



**Generation Interconnection  
Feasibility Study Report  
for  
Queue Project AF2-042  
CLOVER 500 KV  
300 MW Capacity / 500 MW Energy**

July 2020

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## 1 Introduction

This Feasibility Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 36.2, as well as the Feasibility 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 feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. Cost allocation rules for network upgrades can be found in PJM Manual 14A, Attachment B. 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 impact study is performed.

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.

The Feasibility 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.

### 3 General

The Interconnection Customer (IC), has proposed a Solar generating facility located in Halifax County, Virginia. The installed facilities will have a total capability of 500 MW with 300 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is December 31, 2022. This study does not imply a TO commitment to this in-service date.

|                            |                |
|----------------------------|----------------|
| <b>Queue Number</b>        | <b>AF2-042</b> |
| <b>Project Name</b>        | CLOVER 500 KV  |
| <b>State</b>               | Virginia       |
| <b>County</b>              | Halifax        |
| <b>Transmission Owner</b>  | Dominion       |
| <b>MFO</b>                 | 500            |
| <b>MWE</b>                 | 500            |
| <b>MWC</b>                 | 300            |
| <b>Fuel</b>                | Solar          |
| <b>Basecase Study Year</b> | 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

#### 4.1 Primary Point of Interconnection

AF2-042 “Clover 500 kV” will interconnect with the Dominion’s transmission system via an existing substation Clover 500 kV substation. This is the primary Point of Interconnection (POI) chose by the IC with the ITO’s transmission system. The IC is responsible for securing right-of-way, permits and constructing the proposed attachment line from the battery energy storage facility site to the existing switching station. Attachment 1 shows a one-line diagram of the proposed interconnection facilities. The IC may not install any facilities on Dominion’s right-of-way without first obtaining the necessary approval from Dominion Energy.

#### 4.2 Secondary Point of Interconnection

The IC requested that a secondary POI of a single line tap between Clover 500 kV substation and Rawlings 500 kV substation be reviewed for network impacts. This report does not provide costs for the physical interconnection of the secondary point of interconnection. It was just analyzed for network impacts. Results are shown in the Network Impacts – Secondary Point of Interconnection section of this report.

### 5 Cost Summary

The AF2-042 project will be responsible for the following costs:

| Description                                 | Total Cost       |
|---------------------------------------------|------------------|
| <b>Total Physical Interconnection Costs</b> | \$ 4,750,000     |
| <b>Total System Network Upgrade Costs</b>   | \$ 1,264,614,000 |
| <b>Total Costs</b>                          | \$ 1,269,364,000 |

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.

Cost allocations for any System Upgrades will be provided in the System Impact Study Report.

## 6 Transmission Owner Scope of Work

Dominion assessed the impact of the proposed Queue Project AF2-042 was evaluated as a 300 MW Capacity (500.0 MW Energy) injection at the Clover 500 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.

The required physical interconnection work for the interconnection of the AF2-042 generation project to the Dominion Transmission System is detailed in the following sections. The associated one-line with the generation project attachment facilities and primary direct and non-direct connection are shown in Attachment 1.

Note that the ITO findings were made from a conceptual review of this project. A more detailed review of the connection facilities and their cost will be identified in a future study phases. Further note that the 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:

| <b>Description</b>                                                                          | <b>Total Cost</b>   |
|---------------------------------------------------------------------------------------------|---------------------|
| Attachment Facility Substation work (Metering)                                              | \$ 750,000          |
| Attachment Facility Transmission Work (Install One-Span of overhead 500 kV line to the POI) | \$ 2,000,000        |
| Additional Substation Breakers (1) and Associated Equipment                                 | \$ 2,000,000        |
| <b>Total Physical Interconnection Costs</b>                                                 | <b>\$ 4,750,000</b> |

To accommodate the proposed AF2-042 Project, Dominion Energy will add one new 500 kV breaker to the existing Clover 500 kV substation to allow for the proposed interconnection, and will install one span of overhead 500 kV line to the point of interconnection ("POI") including 500 kV interconnection metering.

It is estimated to take 24-30 months to complete this work upon execution of an Interconnection Construction Service Agreement (ICSA). These preliminary cost estimates are based on typical engineering costs. A more detailed engineering cost estimates are normally done when the IC provides an exact site plan location for the generation substation during the Facility Study phase. See Attachment One.

## 7 Schedule

The schedule for the required Network Impact Reinforcements will be more clearly identified in future study phases. The estimate elapsed 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)
- Irradiance (Watts/meter<sup>2</sup>)
- 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

See Section 3.4.6 “Metering and telecommunications” of Dominion’s “Dominion’s Facility Interconnection Requirements” document located at: <https://www.dominionenergy.com/company/moving-energy/electric-transmission-access>.

## 11 Summer Peak - Load Flow Analysis - Primary POI

The Queue Project AF2-042 was evaluated as a 500.0 MW (Capacity 300.0 MW) injection at the Clover 500 kV substation in the Dominion area. Project AF2-042 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-042 was studied with a commercial probability of 53.0 %. 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 | CK T ID | CONT NAME                                    | Type   | Rating MVA    | PRE PROJECT LOADIN G % | POST PROJECT LOADIN G % | AC/D C | MW IMPAC T |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|----------------------------------------------|--------|---------------|------------------------|-------------------------|--------|------------|
| 106197307 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMV IL   | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single | 571.520019531 | 88.69                  | 105.3                   | DC     | 94.93      |
| 106197308 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMV IL   | 230.0 | DVP         | 1       | 314906 8CLOVE R 500 314936 AF1-246 TAP 500 1 | single | 571.520019531 | 86.37                  | 102.98                  | DC     | 94.93      |
| 106197300 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single | 571.520019531 | 89.76                  | 106.37                  | DC     | 94.93      |
| 106197301 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | 314906 8CLOVE R 500 314936 AF1-246 TAP 500 1 | single | 571.520019531 | 87.43                  | 104.05                  | DC     | 94.93      |
| 106197269 | 314686    | 6CLOVER     | 230.0 | DVP           | 934610  | AD1-087 TAP | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single | 814.979980469 | 83.98                  | 108.97                  | DC     | 203.7      |
| 106197270 | 314686    | 6CLOVER     | 230.0 | DVP           | 934610  | AD1-087 TAP | 230.0 | DVP         | 1       | 314906 8CLOVE R 500 314936 AF1-246 TAP 500 1 | single | 814.979980469 | 80.48                  | 105.47                  | DC     | 203.7      |
| 96825908  | 314936    | 8RAWLIN GS  | 500.0 | DVP           | 940470  | AE2-031 TAP | 500.0 | DVP         | 1       | DVP_P1-2: LN 585-A                           | single | 4070.19995117 | 98.59                  | 102.34                  | DC     | 152.72     |
| 106197149 | 934610    | AD1-087 TAP | 230.0 | DVP           | 314697  | 6SEDGE HILL | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single | 814.979980469 | 93.86                  | 118.85                  | DC     | 203.7      |
| 106197150 | 934610    | AD1-087 TAP | 230.0 | DVP           | 314697  | 6SEDGE HILL | 230.0 | DVP         | 1       | 314906 8CLOVE R 500 314936 AF1-246 TAP 500 1 | single | 814.979980469 | 90.36                  | 115.35                  | DC     | 203.7      |
| 106197282 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single | 571.520019531 | 90.46                  | 107.07                  | DC     | 94.93      |

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS      | kV    | TO BUS AREA | CK T ID | CONT NAME                                  | Type   | Rating MVA    | PRE PROJECT LOADIN G % | POST PROJECT LOADIN G % | AC D C | MW IMPAC T |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|--------------------------------------------|--------|---------------|------------------------|-------------------------|--------|------------|
| 106197283 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | 3149068CLOVER 500 314936 AF1-246 TAP 500 1 | single | 571.520019531 | 88.13                  | 104.75                  | DC     | 94.93      |
| 96825903  | 938490    | AE1-068 TAP | 500.0 | DVP           | 941030  | AE2-094 TAP | 500.0 | DVP         | 1       | DVP_P1-2: LN 511-A                         | single | 4070.19995117 | 98.06                  | 101.39                  | DC     | 135.9      |
| 96825874  | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON     | 500.0 | DVP         | 1       | DVP_P1-2: LN 511-B                         | single | 4070.19995117 | 97.61                  | 100.94                  | DC     | 135.9      |

## 11.2 Multiple Facility Contingency

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

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS      | kV    | TO BUS AREA | CK T ID | CONT NAME           | Type    | Rating MVA | PRE PROJECT LOADIN G % | POST PROJECT LOADIN G % | AC D C | MW IMPAC T |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|---------------------|---------|------------|------------------------|-------------------------|--------|------------|
| 105952775 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P4-2: 556T591   | breaker | 699.0      | 87.05                  | 109.72                  | DC     | 158.5      |
| 105952776 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A | breaker | 699.0      | 87.03                  | 109.71                  | DC     | 158.5      |
| 105952765 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P4-2: 556T591   | breaker | 699.0      | 87.92                  | 110.6                   | DC     | 158.5      |
| 105952766 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A | breaker | 699.0      | 87.91                  | 110.58                  | DC     | 158.5      |
| 105952833 | 314686    | 6CLOVER     | 230.0 | DVP           | 934620  | AD1-088 TAP | 230.0 | DVP         | 1       | DVP_P4-2: 556T591   | breaker | 699.0      | 78.39                  | 101.06                  | DC     | 158.5      |
| 105952834 | 314686    | 6CLOVER     | 230.0 | DVP           | 934620  | AD1-088 TAP | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A | breaker | 699.0      | 78.39                  | 101.06                  | DC     | 158.5      |
| 96825705  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL    | 500.0 | DVP         | 1       | DVP_P4-2: H1T575    | breaker | 3938.0     | 99.87                  | 100.59                  | DC     | 92.19      |
| 105952756 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P4-2: 556T591   | breaker | 699.0      | 88.49                  | 111.17                  | DC     | 158.5      |
| 105952757 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A | breaker | 699.0      | 88.48                  | 111.15                  | DC     | 158.5      |

## 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 | CK T ID | CONT NAME                                    | Type    | Rating MVA    | PRE PROJE CT LOADI NG % | POST PROJE CT LOADI NG % | AC/ DC | MW IMPA CT |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|----------------------------------------------|---------|---------------|-------------------------|--------------------------|--------|------------|
| 95620979  | 242631    | 05EDAN1     | 138.0 | AEP           | 242620  | 05DANVL2    | 138.0 | AEP         | 1       | AEP_P4_#11112_05 J.FERR 765_A1               | breaker | 402.0         | 107.93                  | 110.99                   | DC     | 27.36      |
| 95620981  | 242631    | 05EDAN1     | 138.0 | AEP           | 242620  | 05DANVL2    | 138.0 | AEP         | 1       | AEP_P4_#11111_05 J.FERR 765_B1               | breaker | 402.0         | 101.67                  | 104.88                   | DC     | 28.61      |
| 97886978  | 313707    | 6FORK UNION | 230.0 | DVP           | 961060  | AF2-397 TAP | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 109.21                  | 112.8                    | DC     | 23.74      |
| 97886979  | 313707    | 6FORK UNION | 230.0 | DVP           | 961060  | AF2-397 TAP | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 109.16                  | 112.75                   | DC     | 23.74      |
| 97887020  | 313867    | 6BREMO DIST | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 110.26                  | 114.19                   | DC     | 26.0       |
| 97887021  | 313867    | 6BREMO DIST | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 110.2                   | 114.13                   | DC     | 26.0       |
| 97706470  | 314282    | 6CARSON     | 230.0 | DVP           | 314285  | 6CHRL249    | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 684.0         | 166.55                  | 169.42                   | DC     | 43.08      |
| 97706659  | 314282    | 6CARSON     | 230.0 | DVP           | 314331  | 6POE        | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 830.0         | 111.94                  | 114.0                    | DC     | 37.91      |
| 97886798  | 314282    | 6CARSON     | 230.0 | DVP           | 314285  | 6CHRL249    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 559.299987793 | 140.67                  | 142.26                   | DC     | 19.86      |
| 97706480  | 314285    | 6CHRL249    | 230.0 | DVP           | 314316  | 6LOCKS      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 684.0         | 163.46                  | 166.34                   | DC     | 43.08      |
| 97886820  | 314285    | 6CHRL249    | 230.0 | DVP           | 314316  | 6LOCKS      | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 559.299987793 | 136.9                   | 138.49                   | DC     | 19.86      |
| 97706519  | 314287    | 6CHESTFB    | 230.0 | DVP           | 314276  | 6BASIN      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 812.0         | 138.73                  | 140.39                   | DC     | 29.78      |
| 97706529  | 314299    | 6HARROWG    | 230.0 | DVP           | 314263  | 6TYLER1     | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 138.79                  | 141.43                   | DC     | 31.7       |
| 97887013  | 314299    | 6HARROWG    | 230.0 | DVP           | 314263  | 6TYLER1     | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 115.21                  | 116.73                   | DC     | 15.0       |
| 97706584  | 314301    | 6HARR205    | 230.0 | DVP           | 314346  | 6TYLER      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 121.09                  | 123.9                    | DC     | 33.8       |
| 97706539  | 314316    | 6LOCKS      | 230.0 | DVP           | 314301  | 6HARR205    | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 135.33                  | 138.15                   | DC     | 33.8       |
| 97887032  | 314316    | 6LOCKS      | 230.0 | DVP           | 314301  | 6HARR205    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 111.15                  | 112.76                   | DC     | 15.74      |
| 97706524  | 314331    | 6POE        | 230.0 | DVP           | 314299  | 6HARROWG    | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 138.81                  | 141.45                   | DC     | 31.7       |
| 97887008  | 314331    | 6POE        | 230.0 | DVP           | 314299  | 6HARROWG    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 115.24                  | 116.75                   | DC     | 15.0       |
| 97706551  | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 511T591                            | breaker | 699.0         | 112.43                  | 120.86                   | DC     | 147.5      |
| 97706552  | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 556T591                            | breaker | 699.0         | 112.52                  | 120.95                   | DC     | 147.5      |
| 105952620 | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A                          | breaker | 699.0         | 112.52                  | 120.95                   | DC     | 147.5      |
| 106197013 | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 571.520019531 | 105.73                  | 121.18                   | DC     | 88.3       |
| 106197014 | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | 314906 8CLOVER 500 314936 AF1-246 TAP 500 1  | single  | 571.520019531 | 103.57                  | 119.02                   | DC     | 88.3       |
| 97706566  | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 511T591                            | breaker | 684.0         | 110.76                  | 119.37                   | DC     | 147.53     |
| 97706568  | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 556T591                            | breaker | 684.0         | 110.85                  | 119.46                   | DC     | 147.53     |
| 105952625 | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 511T556-A                          | breaker | 684.0         | 110.85                  | 119.46                   | DC     | 147.53     |
| 106197024 | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 559.299987793 | 104.61                  | 120.4                    | DC     | 88.32      |
| 106197025 | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | 314906 8CLOVER 500 314936 AF1-246 TAP 500 1  | single  | 559.299987793 | 102.39                  | 118.19                   | DC     | 88.32      |
| 106196954 | 314697    | 6SEDGE HILL | 230.0 | DVP           | 927250  | AC1-221 TAP | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 674.91998291  | 106.2                   | 126.08                   | DC     | 155.36     |

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS        | kV    | TO BUS AREA | CK T ID | CONT NAME                                    | Type    | Rating MVA    | PRE PROJE CT LOADI NG % | POST PROJE CT LOADI NG % | AC/ DC | MW IMPA CT |
|-----------|-----------|-------------|-------|---------------|---------|---------------|-------|-------------|---------|----------------------------------------------|---------|---------------|-------------------------|--------------------------|--------|------------|
| 106196955 | 314697    | 6SEDGE HILL | 230.0 | DVP           | 927250  | AC1-221 TAP   | 230.0 | DVP         | 1       | 314906 8CLOVER 500 314936 AF1-246 TAP 500 1  | single  | 674.91998291  | 102.97                  | 122.86                   | DC     | 155.36     |
| 97887000  | 314747    | 6BREMO      | 230.0 | DVP           | 313867  | 6BREMO DIST   | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 112.63                  | 116.56                   | DC     | 26.0       |
| 97887001  | 314747    | 6BREMO      | 230.0 | DVP           | 313867  | 6BREMO DIST   | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 112.55                  | 116.48                   | DC     | 26.0       |
| 97886953  | 314765    | 6MTEAGLE    | 230.0 | DVP           | 314749  | 6CHARLV L     | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 106.07                  | 109.66                   | DC     | 23.74      |
| 97886954  | 314765    | 6MTEAGLE    | 230.0 | DVP           | 314749  | 6CHARLV L     | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 106.02                  | 109.61                   | DC     | 23.74      |
| 96825661  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N     | 500.0 | DVP         | 1       | DVP_P4-2: 557T574                            | breaker | 3938.0        | 133.52                  | 137.4                    | DC     | 152.78     |
| 96825662  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N     | 500.0 | DVP         | 1       | DVP_P4-2: H2T557                             | breaker | 3938.0        | 126.8                   | 130.58                   | DC     | 148.88     |
| 96825806  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N     | 500.0 | DVP         | 1       | DVP_P1-2: LN 557                             | single  | 3218.56005859 | 123.34                  | 123.81                   | DC     | 87.74      |
| 96825810  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N     | 500.0 | DVP         | 1       | DVP_P1-2: LN 574                             | single  | 3218.56005859 | 105.09                  | 107.65                   | DC     | 83.14      |
| 96825770  | 314903    | 8CHCKAH M   | 500.0 | DVP           | 314908  | 8ELMONT       | 500.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 2442.12011719 | 163.45                  | 163.64                   | DC     | 65.41      |
| 96825782  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA      | 500.0 | DVP         | 1       | DVP_P1-2: LN 574                             | single  | 2442.12011719 | 149.62                  | 149.87                   | DC     | 83.25      |
| 96825783  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA      | 500.0 | DVP         | 1       | DVP_P1-2: LN 557                             | single  | 2442.12011719 | 138.88                  | 139.05                   | DC     | 80.24      |
| 96825791  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA      | 500.0 | DVP         | 1       | Base Case                                    | single  | 2442.12011719 | 107.91                  | 108.46                   | DC     | 67.96      |
| 96825694  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P4-2: SPOTS H1T594                       | breaker | 3938.0        | 107.64                  | 108.18                   | DC     | 85.5       |
| 96825695  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P4-2: H1T594                             | breaker | 3938.0        | 103.44                  | 103.92                   | DC     | 82.1       |
| 96825704  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL      | 500.0 | DVP         | 1       | DVP_P4-2: 568T575                            | breaker | 3938.0        | 104.53                  | 105.2                    | DC     | 96.39      |
| 96825868  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P1-2: LN 594                             | single  | 3218.56005859 | 113.42                  | 114.88                   | DC     | 49.13      |
| 96825869  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P1-2: LN 573                             | single  | 3218.56005859 | 112.11                  | 113.75                   | DC     | 51.61      |
| 96825878  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL      | 500.0 | DVP         | 1       | DVP_P1-2: LN 575                             | single  | 3218.56005859 | 116.47                  | 116.94                   | DC     | 55.27      |
| 96825684  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P4-2: 568T575                            | breaker | 3938.0        | 111.25                  | 111.67                   | DC     | 94.47      |
| 96825685  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P4-2: H1T575                             | breaker | 3938.0        | 105.67                  | 106.08                   | DC     | 89.68      |
| 96825852  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P1-2: LN 575                             | single  | 3218.56005859 | 121.32                  | 121.77                   | DC     | 53.76      |
| 107174538 | 927250    | AC1-221 TAP | 230.0 | DVP           | 304070  | 6PERSON 230 T | 230.0 | CPL E       | 1       | DVP_P1-2: LN 556-B                           | single  | 718.0         | 111.83                  | 129.26                   | DC     | 155.36     |
| 107174539 | 927250    | AC1-221 TAP | 230.0 | DVP           | 304070  | 6PERSON 230 T | 230.0 | CPL E       | 1       | 314906 8CLOVER 500 314936 AF1-246 TAP 500 1  | single  | 718.0         | 108.8                   | 126.23                   | DC     | 155.36     |
| 96825863  | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 585-A                           | single  | 4070.19995117 | 107.33                  | 111.09                   | DC     | 152.72     |
| 96825864  | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 585-B                           | single  | 4070.19995117 | 100.52                  | 104.28                   | DC     | 152.72     |
| 96825873  | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 511-A                           | single  | 4070.19995117 | 102.53                  | 105.87                   | DC     | 135.9      |
| 97886907  | 961060    | AF2-397 TAP | 230.0 | DVP           | 314765  | 6MTEAGLE      | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 109.19                  | 112.78                   | DC     | 23.74      |
| 97886908  | 961060    | AF2-397 TAP | 230.0 | DVP           | 314765  | 6MTEAGLE      | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 109.15                  | 112.73                   | DC     | 23.74      |

## 11.4 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 LOADIN G % | POST PROJE CT LOADIN G % | AC/D C | MW IMPA CT |
|-----------|-----------|--------------|-------|---------------|---------|-------------|-------|-------------|--------|---------------------|------------|---------------|-------------------------|--------------------------|--------|------------|
| 95621251  | 242631    | 05EDAN1      | 138.0 | AEP           | 242620  | 05DANVL2    | 138.0 | AEP         | 1      | AEP_P1-2_#1377      | operati on | 402.0         | 101.62                  | 104.83                   | DC     | 28.61      |
| 106197305 | 313802    | 6PRINCE EDW  | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 571.520019531 | 104.01                  | 131.69                   | DC     | 158.22     |
| 97887016  | 313867    | 6BREMODIST   | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1      | DVP_P1-2: LN 2027-B | operati on | 661.760009766 | 122.67                  | 125.63                   | DC     | 43.33      |
| 106197298 | 314268    | 6BRIERY      | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 571.520019531 | 105.08                  | 132.76                   | DC     | 158.22     |
| 97886796  | 314282    | 6CARSON      | 230.0 | DVP           | 314285  | 6CHRL249    | 230.0 | DVP         | 1      | DVP_P1-2: LN 563    | operati on | 559.299987793 | 162.12                  | 164.8                    | DC     | 33.11      |
| 97886818  | 314285    | 6CHRL249     | 230.0 | DVP           | 314316  | 6LOCKS      | 230.0 | DVP         | 1      | DVP_P1-2: LN 563    | operati on | 559.299987793 | 158.35                  | 161.03                   | DC     | 33.11      |
| 97887011  | 314299    | 6HARROWG     | 230.0 | DVP           | 314263  | 6TYLER1     | 230.0 | DVP         | 1      | DVP_P1-2: LN 563    | operati on | 441.799987793 | 139.72                  | 142.27                   | DC     | 25.0       |
| 97887031  | 314316    | 6LOCKS       | 230.0 | DVP           | 314301  | 6HARR205    | 230.0 | DVP         | 1      | DVP_P1-2: LN 563    | operati on | 441.799987793 | 130.44                  | 133.12                   | DC     | 26.23      |
| 97887006  | 314331    | 6POE         | 230.0 | DVP           | 314299  | 6HARROWG    | 230.0 | DVP         | 1      | DVP_P1-2: LN 563    | operati on | 441.799987793 | 139.74                  | 142.3                    | DC     | 25.0       |
| 106197010 | 314677    | 6BUCKING     | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 571.520019531 | 134.66                  | 144.94                   | DC     | 147.17     |
| 106197267 | 314686    | 6CLOVER      | 230.0 | DVP           | 934610  | AD1-087 TAP | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 814.979980469 | 91.31                   | 132.92                   | DC     | 339.5      |
| 106197421 | 314686    | 6CLOVER      | 230.0 | DVP           | 934620  | AD1-088 TAP | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 571.520019531 | 93.44                   | 121.12                   | DC     | 158.22     |
| 106197021 | 314692    | 6FARMVIL     | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 559.299987793 | 132.54                  | 143.05                   | DC     | 147.2      |
| 106196952 | 314697    | 6SEEDGE HILL | 230.0 | DVP           | 927250  | AC1-221 TAP | 230.0 | DVP         | 1      | DVP_P1-2: LN 556-B  | operati on | 674.91998291  | 127.25                  | 165.66                   | DC     | 258.94     |
| 97886996  | 314747    | 6BREMO       | 230.0 | DVP           | 313867  | 6BREMODIST  | 230.0 | DVP         | 1      | DVP_P1-2: LN 2027-B | operati on | 661.760009766 | 125.04                  | 128.0                    | DC     | 43.33      |

| 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 |
|-----------|-----------|-------------|-------|---------------|---------|--------------|-------|-------------|--------|---------------------|-----------|---------------|------------------------|-------------------------|-------|-----------|
| 96825804  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHAN     | 500.0 | DVP         | 1      | DVP_P 1-2: LN 557   | operation | 3218.56005859 | 152.68                 | 157.22                  | DC    | 146.24    |
| 96825812  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHAN     | 500.0 | DVP         | 1      | Base Case           | operation | 3218.56005859 | 103.5                  | 103.99                  | DC    | 122.93    |
| 96825790  | 314914    | 8MDLTHAN    | 500.0 | DVP           | 314918  | 8NO ANNA     | 500.0 | DVP         | 1      | Base Case           | operation | 2442.12011719 | 115.39                 | 115.79                  | DC    | 113.27    |
| 96825866  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSMITH   | 500.0 | DVP         | 1      | DVP_P 1-2: LN 594   | operation | 3218.56005859 | 125.85                 | 126.43                  | DC    | 81.89     |
| 96825876  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL     | 500.0 | DVP         | 1      | DVP_P 1-2: LN 575   | operation | 3218.56005859 | 122.05                 | 122.92                  | DC    | 92.11     |
| 96825928  | 314923    | 8SEPTA      | 500.0 | DVP           | 314924  | 8SURREY      | 500.0 | DVP         | 1      | DVP_P 1-2: LN 563   | operation | 2442.12011719 | 112.73                 | 115.66                  | DC    | 101.2     |
| 96825849  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRISVL    | 500.0 | DVP         | 1      | DVP_P 1-2: LN 575   | operation | 3218.56005859 | 129.16                 | 129.67                  | DC    | 89.61     |
| 96825905  | 314936    | 8RAWLINGS   | 500.0 | DVP           | 940470  | AE2-031 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 585-A | operation | 4070.19995117 | 111.63                 | 117.91                  | DC    | 254.53    |
| 96825930  | 314940    | 8ROGERS RD  | 500.0 | DVP           | 938490  | AE1-068 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A | operation | 4070.19995117 | 105.24                 | 110.82                  | DC    | 226.49    |
| 107174535 | 927250    | AC1-221 TAP | 230.0 | DVP           | 304070  | 6PERSON230 T | 230.0 | CPL E       | 1      | DVP_P 1-2: LN 556-B | operation | 718.0         | 133.55                 | 169.66                  | DC    | 258.94    |
| 106197147 | 934610    | AD1-087 TAP | 230.0 | DVP           | 314697  | 6SEDGE HILL  | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B | operation | 814.979980469 | 103.71                 | 145.29                  | DC    | 339.5     |
| 106197280 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY      | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B | operation | 571.520019531 | 105.78                 | 133.46                  | DC    | 158.22    |
| 96825901  | 938490    | AE1-068 TAP | 500.0 | DVP           | 941030  | AE2-094 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A | operation | 4070.19995117 | 112.67                 | 118.25                  | DC    | 226.49    |
| 96825860  | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON      | 500.0 | DVP         | 1      | DVP_P 1-2: LN 585-A | operation | 4070.19995117 | 123.68                 | 129.96                  | DC    | 254.53    |
| 96825871  | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON      | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A | operation | 4070.19995117 | 118.49                 | 124.07                  | DC    | 226.49    |

