANCH FROM BUS 314639 TO BUS 314651 CKT 1 /* 6TANGLEW 230.00 - 6WINFALL 230.00 OPEN BUS 313851 /* ISLAND: 6ECITYDP2 230.00 OPEN BUS 314639 /* ISLAND: 6TANGLEW 230.00 OPEN BUS 917122 /* ISLAND: Z2-027 E 230.00 OPEN BRANCH FROM BUS 313713 TO BUS 314651 CKT 1 /* 6SWAMP 230.00 - 6WINFALL 230.00 END</p>
<p>AEP_P1-2_#1377</p>	<p>CONTINGENCY 'AEP_P1-2_#1377' OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 END</p>
<p>Base Case</p>	
<p>DVP_P4-2: 209222-1</p>	<p>CONTINGENCY 'DVP_P4-2: 209222-1' /* WINFALL 230 KV OPEN BRANCH FROM BUS 313714 TO BUS 314662 CKT 1 /* 6PERQUIMANS 230.00 - 6S HERTFORD 230.00 OPEN BRANCH FROM BUS 314651 TO BUS 314662 CKT 1 /* 6WINFALL 230.00 - 6S HERTFORD 230.00 OPEN BUS 314662 /* ISLAND: 6S HERTFORD 230.00 OPEN BUS 314204 /* 6WINFA_1 230.00 KV END</p>
<p>DVP_P4-2: 209222-2</p>	<p>CONTINGENCY 'DVP_P4-2: 209222-2' /* WINFALL 230 KV OPEN BRANCH FROM BUS 313714 TO BUS 314662 CKT 1 /* 6PERQUIMANS 230.00 - 6S HERTFORD 230.00 OPEN BRANCH FROM BUS 314651 TO BUS 314662 CKT 1 /* 6WINFALL 230.00 - 6S HERTFORD 230.00 OPEN BUS 314662 /* ISLAND: 6S HERTFORD 230.00 END</p>

<p>DVP_P1-2: LN 2003</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2003' OPEN BRANCH FROM BUS 314263 TO BUS 314287 CKT 1 /* 6TYLER1 230.00 - 6CHESTF B 230.00 OPEN BRANCH FROM BUS 314263 TO BUS 314299 CKT 1 /* 6TYLER1 230.00 - 6HARROWG 230.00 OPEN BRANCH FROM BUS 314299 TO BUS 314331 CKT 1 /* 6HARROWG 230.00 - 6POE 230.00 OPEN BRANCH FROM BUS 314329 TO BUS 314331 CKT 2 /* 3POE 115.00 - 6POE 230.00 OPEN BUS 314263 /* ISLAND: 6TYLER1 230.00 OPEN BUS 314299 /* ISLAND: 6HARROWG 230.00 END</p>
<p>DVP_P1-2: LN 2058</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2058' OPEN BRANCH FROM BUS 304222 TO BUS 313845 CKT 1 /* 6ROCKYMT230T230.00 - 6HATHAWAY 230.00 OPEN BRANCH FROM BUS 313844 TO BUS 313845 CKT 2 /* 3HATHAWAY 115.00 - 6HATHAWAY 230.00 END</p>
<p>DVP_P4-2: 206042</p>	<p>CONTINGENCY 'DVP_P4-2: 206042' /* ROANOKE VALLEY NUG 230 KV OPEN BRANCH FROM BUS 314561 TO BUS 314599 CKT 1 /* 6CAROLNA 230.00 - 6ROA VAL 230.00 END</p>
<p>DVP_P1-2: LN 2092</p>	<p>CONTINGENCY 'DVP_P1-2: LN 2092' OPEN BRANCH FROM BUS 313714 TO BUS 314662 CKT 1 /* 6PERQUIMANS 230.00 - 6S HERTFORD 230.00 OPEN BRANCH FROM BUS 314651 TO BUS 314662 CKT 1 /* 6WINFALL 230.00 - 6S HERTFORD 230.00 OPEN BUS 314662 /* ISLAND: 6S HERTFORD 230.00 END</p>
<p>DVP_P4-2: 246T247-A</p>	<p>CONTINGENCY 'DVP_P4-2: 246T247-A' /* SUFFOLK 230 KV OPEN BRANCH FROM BUS 314537 TO BUS 957820 CKT 1 /* 6SUFFOLK 230.00 - AF-076 230.00 OPEN BRANCH FROM BUS 313713 TO BUS 314648 CKT 1 /* 6SWAMP 230.00 - 6SUNBURY 230.00 OPEN BRANCH FROM BUS 314537 TO BUS 314648 CKT 1 /* 6SUFFOLK 230.00 - 6SUNBURY 230.00 OPEN BUS 314648 /* ISLAND: 6SUNBURY 230.00 END</p>