## 11.5 System Reinforcements - Summer Peak Load Flow - Primary POI

| ID                  | Idx | Facility                                         | Upgrade Description                                                                                                                                                                                                                                                                                                              | Cost         |
|---------------------|-----|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 95620981,95620979   | 11  | 05EDAN 1 138.0 kV - 05DANVL2 138.0 kV Ckt 1      | <u>AEP</u><br>n6124 (518) : 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.<br>Project Type : FAC<br>Cost : \$9,000,000<br>Time Estimate : Months | \$9,000,000  |
| 106197150,106197149 | 5   | AD1-087 TAP 230.0 kV - 6SEGE HILL 230.0 kV Ckt 1 | <u>DVP</u><br>dom-081 (1147) : Rebuild 16.71 miles of 230 kV Line 2068 from AD1-087 Tap to Sedge Hill with 2-795 ACSR.<br>Project Type : FAC<br>Cost : \$25,065,000<br>Time Estimate : 36-40 Months                                                                                                                              | \$25,065,000 |
| 97887021,97887020   | 13  | 6BREMIST 230.0 kV - 6FORK UNION 230.0 kV Ckt 1   | <u>DVP</u><br>dom-202 (1324) : Rebuild 1.63 miles of 230 kV Line 2028 from Fork Union to Brems Dist with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$2,445,000<br>Time Estimate : 30-36 Months                                                                                                                                 | \$2,445,000  |
| 96825770            | 28  | 8CHCKAHM 500.0 kV - 8ELMONT 500.0 kV Ckt 1       | <u>DVP</u><br>n6207 (1314) : Rebuild 27.72 miles of 500 kV Line 557 from Chickahominy to Elmont with 3-1351.5 113C ACSR.<br>Project Type : FAC<br>Cost : \$85,932,000<br>Time Estimate : 48-60 Months                                                                                                                            | \$85,932,000 |
| 97706470,97886798   | 14  | 6CARSON 230.0 kV - 6CHRL249 230.0 kV Ckt 1       | <u>DVP</u><br>dom-078 (1167) : Rebuild 7.47 miles of 230 kV Line 249 from Carson to Chaparral with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$18,675,000<br>Time Estimate : 30-36 Months                                                                                                                                      | \$18,675,000 |

| ID                                      | Idx | Facility                                                | Upgrade Description                                                                                                                                                                                                                                                                                                                                                      | Cost          |
|-----------------------------------------|-----|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 96825783,96825782,96825791              | 29  | 8MDLTHAN<br>500.0 kV - 8NO<br>ANNA 500.0 kV<br>Ckt 1    | <u>DVP</u><br>n5609 (1270) : Rebuild 41.13 miles of 500 kV Line 576 from Midlothian to North Anna with 3-1351.5 125C ACSR.<br>Project Type : FAC<br>Cost : \$127,503,000<br>Time Estimate : 48-60 Months<br><br>n6055 (1275) : Replace Wavetraps at Milothian and North Anna 500kV substations<br>Project Type : FAC<br>Cost : \$300,000<br>Time Estimate : 16-18 Months | \$127,803,000 |
| 106197269,106197270                     | 3   | 6CLOVER 230.0<br>kV - AD1-087<br>TAP 230.0 kV<br>Ckt 1  | <u>DVP</u><br>No Violation. Dominion Ratings are A: 1046 MVA; B: 1046 MVA; C: 1203 MVA                                                                                                                                                                                                                                                                                   | \$0           |
| 106197308,106197307,105952775,105952776 | 1   | 6PRINCE EDW<br>230.0 kV -<br>6FARMVIL<br>230.0 kV Ckt 1 | <u>DVP</u><br>dom-199 (1298) : Rebuild 7.2 miles of 230 kV Line 235 from Prince EDW to Farmville with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$10,800,000<br>Time Estimate : 30-36 Months                                                                                                                                                                           | \$10,800,000  |
| 96825810,96825661,96825662,96825806     | 27  | 8CARSON 500.0<br>kV - 8MDLTHAN<br>500.0 kV Ckt 1        | <u>DVP</u><br>n6172 (1304) : Rebuild 37.41 miles of 500 kV Line 563 from Carson to Midlothian with 3-1351.5 125C ACSR.<br>Project Type : FAC<br>Cost : \$115,971,000<br>Time Estimate : 48-60 Months                                                                                                                                                                     | \$115,971,000 |
| 106197283,106197282,105952757,105952756 | 6   | AD1-088 TAP<br>230.0 kV -<br>6BRIERY 230.0<br>kV Ckt 1  | <u>DVP</u><br>dom-235 (1334) : Rebuild 5.8 miles of 230 kV line 235 from AD1-088 Tap to Briery with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$8,700,000<br>Time Estimate : 30-36 Months                                                                                                                                                                              | \$8,700,000   |
| 105952834,105952833                     | 9   | 6CLOVER 230.0<br>kV - AD1-088<br>TAP 230.0 kV<br>Ckt 1  | <u>DVP</u><br>dom-228 (1350) : Rebuild 33.36 miles of 230 kV line 235 from Clover to AD1-088 Tap with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$50,040,000<br>Time Estimate : 48-60 Months                                                                                                                                                                           | \$50,040,000  |

| ID                                              | Idx | Facility                                      | Upgrade Description                                                                                                                                                                                       | Cost         |
|-------------------------------------------------|-----|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 105952765,106197300,106197301,105952766         | 2   | 6BRIERY 230.0 kV - 6PRINCE EDW 230.0 kV Ckt 1 | <u>DVP</u><br>dom-212 (1311) : Rebuild 5.7 miles of 230 kV Line 235 from Briery to Prince EDW with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$8,550,000<br>Time Estimate : 30-36 Months                | \$8,550,000  |
| 97706551,106197013,97706552,105952620,106197014 | 22  | 6BUCKING 230.0 kV - 6BREMO 230.0 kV Ckt 1     | <u>DVP</u><br>dom-034 (1123) : Rebuild 15.51 miles of 230 kV Line 298 from Buckingham to Brema with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$23,265,000<br>Time Estimate : 30-36 Months              | \$23,265,000 |
| 97706568,105952625,106197025,106197024,97706566 | 23  | 6FARMVIL 230.0 kV - 6BUCKING 230.0 kV Ckt 1   | <u>DVP</u><br>dom-035 (1124) : Rebuild 12.76 miles of 230 kV Line 298 from Buckingham to Farmville with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$19,140,000<br>Time Estimate : 30-36 Months          | \$19,140,000 |
| 96825705,96825704,96825878                      | 10  | 8NO ANNA 500.0 kV - 8SPOTSYL 500.0 kV Ckt 1   | <u>DVP</u><br>n6132 (1285) : Rebuild 14.02 miles of 500 kV Line 573 from North Anna to Spotsylvania with 3-1351.5 113C ACSR.<br>Project Type : FAC<br>Cost : \$43,462,000<br>Time Estimate : 48-60 Months | \$43,462,000 |
| 97706529,97887013                               | 18  | 6HARROWG 230.0 kV - 6TYLER1 230.0 kV Ckt 1    | <u>DVP</u><br>dom-036 (1125) : Rebuild 4.5 miles of 230 kV Line 2003 from Harrowgate to Tyler with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$11,250,000<br>Time Estimate : 30-36 Months               | \$11,250,000 |
| 97706524,97887008                               | 21  | 6POE 230.0 kV - 6HARROWG 230.0 kV Ckt 1       | <u>DVP</u><br>dom-037 (1126) : Rebuild 12.3 miles of 230 kV Line 2003 from Poe to Harrowgate with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$30,750,000<br>Time Estimate : 30-36 Months                | \$30,750,000 |
| 97886953,97886954                               | 26  | 6MTEAGLE 230.0 kV - 6CHARLVL 230.0 kV Ckt 1   | <u>DVP</u><br>dom-073 (1162) : Rebuild 6.47 miles of 230 kV Line 2028 from Mt Eagle to Charlottesville with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$16,175,000<br>Time Estimate : 30-36 Months      | \$16,175,000 |

| ID                             | Idx | Facility                                                    | Upgrade Description                                                                                                                                                                                                                                                                                                                                                          | Cost          |
|--------------------------------|-----|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 96825903                       | 7   | AE1-068 TAP<br>500.0 kV - AE2-<br>094 TAP 500.0<br>kV Ckt 1 | <u>DVP</u><br>dom-183 (1257) : Build new 500 kV Line from Rawlings to Morrisville<br>Substation 110 miles<br>Project Type : CON<br>Cost : \$400,000,000<br>Time Estimate : 60-72 Months                                                                                                                                                                                      | \$400,000,000 |
| 96825908                       | 4   | 8RAWLINGS<br>500.0 kV - AE2-<br>031 TAP 500.0<br>kV Ckt 1   |                                                                                                                                                                                                                                                                                                                                                                              |               |
| 96825863,9682<br>5864          | 33  | AE2-031 TAP<br>500.0 kV -<br>8CARSON 500.0<br>kV Ckt 1      |                                                                                                                                                                                                                                                                                                                                                                              |               |
| 97887032,9770<br>6539          | 20  | 6LOCKS 230.0<br>kV - 6HARR205<br>230.0 kV Ckt 1             | <u>DVP</u><br>dom-165 (1239) : Uprate 5.4 miles of 230 kV Line 205 from Locks to Harrowgate with 1033.5 ACSR. Upgrade Relays at Locks.<br>Project Type : FAC<br>Cost : \$2,280,000<br>Time Estimate : 30-36 Months                                                                                                                                                           | \$2,280,000   |
| 97706659                       | 15  | 6CARSON 230.0<br>kV - 6POE 230.0<br>kV Ckt 1                | <u>DVP</u><br>dom-120 (1209) : Rebuild 12.68 miles of 230 kV Line 2002 from Carson to Poe with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$31,700,000<br>Time Estimate : 30-36 Months                                                                                                                                                                                      | \$31,700,000  |
| 96825684,9682<br>5685,96825852 | 31  | 8SPOTSYL 500.0<br>kV - 8MORRSVL<br>500.0 kV Ckt 1           | <u>DVP</u><br>n6160 (1298) : Rebuild 18.75 miles of 500 kV Line 594 from Spotsylvania to Morrisville with 3-1351.5 113C ACSR.<br>Project Type : FAC<br>Cost : \$58,125,000<br>Time Estimate : 48-60 Months                                                                                                                                                                   | \$58,125,000  |
| 107174539,107<br>174538        | 32  | AC1-221 TAP<br>230.0 kV -<br>6PERSON230 T<br>230.0 kV Ckt 1 | <u>CPL</u><br>NonPJMArea (944) : The external (i.e. Non-PJM) Transmission Owner, CPLE, will not evaluate this violation until the impact study phase.<br><br><u>DVP</u><br>dom-006 (1072) : For DEV portion, rebuild 2 miles of 230 kV Line 296 from AC1-221 Tap to Persons DEP with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$3,000,000<br>Time Estimate : 30-36 Months | \$3,000,000   |

| ID                                  | Idx | Facility                                              | Upgrade Description                                                                                                                                                                                                                                            | Cost         |
|-------------------------------------|-----|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 106196954,106196955                 | 24  | 6SEEDGE HILL<br>230.0 kV - AC1-221 TAP 230.0 kV Ckt 1 | <u>CPL</u><br>NonPJM Area (939) : The external (i.e. Non-PJM) Transmission Owner, CPL, will not evaluate this violation until the impact study phase.<br><br><u>DVP</u><br>No upgrade needed on Dominion system. Need coordination with Duke.                  | \$0          |
| 96825868,96825869,96825695,96825694 | 30  | 8NO ANNA<br>500.0 kV - 8LADYSMITH<br>500.0 kV Ckt 1   | <u>DVP</u><br>dom-044 (1133) : Rebuild 14.53 miles of 500 kV Line 575 from North Anna to Ladysmith with 3-1351.5 113C ACSR.<br>Project Type : FAC<br>Cost : \$45,043,000<br>Time Estimate : 48-60 Months                                                       | \$45,043,000 |
| 97706584                            | 19  | 6HARR205<br>230.0 kV - 6TYLER 230.0 kV Ckt 1          | <u>DVP</u><br>dom-163 (1237) : Reconnector 0.64 miles of 230 kV Line 205 from Harrowgate to Tyler with 1033.5 ACSR. Uprate 4.09 miles of 230 kV Line 205 from Harrowgate to Tyler.<br>Project Type : FAC<br>Cost : \$2,148,000<br>Time Estimate : 30-36 Months | \$2,148,000  |
| 97886907,97886908                   | 34  | AF2-397 TAP<br>230.0 kV - 6MTEAGLE<br>230.0 kV Ckt 1  | <u>DVP</u><br>dom-245 (1367) : Rebuild 12.1 miles of 230 kV Line 2028 from Mount Eagle to AF2-397 Tap with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$18,150,000<br>Time Estimate : 30-36 Months                                                            | \$18,150,000 |
| 97886820,97706480                   | 16  | 6CHRL249 230.0 kV - 6LOCKS<br>230.0 kV Ckt 1          | <u>DVP</u><br>dom-079 (1168) : Rebuild 2.86 miles of 230 kV Line 249 from Chaparral to Locks with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$7,150,000<br>Time Estimate : 30-36 Months                                                                      | \$7,150,000  |
| 97886978,97886979                   | 12  | 6FORK UNION<br>230.0 kV - AF2-397 TAP 230.0 kV Ckt 1  | <u>DVP</u><br>dom-198 (1320) : Rebuild 5 miles of 230 kV Line 2028 from Fork Union to AF2-397 Tap with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$7,500,000<br>Time Estimate : 30-36 Months                                                                 | \$7,500,000  |

| ID                | Idx | Facility                                      | Upgrade Description                                                                                                                                                                                    | Cost                   |
|-------------------|-----|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 97887001,97887000 | 25  | 6BREMO 230.0 kV - 6BREMODIST 230.0 kV Ckt 1   | <u>DVP</u><br>dom-071 (1160) : Rebuild 0.16 miles of Line 2028 from Bremo to Bremo Dist with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$500,000<br>Time Estimate : 30-36 Months                     | \$500,000              |
| 97706519          | 17  | 6CHESTF B 230.0 kV - 6BASIN 230.0 kV Ckt 1    | <u>DVP</u><br>dom-012 (1101) : Rebuild 12.4 miles of 230 kV Line 259 from Chesterfield to Basin with 2-636 ACSR.<br>Project Type : FAC<br>Cost : \$31,000,000<br>Time Estimate : 30-36 Months          | \$31,000,000           |
| 96825874,96825873 | 8   | AE2-094 TAP 500.0 kV - 8CARSON 500.0 kV Ckt 1 | <u>DVP</u><br>dom-125 (1214) : Rebuild 16.45 miles of 500 kV Line 585 from AE2-094 Tap to Carson with 3-1351.5 125C ACSR.<br>Project Type : FAC<br>Cost : \$50,995,000<br>Time Estimate : 48-60 Months | \$50,995,000           |
|                   |     |                                               | <b>TOTAL COST</b>                                                                                                                                                                                      | <b>\$1,264,614,000</b> |

## 11.6 Flow Gate Details - Primary POI

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".

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### 11.6.1 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 |
|-----------|-----------|-------------|---------------|---------|----------|-------------|--------|---------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 105952776 | 313802    | 6PRINCE EDW | DVP           | 314692  | 6FARMVIL | DVP         | 1      | DVP_P4-2: 511T556-A | breaker | 699.0      | 87.03                 | 109.71                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941791  | AE2-182 C    | 6.8123             | 50/50                 | 6.8123         |
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O1 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O1 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O1   | 15.8505            | 50/50                 | 15.8505        |
| 960061  | AF2-297 C O1 | 6.8957             | 50/50                 | 6.8957         |
| 960062  | AF2-297 E O1 | 4.5971             | 50/50                 | 4.5971         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3082             | 50/50                 | 5.3082         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

## 11.6.2 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|------------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 105952766 | 314268    | 6BRIERY  | DVP           | 313802  | 6PRINCE EDW | DVP         | 1      | DVP_P4-2:<br>511T556-A | breaker | 699.0      | 87.91                 | 110.58                 | DC    | 158.5     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                    | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                    | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A                  | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                   | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                   | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                   | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                   | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                   | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1<br>(Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                   | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                   | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                   | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                   | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                   | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                   | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                   | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                   | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                   | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                   | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                   | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1                | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1                | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                   | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                   | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                   | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                   | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1                | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1                | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                   | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                   | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1                | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1                | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1                | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1                | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1                | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1                | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                   | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                     | -0.1769            | Adder | -0.21          |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941791  | AE2-182 C    | 6.8123             | 50/50                 | 6.8123         |
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O1 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O1 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O1   | 15.8505            | 50/50                 | 15.8505        |
| 960061  | AF2-297 C O1 | 6.8957             | 50/50                 | 6.8957         |
| 960062  | AF2-297 E O1 | 4.5971             | 50/50                 | 4.5971         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3082             | 50/50                 | 5.3082         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

### 11.6.3 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197269 | 314686    | 6CLOVER  | DVP           | 934610  | AD1-087 TAP | DVP         | 1      | DVP_P1-2: LN 556-B | single | 814.98     | 83.98                 | 108.97                 | DC    | 203.7     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0707             | 80/20 | 0.0707         |
| 314333 | 6POWHATN                 | 0.1384             | 80/20 | 0.1384         |
| 314429 | 3JTRSVLE                 | 0.2828             | 80/20 | 0.2828         |
| 314677 | 6BUCKING                 | 0.4694             | 80/20 | 0.4694         |
| 315153 | 1CLOVER1                 | 51.7091            | 80/20 | 51.7091        |
| 315154 | 1CLOVER2                 | 51.1938            | 80/20 | 51.1938        |
| 315191 | 1BEARGRDN G1             | 3.1145             | 80/20 | 3.1145         |
| 315192 | 1BEARGRDN G2             | 3.1145             | 80/20 | 3.1145         |
| 315193 | 1BEARGRDN S1             | 6.4099             | 80/20 | 6.4099         |
| 920291 | AA2-127                  | 0.6470             | 80/20 | 0.6470         |
| 925611 | AC1-036 C                | 0.3848             | 80/20 | 0.3848         |
| 925831 | AC1-062                  | 0.0420             | 80/20 | 0.0420         |
| 925991 | AC1-075 C                | -3.3297            | Adder | -3.92          |
| 926021 | AC1-080 C                | -1.1128            | Adder | -1.31          |
| 926271 | AC1-105 C O1 (Suspended) | -3.4045            | Adder | -4.01          |
| 926451 | AC1-116 C                | 0.2932             | 80/20 | 0.2932         |
| 927251 | AC1-221 C                | -1.3047            | Adder | -1.53          |
| 927261 | AC1-222 C                | -2.6803            | Adder | -3.15          |
| 932511 | AC2-071 C                | 2.6809             | 80/20 | 2.6809         |
| 933501 | AC2-165 C                | 3.8965             | 80/20 | 3.8965         |
| 934311 | AD1-055 C                | -1.8610            | Adder | -2.19          |
| 934341 | AD1-058 C                | -3.2706            | Adder | -3.85          |
| 934621 | AD1-088 C                | 29.1619            | 80/20 | 29.1619        |
| 935221 | AD1-157 C                | 1.3385             | 80/20 | 1.3385         |
| 936261 | AD2-033 C                | 4.2728             | 80/20 | 4.2728         |
| 938371 | AE1-056 C                | 5.7703             | 80/20 | 5.7703         |
| 938561 | AE1-075 C                | 0.7037             | 80/20 | 0.7037         |
| 938821 | AE1-108 C                | 6.5977             | 80/20 | 6.5977         |
| 940241 | AE2-006                  | 0.1958             | 80/20 | 0.1958         |
| 941011 | AE2-092 C                | 6.4559             | 80/20 | 6.4559         |
| 941791 | AE2-182 C                | 4.7378             | 80/20 | 4.7378         |
| 942461 | AE2-259 C O1             | 12.3990            | 80/20 | 12.3990        |
| 945811 | AF1-246 C O1             | 28.5180            | 80/20 | 28.5180        |
| 946291 | AF1-293 C O1             | 9.6964             | 80/20 | 9.6964         |
| 946301 | AF1-294 C                | 3.1505             | 80/20 | 3.1505         |
| 946591 | AF1-323 C                | 2.0140             | 80/20 | 2.0140         |
| 957481 | AF2-042 C O1             | 203.7000           | 80/20 | 203.7000       |
| 958211 | AF2-115 C                | 1.9211             | 80/20 | 1.9211         |
| 958501 | AF2-144 C                | 0.5932             | 80/20 | 0.5932         |
| 958801 | AF2-171 C O1             | 11.3616            | 80/20 | 11.3616        |
| 959311 | AF2-222 C                | 7.6050             | 80/20 | 7.6050         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 959531     | AF2-244 C    | 0.5467             | 80/20         | 0.5467         |
| 959751     | AF2-266 O1   | 33.9495            | 80/20         | 33.9495        |
| 960111     | AF2-302 C    | 0.7324             | 80/20         | 0.7324         |
| 961061     | AF2-397 C O1 | 7.4950             | 80/20         | 7.4950         |
| 961081     | AF2-399 C    | 0.2471             | 80/20         | 0.2471         |
| NEWTON     | NEWTON       | 1.4044             | Confirmed LTF | 1.4044         |
| FARMERCITY | FARMERCITY   | 0.0797             | Confirmed LTF | 0.0797         |
| G-007A     | G-007A       | 0.4100             | Confirmed LTF | 0.4100         |
| VFT        | VFT          | 1.0772             | Confirmed LTF | 1.0772         |
| CALDERWOOD | CALDERWOOD   | 1.0760             | Confirmed LTF | 1.0760         |
| PRAIRIE    | PRAIRIE      | 3.7479             | Confirmed LTF | 3.7479         |
| CHEOAH     | CHEOAH       | 1.1026             | Confirmed LTF | 1.1026         |
| EDWARDS    | EDWARDS      | 0.4263             | Confirmed LTF | 0.4263         |
| TILTON     | TILTON       | 0.7566             | Confirmed LTF | 0.7566         |
| GIBSON     | GIBSON       | 0.6825             | Confirmed LTF | 0.6825         |
| BLUEG      | BLUEG        | 2.1162             | Confirmed LTF | 2.1162         |
| TRIMBLE    | TRIMBLE      | 0.6723             | Confirmed LTF | 0.6723         |
| CATAWBA    | CATAWBA      | 1.1473             | Confirmed LTF | 1.1473         |

#### 11.6.4 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 |
|----------|-----------|-----------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825908 | 314936    | 8RAWLINGS | DVP           | 940470  | AE2-031 TAP | DVP         | 1      | DVP_P1-2: LN 585-A | single | 4070.2     | 98.59                 | 102.34                 | DC    | 152.72    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0933             | 80/20 | 0.0933         |
| 314429 | 3JTRSVLE                 | 0.3731             | 80/20 | 0.3731         |
| 314947 | 8GREENSVILLE             | 165.8983           | 80/20 | 165.8983       |
| 315102 | 1BRUNSWICKG1             | 27.5832            | 80/20 | 27.5832        |
| 315103 | 1BRUNSWICKG2             | 27.5832            | 80/20 | 27.5832        |
| 315104 | 1BRUNSWICKG3             | 27.5832            | 80/20 | 27.5832        |
| 315105 | 1BRUNSWICKS1             | 57.3040            | 80/20 | 57.3040        |
| 315153 | 1CLOVER1                 | 34.7979            | 80/20 | 34.7979        |
| 315154 | 1CLOVER2                 | 34.4511            | 80/20 | 34.4511        |
| 315158 | 1KERR 1                  | 0.3886             | 80/20 | 0.3886         |
| 315159 | 1KERR 2                  | 1.0879             | 80/20 | 1.0879         |
| 315160 | 1KERR 3                  | 1.0879             | 80/20 | 1.0879         |
| 315161 | 1KERR 4                  | 1.0879             | 80/20 | 1.0879         |
| 315162 | 1KERR 5                  | 1.0879             | 80/20 | 1.0879         |
| 315163 | 1KERR 6                  | 1.0879             | 80/20 | 1.0879         |
| 315164 | 1KERR 7                  | 1.0879             | 80/20 | 1.0879         |
| 315266 | 1PLYWOOD A               | 2.1042             | 80/20 | 2.1042         |
| 923831 | AB2-022 C                | -1.7098            | Adder | -2.01          |
| 924021 | AB2-043 C O1             | 0.5442             | 80/20 | 0.5442         |
| 924161 | AB2-060 C OP             | 1.5677             | 80/20 | 1.5677         |
| 924241 | AB2-068 OP               | -128.0681          | Adder | -150.67        |
| 924301 | AB2-077 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924311 | AB2-078 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924321 | AB2-079 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 925331 | AB2-190 C                | -15.2463           | Adder | -17.94         |
| 925611 | AC1-036 C                | 0.9578             | 80/20 | 0.9578         |
| 925831 | AC1-062                  | 0.0554             | 80/20 | 0.0554         |
| 925861 | AC1-065 C                | -2.4191            | Adder | -2.85          |
| 925991 | AC1-075 C                | 8.3954             | 80/20 | 8.3954         |
| 926021 | AC1-080 C                | 2.8058             | 80/20 | 2.8058         |
| 926051 | AC1-083 C O1             | 5.2478             | 80/20 | 5.2478         |
| 926271 | AC1-105 C O1 (Suspended) | 9.0580             | 80/20 | 9.0580         |
| 926661 | AC1-147 C                | -1.9228            | Adder | -2.26          |
| 926781 | AC1-164 C                | -27.3619           | Adder | -32.19         |
| 927251 | AC1-221 C                | 4.0131             | 80/20 | 4.0131         |
| 927261 | AC1-222 C                | 6.3188             | 80/20 | 6.3188         |
| 932761 | AC2-100 C                | 9.2356             | 80/20 | 9.2356         |
| 932831 | AC2-110 C                | -0.9676            | Adder | -1.14          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                           | -1.3882            | Adder | -1.63          |
| 933731 | AC2-196 C                           | -1.5059            | Adder | -1.77          |
| 933941 | AD1-017 C                           | 1.0496             | 80/20 | 1.0496         |
| 934311 | AD1-055 C                           | 4.3873             | 80/20 | 4.3873         |
| 934341 | AD1-058 C                           | 10.0602            | 80/20 | 10.0602        |
| 934611 | AD1-087 C O1                        | 19.4205            | 80/20 | 19.4205        |
| 934621 | AD1-088 C                           | 19.0767            | 80/20 | 19.0767        |
| 934991 | AD1-131 C                           | 3.2984             | 80/20 | 3.2984         |
| 935111 | AD1-144 C                           | -1.3609            | Adder | -1.6           |
| 935171 | AD1-152 C O1                        | 19.2998            | 80/20 | 19.2998        |
| 935221 | AD1-157 C                           | 1.5236             | 80/20 | 1.5236         |
| 936151 | AD2-021                             | -0.1583            | Adder | -0.19          |
| 936161 | AD2-022 C O1                        | 13.3614            | 80/20 | 13.3614        |
| 936171 | AD2-023 C O1                        | 7.7942             | 80/20 | 7.7942         |
| 936261 | AD2-033 C                           | 13.0946            | 80/20 | 13.0946        |
| 936301 | AD2-039 C                           | -0.9676            | Adder | -1.14          |
| 936361 | AD2-046 C O1                        | 8.3729             | 80/20 | 8.3729         |
| 936481 | AD2-063 C O1                        | 15.0615            | 80/20 | 15.0615        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.8227            | Adder | -4.5           |
| 937481 | AD2-202 C O1                        | 5.1466             | 80/20 | 5.1466         |
| 937541 | AD2-215 C                           | -1.3749            | Adder | -1.62          |
| 938031 | AE1-004 C                           | -0.9676            | Adder | -1.14          |
| 938371 | AE1-056 C                           | 6.5685             | 80/20 | 6.5685         |
| 938491 | AE1-068 C O1                        | 190.0454           | 80/20 | 190.0454       |
| 938501 | AE1-069 C O1                        | 150.1652           | 80/20 | 150.1652       |
| 939181 | AE1-148 C O1                        | 8.2901             | 80/20 | 8.2901         |
| 939311 | AE1-162 C                           | -1.7547            | Adder | -2.06          |
| 940081 | AE1-250 C                           | 14.1417            | 80/20 | 14.1417        |
| 940241 | AE2-006                             | 0.4873             | 80/20 | 0.4873         |
| 940601 | AE2-047 C O1                        | 4.5937             | 80/20 | 4.5937         |
| 940661 | AE2-053 O1                          | 3.0704             | 80/20 | 3.0704         |
| 941031 | AE2-094 C                           | 122.2418           | 80/20 | 122.2418       |
| 941431 | AE2-140 C O1                        | 16.8321            | 80/20 | 16.8321        |
| 941791 | AE2-182 C                           | 3.0993             | 80/20 | 3.0993         |
| 942131 | AE2-225 C                           | -1.6759            | Adder | -1.97          |
| 942171 | AE2-229 C                           | -1.6759            | Adder | -1.97          |
| 942451 | AE2-258                             | 2.3537             | 80/20 | 2.3537         |
| 942461 | AE2-259 C O1                        | 10.2120            | 80/20 | 10.2120        |
| 942751 | AE2-291 C O1                        | 11.9193            | 80/20 | 11.9193        |
| 942761 | AE2-292 C O1                        | 14.8407            | 80/20 | 14.8407        |
| 943811 | AF1-049 C O1                        | 11.8350            | 80/20 | 11.8350        |
| 943901 | AF1-058 C                           | 3.5020             | 80/20 | 3.5020         |
| 944011 | AF1-069 C                           | 39.9410            | 80/20 | 39.9410        |
| 945811 | AF1-246 C O1                        | 21.5695            | 80/20 | 21.5695        |
| 946301 | AF1-294 C                           | 4.1574             | 80/20 | 4.1574         |
| 957481 | AF2-042 C O1                        | 152.7180           | 80/20 | 152.7180       |
| 958211 | AF2-115 C                           | 2.5350             | 80/20 | 2.5350         |
| 958801 | AF2-171 C O1                        | 15.2046            | 80/20 | 15.2046        |
| 959311 | AF2-222 C                           | 16.8160            | 80/20 | 16.8160        |
| 959751 | AF2-266 O1                          | 22.8465            | 80/20 | 22.8465        |
| 960061 | AF2-297 C O1                        | 14.0078            | 80/20 | 14.0078        |
| 960811 | AF2-372 C                           | 1.2847             | 80/20 | 1.2847         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>960821</b>  | AF2-373 C  | 1.3675                    | 80/20         | 1.3675                |
| <b>961081</b>  | AF2-399 C  | 0.3278                    | 80/20         | 0.3278                |
| <b>WEC</b>     | WEC        | 1.5536                    | Confirmed LTF | 1.5536                |
| <b>LGEE</b>    | LGEE       | 2.9312                    | Confirmed LTF | 2.9312                |
| <b>CPL</b>     | CPL        | 14.6172                   | Confirmed LTF | 14.6172               |
| <b>CBM-W2</b>  | CBM-W2     | 61.6052                   | Confirmed LTF | 61.6052               |
| <b>NY</b>      | NY         | 2.0832                    | Confirmed LTF | 2.0832                |
| <b>CBM-W1</b>  | CBM-W1     | 58.0964                   | Confirmed LTF | 58.0964               |
| <b>TVA</b>     | TVA        | 12.8968                   | Confirmed LTF | 12.8968               |
| <b>CBM-S2</b>  | CBM-S2     | 104.4562                  | Confirmed LTF | 104.4562              |
| <b>CBM-S1</b>  | CBM-S1     | 72.0366                   | Confirmed LTF | 72.0366               |
| <b>MADISON</b> | MADISON    | 3.5220                    | Confirmed LTF | 3.5220                |
| <b>MEC</b>     | MEC        | 9.3529                    | Confirmed LTF | 9.3529                |
| <b>AA2-074</b> | AA2-074    | 9.9648                    | LTF           | 9.9648                |

## 11.6.5 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 |
|-----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197149 | 934610    | AD1-087 TAP | DVP           | 314697  | 6SEDGE HILL | DVP         | 1      | DVP_P1-2: LN 556-B | single | 814.98     | 93.86                 | 118.85                 | DC    | 203.7     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0707             | 80/20 | 0.0707         |
| 314333 | 6POWHATN                 | 0.1384             | 80/20 | 0.1384         |
| 314429 | 3JTRSVLE                 | 0.2828             | 80/20 | 0.2828         |
| 314677 | 6BUCKING                 | 0.4694             | 80/20 | 0.4694         |
| 315153 | 1CLOVER1                 | 51.7091            | 80/20 | 51.7091        |
| 315154 | 1CLOVER2                 | 51.1938            | 80/20 | 51.1938        |
| 315191 | 1BEARGRDN G1             | 3.1145             | 80/20 | 3.1145         |
| 315192 | 1BEARGRDN G2             | 3.1145             | 80/20 | 3.1145         |
| 315193 | 1BEARGRDN S1             | 6.4099             | 80/20 | 6.4099         |
| 920291 | AA2-127                  | 0.6470             | 80/20 | 0.6470         |
| 925611 | AC1-036 C                | 0.3848             | 80/20 | 0.3848         |
| 925831 | AC1-062                  | 0.0420             | 80/20 | 0.0420         |
| 925991 | AC1-075 C                | -3.3297            | Adder | -3.92          |
| 926021 | AC1-080 C                | -1.1128            | Adder | -1.31          |
| 926271 | AC1-105 C O1 (Suspended) | -3.4045            | Adder | -4.01          |
| 926451 | AC1-116 C                | 0.2932             | 80/20 | 0.2932         |
| 927251 | AC1-221 C                | -1.3047            | Adder | -1.53          |
| 927261 | AC1-222 C                | -2.6803            | Adder | -3.15          |
| 932511 | AC2-071 C                | 2.6809             | 80/20 | 2.6809         |
| 933501 | AC2-165 C                | 3.8965             | 80/20 | 3.8965         |
| 934311 | AD1-055 C                | -1.8610            | Adder | -2.19          |
| 934341 | AD1-058 C                | -3.2706            | Adder | -3.85          |
| 934611 | AD1-087 C O1             | 35.7744            | 80/20 | 35.7744        |
| 934621 | AD1-088 C                | 29.1619            | 80/20 | 29.1619        |
| 935171 | AD1-152 C O1             | 35.5522            | 80/20 | 35.5522        |
| 935221 | AD1-157 C                | 1.3385             | 80/20 | 1.3385         |
| 936261 | AD2-033 C                | 4.2728             | 80/20 | 4.2728         |
| 937481 | AD2-202 C O1             | 9.4806             | 80/20 | 9.4806         |
| 938371 | AE1-056 C                | 5.7703             | 80/20 | 5.7703         |
| 938561 | AE1-075 C                | 0.7037             | 80/20 | 0.7037         |
| 938821 | AE1-108 C                | 6.5977             | 80/20 | 6.5977         |
| 940241 | AE2-006                  | 0.1958             | 80/20 | 0.1958         |
| 941011 | AE2-092 C                | 6.4559             | 80/20 | 6.4559         |
| 941791 | AE2-182 C                | 4.7378             | 80/20 | 4.7378         |
| 942461 | AE2-259 C O1             | 12.3990            | 80/20 | 12.3990        |
| 945811 | AF1-246 C O1             | 28.5180            | 80/20 | 28.5180        |
| 946291 | AF1-293 C O1             | 9.6964             | 80/20 | 9.6964         |
| 946301 | AF1-294 C                | 3.1505             | 80/20 | 3.1505         |
| 946591 | AF1-323 C                | 2.0140             | 80/20 | 2.0140         |
| 957481 | AF2-042 C O1             | 203.7000           | 80/20 | 203.7000       |
| 958211 | AF2-115 C                | 1.9211             | 80/20 | 1.9211         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 958501     | AF2-144 C    | 0.5932             | 80/20         | 0.5932         |
| 958801     | AF2-171 C O1 | 11.3616            | 80/20         | 11.3616        |
| 959311     | AF2-222 C    | 7.6050             | 80/20         | 7.6050         |
| 959531     | AF2-244 C    | 0.5467             | 80/20         | 0.5467         |
| 959751     | AF2-266 O1   | 33.9495            | 80/20         | 33.9495        |
| 960111     | AF2-302 C    | 0.7324             | 80/20         | 0.7324         |
| 961061     | AF2-397 C O1 | 7.4950             | 80/20         | 7.4950         |
| 961081     | AF2-399 C    | 0.2471             | 80/20         | 0.2471         |
| NEWTON     | NEWTON       | 1.4044             | Confirmed LTF | 1.4044         |
| FARMERCITY | FARMERCITY   | 0.0797             | Confirmed LTF | 0.0797         |
| G-007A     | G-007A       | 0.4100             | Confirmed LTF | 0.4100         |
| VFT        | VFT          | 1.0772             | Confirmed LTF | 1.0772         |
| CALDERWOOD | CALDERWOOD   | 1.0760             | Confirmed LTF | 1.0760         |
| PRAIRIE    | PRAIRIE      | 3.7479             | Confirmed LTF | 3.7479         |
| CHEOAH     | CHEOAH       | 1.1026             | Confirmed LTF | 1.1026         |
| EDWARDS    | EDWARDS      | 0.4263             | Confirmed LTF | 0.4263         |
| TILTON     | TILTON       | 0.7566             | Confirmed LTF | 0.7566         |
| GIBSON     | GIBSON       | 0.6825             | Confirmed LTF | 0.6825         |
| BLUEG      | BLUEG        | 2.1162             | Confirmed LTF | 2.1162         |
| TRIMBLE    | TRIMBLE      | 0.6723             | Confirmed LTF | 0.6723         |
| CATAWBA    | CATAWBA      | 1.1473             | Confirmed LTF | 1.1473         |

## 11.6.6 Index 6

| 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 |
|-----------|-----------|-------------|---------------|---------|---------|-------------|--------|---------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 105952757 | 934620    | AD1-088 TAP | DVP           | 314268  | 6BRIERY | DVP         | 1      | DVP_P4-2: 511T556-A | breaker | 699.0      | 88.48                 | 111.15                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941791  | AE2-182 C    | 6.8123             | 50/50                 | 6.8123         |
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O1 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O1 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O1   | 15.8505            | 50/50                 | 15.8505        |
| 960061  | AF2-297 C O1 | 6.8957             | 50/50                 | 6.8957         |
| 960062  | AF2-297 E O1 | 4.5971             | 50/50                 | 4.5971         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3082             | 50/50                 | 5.3082         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

## 11.6.7 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 |
|----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825903 | 938490    | AE1-068 TAP | DVP           | 941030  | AE2-094 TAP | DVP         | 1      | DVP_P1-2: LN 511-A | single | 4070.2     | 98.06                 | 101.39                 | DC    | 135.9     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0834             | 80/20 | 0.0834         |
| 314429 | 3JTRSVLE                 | 0.3334             | 80/20 | 0.3334         |
| 314947 | 8GREENSVILLE             | 172.5085           | 80/20 | 172.5085       |
| 315102 | 1BRUNSWICKG1             | 27.3925            | 80/20 | 27.3925        |
| 315103 | 1BRUNSWICKG2             | 27.3925            | 80/20 | 27.3925        |
| 315104 | 1BRUNSWICKG3             | 27.3925            | 80/20 | 27.3925        |
| 315105 | 1BRUNSWICKS1             | 56.9078            | 80/20 | 56.9078        |
| 315153 | 1CLOVER1                 | 31.0511            | 80/20 | 31.0511        |
| 315154 | 1CLOVER2                 | 30.7416            | 80/20 | 30.7416        |
| 315158 | 1KERR 1                  | 0.3574             | 80/20 | 0.3574         |
| 315159 | 1KERR 2                  | 1.0007             | 80/20 | 1.0007         |
| 315160 | 1KERR 3                  | 1.0007             | 80/20 | 1.0007         |
| 315161 | 1KERR 4                  | 1.0007             | 80/20 | 1.0007         |
| 315162 | 1KERR 5                  | 1.0007             | 80/20 | 1.0007         |
| 315163 | 1KERR 6                  | 1.0007             | 80/20 | 1.0007         |
| 315164 | 1KERR 7                  | 1.0007             | 80/20 | 1.0007         |
| 315266 | 1PLYWOOD A               | 1.9134             | 80/20 | 1.9134         |
| 923831 | AB2-022 C                | -1.6327            | Adder | -1.92          |
| 924021 | AB2-043 C O1             | 0.4936             | 80/20 | 0.4936         |
| 924161 | AB2-060 C OP             | 1.4212             | 80/20 | 1.4212         |
| 924241 | AB2-068 OP               | -122.7522          | Adder | -144.41        |
| 924301 | AB2-077 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924311 | AB2-078 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924321 | AB2-079 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 925331 | AB2-190 C                | -14.5942           | Adder | -17.17         |
| 925611 | AC1-036 C                | 0.8617             | 80/20 | 0.8617         |
| 925831 | AC1-062                  | 0.0495             | 80/20 | 0.0495         |
| 925861 | AC1-065 C                | -2.3177            | Adder | -2.73          |
| 925991 | AC1-075 C                | 7.6646             | 80/20 | 7.6646         |
| 926021 | AC1-080 C                | 2.5615             | 80/20 | 2.5615         |
| 926051 | AC1-083 C O1             | 4.9537             | 80/20 | 4.9537         |
| 926271 | AC1-105 C O1 (Suspended) | 8.2302             | 80/20 | 8.2302         |
| 926661 | AC1-147 C                | -1.8372            | Adder | -2.16          |
| 926781 | AC1-164 C                | -26.2283           | Adder | -30.86         |
| 927251 | AC1-221 C                | 3.7572             | 80/20 | 3.7572         |
| 927261 | AC1-222 C                | 5.7474             | 80/20 | 5.7474         |
| 932761 | AC2-100 C                | 8.6466             | 80/20 | 8.6466         |
| 932831 | AC2-110 C                | -0.9271            | Adder | -1.09          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                           | -1.3312            | Adder | -1.57          |
| 933731 | AC2-196 C                           | -1.4387            | Adder | -1.69          |
| 933941 | AD1-017 C                           | 0.9907             | 80/20 | 0.9907         |
| 934311 | AD1-055 C                           | 3.9906             | 80/20 | 3.9906         |
| 934341 | AD1-058 C                           | 9.4186             | 80/20 | 9.4186         |
| 934611 | AD1-087 C O1                        | 17.4604            | 80/20 | 17.4604        |
| 934621 | AD1-088 C                           | 16.9154            | 80/20 | 16.9154        |
| 934991 | AD1-131 C                           | 3.0881             | 80/20 | 3.0881         |
| 935111 | AD1-144 C                           | -1.3005            | Adder | -1.53          |
| 935171 | AD1-152 C O1                        | 17.3520            | 80/20 | 17.3520        |
| 935221 | AD1-157 C                           | 1.3582             | 80/20 | 1.3582         |
| 936151 | AD2-021                             | -0.1518            | Adder | -0.18          |
| 936161 | AD2-022 C O1                        | 12.7182            | 80/20 | 12.7182        |
| 936171 | AD2-023 C O1                        | 7.4190             | 80/20 | 7.4190         |
| 936261 | AD2-033 C                           | 11.7991            | 80/20 | 11.7991        |
| 936301 | AD2-039 C                           | -0.9271            | Adder | -1.09          |
| 936361 | AD2-046 C O1                        | 7.6835             | 80/20 | 7.6835         |
| 936481 | AD2-063 C O1                        | 13.6188            | 80/20 | 13.6188        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.6559            | Adder | -4.3           |
| 937481 | AD2-202 C O1                        | 4.6272             | 80/20 | 4.6272         |
| 937541 | AD2-215 C                           | -1.3139            | Adder | -1.55          |
| 938031 | AE1-004 C                           | -0.9271            | Adder | -1.09          |
| 938371 | AE1-056 C                           | 5.8553             | 80/20 | 5.8553         |
| 938491 | AE1-068 C O1                        | 204.3564           | 80/20 | 204.3564       |
| 938501 | AE1-069 C O1                        | 156.1485           | 80/20 | 156.1485       |
| 939181 | AE1-148 C O1                        | 7.6027             | 80/20 | 7.6027         |
| 939311 | AE1-162 C                           | -1.6776            | Adder | -1.97          |
| 940081 | AE1-250 C                           | 13.3920            | 80/20 | 13.3920        |
| 940241 | AE2-006                             | 0.4384             | 80/20 | 0.4384         |
| 940471 | AE2-031 C                           | 97.2242            | 80/20 | 97.2242        |
| 940601 | AE2-047 C O1                        | 4.3675             | 80/20 | 4.3675         |
| 940661 | AE2-053 O1                          | 2.8158             | 80/20 | 2.8158         |
| 941431 | AE2-140 C O1                        | 16.0031            | 80/20 | 16.0031        |
| 941791 | AE2-182 C                           | 2.7482             | 80/20 | 2.7482         |
| 942131 | AE2-225 C                           | -1.6010            | Adder | -1.88          |
| 942171 | AE2-229 C                           | -1.6010            | Adder | -1.88          |
| 942451 | AE2-258                             | 2.1349             | 80/20 | 2.1349         |
| 942461 | AE2-259 C O1                        | 9.0432             | 80/20 | 9.0432         |
| 942751 | AE2-291 C O1                        | 10.9058            | 80/20 | 10.9058        |
| 942761 | AE2-292 C O1                        | 13.5788            | 80/20 | 13.5788        |
| 942931 | AE2-313 C                           | 105.2704           | 80/20 | 105.2704       |
| 943811 | AF1-049 C O1                        | 11.2537            | 80/20 | 11.2537        |
| 943901 | AF1-058 C                           | 3.1828             | 80/20 | 3.1828         |
| 945811 | AF1-246 C O1                        | 19.1898            | 80/20 | 19.1898        |
| 946301 | AF1-294 C                           | 3.7148             | 80/20 | 3.7148         |
| 957481 | AF2-042 C O1                        | 135.8970           | 80/20 | 135.8970       |
| 958211 | AF2-115 C                           | 2.2652             | 80/20 | 2.2652         |
| 958801 | AF2-171 C O1                        | 13.5891            | 80/20 | 13.5891        |
| 959311 | AF2-222 C                           | 15.1150            | 80/20 | 15.1150        |
| 959751 | AF2-266 O1                          | 20.3865            | 80/20 | 20.3865        |
| 960061 | AF2-297 C O1                        | 12.7310            | 80/20 | 12.7310        |
| 960811 | AF2-372 C                           | 1.1660             | 80/20 | 1.1660         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>960821</b>  | AF2-373 C  | 1.2421                    | 80/20         | 1.2421                |
| <b>961081</b>  | AF2-399 C  | 0.2930                    | 80/20         | 0.2930                |
| <b>WEC</b>     | WEC        | 1.4833                    | Confirmed LTF | 1.4833                |
| <b>LGEE</b>    | LGEE       | 2.7989                    | Confirmed LTF | 2.7989                |
| <b>CPL</b>     | CPL        | 14.1151                   | Confirmed LTF | 14.1151               |
| <b>CBM-W2</b>  | CBM-W2     | 59.1236                   | Confirmed LTF | 59.1236               |
| <b>NY</b>      | NY         | 2.0218                    | Confirmed LTF | 2.0218                |
| <b>CBM-W1</b>  | CBM-W1     | 55.4443                   | Confirmed LTF | 55.4443               |
| <b>TVA</b>     | TVA        | 12.3970                   | Confirmed LTF | 12.3970               |
| <b>CBM-S2</b>  | CBM-S2     | 100.8148                  | Confirmed LTF | 100.8148              |
| <b>CBM-S1</b>  | CBM-S1     | 69.1909                   | Confirmed LTF | 69.1909               |
| <b>MADISON</b> | MADISON    | 3.4171                    | Confirmed LTF | 3.4171                |
| <b>MEC</b>     | MEC        | 8.9508                    | Confirmed LTF | 8.9508                |
| <b>AA2-074</b> | AA2-074    | 9.6223                    | LTF           | 9.6223                |

## 11.6.8 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 |
|----------|-----------|-------------|---------------|---------|---------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825873 | 941030    | AE2-094 TAP | DVP           | 314902  | 8CARSON | DVP         | 1      | DVP_P1-2: LN 511-A | single | 4070.2     | 102.53                | 105.87                 | DC    | 135.9     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0834             | 80/20 | 0.0834         |
| 314429 | 3JTRSVLE                 | 0.3334             | 80/20 | 0.3334         |
| 314947 | 8GREENSVILLE             | 172.5085           | 80/20 | 172.5085       |
| 315102 | 1BRUNSWICKG1             | 27.3925            | 80/20 | 27.3925        |
| 315103 | 1BRUNSWICKG2             | 27.3925            | 80/20 | 27.3925        |
| 315104 | 1BRUNSWICKG3             | 27.3925            | 80/20 | 27.3925        |
| 315105 | 1BRUNSWICKS1             | 56.9078            | 80/20 | 56.9078        |
| 315153 | 1CLOVER1                 | 31.0511            | 80/20 | 31.0511        |
| 315154 | 1CLOVER2                 | 30.7416            | 80/20 | 30.7416        |
| 315158 | 1KERR 1                  | 0.3574             | 80/20 | 0.3574         |
| 315159 | 1KERR 2                  | 1.0007             | 80/20 | 1.0007         |
| 315160 | 1KERR 3                  | 1.0007             | 80/20 | 1.0007         |
| 315161 | 1KERR 4                  | 1.0007             | 80/20 | 1.0007         |
| 315162 | 1KERR 5                  | 1.0007             | 80/20 | 1.0007         |
| 315163 | 1KERR 6                  | 1.0007             | 80/20 | 1.0007         |
| 315164 | 1KERR 7                  | 1.0007             | 80/20 | 1.0007         |
| 315266 | 1PLYWOOD A               | 1.9134             | 80/20 | 1.9134         |
| 923831 | AB2-022 C                | -1.6327            | Adder | -1.92          |
| 924021 | AB2-043 C O1             | 0.4936             | 80/20 | 0.4936         |
| 924161 | AB2-060 C OP             | 1.4212             | 80/20 | 1.4212         |
| 924241 | AB2-068 OP               | -122.7522          | Adder | -144.41        |
| 924301 | AB2-077 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924311 | AB2-078 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924321 | AB2-079 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 925331 | AB2-190 C                | -14.5942           | Adder | -17.17         |
| 925611 | AC1-036 C                | 0.8617             | 80/20 | 0.8617         |
| 925831 | AC1-062                  | 0.0495             | 80/20 | 0.0495         |
| 925861 | AC1-065 C                | -2.3177            | Adder | -2.73          |
| 925991 | AC1-075 C                | 7.6646             | 80/20 | 7.6646         |
| 926021 | AC1-080 C                | 2.5615             | 80/20 | 2.5615         |
| 926051 | AC1-083 C O1             | 4.9537             | 80/20 | 4.9537         |
| 926271 | AC1-105 C O1 (Suspended) | 8.2302             | 80/20 | 8.2302         |
| 926661 | AC1-147 C                | -1.8372            | Adder | -2.16          |
| 926781 | AC1-164 C                | -26.2283           | Adder | -30.86         |
| 927251 | AC1-221 C                | 3.7572             | 80/20 | 3.7572         |
| 927261 | AC1-222 C                | 5.7474             | 80/20 | 5.7474         |
| 932761 | AC2-100 C                | 8.6466             | 80/20 | 8.6466         |
| 932831 | AC2-110 C                | -0.9271            | Adder | -1.09          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                           | -1.3312            | Adder | -1.57          |
| 933731 | AC2-196 C                           | -1.4387            | Adder | -1.69          |
| 933941 | AD1-017 C                           | 0.9907             | 80/20 | 0.9907         |
| 934311 | AD1-055 C                           | 3.9906             | 80/20 | 3.9906         |
| 934341 | AD1-058 C                           | 9.4186             | 80/20 | 9.4186         |
| 934611 | AD1-087 C O1                        | 17.4604            | 80/20 | 17.4604        |
| 934621 | AD1-088 C                           | 16.9154            | 80/20 | 16.9154        |
| 934991 | AD1-131 C                           | 3.0881             | 80/20 | 3.0881         |
| 935111 | AD1-144 C                           | -1.3005            | Adder | -1.53          |
| 935171 | AD1-152 C O1                        | 17.3520            | 80/20 | 17.3520        |
| 935221 | AD1-157 C                           | 1.3582             | 80/20 | 1.3582         |
| 936151 | AD2-021                             | -0.1518            | Adder | -0.18          |
| 936161 | AD2-022 C O1                        | 12.7182            | 80/20 | 12.7182        |
| 936171 | AD2-023 C O1                        | 7.4190             | 80/20 | 7.4190         |
| 936261 | AD2-033 C                           | 11.7991            | 80/20 | 11.7991        |
| 936301 | AD2-039 C                           | -0.9271            | Adder | -1.09          |
| 936361 | AD2-046 C O1                        | 7.6835             | 80/20 | 7.6835         |
| 936481 | AD2-063 C O1                        | 13.6188            | 80/20 | 13.6188        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.6559            | Adder | -4.3           |
| 937481 | AD2-202 C O1                        | 4.6272             | 80/20 | 4.6272         |
| 937541 | AD2-215 C                           | -1.3139            | Adder | -1.55          |
| 938031 | AE1-004 C                           | -0.9271            | Adder | -1.09          |
| 938371 | AE1-056 C                           | 5.8553             | 80/20 | 5.8553         |
| 938491 | AE1-068 C O1                        | 204.3564           | 80/20 | 204.3564       |
| 938501 | AE1-069 C O1                        | 156.1485           | 80/20 | 156.1485       |
| 939181 | AE1-148 C O1                        | 7.6027             | 80/20 | 7.6027         |
| 939311 | AE1-162 C                           | -1.6776            | Adder | -1.97          |
| 940081 | AE1-250 C                           | 13.3920            | 80/20 | 13.3920        |
| 940241 | AE2-006                             | 0.4384             | 80/20 | 0.4384         |
| 940471 | AE2-031 C                           | 97.2242            | 80/20 | 97.2242        |
| 940601 | AE2-047 C O1                        | 4.3675             | 80/20 | 4.3675         |
| 940661 | AE2-053 O1                          | 2.8158             | 80/20 | 2.8158         |
| 941031 | AE2-094 C                           | 139.5782           | 80/20 | 139.5782       |
| 941431 | AE2-140 C O1                        | 16.0031            | 80/20 | 16.0031        |
| 941791 | AE2-182 C                           | 2.7482             | 80/20 | 2.7482         |
| 942131 | AE2-225 C                           | -1.6010            | Adder | -1.88          |
| 942171 | AE2-229 C                           | -1.6010            | Adder | -1.88          |
| 942451 | AE2-258                             | 2.1349             | 80/20 | 2.1349         |
| 942461 | AE2-259 C O1                        | 9.0432             | 80/20 | 9.0432         |
| 942751 | AE2-291 C O1                        | 10.9058            | 80/20 | 10.9058        |
| 942761 | AE2-292 C O1                        | 13.5788            | 80/20 | 13.5788        |
| 942931 | AE2-313 C                           | 105.2704           | 80/20 | 105.2704       |
| 943811 | AF1-049 C O1                        | 11.2537            | 80/20 | 11.2537        |
| 943901 | AF1-058 C                           | 3.1828             | 80/20 | 3.1828         |
| 944011 | AF1-069 C                           | 45.6054            | 80/20 | 45.6054        |
| 945811 | AF1-246 C O1                        | 19.1898            | 80/20 | 19.1898        |
| 946301 | AF1-294 C                           | 3.7148             | 80/20 | 3.7148         |
| 957481 | AF2-042 C O1                        | 135.8970           | 80/20 | 135.8970       |
| 958211 | AF2-115 C                           | 2.2652             | 80/20 | 2.2652         |
| 958801 | AF2-171 C O1                        | 13.5891            | 80/20 | 13.5891        |
| 959311 | AF2-222 C                           | 15.1150            | 80/20 | 15.1150        |
| 959751 | AF2-266 O1                          | 20.3865            | 80/20 | 20.3865        |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 960061  | AF2-297 C O1 | 12.7310            | 80/20         | 12.7310        |
| 960811  | AF2-372 C    | 1.1660             | 80/20         | 1.1660         |
| 960821  | AF2-373 C    | 1.2421             | 80/20         | 1.2421         |
| 961081  | AF2-399 C    | 0.2930             | 80/20         | 0.2930         |
| WEC     | WEC          | 1.4833             | Confirmed LTF | 1.4833         |
| LGEE    | LGEE         | 2.7989             | Confirmed LTF | 2.7989         |
| CPL     | CPL          | 14.1151            | Confirmed LTF | 14.1151        |
| CBM-W2  | CBM-W2       | 59.1236            | Confirmed LTF | 59.1236        |
| NY      | NY           | 2.0218             | Confirmed LTF | 2.0218         |
| CBM-W1  | CBM-W1       | 55.4443            | Confirmed LTF | 55.4443        |
| TVA     | TVA          | 12.3970            | Confirmed LTF | 12.3970        |
| CBM-S2  | CBM-S2       | 100.8148           | Confirmed LTF | 100.8148       |
| CBM-S1  | CBM-S1       | 69.1909            | Confirmed LTF | 69.1909        |
| MADISON | MADISON      | 3.4171             | Confirmed LTF | 3.4171         |
| MEC     | MEC          | 8.9508             | Confirmed LTF | 8.9508         |
| AA2-074 | AA2-074      | 9.6223             | LTF           | 9.6223         |

## 11.6.9 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|---------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 105952834 | 314686    | 6CLOVER  | DVP           | 934620  | AD1-088 TAP | DVP         | 1      | DVP_P4-2: 511T556-A | breaker | 699.0      | 78.39                 | 101.06                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |
| 942751 | AE2-291 C O1             | 4.3135             | Adder | 5.07           |
| 942752 | AE2-291 E O1             | 2.8757             | Adder | 3.38           |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O1 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O1 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O1   | 15.8505            | 50/50                 | 15.8505        |
| 960061  | AF2-297 C O1 | 6.8957             | 50/50                 | 6.8957         |
| 960062  | AF2-297 E O1 | 4.5971             | 50/50                 | 4.5971         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3082             | 50/50                 | 5.3082         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