<p>DVP_P4-2: 24972-4</p>	<p>CONTINGENCY 'DVP_P4-2: 24972-4' /* CARSON 230 KV OPEN BRANCH FROM BUS 314282 TO BUS 314285 CKT 1 /* 6CARSON 230.00 - 6CHRL249 230.00 OPEN BRANCH FROM BUS 314285 TO BUS 314316 CKT 1 /* 6CHRL249 230.00 - 6LOCKS 230.00 OPEN BRANCH FROM BUS 314314 TO BUS 314316 CKT 2 /* 3LOCKS 115.00 - 6LOCKS 230.00 OPEN BUS 314285 /* ISLAND: 6CHRL249 230.00 OPEN BRANCH FROM BUS 314282 TO BUS 314902 CKT 1 /* 6CARSON 230.00 - 8CARSON 500.00 OPEN BUS 314455 /* 6CARSO_1 230.00 KV END</p>
<p>DVP_P4-2: 2012T2146</p>	<p>CONTINGENCY 'DVP_P4-2: 2012T2146' /* WALLER 230 KV OPEN BRANCH FROM BUS 314266 TO BUS 936400 CKT 1 /* 6NORTHAMPTON230.00 - AD2-051 TAP 230.00 OPEN BRANCH FROM BUS 314266 TO BUS 314599 CKT 1 /* 6NORTHAMPTON230.00 - 6ROA VAL 230.00 OPEN BUS 314266 /* ISLAND: 6NORTHAMPTON230.00 OPEN BRANCH FROM BUS 314209 TO BUS 314413 CKT 1 /* 6SKIFF CREEK230.00 - 6WALR285 230.00 END</p>
<p>AEP_P4_#11112_05J.FERR 765_A1</p>	<p>CONTINGENCY 'AEP_P4_#11112_05J.FERR 765_A1' OPEN BRANCH FROM BUS 242511 TO BUS 242514 CKT 1 / 242511 05BROADF 765 242514 05J.FERR 765 1 OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1 OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1 OPEN BRANCH FROM BUS 242566 TO BUS 242567 CKT ZB / 242566 05BROADX 138 242567 05BROADX 138 ZB END</p>

12 Light Load Analysis

Light load analysis is not required for solar projects.

13 Short Circuit Analysis

The following Breakers are overdutied

None.

13.1 System Reinforcements - Short Circuit

None.

14 Stability and Reactive Power

(Summary of the VAR requirements based upon the results of the dynamic studies)

To be determined in the Facilities Study Phase.

15 Affected Systems

15.1 TVA

None.

15.2 Duke Energy Progress

Duke Energy Progress Impacts to be determined during later study phases (as applicable).

16 Attachment 1: One Line Diagram

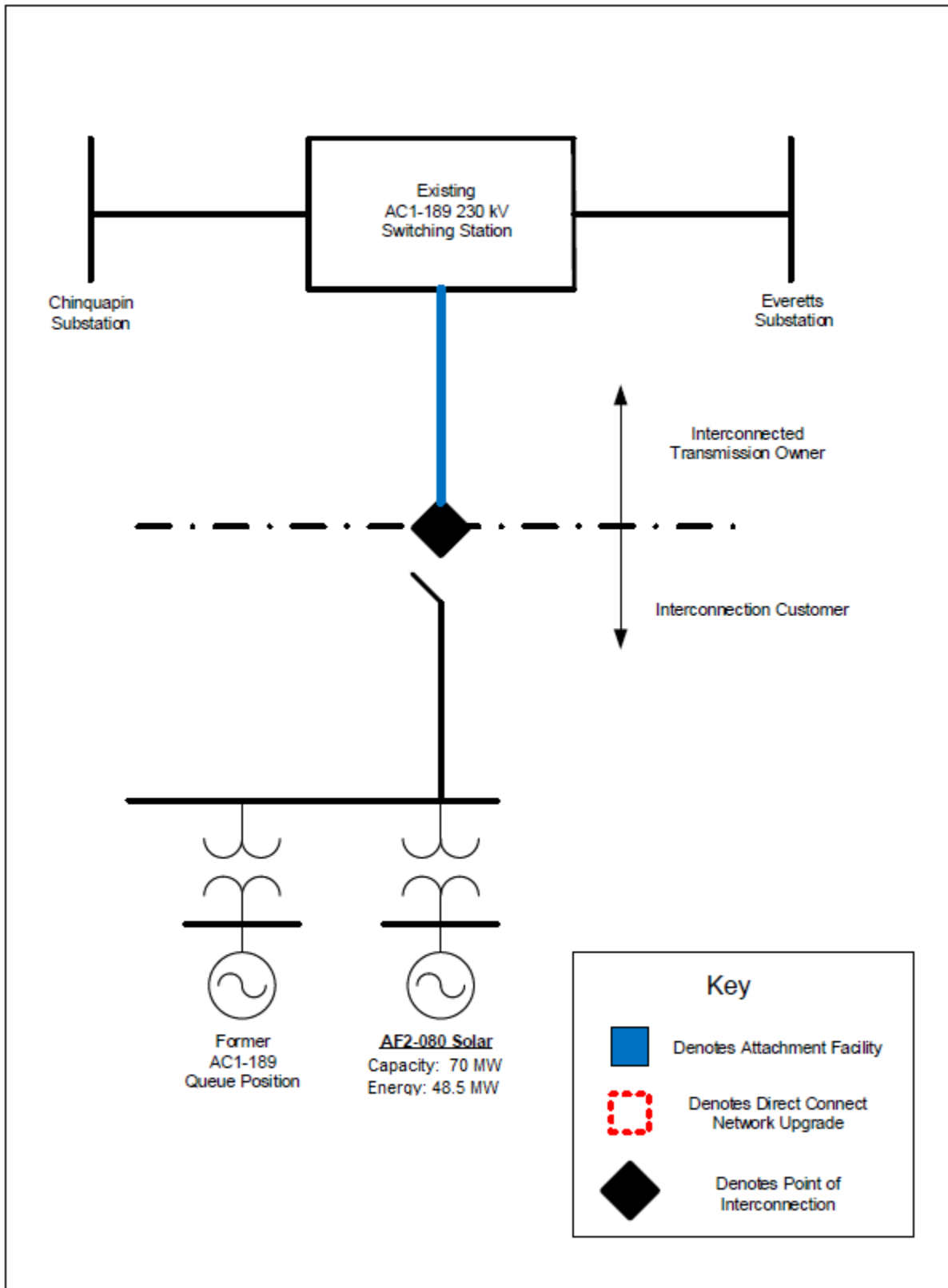


EXHIBIT 2

CONFIDENTIAL