## 11.6.10 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825878 | 314918    | 8NO ANNA | DVP           | 314934  | 8SPOTSYL | DVP         | 1      | DVP_P1-2: LN 575 | single | 3218.56    | 116.47                | 116.94                 | DC    | 55.27     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0437             | 80/20 | 0.0437         |
| 314333 | 6POWHATN                             | 0.4510             | 80/20 | 0.4510         |
| 314435 | 6SAPONY                              | 0.4117             | 80/20 | 0.4117         |
| 314491 | 3PENDLTN                             | 0.3262             | 80/20 | 0.3262         |
| 314947 | 8GREENSVILLE                         | 57.2873            | 80/20 | 57.2873        |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 7.8693             | Adder | 9.26           |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 7.8693             | Adder | 9.26           |
| 315102 | 1BRUNSWICKG1                         | 9.4062             | 80/20 | 9.4062         |
| 315103 | 1BRUNSWICKG2                         | 9.4062             | 80/20 | 9.4062         |
| 315104 | 1BRUNSWICKG3                         | 9.4062             | 80/20 | 9.4062         |
| 315105 | 1BRUNSWICKS1                         | 19.5413            | 80/20 | 19.5413        |
| 315108 | 1ELIZAR1                             | 3.1861             | 80/20 | 3.1861         |
| 315109 | 1ELIZAR2                             | 3.1308             | 80/20 | 3.1308         |
| 315110 | 1ELIZAR3                             | 3.2269             | 80/20 | 3.2269         |
| 315153 | 1CLOVER1                             | 13.3814            | 80/20 | 13.3814        |
| 315154 | 1CLOVER2                             | 13.2480            | 80/20 | 13.2480        |
| 315172 | 1LOISA A                             | 2.3794             | 80/20 | 2.3794         |
| 315173 | 1LOISA B                             | 2.3917             | 80/20 | 2.3917         |
| 315174 | 1LOISA C                             | 2.3917             | 80/20 | 2.3917         |
| 315175 | 1LOISA D                             | 2.3917             | 80/20 | 2.3917         |
| 315176 | 1LOISA E                             | 4.8760             | 80/20 | 4.8760         |
| 315177 | 1S ANNAG1                            | 1.7326             | 80/20 | 1.7326         |
| 315178 | 1S ANNAS1                            | 0.8904             | 80/20 | 0.8904         |
| 315179 | 1S ANNAG2                            | 1.7326             | 80/20 | 1.7326         |
| 315180 | 1S ANNAS2                            | 0.8904             | 80/20 | 0.8904         |
| 315225 | 1N ANNA1                             | 98.4361            | 80/20 | 98.4361        |
| 315226 | 1N ANNA2                             | 98.4776            | 80/20 | 98.4776        |
| 315294 | 1DOMTR10                             | 8.5919             | Adder | 10.11          |
| 315611 | 6Z1-036WIND                          | 5.4363             | Adder | 6.4            |
| 923262 | AB1-132 C OP (Suspended)             | 11.1691            | Adder | 13.14          |
| 923572 | AB1-173 C OP                         | 1.8100             | Adder | 2.13           |
| 923582 | AB1-173AC OP                         | 1.8100             | Adder | 2.13           |
| 923801 | AB2-015 C OP                         | 6.8693             | Adder | 8.08           |
| 923831 | AB2-022 C                            | 1.8460             | Adder | 2.17           |
| 923911 | AB2-031 C O1                         | 1.7965             | Adder | 2.11           |
| 923991 | AB2-040 C O1                         | 5.8991             | Adder | 6.94           |
| 924501 | AB2-099 C (Suspended)                | 0.4651             | Adder | 0.55           |
| 925021 | AB2-158 C                            | 3.6228             | 80/20 | 3.6228         |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 925051 | AB2-160 C O1<br>(Suspended)         | 3.9721             | Adder | 4.67           |
| 925061 | AB2-161 C O1<br>(Suspended)         | 2.6441             | Adder | 3.11           |
| 925331 | AB2-190 C                           | 14.2990            | Adder | 16.82          |
| 925611 | AC1-036 C                           | 0.7192             | Adder | 0.85           |
| 926071 | AC1-086 C                           | 16.4478            | Adder | 19.35          |
| 926201 | AC1-098 C                           | 4.8084             | Adder | 5.66           |
| 926211 | AC1-099 C                           | 1.6113             | Adder | 1.9            |
| 926661 | AC1-147 C                           | 1.8050             | Adder | 2.12           |
| 926751 | AC1-161 C O1                        | 28.7656            | 80/20 | 28.7656        |
| 927141 | AC1-208 C                           | 7.0465             | Adder | 8.29           |
| 932041 | AC2-012 C                           | 8.1653             | Adder | 9.61           |
| 932581 | AC2-078 C O1                        | 3.1242             | Adder | 3.68           |
| 932591 | AC2-079 C O1                        | 4.5257             | Adder | 5.32           |
| 932631 | AC2-084 C                           | 6.8545             | Adder | 8.06           |
| 933291 | AC2-141 C                           | 28.7656            | 80/20 | 28.7656        |
| 933501 | AC2-165 C                           | 10.3027            | 80/20 | 10.3027        |
| 933731 | AC2-196 C                           | 1.6924             | 80/20 | 1.6924         |
| 933991 | AD1-023 C                           | 10.4378            | Adder | 12.28          |
| 934011 | AD1-025 C                           | 12.0754            | Adder | 14.21          |
| 934061 | AD1-033 C                           | 7.1060             | 80/20 | 7.1060         |
| 934331 | AD1-057 C O1                        | 7.7449             | Adder | 9.11           |
| 934521 | AD1-076 C                           | 43.2281            | Adder | 50.86          |
| 934571 | AD1-082 C                           | 6.0257             | Adder | 7.09           |
| 934611 | AD1-087 C O1                        | 6.7072             | Adder | 7.89           |
| 934621 | AD1-088 C                           | 9.6867             | Adder | 11.4           |
| 935111 | AD1-144 C                           | 1.3544             | Adder | 1.59           |
| 935161 | AD1-151 C O1                        | 11.4903            | Adder | 13.52          |
| 935171 | AD1-152 C O1                        | 6.6655             | Adder | 7.84           |
| 935221 | AD1-157 C                           | 1.1448             | Adder | 1.35           |
| 936041 | AD2-007 C                           | 0.5768             | Adder | 0.68           |
| 936051 | AD2-008 C                           | 2.1023             | Adder | 2.47           |
| 936261 | AD2-033 C                           | 9.8296             | Adder | 11.56          |
| 936401 | AD2-051 C O1                        | 6.9701             | Adder | 8.2            |
| 936481 | AD2-063 C O1                        | 10.2524            | Adder | 12.06          |
| 936661 | AD2-085 C                           | 2.7146             | Adder | 3.19           |
| 937221 | AD2-160 C O1                        | 5.5314             | 80/20 | 5.5314         |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | 3.4052             | Adder | 4.01           |
| 937481 | AD2-202 C O1                        | 1.7775             | Adder | 2.09           |
| 937541 | AD2-215 C                           | 1.3684             | Adder | 1.61           |
| 938171 | AE1-026 C O1                        | 25.4584            | Adder | 29.95          |
| 938221 | AE1-035 C                           | 1.7824             | Adder | 2.1            |
| 938371 | AE1-056 C                           | 4.9355             | Adder | 5.81           |
| 938491 | AE1-068 C O1                        | 66.2431            | 80/20 | 66.2431        |
| 938501 | AE1-069 C O1                        | 51.8544            | 80/20 | 51.8544        |
| 938531 | AE1-072 C O1                        | 14.0918            | Adder | 16.58          |
| 938551 | AE1-074 C                           | 2.4463             | 80/20 | 2.4463         |
| 938561 | AE1-075 C                           | 2.2923             | 80/20 | 2.2923         |
| 938631 | AE1-085 C O1                        | 6.8671             | Adder | 8.08           |
| 938771 | AE1-103 C O1                        | 2.8962             | Adder | 3.41           |
| 939191 | AE1-149 C O1                        | 8.1988             | Adder | 9.65           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 939231 | AE1-154 C    | 3.4430             | 80/20 | 3.4430         |
| 939311 | AE1-162 C    | 1.6415             | Adder | 1.93           |
| 939411 | AE1-173 C    | 95.4384            | 80/20 | 95.4384        |
| 940061 | AE2-000BC O1 | 12.5246            | Adder | 14.73          |
| 940241 | AE2-006      | 0.3659             | Adder | 0.43           |
| 940251 | AE2-007 O1   | 163.3309           | 80/20 | 163.3309       |
| 940471 | AE2-031 C    | 36.1711            | 80/20 | 36.1711        |
| 940481 | AE2-033 C    | 15.2893            | 80/20 | 15.2893        |
| 940491 | AE2-034 C    | 5.7334             | Adder | 6.75           |
| 940541 | AE2-040 O1   | 2.0514             | Adder | 2.41           |
| 940641 | AE2-051 C O1 | 18.7767            | 80/20 | 18.7767        |
| 940651 | AE2-052      | 2.7329             | Adder | 3.22           |
| 940891 | AE2-078 C    | 1.7393             | Adder | 2.05           |
| 940901 | AE2-079 C    | 1.7393             | Adder | 2.05           |
| 941031 | AE2-094 C    | 43.3545            | 80/20 | 43.3545        |
| 941101 | AE2-104 C O1 | 2.6746             | Adder | 3.15           |
| 941281 | AE2-122 C O1 | 26.8414            | 80/20 | 26.8414        |
| 941291 | AE2-123 C O1 | 27.5846            | 80/20 | 27.5846        |
| 941301 | AE2-124 C O1 | 25.0891            | 80/20 | 25.0891        |
| 941501 | AE2-147 C    | 12.6860            | Adder | 14.92          |
| 941541 | AE2-151 C    | 0.8612             | Adder | 1.01           |
| 941591 | AE2-156 O1   | 16.8650            | 80/20 | 16.8650        |
| 941791 | AE2-182 C    | 1.5738             | Adder | 1.85           |
| 942001 | AE2-212 C    | 1.5790             | Adder | 1.86           |
| 942131 | AE2-225 C    | 1.7096             | Adder | 2.01           |
| 942161 | AE2-228 C    | 1.5184             | Adder | 1.79           |
| 942171 | AE2-229 C    | 1.7096             | Adder | 2.01           |
| 942341 | AE2-247 C    | 1.1765             | Adder | 1.38           |
| 942371 | AE2-250 C O1 | 7.0557             | Adder | 8.3            |
| 942401 | AE2-253 C    | 5.8181             | 80/20 | 5.8181         |
| 942461 | AE2-259 C O1 | 7.6760             | Adder | 9.03           |
| 942471 | AE2-260 C O1 | 11.6092            | Adder | 13.66          |
| 942551 | AE2-270      | 19.2346            | Adder | 22.63          |
| 942851 | AE2-304 C    | 0.5047             | Adder | 0.59           |
| 942931 | AE2-313 C    | 39.1646            | 80/20 | 39.1646        |
| 943171 | AE2-346 C    | 1.1162             | Adder | 1.31           |
| 943461 | AF1-017 C    | 1.0644             | Adder | 1.25           |
| 943611 | AF1-032 C    | 1.3962             | Adder | 1.64           |
| 943621 | AF1-033 C    | 1.7393             | Adder | 2.05           |
| 943911 | AF1-059      | 13.0169            | Adder | 15.31          |
| 944011 | AF1-069 C    | 14.1655            | 80/20 | 14.1655        |
| 944111 | AF1-079 C    | 6.5417             | 80/20 | 6.5417         |
| 944501 | AF1-115 C O1 | 5.2970             | Adder | 6.23           |
| 944581 | AF1-123 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944591 | AF1-124 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944601 | AF1-125 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944871 | AF1-152 C    | 4.2287             | Adder | 4.97           |
| 945711 | AF1-236 C O1 | 62.7673            | Adder | 73.84          |
| 945811 | AF1-246 C O1 | 7.7683             | 80/20 | 7.7683         |
| 946011 | AF1-266      | 12.7984            | 80/20 | 12.7984        |
| 946261 | AF1-291 C    | 1.5175             | Adder | 1.79           |
| 946281 | AF1-292 C    | 1.2119             | Adder | 1.43           |

| Bus #   | Bus                                   | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------------------------------------|--------------------|---------------|----------------|
| 946301  | AF1-294 C                             | 3.1229             | Adder         | 3.67           |
| 946371  | AF1-301 C                             | 26.5970            | 80/20         | 26.5970        |
| 957431  | AF2-037 C                             | 23.7512            | 80/20         | 23.7512        |
| 957481  | AF2-042 C O1                          | 55.2660            | 80/20         | 55.2660        |
| 957491  | AF2-043 C                             | 0.9061             | Adder         | 2.01           |
| 957521  | AF2-046 C                             | 7.0794             | Adder         | 15.71          |
| 957531  | AF2-047 C                             | 7.2206             | Adder         | 16.03          |
| 957631  | AF2-057                               | 1.5185             | Adder         | 3.37           |
| 957691  | AF2-063 C                             | 37.9008            | 80/20         | 37.9008        |
| 957711  | AF2-065 C                             | 5.1991             | Adder         | 11.54          |
| 957791  | AF2-073 C (Withdrawn :<br>07/02/2020) | 4.0675             | Adder         | 9.03           |
| 957801  | AF2-074 C (Withdrawn :<br>07/02/2020) | 1.8078             | Adder         | 4.01           |
| 957821  | AF2-076 C O1                          | 2.2558             | Adder         | 5.01           |
| 957871  | AF2-081 C O1                          | 4.2481             | Adder         | 9.43           |
| 957911  | AF2-085                               | 4.4458             | 80/20         | 4.4458         |
| 958141  | AF2-108                               | 1.2735             | Adder         | 2.83           |
| 958161  | AF2-110 C                             | 0.5844             | Adder         | 1.3            |
| 958211  | AF2-115 C                             | 1.0092             | Adder         | 2.24           |
| 958501  | AF2-144 C                             | 1.9324             | 80/20         | 1.9324         |
| 958801  | AF2-171 C O1                          | 6.0542             | Adder         | 13.44          |
| 959311  | AF2-222 C                             | 6.6935             | Adder         | 14.86          |
| 959511  | AF2-242                               | 3.2637             | Adder         | 7.24           |
| 959531  | AF2-244 C                             | 1.7808             | 80/20         | 1.7808         |
| 959651  | AF2-256 C                             | 0.2012             | Adder         | 0.45           |
| 959661  | AF2-257 C                             | 0.2011             | Adder         | 0.45           |
| 959671  | AF2-258 C                             | 0.2092             | Adder         | 0.46           |
| 959681  | AF2-259 C                             | 1.0915             | Adder         | 2.42           |
| 959731  | AF2-264 C                             | 0.9469             | Adder         | 2.1            |
| 959751  | AF2-266 O1                            | 8.7855             | 80/20         | 8.7855         |
| 960081  | AF2-299 C                             | 1.0826             | Adder         | 2.4            |
| 960101  | AF2-301 C                             | 1.0341             | Adder         | 2.3            |
| 960361  | AF2-327 C (Withdrawn :<br>07/22/2020) | 1.1752             | Adder         | 2.61           |
| 960831  | AF2-374 C                             | 0.5324             | Adder         | 1.18           |
| 961081  | AF2-399 C                             | 0.1305             | Adder         | 0.29           |
| 961091  | AF2-400 C                             | 0.1966             | Adder         | 0.44           |
| 961111  | AF2-402 C O1                          | 0.4654             | Adder         | 1.03           |
| WEC     | WEC                                   | 0.6445             | Confirmed LTF | 0.6445         |
| LGEE    | LGEE                                  | 1.2779             | Confirmed LTF | 1.2779         |
| CPL     | CPL                                   | 7.7402             | Confirmed LTF | 7.7402         |
| CBM-W2  | CBM-W2                                | 28.8616            | Confirmed LTF | 28.8616        |
| NY      | NY                                    | 2.4835             | Confirmed LTF | 2.4835         |
| CBM-W1  | CBM-W1                                | 23.0684            | Confirmed LTF | 23.0684        |
| TVA     | TVA                                   | 6.3154             | Confirmed LTF | 6.3154         |
| CBM-S2  | CBM-S2                                | 53.4361            | Confirmed LTF | 53.4361        |
| CBM-S1  | CBM-S1                                | 34.8383            | Confirmed LTF | 34.8383        |
| MADISON | MADISON                               | 1.9212             | Confirmed LTF | 1.9212         |
| MEC     | MEC                                   | 4.1203             | Confirmed LTF | 4.1203         |
| AA2-074 | AA2-074                               | 5.2740             | LTF           | 5.2740         |

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| 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 LOADIN G % | POST PROJECT LOADIN G % | AC/D C | MW IMPACT |
|----------|-----------|----------|---------------|---------|-----------|-------------|---------|--------------------------------|---------|------------|------------------------|-------------------------|--------|-----------|
| 95620979 | 242631    | 05EDAN 1 | AEP           | 242620  | 05DANVL 2 | AEP         | 1       | AEP_P4_#11112_05J.FER R 765_A1 | breaker | 402.0      | 107.93                 | 110.99                  | DC     | 27.36     |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 244012 | 05PINNACLE                            | -1.8090            | Adder | -2.13          |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.5545             | Adder | 4.18           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.5545             | Adder | 4.18           |
| 917332 | Z2-043 E                              | 0.3416             | Adder | 0.4            |
| 917342 | Z2-044 E                              | 0.2131             | Adder | 0.25           |
| 917512 | Z2-088 E OP1                          | 1.3831             | Adder | 1.63           |
| 918492 | AA1-063AE OP                          | 1.1318             | Adder | 1.33           |
| 918532 | AA1-067 E                             | 0.2426             | Adder | 0.29           |
| 919692 | AA2-053 E OP                          | 1.0995             | Adder | 1.29           |
| 919702 | AA2-057 E OP                          | 1.2081             | Adder | 1.42           |
| 920592 | AA2-165 E                             | 0.1660             | Adder | 0.2            |
| 920672 | AA2-174 E OP                          | 0.1271             | Adder | 0.15           |
| 922922 | AB1-081 C OP                          | 3.4267             | Adder | 4.03           |
| 922923 | AB1-081 E OP                          | 1.4686             | Adder | 1.73           |
| 923262 | AB1-132 C OP (Suspended)              | 4.0634             | Adder | 4.78           |
| 923263 | AB1-132 E OP (Suspended)              | 1.7414             | Adder | 2.05           |
| 923572 | AB1-173 C OP                          | 0.6354             | Adder | 0.75           |
| 923573 | AB1-173 E OP                          | 0.2965             | Adder | 0.35           |
| 923582 | AB1-173AC OP                          | 0.6354             | Adder | 0.75           |
| 923583 | AB1-173AE OP                          | 0.2965             | Adder | 0.35           |
| 923911 | AB2-031 C O1                          | 0.6307             | Adder | 0.74           |
| 923912 | AB2-031 E O1                          | 0.3106             | Adder | 0.37           |
| 923991 | AB2-040 C O1                          | 2.0708             | Adder | 2.44           |
| 923992 | AB2-040 E O1                          | 1.6943             | Adder | 1.99           |
| 924022 | AB2-043 E O1                          | 0.8878             | Adder | 1.04           |
| 924152 | AB2-059 E OP                          | 2.0805             | Adder | 2.45           |
| 924162 | AB2-060 E OP                          | 1.3365             | Adder | 1.57           |
| 924301 | AB2-077 C O1 (Suspended)              | 0.6357             | Adder | 0.75           |
| 924302 | AB2-077 E O1 (Suspended)              | 0.4238             | Adder | 0.5            |
| 924311 | AB2-078 C O1 (Suspended)              | 0.6357             | Adder | 0.75           |
| 924312 | AB2-078 E O1 (Suspended)              | 0.4238             | Adder | 0.5            |
| 924321 | AB2-079 C O1 (Suspended)              | 0.6357             | Adder | 0.75           |
| 924322 | AB2-079 E O1 (Suspended)              | 0.4238             | Adder | 0.5            |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 924501 | AB2-099 C (Suspended)    | 0.1611             | Adder | 0.19           |
| 924502 | AB2-099 E (Suspended)    | 0.0690             | Adder | 0.08           |
| 925122 | AB2-169 E                | 1.6847             | Adder | 1.98           |
| 925172 | AB2-174 E O1             | 1.7694             | Adder | 2.08           |
| 925591 | AC1-034 C                | 2.6159             | Adder | 3.08           |
| 925592 | AC1-034 E                | 1.9734             | Adder | 2.32           |
| 925611 | AC1-036 C                | 0.2686             | Adder | 0.32           |
| 925612 | AC1-036 E                | 0.4382             | Adder | 0.52           |
| 925781 | AC1-054 C O1             | 2.4980             | Adder | 2.94           |
| 925782 | AC1-054 E O1             | 1.1507             | Adder | 1.35           |
| 926051 | AC1-083 C O1             | 3.9626             | 50/50 | 3.9626         |
| 926052 | AC1-083 E O1             | 6.4654             | 50/50 | 6.4654         |
| 926071 | AC1-086 C                | 5.9838             | Adder | 7.04           |
| 926072 | AC1-086 E                | 2.7234             | Adder | 3.2            |
| 926201 | AC1-098 C                | 1.9882             | Adder | 2.34           |
| 926202 | AC1-098 E                | 1.1845             | Adder | 1.39           |
| 926211 | AC1-099 C                | 0.6663             | Adder | 0.78           |
| 926212 | AC1-099 E                | 0.3913             | Adder | 0.46           |
| 926271 | AC1-105 C O1 (Suspended) | 1.9582             | Adder | 2.3            |
| 926272 | AC1-105 E O1 (Suspended) | 0.9748             | Adder | 1.15           |
| 927021 | AC1-189 C                | 3.0130             | Adder | 3.54           |
| 927022 | AC1-189 E                | 1.5009             | Adder | 1.77           |
| 927141 | AC1-208 C                | 2.9907             | Adder | 3.52           |
| 927142 | AC1-208 E                | 1.3280             | Adder | 1.56           |
| 927251 | AC1-221 C                | 1.5648             | 50/50 | 1.5648         |
| 927252 | AC1-221 E                | 1.5648             | 50/50 | 1.5648         |
| 927261 | AC1-222 C                | 1.2518             | Adder | 1.47           |
| 927262 | AC1-222 E                | 1.1917             | Adder | 1.4            |
| 932631 | AC2-084 C                | 2.8343             | Adder | 3.33           |
| 932632 | AC2-084 E                | 1.3960             | Adder | 1.64           |
| 932761 | AC2-100 C                | 3.6012             | 50/50 | 3.6012         |
| 932762 | AC2-100 E                | 1.7578             | 50/50 | 1.7578         |
| 933941 | AD1-017 C                | 0.7925             | 50/50 | 0.7925         |
| 933942 | AD1-017 E                | 1.2931             | 50/50 | 1.2931         |
| 934311 | AD1-055 C                | 0.8691             | Adder | 1.02           |
| 934312 | AD1-055 E                | 0.2241             | Adder | 0.26           |
| 934331 | AD1-057 C O1             | 3.4134             | Adder | 4.02           |
| 934332 | AD1-057 E O1             | 1.8209             | Adder | 2.14           |
| 934341 | AD1-058 C                | 3.9228             | 50/50 | 3.9228         |
| 934342 | AD1-058 E                | 0.9968             | 50/50 | 0.9968         |
| 934611 | AD1-087 C O1             | 2.7885             | Adder | 3.28           |
| 934612 | AD1-087 E O1             | 1.3105             | Adder | 1.54           |
| 934991 | AD1-131 C                | 1.2862             | 50/50 | 1.2862         |
| 934992 | AD1-131 E                | 0.8574             | 50/50 | 0.8574         |
| 935171 | AD1-152 C O1             | 2.7711             | Adder | 3.26           |
| 935172 | AD1-152 E O1             | 1.8474             | Adder | 2.17           |
| 936161 | AD2-022 C O1             | 10.5804            | 50/50 | 10.5804        |
| 936162 | AD2-022 E O1             | 6.3482             | 50/50 | 6.3482         |
| 936171 | AD2-023 C O1             | 6.1719             | 50/50 | 6.1719         |
| 936172 | AD2-023 E O1             | 3.3505             | 50/50 | 3.3505         |
| 936261 | AD2-033 C                | 3.7513             | Adder | 4.41           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 936262 | AD2-033 E                          | 2.5008             | Adder         | 2.94           |
| 936361 | AD2-046 C O1                       | 3.1497             | Adder         | 3.71           |
| 936362 | AD2-046 E O1                       | 1.4484             | Adder         | 1.7            |
| 936481 | AD2-063 C O1                       | 4.5403             | Adder         | 5.34           |
| 936482 | AD2-063 E O1                       | 3.0016             | Adder         | 3.53           |
| 937481 | AD2-202 C O1                       | 0.7390             | Adder         | 0.87           |
| 937482 | AD2-202 E O1                       | 0.4157             | Adder         | 0.49           |
| 939181 | AE1-148 C O1                       | 3.0900             | Adder         | 3.64           |
| 939182 | AE1-148 E O1                       | 2.0600             | Adder         | 2.42           |
| 939441 | AE1-176                            | -0.1149            | Adder         | -0.14          |
| 940081 | AE1-250 C                          | 14.0508            | 50/50         | 14.0508        |
| 940082 | AE1-250 E                          | 9.3672             | 50/50         | 9.3672         |
| 940241 | AE2-006                            | 0.1366             | Adder         | 0.16           |
| 940571 | AE2-044 C                          | 1.7134             | Adder         | 2.02           |
| 940572 | AE2-044 E                          | 0.7343             | Adder         | 0.86           |
| 940661 | AE2-053 O1                         | 1.1444             | Adder         | 1.35           |
| 941541 | AE2-151 C                          | 0.3022             | Adder         | 0.36           |
| 941542 | AE2-151 E                          | 0.1627             | Adder         | 0.19           |
| 942451 | AE2-258                            | 0.7407             | Adder         | 0.87           |
| 943171 | AE2-346 C                          | 0.3866             | Adder         | 0.45           |
| 943172 | AE2-346 E                          | 0.1657             | Adder         | 0.19           |
| 943901 | AF1-058 C                          | 0.7057             | Adder         | 0.83           |
| 943902 | AF1-058 E                          | 0.4705             | Adder         | 0.55           |
| 943911 | AF1-059                            | 4.9266             | Adder         | 5.8            |
| 944141 | AF1-082                            | 1.1014             | Adder         | 1.3            |
| 945811 | AF1-246 C O1                       | 1.9428             | Adder         | 2.29           |
| 945812 | AF1-246 E O1                       | 2.6829             | Adder         | 3.16           |
| 957481 | AF2-042 C O1                       | 7.3954             | Adder         | 16.42          |
| 957482 | AF2-042 E O1                       | 4.9303             | Adder         | 10.94          |
| 957861 | AF2-080 C                          | 1.4504             | Adder         | 3.22           |
| 957862 | AF2-080 E                          | 0.6429             | Adder         | 1.43           |
| 959231 | AF2-214 C                          | 1.9621             | Adder         | 4.36           |
| 959232 | AF2-214 E                          | 2.9415             | Adder         | 6.53           |
| 959311 | AF2-222 C                          | 2.4620             | Adder         | 5.47           |
| 959312 | AF2-222 E                          | 1.6495             | Adder         | 3.66           |
| 959511 | AF2-242                            | 1.2786             | Adder         | 2.84           |
| 959751 | AF2-266 O1                         | 1.3105             | Adder         | 2.91           |
| 960061 | AF2-297 C O1                       | 1.4962             | Adder         | 3.32           |
| 960062 | AF2-297 E O1                       | 0.9974             | Adder         | 2.21           |
| 960122 | AF2-303 E O1                       | 2.4361             | Adder         | 5.41           |
| 960331 | AF2-324 C O1                       | 1.5851             | Adder         | 3.52           |
| 960332 | AF2-324 E O1                       | 0.8510             | Adder         | 1.89           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5185             | Adder         | 1.15           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1296             | Adder         | 0.29           |
| 960811 | AF2-372 C                          | 0.2128             | Adder         | 0.47           |
| 960812 | AF2-372 E                          | 0.3473             | Adder         | 0.77           |
| 960821 | AF2-373 C                          | 0.1698             | Adder         | 0.38           |
| 960822 | AF2-373 E                          | 0.2547             | Adder         | 0.57           |
| 960831 | AF2-374 C                          | 0.1904             | Adder         | 0.42           |
| 960832 | AF2-374 E                          | 0.3107             | Adder         | 0.69           |
| NEWTON | NEWTON                             | 0.3567             | Confirmed LTF | 0.3567         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>CPLE</b>    | CPLE       | 5.5176                    | Confirmed LTF | 5.5176                |
| <b>G-007A</b>  | G-007A     | 0.6186                    | Confirmed LTF | 0.6186                |
| <b>VFT</b>     | VFT        | 1.6254                    | Confirmed LTF | 1.6254                |
| <b>CBM-W2</b>  | CBM-W2     | 5.2744                    | Confirmed LTF | 5.2744                |
| <b>TVA</b>     | TVA        | 1.9418                    | Confirmed LTF | 1.9418                |
| <b>EDWARDS</b> | EDWARDS    | 0.1740                    | Confirmed LTF | 0.1740                |
| <b>CBM-S2</b>  | CBM-S2     | 37.0845                   | Confirmed LTF | 37.0845               |
| <b>CBM-S1</b>  | CBM-S1     | 8.5967                    | Confirmed LTF | 8.5967                |
| <b>TILTON</b>  | TILTON     | 0.3856                    | Confirmed LTF | 0.3856                |
| <b>MADISON</b> | MADISON    | 1.8829                    | Confirmed LTF | 1.8829                |
| <b>GIBSON</b>  | GIBSON     | 0.2905                    | Confirmed LTF | 0.2905                |
| <b>BLUEG</b>   | BLUEG      | 1.2187                    | Confirmed LTF | 1.2187                |
| <b>TRIMBLE</b> | TRIMBLE    | 0.4096                    | Confirmed LTF | 0.4096                |
| <b>AA2-074</b> | AA2-074    | 3.7471                    | LTF           | 3.7471                |

## 11.6.12 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 |
|----------|-----------|-------------|---------------|---------|-------------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97886979 | 313707    | 6FORK UNION | DVP           | 961060  | AF2-397 TAP | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 109.16                | 112.75                 | DC    | 23.74     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1363             | 80/20 | 0.1363         |
| 314429 | 3JTRSVLE                    | 0.5452             | 80/20 | 0.5452         |
| 314572 | 3EMPORIA                    | 0.0219             | 80/20 | 0.0219         |
| 314677 | 6BUCKING                    | 1.0694             | 80/20 | 1.0694         |
| 314704 | 3LAWRENC                    | 0.1423             | 80/20 | 0.1423         |
| 315153 | 1CLOVER1                    | 7.3430             | 80/20 | 7.3430         |
| 315154 | 1CLOVER2                    | 7.2698             | 80/20 | 7.2698         |
| 315158 | 1KERR 1                     | 0.2422             | 80/20 | 0.2422         |
| 315159 | 1KERR 2                     | 0.6782             | 80/20 | 0.6782         |
| 315160 | 1KERR 3                     | 0.6782             | 80/20 | 0.6782         |
| 315161 | 1KERR 4                     | 0.6782             | 80/20 | 0.6782         |
| 315162 | 1KERR 5                     | 0.6782             | 80/20 | 0.6782         |
| 315163 | 1KERR 6                     | 0.6782             | 80/20 | 0.6782         |
| 315164 | 1KERR 7                     | 0.6782             | 80/20 | 0.6782         |
| 315191 | 1BEARGRDN G1                | 15.0842            | 80/20 | 15.0842        |
| 315192 | 1BEARGRDN G2                | 15.0842            | 80/20 | 15.0842        |
| 315193 | 1BEARGRDN S1                | 31.0443            | 80/20 | 31.0443        |
| 315266 | 1PLYWOOD A                  | 0.6953             | 80/20 | 0.6953         |
| 920291 | AA2-127                     | 3.1336             | 80/20 | 3.1336         |
| 924021 | AB2-043 C O1                | 0.4312             | 80/20 | 0.4312         |
| 924161 | AB2-060 C OP                | 1.2758             | 80/20 | 1.2758         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 925171 | AB2-174 C O1                | 0.3622             | 80/20 | 0.3622         |
| 925611 | AC1-036 C                   | 1.1045             | 80/20 | 1.1045         |
| 925781 | AC1-054 C O1                | 3.6512             | 80/20 | 3.6512         |
| 925831 | AC1-062                     | 0.0809             | 80/20 | 0.0809         |
| 925991 | AC1-075 C                   | 2.5684             | 80/20 | 2.5684         |
| 926021 | AC1-080 C                   | 0.8584             | 80/20 | 0.8584         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.1786             | 80/20 | 3.1786         |
| 926451 | AC1-116 C                   | -0.9024            | Adder | -1.06          |
| 927251 | AC1-221 C                   | 0.7555             | 80/20 | 0.7555         |
| 927261 | AC1-222 C                   | 1.8244             | 80/20 | 1.8244         |
| 932511 | AC2-071 C                   | 6.1076             | 80/20 | 6.1076         |
| 932761 | AC2-100 C                   | 1.7388             | 80/20 | 1.7388         |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 933501  | AC2-165 C    | 32.1571            | 80/20         | 32.1571        |
| 934311  | AD1-055 C    | 1.2668             | 80/20         | 1.2668         |
| 934341  | AD1-058 C    | 1.8940             | 80/20         | 1.8940         |
| 934611  | AD1-087 C O1 | 4.2050             | 80/20         | 4.2050         |
| 934621  | AD1-088 C    | 19.9913            | 80/20         | 19.9913        |
| 934991  | AD1-131 C    | 0.6210             | 80/20         | 0.6210         |
| 935171  | AD1-152 C O1 | 4.1789             | 80/20         | 4.1789         |
| 935221  | AD1-157 C    | 2.3854             | 80/20         | 2.3854         |
| 936261  | AD2-033 C    | 14.2451            | 80/20         | 14.2451        |
| 936361  | AD2-046 C O1 | 5.4614             | 80/20         | 5.4614         |
| 936481  | AD2-063 C O1 | 14.0364            | 80/20         | 14.0364        |
| 937481  | AD2-202 C O1 | 1.1144             | 80/20         | 1.1144         |
| 938371  | AE1-056 C    | 10.2839            | 80/20         | 10.2839        |
| 938821  | AE1-108 C    | 35.7983            | 80/20         | 35.7983        |
| 939181  | AE1-148 C O1 | 5.4713             | 80/20         | 5.4713         |
| 940241  | AE2-006      | 0.5619             | 80/20         | 0.5619         |
| 940661  | AE2-053 O1   | 2.0264             | 80/20         | 2.0264         |
| 941011  | AE2-092 C    | 29.1911            | 80/20         | 29.1911        |
| 941791  | AE2-182 C    | 3.2479             | 80/20         | 3.2479         |
| 942451  | AE2-258      | 1.8649             | 80/20         | 1.8649         |
| 942461  | AE2-259 C O1 | 18.9528            | 80/20         | 18.9528        |
| 942751  | AE2-291 C O1 | 3.7718             | 80/20         | 3.7718         |
| 942761  | AE2-292 C O1 | 4.6962             | 80/20         | 4.6962         |
| 943901  | AF1-058 C    | 0.9984             | 80/20         | 0.9984         |
| 943911  | AF1-059      | 9.5960             | 80/20         | 9.5960         |
| 945811  | AF1-246 C O1 | 3.2617             | 80/20         | 3.2617         |
| 946281  | AF1-292 C    | 0.4551             | 80/20         | 0.4551         |
| 946291  | AF1-293 C O1 | 47.0478            | 80/20         | 47.0478        |
| 946301  | AF1-294 C    | 6.0747             | 80/20         | 6.0747         |
| 946591  | AF1-323 C    | 11.4715            | 80/20         | 11.4715        |
| 957481  | AF2-042 C O1 | 23.7450            | 80/20         | 23.7450        |
| 958131  | AF2-107 C    | 6.0592             | 80/20         | 6.0592         |
| 958211  | AF2-115 C    | 3.7041             | 80/20         | 3.7041         |
| 958801  | AF2-171 C O1 | 22.0788            | 80/20         | 22.0788        |
| 959311  | AF2-222 C    | 20.1270            | 80/20         | 20.1270        |
| 959751  | AF2-266 O1   | 4.8210             | 80/20         | 4.8210         |
| 960061  | AF2-297 C O1 | 3.9936             | 80/20         | 3.9936         |
| 960081  | AF2-299 C    | 0.7671             | 80/20         | 0.7671         |
| 960111  | AF2-302 C    | 4.1714             | 80/20         | 4.1714         |
| 960811  | AF2-372 C    | 0.9790             | 80/20         | 0.9790         |
| 960821  | AF2-373 C    | 0.5906             | 80/20         | 0.5906         |
| 961081  | AF2-399 C    | 0.4779             | 80/20         | 0.4779         |
| WEC     | WEC          | 0.1254             | Confirmed LTF | 0.1254         |
| LGEE    | LGEE         | 0.2482             | Confirmed LTF | 0.2482         |
| CPL     | CPL          | 2.1704             | Confirmed LTF | 2.1704         |
| CBM-W2  | CBM-W2       | 6.5766             | Confirmed LTF | 6.5766         |
| NY      | NY           | 0.4302             | Confirmed LTF | 0.4302         |
| CBM-W1  | CBM-W1       | 4.4035             | Confirmed LTF | 4.4035         |
| TVA     | TVA          | 1.4980             | Confirmed LTF | 1.4980         |
| CBM-S2  | CBM-S2       | 14.4558            | Confirmed LTF | 14.4558        |
| CBM-S1  | CBM-S1       | 8.1110             | Confirmed LTF | 8.1110         |
| MADISON | MADISON      | 0.5443             | Confirmed LTF | 0.5443         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MEC     | MEC     | 0.8692             | Confirmed LTF | 0.8692         |
| AA2-074 | AA2-074 | 1.4778             | LTF           | 1.4778         |

### 11.6.13 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 |
|----------|-----------|------------|---------------|---------|-------------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97887021 | 313867    | 6BREMODIST | DVP           | 313707  | 6FORK UNION | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 110.2                 | 114.13                 | DC    | 26.0      |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1491             | 80/20 | 0.1491         |
| 314429 | 3JTRSVLE                    | 0.5962             | 80/20 | 0.5962         |
| 314572 | 3EMPORIA                    | 0.0240             | 80/20 | 0.0240         |
| 314677 | 6BUCKING                    | 1.1738             | 80/20 | 1.1738         |
| 314704 | 3LAWRENC                    | 0.1552             | 80/20 | 0.1552         |
| 315153 | 1CLOVER1                    | 8.0124             | 80/20 | 8.0124         |
| 315154 | 1CLOVER2                    | 7.9325             | 80/20 | 7.9325         |
| 315158 | 1KERR 1                     | 0.2616             | 80/20 | 0.2616         |
| 315159 | 1KERR 2                     | 0.7325             | 80/20 | 0.7325         |
| 315160 | 1KERR 3                     | 0.7325             | 80/20 | 0.7325         |
| 315161 | 1KERR 4                     | 0.7325             | 80/20 | 0.7325         |
| 315162 | 1KERR 5                     | 0.7325             | 80/20 | 0.7325         |
| 315163 | 1KERR 6                     | 0.7325             | 80/20 | 0.7325         |
| 315164 | 1KERR 7                     | 0.7325             | 80/20 | 0.7325         |
| 315191 | 1BEARGRDN G1                | 16.5646            | 80/20 | 16.5646        |
| 315192 | 1BEARGRDN G2                | 16.5646            | 80/20 | 16.5646        |
| 315193 | 1BEARGRDN S1                | 34.0910            | 80/20 | 34.0910        |
| 315266 | 1PLYWOOD A                  | 0.7353             | 80/20 | 0.7353         |
| 920291 | AA2-127                     | 3.4412             | 80/20 | 3.4412         |
| 923572 | AB1-173 C OP                | 0.7332             | 80/20 | 0.7332         |
| 923582 | AB1-173AC OP                | 0.7332             | 80/20 | 0.7332         |
| 923911 | AB2-031 C O1                | 0.7278             | 80/20 | 0.7278         |
| 923991 | AB2-040 C O1                | 2.3896             | 80/20 | 2.3896         |
| 924021 | AB2-043 C O1                | 0.4676             | 80/20 | 0.4676         |
| 924161 | AB2-060 C OP                | 1.3842             | 80/20 | 1.3842         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 925171 | AB2-174 C O1                | 0.3972             | 80/20 | 0.3972         |
| 925611 | AC1-036 C                   | 1.2045             | 80/20 | 1.2045         |
| 925781 | AC1-054 C O1                | 3.9503             | 80/20 | 3.9503         |
| 925831 | AC1-062                     | 0.0885             | 80/20 | 0.0885         |
| 925991 | AC1-075 C                   | 2.3895             | 80/20 | 2.3895         |
| 926021 | AC1-080 C                   | 0.7986             | 80/20 | 0.7986         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.3692             | 80/20 | 3.3692         |
| 926451 | AC1-116 C                   | -0.7531            | Adder | -0.89          |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 927251 | AC1-221 C    | 0.7912             | 80/20         | 0.7912         |
| 927261 | AC1-222 C    | 1.8753             | 80/20         | 1.8753         |
| 932511 | AC2-071 C    | 6.7040             | 80/20         | 6.7040         |
| 932761 | AC2-100 C    | 1.8208             | 80/20         | 1.8208         |
| 933501 | AC2-165 C    | 35.3138            | 80/20         | 35.3138        |
| 934311 | AD1-055 C    | 1.3021             | 80/20         | 1.3021         |
| 934341 | AD1-058 C    | 1.9834             | 80/20         | 1.9834         |
| 934611 | AD1-087 C O1 | 4.5455             | 80/20         | 4.5455         |
| 934621 | AD1-088 C    | 21.9177            | 80/20         | 21.9177        |
| 934991 | AD1-131 C    | 0.6503             | 80/20         | 0.6503         |
| 935171 | AD1-152 C O1 | 4.5173             | 80/20         | 4.5173         |
| 935221 | AD1-157 C    | 2.6102             | 80/20         | 2.6102         |
| 936261 | AD2-033 C    | 15.5243            | 80/20         | 15.5243        |
| 936361 | AD2-046 C O1 | 5.9036             | 80/20         | 5.9036         |
| 936481 | AD2-063 C O1 | 15.2622            | 80/20         | 15.2622        |
| 937481 | AD2-202 C O1 | 1.2046             | 80/20         | 1.2046         |
| 938371 | AE1-056 C    | 11.2528            | 80/20         | 11.2528        |
| 938821 | AE1-108 C    | 11.6026            | 80/20         | 11.6026        |
| 939181 | AE1-148 C O1 | 5.9157             | 80/20         | 5.9157         |
| 940241 | AE2-006      | 0.6128             | 80/20         | 0.6128         |
| 940661 | AE2-053 O1   | 2.1910             | 80/20         | 2.1910         |
| 941791 | AE2-182 C    | 3.5609             | 80/20         | 3.5609         |
| 942451 | AE2-258      | 2.0222             | 80/20         | 2.0222         |
| 942461 | AE2-259 C O1 | 20.7678            | 80/20         | 20.7678        |
| 942751 | AE2-291 C O1 | 3.3042             | 80/20         | 3.3042         |
| 942761 | AE2-292 C O1 | 4.1140             | 80/20         | 4.1140         |
| 943901 | AF1-058 C    | 1.0482             | 80/20         | 1.0482         |
| 943911 | AF1-059      | 10.4370            | 80/20         | 10.4370        |
| 945811 | AF1-246 C O1 | 3.5725             | 80/20         | 3.5725         |
| 946281 | AF1-292 C    | 0.4998             | 80/20         | 0.4998         |
| 946291 | AF1-293 C O1 | 6.7728             | 80/20         | 6.7728         |
| 946301 | AF1-294 C    | 6.6427             | 80/20         | 6.6427         |
| 946591 | AF1-323 C    | 3.7326             | 80/20         | 3.7326         |
| 957481 | AF2-042 C O1 | 26.0010            | 80/20         | 26.0010        |
| 958131 | AF2-107 C    | 2.0323             | 80/20         | 2.0323         |
| 958211 | AF2-115 C    | 4.0505             | 80/20         | 4.0505         |
| 958801 | AF2-171 C O1 | 24.1407            | 80/20         | 24.1407        |
| 959311 | AF2-222 C    | 21.9610            | 80/20         | 21.9610        |
| 959751 | AF2-266 O1   | 5.2605             | 80/20         | 5.2605         |
| 960061 | AF2-297 C O1 | 4.1928             | 80/20         | 4.1928         |
| 960081 | AF2-299 C    | 0.8424             | 80/20         | 0.8424         |
| 960111 | AF2-302 C    | 1.3573             | 80/20         | 1.3573         |
| 960811 | AF2-372 C    | 1.0609             | 80/20         | 1.0609         |
| 960821 | AF2-373 C    | 0.6309             | 80/20         | 0.6309         |
| 961081 | AF2-399 C    | 0.5225             | 80/20         | 0.5225         |
| WEC    | WEC          | 0.0636             | Confirmed LTF | 0.0636         |
| LGEE   | LGEE         | 0.1278             | Confirmed LTF | 0.1278         |
| CPL    | CPL          | 2.2326             | Confirmed LTF | 2.2326         |
| CBM-W2 | CBM-W2       | 5.0614             | Confirmed LTF | 5.0614         |
| NY     | NY           | 0.4015             | Confirmed LTF | 0.4015         |
| CBM-W1 | CBM-W1       | 2.0391             | Confirmed LTF | 2.0391         |
| TVA    | TVA          | 1.2404             | Confirmed LTF | 1.2404         |

| Bus #          | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|----------------|---------|--------------------|---------------|----------------|
| <b>CBM-S2</b>  | CBM-S2  | 14.2882            | Confirmed LTF | 14.2882        |
| <b>CBM-S1</b>  | CBM-S1  | 6.5008             | Confirmed LTF | 6.5008         |
| <b>MADISON</b> | MADISON | 0.5786             | Confirmed LTF | 0.5786         |
| <b>MEC</b>     | MEC     | 0.5641             | Confirmed LTF | 0.5641         |
| <b>AA2-074</b> | AA2-074 | 1.5188             | LTF           | 1.5188         |

## 11.6.14 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706470 | 314282    | 6CARSON  | DVP           | 314285  | 6CHRL249 | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 684.0      | 166.55                | 169.42                 | DC    | 43.08     |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                               | 0.4961             | 50/50 | 0.4961         |
| 314572 | 3EMPORIA                              | 0.0563             | 50/50 | 0.0563         |
| 314704 | 3LAWRENC                              | 0.2225             | 50/50 | 0.2225         |
| 314947 | 8GREENSVILLE                          | 28.5101            | 50/50 | 28.5101        |
| 315073 | 1STONECA                              | -2.3873            | Adder | -2.81          |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.9509             | Adder | 4.65           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.9509             | Adder | 4.65           |
| 315136 | 1ROSEMG1                              | 1.4393             | 50/50 | 1.4393         |
| 315137 | 1ROSEMS1                              | 0.8925             | 50/50 | 0.8925         |
| 315138 | 1ROSEMG2                              | 0.6746             | 50/50 | 0.6746         |
| 315139 | 1GASTONA                              | 2.1424             | 50/50 | 2.1424         |
| 315141 | 1GASTONB                              | 2.1424             | 50/50 | 2.1424         |
| 315294 | 1DOMTR10                              | 3.2051             | Adder | 3.77           |
| 900672 | V4-068 E                              | 0.1060             | Adder | 0.12           |
| 917332 | Z2-043 E                              | 0.4484             | Adder | 0.53           |
| 917342 | Z2-044 E                              | 0.2477             | Adder | 0.29           |
| 917512 | Z2-088 E OP1                          | 1.5190             | Adder | 1.79           |
| 918492 | AA1-063AE OP                          | 1.7603             | Adder | 2.07           |
| 918512 | AA1-065 E OP                          | 1.3711             | Adder | 1.61           |
| 918532 | AA1-067 E                             | 0.2627             | Adder | 0.31           |
| 919692 | AA2-053 E OP                          | 1.7687             | Adder | 2.08           |
| 919702 | AA2-057 E OP                          | 1.4762             | Adder | 1.74           |
| 920042 | AA2-088 E OP                          | 3.5841             | Adder | 4.22           |
| 920592 | AA2-165 E                             | 0.2029             | Adder | 0.24           |
| 920672 | AA2-174 E OP                          | 0.2044             | Adder | 0.24           |
| 922922 | AB1-081 C OP                          | 3.7942             | Adder | 4.46           |
| 922923 | AB1-081 E OP                          | 1.6261             | Adder | 1.91           |
| 923262 | AB1-132 C OP (Suspended)              | 9.4844             | 50/50 | 9.4844         |
| 923263 | AB1-132 E OP (Suspended)              | 4.0648             | 50/50 | 4.0648         |
| 923572 | AB1-173 C OP                          | 1.5987             | 50/50 | 1.5987         |
| 923573 | AB1-173 E OP                          | 0.7460             | 50/50 | 0.7460         |
| 923582 | AB1-173AC OP                          | 1.5987             | 50/50 | 1.5987         |
| 923583 | AB1-173AE OP                          | 0.7460             | 50/50 | 0.7460         |
| 923852 | AB2-025 E                             | 1.2920             | 50/50 | 1.2920         |
| 923911 | AB2-031 C O1                          | 1.5868             | 50/50 | 1.5868         |
| 923912 | AB2-031 E O1                          | 0.7816             | 50/50 | 0.7816         |
| 923991 | AB2-040 C O1                          | 5.2105             | 50/50 | 5.2105         |
| 923992 | AB2-040 E O1                          | 4.2631             | 50/50 | 4.2631         |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924022 | AB2-043 E O1                | 1.0637             | Adder | 1.25           |
| 924152 | AB2-059 E OP                | 2.3036             | Adder | 2.71           |
| 924162 | AB2-060 E OP                | 1.5970             | Adder | 1.88           |
| 924301 | AB2-077 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924302 | AB2-077 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924501 | AB2-099 C (Suspended)       | 0.2125             | Adder | 0.25           |
| 924502 | AB2-099 E (Suspended)       | 0.0911             | Adder | 0.11           |
| 924511 | AB2-100 C                   | 1.8239             | 50/50 | 1.8239         |
| 924512 | AB2-100 E                   | 5.2081             | 50/50 | 5.2081         |
| 925122 | AB2-169 E                   | 1.8308             | Adder | 2.15           |
| 925171 | AB2-174 C O1                | 0.8914             | 50/50 | 0.8914         |
| 925172 | AB2-174 E O1                | 4.6755             | 50/50 | 4.6755         |
| 925591 | AC1-034 C                   | 2.8965             | Adder | 3.41           |
| 925592 | AC1-034 E                   | 2.1851             | Adder | 2.57           |
| 925611 | AC1-036 C                   | 0.3066             | Adder | 0.36           |
| 925612 | AC1-036 E                   | 0.5003             | Adder | 0.59           |
| 925781 | AC1-054 C O1                | 3.1054             | Adder | 3.65           |
| 925782 | AC1-054 E O1                | 1.4306             | Adder | 1.68           |
| 926071 | AC1-086 C                   | 13.9670            | 50/50 | 13.9670        |
| 926072 | AC1-086 E                   | 6.3568             | 50/50 | 6.3568         |
| 926201 | AC1-098 C                   | 2.6095             | Adder | 3.07           |
| 926202 | AC1-098 E                   | 1.5546             | Adder | 1.83           |
| 926211 | AC1-099 C                   | 0.8745             | Adder | 1.03           |
| 926212 | AC1-099 E                   | 0.5136             | Adder | 0.6            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.9829             | Adder | 2.33           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.9871             | Adder | 1.16           |
| 927021 | AC1-189 C                   | 3.2944             | Adder | 3.88           |
| 927022 | AC1-189 E                   | 1.6410             | Adder | 1.93           |
| 927141 | AC1-208 C                   | 4.0314             | Adder | 4.74           |
| 927142 | AC1-208 E                   | 1.7901             | Adder | 2.11           |
| 927251 | AC1-221 C                   | 0.7780             | Adder | 0.92           |
| 927252 | AC1-221 E                   | 0.7780             | Adder | 0.92           |
| 927261 | AC1-222 C                   | 1.2345             | Adder | 1.45           |
| 927262 | AC1-222 E                   | 1.1752             | Adder | 1.38           |
| 932631 | AC2-084 C                   | 3.7200             | Adder | 4.38           |
| 932632 | AC2-084 E                   | 1.8322             | Adder | 2.16           |
| 932761 | AC2-100 C                   | 1.7904             | Adder | 2.11           |
| 932762 | AC2-100 E                   | 0.8739             | Adder | 1.03           |
| 933991 | AD1-023 C                   | 3.8491             | Adder | 4.53           |
| 933992 | AD1-023 E                   | 2.0955             | Adder | 2.47           |
| 934311 | AD1-055 C                   | 0.8571             | Adder | 1.01           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934312 | AD1-055 E    | 0.2210             | Adder | 0.26           |
| 934331 | AD1-057 C O1 | 4.9302             | Adder | 5.8            |
| 934332 | AD1-057 E O1 | 2.6300             | Adder | 3.09           |
| 934341 | AD1-058 C    | 1.9503             | Adder | 2.29           |
| 934342 | AD1-058 E    | 0.4956             | Adder | 0.58           |
| 934611 | AD1-087 C O1 | 3.0816             | Adder | 3.63           |
| 934612 | AD1-087 E O1 | 1.4483             | Adder | 1.7            |
| 934991 | AD1-131 C    | 0.6394             | Adder | 0.75           |
| 934992 | AD1-131 E    | 0.4263             | Adder | 0.5            |
| 935171 | AD1-152 C O1 | 3.0624             | Adder | 3.6            |
| 935172 | AD1-152 E O1 | 2.0416             | Adder | 2.4            |
| 936261 | AD2-033 C    | 4.3247             | Adder | 5.09           |
| 936262 | AD2-033 E    | 2.8832             | Adder | 3.39           |
| 936361 | AD2-046 C O1 | 3.5694             | Adder | 4.2            |
| 936362 | AD2-046 E O1 | 1.6414             | Adder | 1.93           |
| 936401 | AD2-051 C O1 | 3.0488             | Adder | 3.59           |
| 936402 | AD2-051 E O1 | 1.3091             | Adder | 1.54           |
| 936481 | AD2-063 C O1 | 5.3473             | Adder | 6.29           |
| 936482 | AD2-063 E O1 | 3.5352             | Adder | 4.16           |
| 936762 | AD2-097 E    | -3.4441            | Adder | -4.05          |
| 937481 | AD2-202 C O1 | 0.8167             | Adder | 0.96           |
| 937482 | AD2-202 E O1 | 0.4594             | Adder | 0.54           |
| 938171 | AE1-026 C O1 | 9.7010             | Adder | 11.41          |
| 938172 | AE1-026 E O1 | 2.5594             | Adder | 3.01           |
| 938221 | AE1-035 C    | 0.7655             | Adder | 0.9            |
| 938222 | AE1-035 E    | 0.3770             | Adder | 0.44           |
| 938491 | AE1-068 C O1 | 33.0088            | 50/50 | 33.0088        |
| 938492 | AE1-068 E O1 | 18.2312            | 50/50 | 18.2312        |
| 938501 | AE1-069 C O1 | 25.8063            | 50/50 | 25.8063        |
| 938502 | AE1-069 E O1 | 14.7537            | 50/50 | 14.7537        |
| 939181 | AE1-148 C O1 | 3.5109             | Adder | 4.13           |
| 939182 | AE1-148 E O1 | 2.3406             | Adder | 2.75           |
| 939411 | AE1-173 C    | 31.3874            | Adder | 36.93          |
| 939412 | AE1-173 E    | 20.9250            | Adder | 24.62          |
| 940241 | AE2-006      | 0.1560             | Adder | 0.18           |
| 940471 | AE2-031 C    | 17.9777            | 50/50 | 17.9777        |
| 940472 | AE2-031 E    | 11.9851            | 50/50 | 11.9851        |
| 940481 | AE2-033 C    | 17.9557            | 50/50 | 17.9557        |
| 940482 | AE2-033 E    | 12.1050            | 50/50 | 12.1050        |
| 940542 | AE2-040 BAT  | 4.1423             | 50/50 | 4.1423         |
| 940571 | AE2-044 C    | 1.8971             | Adder | 2.23           |
| 940572 | AE2-044 E    | 0.8130             | Adder | 0.96           |
| 940661 | AE2-053 O1   | 1.3003             | Adder | 1.53           |
| 941031 | AE2-094 C    | 21.6524            | 50/50 | 21.6524        |
| 941032 | AE2-094 E    | 9.6976             | 50/50 | 9.6976         |
| 941541 | AE2-151 C    | 0.3965             | Adder | 0.47           |
| 941542 | AE2-151 E    | 0.2135             | Adder | 0.25           |
| 942451 | AE2-258      | 0.8875             | Adder | 1.04           |
| 942471 | AE2-260 C O1 | 13.5157            | 50/50 | 13.5157        |
| 942472 | AE2-260 E O1 | 19.1703            | 50/50 | 19.1703        |
| 942931 | AE2-313 C    | 19.4655            | 50/50 | 19.4655        |
| 942932 | AE2-313 E    | 12.9770            | 50/50 | 12.9770        |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943171 | AE2-346 C                          | 0.5101             | Adder         | 0.6            |
| 943172 | AE2-346 E                          | 0.2186             | Adder         | 0.26           |
| 943901 | AF1-058 C                          | 0.6841             | Adder         | 0.8            |
| 943902 | AF1-058 E                          | 0.4561             | Adder         | 0.54           |
| 943911 | AF1-059                            | 10.1430            | 50/50         | 10.1430        |
| 944011 | AF1-069 C                          | 7.0746             | 50/50         | 7.0746         |
| 944012 | AF1-069 E                          | 2.7483             | 50/50         | 2.7483         |
| 944141 | AF1-082                            | 1.2196             | Adder         | 1.43           |
| 945811 | AF1-246 C O1                       | 3.0955             | Adder         | 3.64           |
| 945812 | AF1-246 E O1                       | 4.2748             | Adder         | 5.03           |
| 946011 | AF1-266                            | 15.0304            | 50/50         | 15.0304        |
| 946281 | AF1-292 C                          | 1.2035             | 50/50         | 1.2035         |
| 946282 | AF1-292 E                          | 0.8114             | 50/50         | 0.8114         |
| 957481 | AF2-042 C O1                       | 11.6445            | Adder         | 25.85          |
| 957482 | AF2-042 E O1                       | 7.7630             | Adder         | 17.23          |
| 957521 | AF2-046 C                          | 3.1764             | Adder         | 7.05           |
| 957522 | AF2-046 E                          | 1.5978             | Adder         | 3.55           |
| 957861 | AF2-080 C                          | 1.5858             | Adder         | 3.52           |
| 957862 | AF2-080 E                          | 0.7030             | Adder         | 1.56           |
| 958142 | AF2-108 BAT                        | 2.9355             | 50/50         | 2.9355         |
| 959231 | AF2-214 C                          | 2.1725             | Adder         | 4.82           |
| 959232 | AF2-214 E                          | 3.2570             | Adder         | 7.23           |
| 959311 | AF2-222 C                          | 2.7922             | Adder         | 6.2            |
| 959312 | AF2-222 E                          | 1.8708             | Adder         | 4.15           |
| 959511 | AF2-242                            | 1.3876             | Adder         | 3.08           |
| 959731 | AF2-264 C                          | 0.4290             | Adder         | 0.95           |
| 959732 | AF2-264 E                          | 0.2113             | Adder         | 0.47           |
| 959751 | AF2-266 O1                         | 1.7973             | Adder         | 3.99           |
| 960061 | AF2-297 C O1                       | 1.4503             | Adder         | 3.22           |
| 960062 | AF2-297 E O1                       | 0.9669             | Adder         | 2.15           |
| 960081 | AF2-299 C                          | 2.0285             | 50/50         | 2.0285         |
| 960082 | AF2-299 E                          | 1.3523             | 50/50         | 1.3523         |
| 960122 | AF2-303 E O1                       | 2.7077             | Adder         | 6.01           |
| 960331 | AF2-324 C O1                       | 1.7618             | Adder         | 3.91           |
| 960332 | AF2-324 E O1                       | 0.9459             | Adder         | 2.1            |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5735             | Adder         | 1.27           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1434             | Adder         | 0.32           |
| 960811 | AF2-372 C                          | 0.2527             | Adder         | 0.56           |
| 960812 | AF2-372 E                          | 0.4124             | Adder         | 0.92           |
| 960821 | AF2-373 C                          | 0.1796             | Adder         | 0.4            |
| 960822 | AF2-373 E                          | 0.2695             | Adder         | 0.6            |
| 960831 | AF2-374 C                          | 0.2693             | Adder         | 0.6            |
| 960832 | AF2-374 E                          | 0.4394             | Adder         | 0.98           |
| WEC    | WEC                                | 0.3667             | Confirmed LTF | 0.3667         |
| LGEE   | LGEE                               | 0.6920             | Confirmed LTF | 0.6920         |
| CPL    | CPL                                | 3.8076             | Confirmed LTF | 3.8076         |
| CBM-W2 | CBM-W2                             | 14.7420            | Confirmed LTF | 14.7420        |
| NY     | NY                                 | 0.5176             | Confirmed LTF | 0.5176         |
| CBM-W1 | CBM-W1                             | 13.6859            | Confirmed LTF | 13.6859        |
| TVA    | TVA                                | 3.0996             | Confirmed LTF | 3.0996         |
| O-066  | O-066                              | 7.3450             | Confirmed LTF | 7.3450         |

| Bus #          | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|----------------|---------|--------------------|---------------|----------------|
| <b>CBM-S2</b>  | CBM-S2  | 25.9522            | Confirmed LTF | 25.9522        |
| <b>CBM-S1</b>  | CBM-S1  | 17.2786            | Confirmed LTF | 17.2786        |
| <b>G-007</b>   | G-007   | 1.1461             | Confirmed LTF | 1.1461         |
| <b>MADISON</b> | MADISON | 0.8669             | Confirmed LTF | 0.8669         |
| <b>MEC</b>     | MEC     | 2.2214             | Confirmed LTF | 2.2214         |
| <b>AA2-074</b> | AA2-074 | 2.5952             | LTF           | 2.5952         |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706659 | 314282    | 6CARSON  | DVP           | 314331  | 6POE   | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 830.0      | 111.94                | 114.0                  | DC    | 37.91     |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                               | 0.4549             | 50/50 | 0.4549         |
| 314572 | 3EMPORIA                              | 0.0497             | 50/50 | 0.0497         |
| 314704 | 3LAWRENC                              | 0.1970             | 50/50 | 0.1970         |
| 315073 | 1STONECA                              | -2.5521            | Adder | -3.0           |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.3573             | Adder | 3.95           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.3573             | Adder | 3.95           |
| 917332 | Z2-043 E                              | 0.3563             | Adder | 0.42           |
| 917342 | Z2-044 E                              | 0.2089             | Adder | 0.25           |
| 917512 | Z2-088 E OP1                          | 1.2619             | Adder | 1.48           |
| 918492 | AA1-063AE OP                          | 1.3792             | Adder | 1.62           |
| 918512 | AA1-065 E OP                          | 1.0567             | Adder | 1.24           |
| 918532 | AA1-067 E                             | 0.2124             | Adder | 0.25           |
| 919692 | AA2-053 E OP                          | 1.4696             | Adder | 1.73           |
| 919702 | AA2-057 E OP                          | 1.2393             | Adder | 1.46           |
| 920592 | AA2-165 E                             | 0.1703             | Adder | 0.2            |
| 920672 | AA2-174 E OP                          | 0.1698             | Adder | 0.2            |
| 922922 | AB1-081 C OP                          | 3.2187             | Adder | 3.79           |
| 922923 | AB1-081 E OP                          | 1.3794             | Adder | 1.62           |
| 923262 | AB1-132 C OP (Suspended)              | 6.9915             | Adder | 8.23           |
| 923263 | AB1-132 E OP (Suspended)              | 2.9964             | Adder | 3.53           |
| 923572 | AB1-173 C OP                          | 1.3921             | 50/50 | 1.3921         |
| 923573 | AB1-173 E OP                          | 0.6497             | 50/50 | 0.6497         |
| 923582 | AB1-173AC OP                          | 1.3921             | 50/50 | 1.3921         |
| 923583 | AB1-173AE OP                          | 0.6497             | 50/50 | 0.6497         |
| 923852 | AB2-025 E                             | 1.1848             | 50/50 | 1.1848         |
| 923911 | AB2-031 C O1                          | 1.3818             | 50/50 | 1.3818         |
| 923912 | AB2-031 E O1                          | 0.6806             | 50/50 | 0.6806         |
| 923991 | AB2-040 C O1                          | 4.5373             | 50/50 | 4.5373         |
| 923992 | AB2-040 E O1                          | 3.7123             | 50/50 | 3.7123         |
| 924022 | AB2-043 E O1                          | 0.9273             | Adder | 1.09           |
| 924152 | AB2-059 E OP                          | 1.9542             | Adder | 2.3            |
| 924162 | AB2-060 E OP                          | 1.3922             | Adder | 1.64           |
| 924301 | AB2-077 C O1 (Suspended)              | 0.6577             | Adder | 0.77           |
| 924302 | AB2-077 E O1 (Suspended)              | 0.4385             | Adder | 0.52           |
| 924311 | AB2-078 C O1 (Suspended)              | 0.6577             | Adder | 0.77           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924312 | AB2-078 E O1<br>(Suspended) | 0.4385             | Adder | 0.52           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.6577             | Adder | 0.77           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.4385             | Adder | 0.52           |
| 924501 | AB2-099 C (Suspended)       | 0.1609             | Adder | 0.19           |
| 924502 | AB2-099 E (Suspended)       | 0.0690             | Adder | 0.08           |
| 924511 | AB2-100 C                   | 1.6389             | 50/50 | 1.6389         |
| 924512 | AB2-100 E                   | 4.6797             | 50/50 | 4.6797         |
| 925171 | AB2-174 C O1                | 0.7809             | 50/50 | 0.7809         |
| 925172 | AB2-174 E O1                | 4.0960             | 50/50 | 4.0960         |
| 925331 | AB2-190 C                   | -4.8628            | Adder | -5.72          |
| 925591 | AC1-034 C                   | 2.4571             | Adder | 2.89           |
| 925592 | AC1-034 E                   | 1.8536             | Adder | 2.18           |
| 925611 | AC1-036 C                   | 0.2681             | Adder | 0.32           |
| 925612 | AC1-036 E                   | 0.4374             | Adder | 0.51           |
| 925781 | AC1-054 C O1                | 2.6549             | Adder | 3.12           |
| 925782 | AC1-054 E O1                | 1.2231             | Adder | 1.44           |
| 926071 | AC1-086 C                   | 10.2958            | Adder | 12.11          |
| 926072 | AC1-086 E                   | 4.6860             | Adder | 5.51           |
| 926201 | AC1-098 C                   | 2.1487             | Adder | 2.53           |
| 926202 | AC1-098 E                   | 1.2801             | Adder | 1.51           |
| 926211 | AC1-099 C                   | 0.7200             | Adder | 0.85           |
| 926212 | AC1-099 E                   | 0.4229             | Adder | 0.5            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.7319             | Adder | 2.04           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.8621             | Adder | 1.01           |
| 927021 | AC1-189 C                   | 2.7143             | Adder | 3.19           |
| 927022 | AC1-189 E                   | 1.3521             | Adder | 1.59           |
| 927141 | AC1-208 C                   | 3.3646             | Adder | 3.96           |
| 927142 | AC1-208 E                   | 1.4940             | Adder | 1.76           |
| 927251 | AC1-221 C                   | 0.6771             | Adder | 0.8            |
| 927252 | AC1-221 E                   | 0.6771             | Adder | 0.8            |
| 927261 | AC1-222 C                   | 1.0789             | Adder | 1.27           |
| 927262 | AC1-222 E                   | 1.0271             | Adder | 1.21           |
| 932631 | AC2-084 C                   | 3.0630             | Adder | 3.6            |
| 932632 | AC2-084 E                   | 1.5086             | Adder | 1.77           |
| 932761 | AC2-100 C                   | 1.5582             | Adder | 1.83           |
| 932762 | AC2-100 E                   | 0.7606             | Adder | 0.89           |
| 934311 | AD1-055 C                   | 0.7491             | Adder | 0.88           |
| 934312 | AD1-055 E                   | 0.1932             | Adder | 0.23           |
| 934331 | AD1-057 C O1                | 4.2361             | Adder | 4.98           |
| 934332 | AD1-057 E O1                | 2.2597             | Adder | 2.66           |
| 934341 | AD1-058 C                   | 1.6974             | Adder | 2.0            |
| 934342 | AD1-058 E                   | 0.4313             | Adder | 0.51           |
| 934611 | AD1-087 C O1                | 2.7039             | Adder | 3.18           |
| 934612 | AD1-087 E O1                | 1.2708             | Adder | 1.5            |
| 934991 | AD1-131 C                   | 0.5565             | Adder | 0.65           |
| 934992 | AD1-131 E                   | 0.3710             | Adder | 0.44           |
| 935171 | AD1-152 C O1                | 2.6871             | Adder | 3.16           |
| 935172 | AD1-152 E O1                | 1.7914             | Adder | 2.11           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936261 | AD2-033 C    | 3.7784             | Adder | 4.45           |
| 936262 | AD2-033 E    | 2.5190             | Adder | 2.96           |
| 936361 | AD2-046 C O1 | 3.0803             | Adder | 3.62           |
| 936362 | AD2-046 E O1 | 1.4165             | Adder | 1.67           |
| 936401 | AD2-051 C O1 | 2.3624             | Adder | 2.78           |
| 936402 | AD2-051 E O1 | 1.0144             | Adder | 1.19           |
| 936481 | AD2-063 C O1 | 4.6665             | Adder | 5.49           |
| 936482 | AD2-063 E O1 | 3.0851             | Adder | 3.63           |
| 936762 | AD2-097 E    | -2.8602            | Adder | -3.36          |
| 937481 | AD2-202 C O1 | 0.7166             | Adder | 0.84           |
| 937482 | AD2-202 E O1 | 0.4031             | Adder | 0.47           |
| 938221 | AE1-035 C    | 0.5900             | Adder | 0.69           |
| 938222 | AE1-035 E    | 0.2906             | Adder | 0.34           |
| 938491 | AE1-068 C O1 | 24.7200            | Adder | 29.08          |
| 938492 | AE1-068 E O1 | 13.6532            | Adder | 16.06          |
| 938501 | AE1-069 C O1 | 19.3221            | Adder | 22.73          |
| 938502 | AE1-069 E O1 | 11.0467            | Adder | 13.0           |
| 939181 | AE1-148 C O1 | 3.0312             | Adder | 3.57           |
| 939182 | AE1-148 E O1 | 2.0208             | Adder | 2.38           |
| 939411 | AE1-173 C    | 26.2589            | Adder | 30.89          |
| 939412 | AE1-173 E    | 17.5059            | Adder | 20.6           |
| 940063 | AE2-000B BAT | 19.1715            | 50/50 | 19.1715        |
| 940241 | AE2-006      | 0.1364             | Adder | 0.16           |
| 940471 | AE2-031 C    | 13.4693            | Adder | 15.85          |
| 940472 | AE2-031 E    | 8.9795             | Adder | 10.56          |
| 940481 | AE2-033 C    | 16.4321            | 50/50 | 16.4321        |
| 940482 | AE2-033 E    | 11.0778            | 50/50 | 11.0778        |
| 940571 | AE2-044 C    | 1.6094             | Adder | 1.89           |
| 940572 | AE2-044 E    | 0.6897             | Adder | 0.81           |
| 940652 | AE2-052 BAT  | 5.2146             | 50/50 | 5.2146         |
| 940661 | AE2-053 O1   | 1.1227             | Adder | 1.32           |
| 941031 | AE2-094 C    | 16.2224            | Adder | 19.09          |
| 941032 | AE2-094 E    | 7.2656             | Adder | 8.55           |
| 941533 | AE2-150 BAT  | 8.9640             | 50/50 | 8.9640         |
| 941541 | AE2-151 C    | 0.3077             | Adder | 0.36           |
| 941542 | AE2-151 E    | 0.1657             | Adder | 0.19           |
| 942451 | AE2-258      | 0.7736             | Adder | 0.91           |
| 942471 | AE2-260 C O1 | 12.1817            | 50/50 | 12.1817        |
| 942472 | AE2-260 E O1 | 17.2783            | 50/50 | 17.2783        |
| 942931 | AE2-313 C    | 14.5839            | Adder | 17.16          |
| 942932 | AE2-313 E    | 9.7226             | Adder | 11.44          |
| 943171 | AE2-346 C    | 0.3863             | Adder | 0.45           |
| 943172 | AE2-346 E    | 0.1655             | Adder | 0.19           |
| 943901 | AF1-058 C    | 0.5979             | Adder | 0.7            |
| 943902 | AF1-058 E    | 0.3986             | Adder | 0.47           |
| 943911 | AF1-059      | 7.6007             | Adder | 8.94           |
| 944011 | AF1-069 C    | 5.3005             | Adder | 6.24           |
| 944012 | AF1-069 E    | 2.0591             | Adder | 2.42           |
| 944141 | AF1-082      | 1.0346             | Adder | 1.22           |
| 945811 | AF1-246 C O1 | 2.7243             | Adder | 3.21           |
| 945812 | AF1-246 E O1 | 3.7621             | Adder | 4.43           |
| 946011 | AF1-266      | 13.7549            | 50/50 | 13.7549        |

| Bus #   | Bus                                  | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------------------------------|--------------------|---------------|----------------|
| 946281  | AF1-292 C                            | 1.0691             | 50/50         | 1.0691         |
| 946282  | AF1-292 E                            | 0.7207             | 50/50         | 0.7207         |
| 957481  | AF2-042 C O1                         | 10.2471            | Adder         | 22.75          |
| 957482  | AF2-042 E O1                         | 6.8314             | Adder         | 15.16          |
| 957521  | AF2-046 C                            | 2.2565             | Adder         | 5.01           |
| 957522  | AF2-046 E                            | 1.1351             | Adder         | 2.52           |
| 957861  | AF2-080 C                            | 1.3066             | Adder         | 2.9            |
| 957862  | AF2-080 E                            | 0.5792             | Adder         | 1.29           |
| 959231  | AF2-214 C                            | 1.8430             | Adder         | 4.09           |
| 959232  | AF2-214 E                            | 2.7630             | Adder         | 6.13           |
| 959311  | AF2-222 C                            | 2.4422             | Adder         | 5.42           |
| 959312  | AF2-222 E                            | 1.6362             | Adder         | 3.63           |
| 959511  | AF2-242                              | 1.0892             | Adder         | 2.42           |
| 959731  | AF2-264 C                            | 0.3155             | Adder         | 0.7            |
| 959732  | AF2-264 E                            | 0.1554             | Adder         | 0.34           |
| 959751  | AF2-266 O1                           | 1.5808             | Adder         | 3.51           |
| 960061  | AF2-297 C O1                         | 1.2676             | Adder         | 2.81           |
| 960062  | AF2-297 E O1                         | 0.8451             | Adder         | 1.88           |
| 960081  | AF2-299 C                            | 1.8018             | 50/50         | 1.8018         |
| 960082  | AF2-299 E                            | 1.2012             | 50/50         | 1.2012         |
| 960122  | AF2-303 E O1                         | 2.3009             | Adder         | 5.11           |
| 960331  | AF2-324 C O1                         | 1.4971             | Adder         | 3.32           |
| 960332  | AF2-324 E O1                         | 0.8038             | Adder         | 1.78           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020)   | 0.4863             | Adder         | 1.08           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020)   | 0.1216             | Adder         | 0.27           |
| 960363  | AF2-327 BAT (Withdrawn : 07/22/2020) | 1.5823             | 50/50         | 1.5823         |
| 960811  | AF2-372 C                            | 0.2202             | Adder         | 0.49           |
| 960812  | AF2-372 E                            | 0.3593             | Adder         | 0.8            |
| 960821  | AF2-373 C                            | 0.1568             | Adder         | 0.35           |
| 960822  | AF2-373 E                            | 0.2353             | Adder         | 0.52           |
| 960831  | AF2-374 C                            | 0.2148             | Adder         | 0.48           |
| 960832  | AF2-374 E                            | 0.3504             | Adder         | 0.78           |
| WEC     | WEC                                  | 0.3216             | Confirmed LTF | 0.3216         |
| LGEE    | LGEE                                 | 0.6070             | Confirmed LTF | 0.6070         |
| CPL     | CPL                                  | 3.2877             | Confirmed LTF | 3.2877         |
| CBM-W2  | CBM-W2                               | 12.8665            | Confirmed LTF | 12.8665        |
| NY      | NY                                   | 0.4380             | Confirmed LTF | 0.4380         |
| CBM-W1  | CBM-W1                               | 12.0221            | Confirmed LTF | 12.0221        |
| TVA     | TVA                                  | 2.7006             | Confirmed LTF | 2.7006         |
| O-066   | O-066                                | 6.2362             | Confirmed LTF | 6.2362         |
| CBM-S2  | CBM-S2                               | 22.4784            | Confirmed LTF | 22.4784        |
| CBM-S1  | CBM-S1                               | 15.0634            | Confirmed LTF | 15.0634        |
| G-007   | G-007                                | 0.9734             | Confirmed LTF | 0.9734         |
| MADISON | MADISON                              | 0.7479             | Confirmed LTF | 0.7479         |
| MEC     | MEC                                  | 1.9449             | Confirmed LTF | 1.9449         |
| AA2-074 | AA2-074                              | 2.2410             | LTF           | 2.2410         |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706480 | 314285    | 6CHRL249 | DVP           | 314316  | 6LOCKS | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 684.0      | 163.46                | 166.34                 | DC    | 43.08     |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                               | 0.4961             | 50/50 | 0.4961         |
| 314572 | 3EMPORIA                              | 0.0563             | 50/50 | 0.0563         |
| 314704 | 3LAWRENC                              | 0.2225             | 50/50 | 0.2225         |
| 314947 | 8GREENSVILLE                          | 28.5101            | 50/50 | 28.5101        |
| 315073 | 1STONECA                              | -2.3873            | Adder | -2.81          |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.9509             | Adder | 4.65           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.9509             | Adder | 4.65           |
| 315136 | 1ROSEMG1                              | 1.4393             | 50/50 | 1.4393         |
| 315137 | 1ROSEMS1                              | 0.8925             | 50/50 | 0.8925         |
| 315138 | 1ROSEMG2                              | 0.6746             | 50/50 | 0.6746         |
| 315139 | 1GASTONA                              | 2.1424             | 50/50 | 2.1424         |
| 315141 | 1GASTONB                              | 2.1424             | 50/50 | 2.1424         |
| 315294 | 1DOMTR10                              | 3.2051             | Adder | 3.77           |
| 900672 | V4-068 E                              | 0.1060             | Adder | 0.12           |
| 917332 | Z2-043 E                              | 0.4484             | Adder | 0.53           |
| 917342 | Z2-044 E                              | 0.2477             | Adder | 0.29           |
| 917512 | Z2-088 E OP1                          | 1.5190             | Adder | 1.79           |
| 918492 | AA1-063AE OP                          | 1.7603             | Adder | 2.07           |
| 918512 | AA1-065 E OP                          | 1.3711             | Adder | 1.61           |
| 918532 | AA1-067 E                             | 0.2627             | Adder | 0.31           |
| 919692 | AA2-053 E OP                          | 1.7687             | Adder | 2.08           |
| 919702 | AA2-057 E OP                          | 1.4762             | Adder | 1.74           |
| 920042 | AA2-088 E OP                          | 3.5841             | Adder | 4.22           |
| 920592 | AA2-165 E                             | 0.2029             | Adder | 0.24           |
| 920672 | AA2-174 E OP                          | 0.2044             | Adder | 0.24           |
| 922922 | AB1-081 C OP                          | 3.7942             | Adder | 4.46           |
| 922923 | AB1-081 E OP                          | 1.6261             | Adder | 1.91           |
| 923262 | AB1-132 C OP (Suspended)              | 9.4844             | 50/50 | 9.4844         |
| 923263 | AB1-132 E OP (Suspended)              | 4.0648             | 50/50 | 4.0648         |
| 923572 | AB1-173 C OP                          | 1.5987             | 50/50 | 1.5987         |
| 923573 | AB1-173 E OP                          | 0.7460             | 50/50 | 0.7460         |
| 923582 | AB1-173AC OP                          | 1.5987             | 50/50 | 1.5987         |
| 923583 | AB1-173AE OP                          | 0.7460             | 50/50 | 0.7460         |
| 923852 | AB2-025 E                             | 1.2920             | 50/50 | 1.2920         |
| 923911 | AB2-031 C O1                          | 1.5868             | 50/50 | 1.5868         |
| 923912 | AB2-031 E O1                          | 0.7816             | 50/50 | 0.7816         |
| 923991 | AB2-040 C O1                          | 5.2105             | 50/50 | 5.2105         |
| 923992 | AB2-040 E O1                          | 4.2631             | 50/50 | 4.2631         |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924022 | AB2-043 E O1                | 1.0637             | Adder | 1.25           |
| 924152 | AB2-059 E OP                | 2.3036             | Adder | 2.71           |
| 924162 | AB2-060 E OP                | 1.5970             | Adder | 1.88           |
| 924301 | AB2-077 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924302 | AB2-077 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924501 | AB2-099 C (Suspended)       | 0.2125             | Adder | 0.25           |
| 924502 | AB2-099 E (Suspended)       | 0.0911             | Adder | 0.11           |
| 924511 | AB2-100 C                   | 1.8239             | 50/50 | 1.8239         |
| 924512 | AB2-100 E                   | 5.2081             | 50/50 | 5.2081         |
| 925122 | AB2-169 E                   | 1.8308             | Adder | 2.15           |
| 925171 | AB2-174 C O1                | 0.8914             | 50/50 | 0.8914         |
| 925172 | AB2-174 E O1                | 4.6755             | 50/50 | 4.6755         |
| 925591 | AC1-034 C                   | 2.8965             | Adder | 3.41           |
| 925592 | AC1-034 E                   | 2.1851             | Adder | 2.57           |
| 925611 | AC1-036 C                   | 0.3066             | Adder | 0.36           |
| 925612 | AC1-036 E                   | 0.5003             | Adder | 0.59           |
| 925781 | AC1-054 C O1                | 3.1054             | Adder | 3.65           |
| 925782 | AC1-054 E O1                | 1.4306             | Adder | 1.68           |
| 926071 | AC1-086 C                   | 13.9670            | 50/50 | 13.9670        |
| 926072 | AC1-086 E                   | 6.3568             | 50/50 | 6.3568         |
| 926201 | AC1-098 C                   | 2.6095             | Adder | 3.07           |
| 926202 | AC1-098 E                   | 1.5546             | Adder | 1.83           |
| 926211 | AC1-099 C                   | 0.8745             | Adder | 1.03           |
| 926212 | AC1-099 E                   | 0.5136             | Adder | 0.6            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.9829             | Adder | 2.33           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.9871             | Adder | 1.16           |
| 927021 | AC1-189 C                   | 3.2944             | Adder | 3.88           |
| 927022 | AC1-189 E                   | 1.6410             | Adder | 1.93           |
| 927141 | AC1-208 C                   | 4.0314             | Adder | 4.74           |
| 927142 | AC1-208 E                   | 1.7901             | Adder | 2.11           |
| 927251 | AC1-221 C                   | 0.7780             | Adder | 0.92           |
| 927252 | AC1-221 E                   | 0.7780             | Adder | 0.92           |
| 927261 | AC1-222 C                   | 1.2345             | Adder | 1.45           |
| 927262 | AC1-222 E                   | 1.1752             | Adder | 1.38           |
| 932631 | AC2-084 C                   | 3.7200             | Adder | 4.38           |
| 932632 | AC2-084 E                   | 1.8322             | Adder | 2.16           |
| 932761 | AC2-100 C                   | 1.7904             | Adder | 2.11           |
| 932762 | AC2-100 E                   | 0.8739             | Adder | 1.03           |
| 933991 | AD1-023 C                   | 3.8491             | Adder | 4.53           |
| 933992 | AD1-023 E                   | 2.0955             | Adder | 2.47           |
| 934311 | AD1-055 C                   | 0.8571             | Adder | 1.01           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934312 | AD1-055 E    | 0.2210             | Adder | 0.26           |
| 934331 | AD1-057 C O1 | 4.9302             | Adder | 5.8            |
| 934332 | AD1-057 E O1 | 2.6300             | Adder | 3.09           |
| 934341 | AD1-058 C    | 1.9503             | Adder | 2.29           |
| 934342 | AD1-058 E    | 0.4956             | Adder | 0.58           |
| 934611 | AD1-087 C O1 | 3.0816             | Adder | 3.63           |
| 934612 | AD1-087 E O1 | 1.4483             | Adder | 1.7            |
| 934991 | AD1-131 C    | 0.6394             | Adder | 0.75           |
| 934992 | AD1-131 E    | 0.4263             | Adder | 0.5            |
| 935171 | AD1-152 C O1 | 3.0624             | Adder | 3.6            |
| 935172 | AD1-152 E O1 | 2.0416             | Adder | 2.4            |
| 936261 | AD2-033 C    | 4.3247             | Adder | 5.09           |
| 936262 | AD2-033 E    | 2.8832             | Adder | 3.39           |
| 936361 | AD2-046 C O1 | 3.5694             | Adder | 4.2            |
| 936362 | AD2-046 E O1 | 1.6414             | Adder | 1.93           |
| 936401 | AD2-051 C O1 | 3.0488             | Adder | 3.59           |
| 936402 | AD2-051 E O1 | 1.3091             | Adder | 1.54           |
| 936481 | AD2-063 C O1 | 5.3473             | Adder | 6.29           |
| 936482 | AD2-063 E O1 | 3.5352             | Adder | 4.16           |
| 936762 | AD2-097 E    | -3.4441            | Adder | -4.05          |
| 937481 | AD2-202 C O1 | 0.8167             | Adder | 0.96           |
| 937482 | AD2-202 E O1 | 0.4594             | Adder | 0.54           |
| 938171 | AE1-026 C O1 | 9.7010             | Adder | 11.41          |
| 938172 | AE1-026 E O1 | 2.5594             | Adder | 3.01           |
| 938221 | AE1-035 C    | 0.7655             | Adder | 0.9            |
| 938222 | AE1-035 E    | 0.3770             | Adder | 0.44           |
| 938491 | AE1-068 C O1 | 33.0088            | 50/50 | 33.0088        |
| 938492 | AE1-068 E O1 | 18.2312            | 50/50 | 18.2312        |
| 938501 | AE1-069 C O1 | 25.8063            | 50/50 | 25.8063        |
| 938502 | AE1-069 E O1 | 14.7537            | 50/50 | 14.7537        |
| 939181 | AE1-148 C O1 | 3.5109             | Adder | 4.13           |
| 939182 | AE1-148 E O1 | 2.3406             | Adder | 2.75           |
| 939411 | AE1-173 C    | 31.3874            | Adder | 36.93          |
| 939412 | AE1-173 E    | 20.9250            | Adder | 24.62          |
| 940241 | AE2-006      | 0.1560             | Adder | 0.18           |
| 940471 | AE2-031 C    | 17.9777            | 50/50 | 17.9777        |
| 940472 | AE2-031 E    | 11.9851            | 50/50 | 11.9851        |
| 940481 | AE2-033 C    | 17.9557            | 50/50 | 17.9557        |
| 940482 | AE2-033 E    | 12.1050            | 50/50 | 12.1050        |
| 940542 | AE2-040 BAT  | 4.1423             | 50/50 | 4.1423         |
| 940571 | AE2-044 C    | 1.8971             | Adder | 2.23           |
| 940572 | AE2-044 E    | 0.8130             | Adder | 0.96           |
| 940661 | AE2-053 O1   | 1.3003             | Adder | 1.53           |
| 941031 | AE2-094 C    | 21.6524            | 50/50 | 21.6524        |
| 941032 | AE2-094 E    | 9.6976             | 50/50 | 9.6976         |
| 941541 | AE2-151 C    | 0.3965             | Adder | 0.47           |
| 941542 | AE2-151 E    | 0.2135             | Adder | 0.25           |
| 942451 | AE2-258      | 0.8875             | Adder | 1.04           |
| 942471 | AE2-260 C O1 | 13.5157            | 50/50 | 13.5157        |
| 942472 | AE2-260 E O1 | 19.1703            | 50/50 | 19.1703        |
| 942931 | AE2-313 C    | 19.4655            | 50/50 | 19.4655        |
| 942932 | AE2-313 E    | 12.9770            | 50/50 | 12.9770        |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943171 | AE2-346 C                          | 0.5101             | Adder         | 0.6            |
| 943172 | AE2-346 E                          | 0.2186             | Adder         | 0.26           |
| 943901 | AF1-058 C                          | 0.6841             | Adder         | 0.8            |
| 943902 | AF1-058 E                          | 0.4561             | Adder         | 0.54           |
| 943911 | AF1-059                            | 10.1430            | 50/50         | 10.1430        |
| 944011 | AF1-069 C                          | 7.0746             | 50/50         | 7.0746         |
| 944012 | AF1-069 E                          | 2.7483             | 50/50         | 2.7483         |
| 944141 | AF1-082                            | 1.2196             | Adder         | 1.43           |
| 945811 | AF1-246 C O1                       | 3.0955             | Adder         | 3.64           |
| 945812 | AF1-246 E O1                       | 4.2748             | Adder         | 5.03           |
| 946011 | AF1-266                            | 15.0304            | 50/50         | 15.0304        |
| 946281 | AF1-292 C                          | 1.2035             | 50/50         | 1.2035         |
| 946282 | AF1-292 E                          | 0.8114             | 50/50         | 0.8114         |
| 957481 | AF2-042 C O1                       | 11.6445            | Adder         | 25.85          |
| 957482 | AF2-042 E O1                       | 7.7630             | Adder         | 17.23          |
| 957521 | AF2-046 C                          | 3.1764             | Adder         | 7.05           |
| 957522 | AF2-046 E                          | 1.5978             | Adder         | 3.55           |
| 957861 | AF2-080 C                          | 1.5858             | Adder         | 3.52           |
| 957862 | AF2-080 E                          | 0.7030             | Adder         | 1.56           |
| 958142 | AF2-108 BAT                        | 2.9355             | 50/50         | 2.9355         |
| 959231 | AF2-214 C                          | 2.1725             | Adder         | 4.82           |
| 959232 | AF2-214 E                          | 3.2570             | Adder         | 7.23           |
| 959311 | AF2-222 C                          | 2.7922             | Adder         | 6.2            |
| 959312 | AF2-222 E                          | 1.8708             | Adder         | 4.15           |
| 959511 | AF2-242                            | 1.3876             | Adder         | 3.08           |
| 959731 | AF2-264 C                          | 0.4290             | Adder         | 0.95           |
| 959732 | AF2-264 E                          | 0.2113             | Adder         | 0.47           |
| 959751 | AF2-266 O1                         | 1.7973             | Adder         | 3.99           |
| 960061 | AF2-297 C O1                       | 1.4503             | Adder         | 3.22           |
| 960062 | AF2-297 E O1                       | 0.9669             | Adder         | 2.15           |
| 960081 | AF2-299 C                          | 2.0285             | 50/50         | 2.0285         |
| 960082 | AF2-299 E                          | 1.3523             | 50/50         | 1.3523         |
| 960122 | AF2-303 E O1                       | 2.7077             | Adder         | 6.01           |
| 960331 | AF2-324 C O1                       | 1.7618             | Adder         | 3.91           |
| 960332 | AF2-324 E O1                       | 0.9459             | Adder         | 2.1            |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5735             | Adder         | 1.27           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1434             | Adder         | 0.32           |
| 960811 | AF2-372 C                          | 0.2527             | Adder         | 0.56           |
| 960812 | AF2-372 E                          | 0.4124             | Adder         | 0.92           |
| 960821 | AF2-373 C                          | 0.1796             | Adder         | 0.4            |
| 960822 | AF2-373 E                          | 0.2695             | Adder         | 0.6            |
| 960831 | AF2-374 C                          | 0.2693             | Adder         | 0.6            |
| 960832 | AF2-374 E                          | 0.4394             | Adder         | 0.98           |
| WEC    | WEC                                | 0.3667             | Confirmed LTF | 0.3667         |
| LGEE   | LGEE                               | 0.6920             | Confirmed LTF | 0.6920         |
| CPL    | CPL                                | 3.8076             | Confirmed LTF | 3.8076         |
| CBM-W2 | CBM-W2                             | 14.7420            | Confirmed LTF | 14.7420        |
| NY     | NY                                 | 0.5176             | Confirmed LTF | 0.5176         |
| CBM-W1 | CBM-W1                             | 13.6859            | Confirmed LTF | 13.6859        |
| TVA    | TVA                                | 3.0996             | Confirmed LTF | 3.0996         |
| O-066  | O-066                              | 7.3450             | Confirmed LTF | 7.3450         |

| Bus #          | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|----------------|---------|--------------------|---------------|----------------|
| <b>CBM-S2</b>  | CBM-S2  | 25.9522            | Confirmed LTF | 25.9522        |
| <b>CBM-S1</b>  | CBM-S1  | 17.2786            | Confirmed LTF | 17.2786        |
| <b>G-007</b>   | G-007   | 1.1461             | Confirmed LTF | 1.1461         |
| <b>MADISON</b> | MADISON | 0.8669             | Confirmed LTF | 0.8669         |
| <b>MEC</b>     | MEC     | 2.2214             | Confirmed LTF | 2.2214         |
| <b>AA2-074</b> | AA2-074 | 2.5952             | LTF           | 2.5952         |

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| 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 |
|----------|-----------|-----------|---------------|---------|--------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706519 | 314287    | 6CHESTF B | DVP           | 314276  | 6BASIN | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 812.0      | 138.73                | 140.39                 | DC    | 29.78     |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                                | 0.2012             | 50/50 | 0.2012         |
| 314435 | 6SAPONY                               | 0.2953             | 50/50 | 0.2953         |
| 314539 | 3UNCAMP                               | 0.7963             | Adder | 0.94           |
| 314541 | 3WATKINS                              | 0.2289             | Adder | 0.27           |
| 315065 | 1CHESTF6 (Deactivation : 31/05/2023)  | 172.2577           | 50/50 | 172.2577       |
| 315073 | 1STONECA                              | 4.9609             | 50/50 | 4.9609         |
| 315074 | 1HOPCGN1 (Deactivation : 25/06/2019)  | 5.9815             | 50/50 | 5.9815         |
| 315075 | 1HOPCGN2 (Deactivation : 25/06/2019)  | 5.9040             | 50/50 | 5.9040         |
| 315076 | 1HOPPOLC                              | 1.1833             | 50/50 | 1.1833         |
| 315077 | 1HOPHCF1                              | 1.8496             | 50/50 | 1.8496         |
| 315078 | 1HOPHCF2                              | 1.8496             | 50/50 | 1.8496         |
| 315079 | 1HOPHCF3                              | 1.8496             | 50/50 | 1.8496         |
| 315080 | 1HOPHCF4                              | 2.8078             | 50/50 | 2.8078         |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 2.9753             | Adder | 3.5            |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 2.9753             | Adder | 3.5            |
| 315294 | 1DOMTR10                              | 3.3252             | Adder | 3.91           |
| 315611 | 6Z1-036WIND                           | 1.9200             | Adder | 2.26           |
| 900672 | V4-068 E                              | 0.1014             | Adder | 0.12           |
| 901082 | W1-029 E                              | 8.7895             | Adder | 10.34          |
| 907092 | X1-038 E                              | 1.9909             | Adder | 2.34           |
| 916042 | Z1-036 E (Suspended)                  | 12.8643            | Adder | 15.13          |
| 917332 | Z2-043 E                              | 0.3881             | Adder | 0.46           |
| 917342 | Z2-044 E                              | 0.1883             | Adder | 0.22           |
| 917512 | Z2-088 E OP1                          | 1.2197             | Adder | 1.43           |
| 918492 | AA1-063AE OP                          | 1.4402             | Adder | 1.69           |
| 918512 | AA1-065 E OP                          | 1.3056             | Adder | 1.54           |
| 918532 | AA1-067 E                             | 0.2265             | Adder | 0.27           |
| 919692 | AA2-053 E OP                          | 1.3550             | Adder | 1.59           |
| 919702 | AA2-057 E OP                          | 1.1304             | Adder | 1.33           |
| 920042 | AA2-088 E OP                          | 3.5947             | Adder | 4.23           |
| 920592 | AA2-165 E                             | 0.1554             | Adder | 0.18           |
| 920672 | AA2-174 E OP                          | 0.1566             | Adder | 0.18           |
| 920692 | AA2-178 E                             | 1.2173             | Adder | 1.43           |
| 922922 | AB1-081 C OP                          | 2.8617             | Adder | 3.37           |
| 922923 | AB1-081 E OP                          | 1.2264             | Adder | 1.44           |
| 923262 | AB1-132 C OP (Suspended)              | 5.6913             | Adder | 6.7            |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 923263 | AB1-132 E OP<br>(Suspended) | 2.4391             | Adder | 2.87           |
| 923572 | AB1-173 C OP                | 0.9297             | Adder | 1.09           |
| 923573 | AB1-173 E OP                | 0.4339             | Adder | 0.51           |
| 923582 | AB1-173AC OP                | 0.9297             | Adder | 1.09           |
| 923583 | AB1-173AE OP                | 0.4339             | Adder | 0.51           |
| 923801 | AB2-015 C OP                | 2.8543             | Adder | 3.36           |
| 923802 | AB2-015 E OP                | 2.3405             | Adder | 2.75           |
| 923852 | AB2-025 E                   | 0.7691             | 50/50 | 0.7691         |
| 923911 | AB2-031 C O1                | 0.9228             | Adder | 1.09           |
| 923912 | AB2-031 E O1                | 0.4545             | Adder | 0.53           |
| 923991 | AB2-040 C O1                | 3.0301             | Adder | 3.56           |
| 923992 | AB2-040 E O1                | 2.4792             | Adder | 2.92           |
| 924152 | AB2-059 E OP                | 1.7375             | Adder | 2.04           |
| 924501 | AB2-099 C (Suspended)       | 0.1958             | Adder | 0.23           |
| 924502 | AB2-099 E (Suspended)       | 0.0839             | Adder | 0.1            |
| 924512 | AB2-100 E                   | 2.8115             | Adder | 3.31           |
| 924812 | AB2-134 E OP                | 5.9824             | Adder | 7.04           |
| 925051 | AB2-160 C O1<br>(Suspended) | 3.5452             | 50/50 | 3.5452         |
| 925052 | AB2-160 E O1<br>(Suspended) | 5.7844             | 50/50 | 5.7844         |
| 925061 | AB2-161 C O1<br>(Suspended) | 1.6051             | Adder | 1.89           |
| 925062 | AB2-161 E O1<br>(Suspended) | 2.6189             | Adder | 3.08           |
| 925122 | AB2-169 E                   | 1.7850             | Adder | 2.1            |
| 925172 | AB2-174 E O1                | 2.6793             | Adder | 3.15           |
| 925331 | AB2-190 C                   | 9.7494             | Adder | 11.47          |
| 925332 | AB2-190 E                   | 4.1783             | Adder | 4.92           |
| 925591 | AC1-034 C                   | 2.1846             | Adder | 2.57           |
| 925592 | AC1-034 E                   | 1.6480             | Adder | 1.94           |
| 925781 | AC1-054 C O1                | 2.1931             | Adder | 2.58           |
| 925782 | AC1-054 E O1                | 1.0103             | Adder | 1.19           |
| 926071 | AC1-086 C                   | 8.3811             | Adder | 9.86           |
| 926072 | AC1-086 E                   | 3.8145             | Adder | 4.49           |
| 926201 | AC1-098 C                   | 2.0819             | Adder | 2.45           |
| 926202 | AC1-098 E                   | 1.2403             | Adder | 1.46           |
| 926211 | AC1-099 C                   | 0.6976             | Adder | 0.82           |
| 926212 | AC1-099 E                   | 0.4097             | Adder | 0.48           |
| 927021 | AC1-189 C                   | 2.7052             | Adder | 3.18           |
| 927022 | AC1-189 E                   | 1.3476             | Adder | 1.59           |
| 927141 | AC1-208 C                   | 3.1013             | Adder | 3.65           |
| 927142 | AC1-208 E                   | 1.3771             | Adder | 1.62           |
| 927222 | AC1-216 E O1                | 3.6521             | Adder | 4.3            |
| 932581 | AC2-078 C O1                | 3.0132             | 50/50 | 3.0132         |
| 932582 | AC2-078 E O1                | 4.9164             | 50/50 | 4.9164         |
| 932591 | AC2-079 C O1                | 2.3241             | Adder | 2.73           |
| 932592 | AC2-079 E O1                | 3.7919             | Adder | 4.46           |
| 932631 | AC2-084 C                   | 2.9678             | Adder | 3.49           |
| 932632 | AC2-084 E                   | 1.4617             | Adder | 1.72           |
| 933991 | AD1-023 C                   | 4.0664             | Adder | 4.78           |
| 933992 | AD1-023 E                   | 2.2137             | Adder | 2.6            |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934011 | AD1-025 C    | 7.9822             | Adder | 9.39           |
| 934012 | AD1-025 E    | 4.7283             | Adder | 5.56           |
| 934331 | AD1-057 C O1 | 3.5880             | Adder | 4.22           |
| 934332 | AD1-057 E O1 | 1.9140             | Adder | 2.25           |
| 934521 | AD1-076 C    | 16.5492            | Adder | 19.47          |
| 934522 | AD1-076 E    | 8.4269             | Adder | 9.91           |
| 934571 | AD1-082 C    | 3.6580             | Adder | 4.3            |
| 934572 | AD1-082 E    | 2.0867             | Adder | 2.45           |
| 935111 | AD1-144 C    | 0.4786             | Adder | 0.56           |
| 935112 | AD1-144 E    | 0.2615             | Adder | 0.31           |
| 935161 | AD1-151 C O1 | 7.8344             | Adder | 9.22           |
| 935162 | AD1-151 E O1 | 5.2229             | Adder | 6.14           |
| 936041 | AD2-007 C    | 0.3813             | Adder | 0.45           |
| 936042 | AD2-007 E    | 0.2627             | Adder | 0.31           |
| 936051 | AD2-008 C    | 1.3897             | Adder | 1.63           |
| 936052 | AD2-008 E    | 3.0251             | Adder | 3.56           |
| 936401 | AD2-051 C O1 | 2.8693             | Adder | 3.38           |
| 936402 | AD2-051 E O1 | 1.2320             | Adder | 1.45           |
| 936661 | AD2-085 C    | 1.4056             | Adder | 1.65           |
| 936662 | AD2-085 E    | 2.2934             | Adder | 2.7            |
| 936762 | AD2-097 E    | -12.3121           | Adder | -14.48         |
| 937541 | AD2-215 C    | 0.4836             | Adder | 0.57           |
| 937542 | AD2-215 E    | 0.2566             | Adder | 0.3            |
| 938171 | AE1-026 C O1 | 10.0174            | Adder | 11.79          |
| 938172 | AE1-026 E O1 | 2.6428             | Adder | 3.11           |
| 938221 | AE1-035 C    | 0.7290             | Adder | 0.86           |
| 938222 | AE1-035 E    | 0.3590             | Adder | 0.42           |
| 938491 | AE1-068 C O1 | 19.9452            | Adder | 23.46          |
| 938492 | AE1-068 E O1 | 11.0160            | Adder | 12.96          |
| 938501 | AE1-069 C O1 | 15.5884            | Adder | 18.34          |
| 938502 | AE1-069 E O1 | 8.9120             | Adder | 10.48          |
| 938561 | AE1-075 C    | -0.6325            | Adder | -0.74          |
| 938631 | AE1-085 C O1 | 6.3710             | 50/50 | 6.3710         |
| 938632 | AE1-085 E O1 | 3.1855             | 50/50 | 3.1855         |
| 938771 | AE1-103 C O1 | 1.1945             | Adder | 1.41           |
| 938772 | AE1-103 E O1 | 1.6496             | Adder | 1.94           |
| 939191 | AE1-149 C O1 | 8.2848             | 50/50 | 8.2848         |
| 939192 | AE1-149 E O1 | 5.5232             | 50/50 | 5.5232         |
| 939311 | AE1-162 C    | 0.6913             | Adder | 0.81           |
| 939312 | AE1-162 E    | 0.4608             | Adder | 0.54           |
| 939411 | AE1-173 C    | 27.3523            | Adder | 32.18          |
| 939412 | AE1-173 E    | 18.2349            | Adder | 21.45          |
| 940061 | AE2-000BC O1 | 7.6033             | Adder | 8.95           |
| 940062 | AE2-000BE O1 | 5.0689             | Adder | 5.96           |
| 940471 | AE2-031 C    | 10.8455            | Adder | 12.76          |
| 940472 | AE2-031 E    | 7.2303             | Adder | 8.51           |
| 940481 | AE2-033 C    | 10.7619            | 50/50 | 10.7619        |
| 940482 | AE2-033 E    | 7.2552             | 50/50 | 7.2552         |
| 940491 | AE2-034 C    | 2.1302             | Adder | 2.51           |
| 940492 | AE2-034 E    | 0.9130             | Adder | 1.07           |
| 940541 | AE2-040 O1   | 1.5563             | Adder | 1.83           |
| 940571 | AE2-044 C    | 1.4309             | Adder | 1.68           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 940572 | AE2-044 E    | 0.6132             | Adder | 0.72           |
| 940651 | AE2-052      | 2.7616             | 50/50 | 2.7616         |
| 940891 | AE2-078 C    | 0.7870             | Adder | 0.93           |
| 940892 | AE2-078 E    | 0.4054             | Adder | 0.48           |
| 940901 | AE2-079 C    | 0.7870             | Adder | 0.93           |
| 940902 | AE2-079 E    | 0.4054             | Adder | 0.48           |
| 941031 | AE2-094 C    | 13.0910            | Adder | 15.4           |
| 941032 | AE2-094 E    | 5.8632             | Adder | 6.9            |
| 941101 | AE2-104 C O1 | 1.0510             | Adder | 1.24           |
| 941102 | AE2-104 E O1 | 1.6709             | Adder | 1.97           |
| 941501 | AE2-147 C    | 4.3704             | Adder | 5.14           |
| 941502 | AE2-147 E    | 2.9136             | Adder | 3.43           |
| 941541 | AE2-151 C    | 0.3607             | Adder | 0.42           |
| 941542 | AE2-151 E    | 0.1942             | Adder | 0.23           |
| 942001 | AE2-212 C    | 2.5464             | 50/50 | 2.5464         |
| 942002 | AE2-212 E    | 1.6976             | 50/50 | 1.6976         |
| 942131 | AE2-225 C    | 0.5847             | Adder | 0.69           |
| 942132 | AE2-225 E    | 0.3898             | Adder | 0.46           |
| 942161 | AE2-228 C    | 2.9190             | 50/50 | 2.9190         |
| 942162 | AE2-228 E    | 1.9460             | 50/50 | 1.9460         |
| 942171 | AE2-229 C    | 0.5847             | Adder | 0.69           |
| 942172 | AE2-229 E    | 0.3898             | Adder | 0.46           |
| 942341 | AE2-247 C    | 0.6113             | Adder | 0.72           |
| 942342 | AE2-247 E    | 0.8441             | Adder | 0.99           |
| 942371 | AE2-250 C O1 | 6.2975             | 50/50 | 6.2975         |
| 942372 | AE2-250 E O1 | 3.3237             | 50/50 | 3.3237         |
| 942471 | AE2-260 C O1 | 7.2256             | Adder | 8.5            |
| 942472 | AE2-260 E O1 | 10.2487            | Adder | 12.06          |
| 942551 | AE2-270      | 12.6786            | Adder | 14.92          |
| 942851 | AE2-304 C    | 0.1758             | Adder | 0.21           |
| 942852 | AE2-304 E    | 0.0684             | Adder | 0.08           |
| 942931 | AE2-313 C    | 11.7431            | Adder | 13.82          |
| 942932 | AE2-313 E    | 7.8287             | Adder | 9.21           |
| 943171 | AE2-346 C    | 0.4698             | Adder | 0.55           |
| 943172 | AE2-346 E    | 0.2013             | Adder | 0.24           |
| 943461 | AF1-017 C    | 0.5530             | Adder | 0.65           |
| 943462 | AF1-017 E    | 0.9023             | Adder | 1.06           |
| 943611 | AF1-032 C    | 0.4775             | Adder | 0.56           |
| 943612 | AF1-032 E    | 0.2534             | Adder | 0.3            |
| 943621 | AF1-033 C    | 0.7870             | Adder | 0.93           |
| 943622 | AF1-033 E    | 0.4054             | Adder | 0.48           |
| 943911 | AF1-059      | 5.6236             | Adder | 6.62           |
| 944011 | AF1-069 C    | 4.2773             | Adder | 5.03           |
| 944012 | AF1-069 E    | 1.6616             | Adder | 1.95           |
| 944141 | AF1-082      | 0.9198             | Adder | 1.08           |
| 944501 | AF1-115 C O1 | 2.3967             | Adder | 2.82           |
| 944502 | AF1-115 E O1 | 1.1805             | Adder | 1.39           |
| 944871 | AF1-152 C    | 1.4568             | Adder | 1.71           |
| 944872 | AF1-152 E    | 0.9712             | Adder | 1.14           |
| 945711 | AF1-236 C O1 | 23.3208            | Adder | 27.44          |
| 945712 | AF1-236 E O1 | 38.0498            | Adder | 44.76          |
| 945811 | AF1-246 C O1 | 2.1420             | Adder | 2.52           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type                  | Full MW Impact |
|--------|------------------------------------|--------------------|-----------------------|----------------|
| 945812 | AF1-246 E O1                       | 2.9580             | Adder                 | 3.48           |
| 946011 | AF1-266                            | 9.0085             | 50/50                 | 9.0085         |
| 946261 | AF1-291 C                          | 2.9454             | 50/50                 | 2.9454         |
| 946262 | AF1-291 E                          | 1.9636             | 50/50                 | 1.9636         |
| 946281 | AF1-292 C                          | 0.6661             | Adder                 | 0.78           |
| 946282 | AF1-292 E                          | 0.4491             | Adder                 | 0.53           |
| 957481 | AF2-042 C O1                       | 8.0495             | Adder                 | 17.87          |
| 957482 | AF2-042 E O1                       | 5.3664             | Adder                 | 11.91          |
| 957491 | AF2-043 C                          | 0.3099             | Adder                 | 0.69           |
| 957492 | AF2-043 E                          | 0.2066             | Adder                 | 0.46           |
| 957521 | AF2-046 C                          | 3.0168             | Adder                 | 6.7            |
| 957522 | AF2-046 E                          | 1.5175             | Adder                 | 3.37           |
| 957531 | AF2-047 C                          | 2.6828             | Adder                 | 5.96           |
| 957532 | AF2-047 E                          | 1.3494             | Adder                 | 3.0            |
| 957711 | AF2-065 C                          | 3.4270             | Adder                 | 7.61           |
| 957712 | AF2-065 E                          | 3.2926             | Adder                 | 7.31           |
| 957791 | AF2-073 C (Withdrawn : 07/02/2020) | 1.4644             | Adder                 | 3.25           |
| 957792 | AF2-073 E (Withdrawn : 07/02/2020) | 0.9363             | Adder                 | 2.08           |
| 957801 | AF2-074 C (Withdrawn : 07/02/2020) | 0.6508             | Adder                 | 1.44           |
| 957802 | AF2-074 E (Withdrawn : 07/02/2020) | 0.4161             | Adder                 | 0.92           |
| 957821 | AF2-076 C O1                       | 0.7804             | Adder                 | 1.73           |
| 957822 | AF2-076 E O1                       | 0.5202             | Adder                 | 1.15           |
| 957861 | AF2-080 C                          | 1.3022             | Adder                 | 2.89           |
| 957862 | AF2-080 E                          | 0.5773             | Adder                 | 1.28           |
| 957912 | AF2-085 BAT                        | 0.9406             | Merchant Transmission | 0.9406         |
| 958141 | AF2-108                            | 3.0980             | 50/50                 | 3.0980         |
| 958161 | AF2-110 C                          | 0.2296             | Adder                 | 0.51           |
| 958162 | AF2-110 E                          | 0.3592             | Adder                 | 0.8            |
| 958503 | AF2-144 BAT                        | 0.3259             | Merchant Transmission | 0.3259         |
| 959231 | AF2-214 C                          | 1.6386             | Adder                 | 3.64           |
| 959232 | AF2-214 E                          | 2.4565             | Adder                 | 5.45           |
| 959511 | AF2-242                            | 1.2912             | Adder                 | 2.87           |
| 959651 | AF2-256 C                          | 0.7297             | 50/50                 | 0.7297         |
| 959652 | AF2-256 E                          | 0.4865             | 50/50                 | 0.4865         |
| 959661 | AF2-257 C                          | 0.7364             | 50/50                 | 0.7364         |
| 959662 | AF2-257 E                          | 0.4909             | 50/50                 | 0.4909         |
| 959671 | AF2-258 C                          | 0.6366             | 50/50                 | 0.6366         |
| 959672 | AF2-258 E                          | 0.4244             | 50/50                 | 0.4244         |
| 959681 | AF2-259 C                          | 2.6555             | 50/50                 | 2.6555         |
| 959682 | AF2-259 E                          | 1.7703             | 50/50                 | 1.7703         |
| 959731 | AF2-264 C                          | 0.4009             | Adder                 | 0.89           |
| 959732 | AF2-264 E                          | 0.1975             | Adder                 | 0.44           |
| 960081 | AF2-299 C                          | 0.5950             | Adder                 | 1.32           |
| 960082 | AF2-299 E                          | 0.3967             | Adder                 | 0.88           |
| 960101 | AF2-301 C                          | 0.4094             | Adder                 | 0.91           |
| 960102 | AF2-301 E                          | 0.2730             | Adder                 | 0.61           |
| 960122 | AF2-303 E O1                       | 2.0391             | Adder                 | 4.53           |
| 960132 | AF2-304 E O1                       | 2.7453             | Adder                 | 6.09           |
| 960331 | AF2-324 C O1                       | 1.3268             | Adder                 | 2.95           |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 960332  | AF2-324 E O1                       | 0.7123             | Adder         | 1.58           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020) | 0.4329             | Adder         | 0.96           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020) | 0.1082             | Adder         | 0.24           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 0.7803             | Adder         | 1.73           |
| 960362  | AF2-327 E (Withdrawn : 07/22/2020) | 0.1951             | Adder         | 0.43           |
| 960831  | AF2-374 C                          | 0.2298             | Adder         | 0.51           |
| 960832  | AF2-374 E                          | 0.3750             | Adder         | 0.83           |
| 961091  | AF2-400 C                          | 0.0817             | Adder         | 0.18           |
| 961092  | AF2-400 E                          | 0.1340             | Adder         | 0.3            |
| 961111  | AF2-402 C O1                       | 0.2726             | Adder         | 0.61           |
| 961112  | AF2-402 E O1                       | 0.4457             | Adder         | 0.99           |
| WEC     | WEC                                | 0.2240             | Confirmed LTF | 0.2240         |
| LGEE    | LGEE                               | 0.4262             | Confirmed LTF | 0.4262         |
| CPL     | CPL                                | 2.7598             | Confirmed LTF | 2.7598         |
| CBM-W2  | CBM-W2                             | 9.7133             | Confirmed LTF | 9.7133         |
| NY      | NY                                 | 0.4678             | Confirmed LTF | 0.4678         |
| CBM-W1  | CBM-W1                             | 8.2441             | Confirmed LTF | 8.2441         |
| TVA     | TVA                                | 2.0916             | Confirmed LTF | 2.0916         |
| O-066   | O-066                              | 6.4512             | Confirmed LTF | 6.4512         |
| CBM-S2  | CBM-S2                             | 18.4960            | Confirmed LTF | 18.4960        |
| CBM-S1  | CBM-S1                             | 11.5446            | Confirmed LTF | 11.5446        |
| G-007   | G-007                              | 1.0057             | Confirmed LTF | 1.0057         |
| MADISON | MADISON                            | 0.6471             | Confirmed LTF | 0.6471         |
| MEC     | MEC                                | 1.4079             | Confirmed LTF | 1.4079         |
| AA2-074 | AA2-074                            | 1.8806             | LTF           | 1.8806         |

## 11.6.18 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 |
|----------|-----------|----------|---------------|---------|---------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706529 | 314299    | 6HARROWG | DVP           | 314263  | 6TYLER1 | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 541.0      | 138.79                | 141.43                 | DC    | 31.7      |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                               | 0.3501             | 50/50 | 0.3501         |
| 314539 | 3UNCAMP                               | 0.6872             | Adder | 0.81           |
| 314541 | 3WATKINS                              | 0.2020             | Adder | 0.24           |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.0029             | Adder | 3.53           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.0029             | Adder | 3.53           |
| 900672 | V4-068 E                              | 0.0934             | Adder | 0.11           |
| 907092 | X1-038 E                              | 1.7181             | Adder | 2.02           |
| 917332 | Z2-043 E                              | 0.3606             | Adder | 0.42           |
| 917342 | Z2-044 E                              | 0.1895             | Adder | 0.22           |
| 917512 | Z2-088 E OP1                          | 1.1777             | Adder | 1.39           |
| 918492 | AA1-063AE OP                          | 1.4311             | Adder | 1.68           |
| 918512 | AA1-065 E OP                          | 1.1298             | Adder | 1.33           |
| 918532 | AA1-067 E                             | 0.2085             | Adder | 0.25           |
| 919692 | AA2-053 E OP                          | 1.3707             | Adder | 1.61           |
| 919702 | AA2-057 E OP                          | 1.1342             | Adder | 1.33           |
| 920042 | AA2-088 E OP                          | 3.3180             | Adder | 3.9            |
| 920592 | AA2-165 E                             | 0.1559             | Adder | 0.18           |
| 920672 | AA2-174 E OP                          | 0.1584             | Adder | 0.19           |
| 922922 | AB1-081 C OP                          | 2.8884             | Adder | 3.4            |
| 922923 | AB1-081 E OP                          | 1.2379             | Adder | 1.46           |
| 923262 | AB1-132 C OP (Suspended)              | 6.0126             | Adder | 7.07           |
| 923263 | AB1-132 E OP (Suspended)              | 2.5768             | Adder | 3.03           |
| 923572 | AB1-173 C OP                          | 1.0096             | Adder | 1.19           |
| 923573 | AB1-173 E OP                          | 0.4711             | Adder | 0.55           |
| 923582 | AB1-173AC OP                          | 1.0096             | Adder | 1.19           |
| 923583 | AB1-173AE OP                          | 0.4711             | Adder | 0.55           |
| 923801 | AB2-015 C OP                          | 2.4956             | Adder | 2.94           |
| 923802 | AB2-015 E OP                          | 2.0464             | Adder | 2.41           |
| 923852 | AB2-025 E                             | 0.9118             | 50/50 | 0.9118         |
| 923911 | AB2-031 C O1                          | 1.0021             | Adder | 1.18           |
| 923912 | AB2-031 E O1                          | 0.4936             | Adder | 0.58           |
| 923991 | AB2-040 C O1                          | 3.2905             | Adder | 3.87           |
| 923992 | AB2-040 E O1                          | 2.6922             | Adder | 3.17           |
| 924022 | AB2-043 E O1                          | 0.7888             | Adder | 0.93           |
| 924152 | AB2-059 E OP                          | 1.7537             | Adder | 2.06           |
| 924162 | AB2-060 E OP                          | 1.1840             | Adder | 1.39           |
| 924301 | AB2-077 C O1 (Suspended)              | 0.5601             | Adder | 0.66           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924302 | AB2-077 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924501 | AB2-099 C (Suspended)       | 0.1773             | Adder | 0.21           |
| 924502 | AB2-099 E (Suspended)       | 0.0760             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.3143             | 50/50 | 1.3143         |
| 924512 | AB2-100 E                   | 3.7528             | 50/50 | 3.7528         |
| 925061 | AB2-161 C O1<br>(Suspended) | 2.4158             | 50/50 | 2.4158         |
| 925062 | AB2-161 E O1<br>(Suspended) | 3.9416             | 50/50 | 3.9416         |
| 925122 | AB2-169 E                   | 1.5101             | Adder | 1.78           |
| 925172 | AB2-174 E O1                | 2.9357             | Adder | 3.45           |
| 925591 | AC1-034 C                   | 2.2050             | Adder | 2.59           |
| 925592 | AC1-034 E                   | 1.6634             | Adder | 1.96           |
| 925781 | AC1-054 C O1                | 2.3459             | Adder | 2.76           |
| 925782 | AC1-054 E O1                | 1.0807             | Adder | 1.27           |
| 926071 | AC1-086 C                   | 8.8543             | Adder | 10.42          |
| 926072 | AC1-086 E                   | 4.0299             | Adder | 4.74           |
| 926201 | AC1-098 C                   | 2.0384             | Adder | 2.4            |
| 926202 | AC1-098 E                   | 1.2144             | Adder | 1.43           |
| 926211 | AC1-099 C                   | 0.6831             | Adder | 0.8            |
| 926212 | AC1-099 E                   | 0.4012             | Adder | 0.47           |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.4685             | Adder | 1.73           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.7310             | Adder | 0.86           |
| 927021 | AC1-189 C                   | 2.5727             | Adder | 3.03           |
| 927022 | AC1-189 E                   | 1.2815             | Adder | 1.51           |
| 927141 | AC1-208 C                   | 3.1122             | Adder | 3.66           |
| 927142 | AC1-208 E                   | 1.3819             | Adder | 1.63           |
| 932581 | AC2-078 C O1                | 4.5616             | 50/50 | 4.5616         |
| 932582 | AC2-078 E O1                | 7.4426             | 50/50 | 7.4426         |
| 932591 | AC2-079 C O1                | 2.5898             | Adder | 3.05           |
| 932592 | AC2-079 E O1                | 4.2255             | Adder | 4.97           |
| 932631 | AC2-084 C                   | 2.9058             | Adder | 3.42           |
| 932632 | AC2-084 E                   | 1.4312             | Adder | 1.68           |
| 934331 | AD1-057 C O1                | 3.7094             | Adder | 4.36           |
| 934332 | AD1-057 E O1                | 1.9787             | Adder | 2.33           |
| 934571 | AD1-082 C                   | 5.5056             | 50/50 | 5.5056         |
| 934572 | AD1-082 E                   | 3.1406             | 50/50 | 3.1406         |
| 934611 | AD1-087 C O1                | 2.2736             | Adder | 2.67           |
| 934612 | AD1-087 E O1                | 1.0686             | Adder | 1.26           |
| 935171 | AD1-152 C O1                | 2.2595             | Adder | 2.66           |
| 935172 | AD1-152 E O1                | 1.5063             | Adder | 1.77           |
| 936361 | AD2-046 C O1                | 2.6732             | Adder | 3.14           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936362 | AD2-046 E O1 | 1.2293             | Adder | 1.45           |
| 936401 | AD2-051 C O1 | 2.5014             | Adder | 2.94           |
| 936402 | AD2-051 E O1 | 1.0741             | Adder | 1.26           |
| 936481 | AD2-063 C O1 | 3.9604             | Adder | 4.66           |
| 936482 | AD2-063 E O1 | 2.6183             | Adder | 3.08           |
| 936661 | AD2-085 C    | 1.5789             | Adder | 1.86           |
| 936662 | AD2-085 E    | 2.5762             | Adder | 3.03           |
| 936762 | AD2-097 E    | -2.9410            | Adder | -3.46          |
| 937481 | AD2-202 C O1 | 0.6025             | Adder | 0.71           |
| 937482 | AD2-202 E O1 | 0.3389             | Adder | 0.4            |
| 938171 | AE1-026 C O1 | 8.1805             | Adder | 9.62           |
| 938172 | AE1-026 E O1 | 2.1582             | Adder | 2.54           |
| 938221 | AE1-035 C    | 0.6308             | Adder | 0.74           |
| 938222 | AE1-035 E    | 0.3107             | Adder | 0.37           |
| 938491 | AE1-068 C O1 | 20.6407            | Adder | 24.28          |
| 938492 | AE1-068 E O1 | 11.4001            | Adder | 13.41          |
| 938501 | AE1-069 C O1 | 16.1400            | Adder | 18.99          |
| 938502 | AE1-069 E O1 | 9.2274             | Adder | 10.86          |
| 938631 | AE1-085 C O1 | 9.4765             | 50/50 | 9.4765         |
| 938632 | AE1-085 E O1 | 4.7383             | 50/50 | 4.7383         |
| 938771 | AE1-103 C O1 | 1.0308             | Adder | 1.21           |
| 938772 | AE1-103 E O1 | 1.4235             | Adder | 1.67           |
| 939181 | AE1-148 C O1 | 2.6282             | Adder | 3.09           |
| 939182 | AE1-148 E O1 | 1.7522             | Adder | 2.06           |
| 939191 | AE1-149 C O1 | 12.7956            | 50/50 | 12.7956        |
| 939192 | AE1-149 E O1 | 8.5304             | 50/50 | 8.5304         |
| 939411 | AE1-173 C    | 24.2638            | Adder | 28.55          |
| 939412 | AE1-173 E    | 16.1758            | Adder | 19.03          |
| 940061 | AE2-000BC O1 | 11.4435            | 50/50 | 11.4435        |
| 940062 | AE2-000BE O1 | 7.6290             | 50/50 | 7.6290         |
| 940471 | AE2-031 C    | 11.2374            | Adder | 13.22          |
| 940472 | AE2-031 E    | 7.4916             | Adder | 8.81           |
| 940481 | AE2-033 C    | 12.6994            | 50/50 | 12.6994        |
| 940482 | AE2-033 E    | 8.5614             | 50/50 | 8.5614         |
| 940571 | AE2-044 C    | 1.4442             | Adder | 1.7            |
| 940572 | AE2-044 E    | 0.6189             | Adder | 0.73           |
| 940651 | AE2-052      | 4.2652             | 50/50 | 4.2652         |
| 940661 | AE2-053 O1   | 0.9734             | Adder | 1.15           |
| 941031 | AE2-094 C    | 13.5348            | Adder | 15.92          |
| 941032 | AE2-094 E    | 6.0619             | Adder | 7.13           |
| 941101 | AE2-104 C O1 | 0.8265             | Adder | 0.97           |
| 941102 | AE2-104 E O1 | 1.3139             | Adder | 1.55           |
| 941541 | AE2-151 C    | 0.3249             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1749             | Adder | 0.21           |
| 942341 | AE2-247 C    | 0.6889             | Adder | 0.81           |
| 942342 | AE2-247 E    | 0.9513             | Adder | 1.12           |
| 942451 | AE2-258      | 0.6581             | Adder | 0.77           |
| 942471 | AE2-260 C O1 | 9.7098             | 50/50 | 9.7098         |
| 942472 | AE2-260 E O1 | 13.7722            | 50/50 | 13.7722        |
| 942931 | AE2-313 C    | 12.1674            | Adder | 14.31          |
| 942932 | AE2-313 E    | 8.1116             | Adder | 9.54           |
| 943171 | AE2-346 C    | 0.4256             | Adder | 0.5            |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943172 | AE2-346 E                          | 0.1824             | Adder         | 0.21           |
| 943461 | AF1-017 C                          | 0.6233             | Adder         | 0.73           |
| 943462 | AF1-017 E                          | 1.0169             | Adder         | 1.2            |
| 943911 | AF1-059                            | 6.3283             | Adder         | 7.45           |
| 944011 | AF1-069 C                          | 4.4223             | Adder         | 5.2            |
| 944012 | AF1-069 E                          | 1.7180             | Adder         | 2.02           |
| 944141 | AF1-082                            | 0.9284             | Adder         | 1.09           |
| 945811 | AF1-246 C O1                       | 2.2784             | Adder         | 2.68           |
| 945812 | AF1-246 E O1                       | 3.1463             | Adder         | 3.7            |
| 946011 | AF1-266                            | 10.6304            | 50/50         | 10.6304        |
| 946281 | AF1-292 C                          | 0.7457             | Adder         | 0.88           |
| 946282 | AF1-292 E                          | 0.5027             | Adder         | 0.59           |
| 957481 | AF2-042 C O1                       | 8.5699             | Adder         | 19.02          |
| 957482 | AF2-042 E O1                       | 5.7132             | Adder         | 12.68          |
| 957521 | AF2-046 C                          | 2.7695             | Adder         | 6.15           |
| 957522 | AF2-046 E                          | 1.3931             | Adder         | 3.09           |
| 957861 | AF2-080 C                          | 1.2384             | Adder         | 2.75           |
| 957862 | AF2-080 E                          | 0.5490             | Adder         | 1.22           |
| 958161 | AF2-110 C                          | 0.1806             | Adder         | 0.4            |
| 958162 | AF2-110 E                          | 0.2824             | Adder         | 0.63           |
| 959231 | AF2-214 C                          | 1.6538             | Adder         | 3.67           |
| 959232 | AF2-214 E                          | 2.4794             | Adder         | 5.5            |
| 959511 | AF2-242                            | 1.1275             | Adder         | 2.5            |
| 959731 | AF2-264 C                          | 0.3655             | Adder         | 0.81           |
| 959732 | AF2-264 E                          | 0.1800             | Adder         | 0.4            |
| 959751 | AF2-266 O1                         | 1.3233             | Adder         | 2.94           |
| 960081 | AF2-299 C                          | 0.6661             | Adder         | 1.48           |
| 960082 | AF2-299 E                          | 0.4441             | Adder         | 0.99           |
| 960122 | AF2-303 E O1                       | 2.0580             | Adder         | 4.57           |
| 960331 | AF2-324 C O1                       | 1.3391             | Adder         | 2.97           |
| 960332 | AF2-324 E O1                       | 0.7189             | Adder         | 1.6            |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.4368             | Adder         | 0.97           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1092             | Adder         | 0.24           |
| 960361 | AF2-327 C (Withdrawn : 07/22/2020) | 2.3496             | 50/50         | 2.3496         |
| 960362 | AF2-327 E (Withdrawn : 07/22/2020) | 0.5874             | 50/50         | 0.5874         |
| 960811 | AF2-372 C                          | 0.1875             | Adder         | 0.42           |
| 960812 | AF2-372 E                          | 0.3060             | Adder         | 0.68           |
| 960821 | AF2-373 C                          | 0.1331             | Adder         | 0.3            |
| 960822 | AF2-373 E                          | 0.1996             | Adder         | 0.44           |
| 960831 | AF2-374 C                          | 0.2160             | Adder         | 0.48           |
| 960832 | AF2-374 E                          | 0.3524             | Adder         | 0.78           |
| 961091 | AF2-400 C                          | 0.0714             | Adder         | 0.16           |
| 961092 | AF2-400 E                          | 0.1172             | Adder         | 0.26           |
| 961111 | AF2-402 C O1                       | 0.7542             | 50/50         | 0.7542         |
| 961112 | AF2-402 E O1                       | 1.2330             | 50/50         | 1.2330         |
| WEC    | WEC                                | 0.2693             | Confirmed LTF | 0.2693         |
| LGEE   | LGEE                               | 0.5089             | Confirmed LTF | 0.5089         |
| CPLE   | CPLE                               | 2.8524             | Confirmed LTF | 2.8524         |
| CBM-W2 | CBM-W2                             | 10.9173            | Confirmed LTF | 10.9173        |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>NY</b>      | NY         | 0.3971                    | Confirmed LTF | 0.3971                |
| <b>CBM-W1</b>  | CBM-W1     | 10.0455                   | Confirmed LTF | 10.0455               |
| <b>TVA</b>     | TVA        | 2.3002                    | Confirmed LTF | 2.3002                |
| <b>O-066</b>   | O-066      | 5.6112                    | Confirmed LTF | 5.6112                |
| <b>CBM-S2</b>  | CBM-S2     | 19.3746                   | Confirmed LTF | 19.3746               |
| <b>CBM-S1</b>  | CBM-S1     | 12.8056                   | Confirmed LTF | 12.8056               |
| <b>G-007</b>   | G-007      | 0.8757                    | Confirmed LTF | 0.8757                |
| <b>MADISON</b> | MADISON    | 0.6492                    | Confirmed LTF | 0.6492                |
| <b>MEC</b>     | MEC        | 1.6383                    | Confirmed LTF | 1.6383                |
| <b>AA2-074</b> | AA2-074    | 1.9440                    | LTF           | 1.9440                |

## 11.6.19 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706584 | 314301    | 6HARR205 | DVP           | 314346  | 6TYLER | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 541.0      | 121.09                | 123.9                  | DC    | 33.8      |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                                | 0.4484             | 50/50 | 0.4484         |
| 314435 | 6SAPONY                               | 0.3847             | 50/50 | 0.3847         |
| 314572 | 3EMPORIA                              | 0.0441             | 50/50 | 0.0441         |
| 315073 | 1STONECA                              | -2.0407            | Adder | -2.4           |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.1256             | Adder | 3.68           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.1256             | Adder | 3.68           |
| 917342 | Z2-044 E                              | 0.1963             | Adder | 0.23           |
| 918492 | AA1-063AE OP                          | 1.4180             | Adder | 1.67           |
| 919692 | AA2-053 E OP                          | 1.4063             | Adder | 1.65           |
| 919702 | AA2-057 E OP                          | 1.1712             | Adder | 1.38           |
| 920592 | AA2-165 E                             | 0.1610             | Adder | 0.19           |
| 920672 | AA2-174 E OP                          | 0.1625             | Adder | 0.19           |
| 922922 | AB1-081 C OP                          | 3.0031             | Adder | 3.53           |
| 922923 | AB1-081 E OP                          | 1.2870             | Adder | 1.51           |
| 923262 | AB1-132 C OP (Suspended)              | 6.3446             | Adder | 7.46           |
| 923263 | AB1-132 E OP (Suspended)              | 2.7191             | Adder | 3.2            |
| 923572 | AB1-173 C OP                          | 1.0681             | Adder | 1.26           |
| 923573 | AB1-173 E OP                          | 0.4984             | Adder | 0.59           |
| 923582 | AB1-173AC OP                          | 1.0681             | Adder | 1.26           |
| 923583 | AB1-173AE OP                          | 0.4984             | Adder | 0.59           |
| 923852 | AB2-025 E                             | 1.0021             | 50/50 | 1.0021         |
| 923911 | AB2-031 C O1                          | 1.0602             | Adder | 1.25           |
| 923912 | AB2-031 E O1                          | 0.5222             | Adder | 0.61           |
| 923991 | AB2-040 C O1                          | 3.4812             | Adder | 4.1            |
| 923992 | AB2-040 E O1                          | 2.8482             | Adder | 3.35           |
| 924152 | AB2-059 E OP                          | 1.8233             | Adder | 2.15           |
| 924511 | AB2-100 C                             | 1.4223             | 50/50 | 1.4223         |
| 924512 | AB2-100 E                             | 4.0613             | 50/50 | 4.0613         |
| 925051 | AB2-160 C O1 (Suspended)              | 7.9019             | 50/50 | 7.9019         |
| 925052 | AB2-160 E O1 (Suspended)              | 12.8925            | 50/50 | 12.8925        |
| 925172 | AB2-174 E O1                          | 3.1192             | Adder | 3.67           |
| 925591 | AC1-034 C                             | 2.2925             | Adder | 2.7            |
| 925592 | AC1-034 E                             | 1.7295             | Adder | 2.03           |
| 925781 | AC1-054 C O1                          | 2.4514             | Adder | 2.88           |
| 925782 | AC1-054 E O1                          | 1.1293             | Adder | 1.33           |
| 926071 | AC1-086 C                             | 9.3432             | Adder | 10.99          |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 926072 | AC1-086 E    | 4.2524             | Adder | 5.0            |
| 926201 | AC1-098 C    | 2.0796             | Adder | 2.45           |
| 926202 | AC1-098 E    | 1.2389             | Adder | 1.46           |
| 926211 | AC1-099 C    | 0.6969             | Adder | 0.82           |
| 926212 | AC1-099 E    | 0.4093             | Adder | 0.48           |
| 927141 | AC1-208 C    | 3.2021             | Adder | 3.77           |
| 927142 | AC1-208 E    | 1.4219             | Adder | 1.67           |
| 932631 | AC2-084 C    | 2.9646             | Adder | 3.49           |
| 932632 | AC2-084 E    | 1.4602             | Adder | 1.72           |
| 934331 | AD1-057 C O1 | 3.8896             | Adder | 4.58           |
| 934332 | AD1-057 E O1 | 2.0749             | Adder | 2.44           |
| 936762 | AD2-097 E    | -3.0883            | Adder | -3.63          |
| 938491 | AE1-068 C O1 | 22.0260            | Adder | 25.91          |
| 938492 | AE1-068 E O1 | 12.1652            | Adder | 14.31          |
| 938501 | AE1-069 C O1 | 17.2195            | Adder | 20.26          |
| 938502 | AE1-069 E O1 | 9.8445             | Adder | 11.58          |
| 939411 | AE1-173 C    | 25.0186            | Adder | 29.43          |
| 939412 | AE1-173 E    | 16.6790            | Adder | 19.62          |
| 940431 | AE2-027 C O1 | 11.7209            | 50/50 | 11.7209        |
| 940432 | AE2-027 E O1 | 7.8139             | 50/50 | 7.8139         |
| 940471 | AE2-031 C    | 11.9947            | Adder | 14.11          |
| 940472 | AE2-031 E    | 7.9965             | Adder | 9.41           |
| 940481 | AE2-033 C    | 13.9347            | 50/50 | 13.9347        |
| 940482 | AE2-033 E    | 9.3942             | 50/50 | 9.3942         |
| 940541 | AE2-040 O1   | 4.0809             | 50/50 | 4.0809         |
| 940571 | AE2-044 C    | 1.5015             | Adder | 1.77           |
| 940572 | AE2-044 E    | 0.6435             | Adder | 0.76           |
| 941031 | AE2-094 C    | 14.4471            | Adder | 17.0           |
| 941032 | AE2-094 E    | 6.4705             | Adder | 7.61           |
| 942001 | AE2-212 C    | 7.6140             | 50/50 | 7.6140         |
| 942002 | AE2-212 E    | 5.0760             | 50/50 | 5.0760         |
| 942371 | AE2-250 C O1 | 14.0362            | 50/50 | 14.0362        |
| 942372 | AE2-250 E O1 | 7.4080             | 50/50 | 7.4080         |
| 942471 | AE2-260 C O1 | 10.5310            | 50/50 | 10.5310        |
| 942472 | AE2-260 E O1 | 14.9370            | 50/50 | 14.9370        |
| 942931 | AE2-313 C    | 12.9874            | Adder | 15.28          |
| 942932 | AE2-313 E    | 8.6582             | Adder | 10.19          |
| 943911 | AF1-059      | 6.7532             | Adder | 7.94           |
| 944011 | AF1-069 C    | 4.7204             | Adder | 5.55           |
| 944012 | AF1-069 E    | 1.8338             | Adder | 2.16           |
| 944141 | AF1-082      | 0.9653             | Adder | 1.14           |
| 945811 | AF1-246 C O1 | 2.4290             | Adder | 2.86           |
| 945812 | AF1-246 E O1 | 3.3544             | Adder | 3.95           |
| 946011 | AF1-266      | 11.6645            | 50/50 | 11.6645        |
| 946281 | AF1-292 C    | 0.9413             | 50/50 | 0.9413         |
| 946282 | AF1-292 E    | 0.6346             | 50/50 | 0.6346         |
| 957481 | AF2-042 C O1 | 9.1361             | Adder | 20.28          |
| 957482 | AF2-042 E O1 | 6.0908             | Adder | 13.52          |
| 958141 | AF2-108      | 7.8655             | 50/50 | 7.8655         |
| 959231 | AF2-214 C    | 1.7195             | Adder | 3.82           |
| 959232 | AF2-214 E    | 2.5779             | Adder | 5.72           |
| 959671 | AF2-258 C    | 1.9035             | 50/50 | 1.9035         |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 959672  | AF2-258 E                          | 1.2690             | 50/50         | 1.2690         |
| 959681  | AF2-259 C                          | 6.7419             | 50/50         | 6.7419         |
| 959682  | AF2-259 E                          | 4.4946             | 50/50         | 4.4946         |
| 959751  | AF2-266 O1                         | 1.4101             | Adder         | 3.13           |
| 960081  | AF2-299 C                          | 1.5864             | 50/50         | 1.5864         |
| 960082  | AF2-299 E                          | 1.0576             | 50/50         | 1.0576         |
| 960122  | AF2-303 E O1                       | 2.1421             | Adder         | 4.75           |
| 960331  | AF2-324 C O1                       | 1.3938             | Adder         | 3.09           |
| 960332  | AF2-324 E O1                       | 0.7483             | Adder         | 1.66           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020) | 0.4540             | Adder         | 1.01           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020) | 0.1135             | Adder         | 0.25           |
| 960831  | AF2-374 C                          | 0.2162             | Adder         | 0.48           |
| 960832  | AF2-374 E                          | 0.3528             | Adder         | 0.78           |
| WEC     | WEC                                | 0.2867             | Confirmed LTF | 0.2867         |
| LGEE    | LGEE                               | 0.5408             | Confirmed LTF | 0.5408         |
| CPL     | CPL                                | 3.0006             | Confirmed LTF | 3.0006         |
| CBM-W2  | CBM-W2                             | 11.5643            | Confirmed LTF | 11.5643        |
| NY      | NY                                 | 0.4120             | Confirmed LTF | 0.4120         |
| CBM-W1  | CBM-W1                             | 10.6961            | Confirmed LTF | 10.6961        |
| TVA     | TVA                                | 2.4332             | Confirmed LTF | 2.4332         |
| O-066   | O-066                              | 5.8330             | Confirmed LTF | 5.8330         |
| CBM-S2  | CBM-S2                             | 20.4265            | Confirmed LTF | 20.4265        |
| CBM-S1  | CBM-S1                             | 13.5553            | Confirmed LTF | 13.5553        |
| G-007   | G-007                              | 0.9110             | Confirmed LTF | 0.9110         |
| MADISON | MADISON                            | 0.6834             | Confirmed LTF | 0.6834         |
| MEC     | MEC                                | 1.7400             | Confirmed LTF | 1.7400         |
| AA2-074 | AA2-074                            | 2.0452             | LTF           | 2.0452         |

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| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706539 | 314316    | 6LOCKS   | DVP           | 314301  | 6HARR205 | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 541.0      | 135.33                | 138.15                 | DC    | 33.8      |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                                | 0.4484             | 50/50 | 0.4484         |
| 314435 | 6SAPONY                               | 0.3847             | 50/50 | 0.3847         |
| 314572 | 3EMPORIA                              | 0.0441             | 50/50 | 0.0441         |
| 315073 | 1STONECA                              | -2.0407            | Adder | -2.4           |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.1256             | Adder | 3.68           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.1256             | Adder | 3.68           |
| 900672 | V4-068 E                              | 0.0874             | Adder | 0.1            |
| 917332 | Z2-043 E                              | 0.3603             | Adder | 0.42           |
| 917342 | Z2-044 E                              | 0.1963             | Adder | 0.23           |
| 917512 | Z2-088 E OP1                          | 1.2083             | Adder | 1.42           |
| 918492 | AA1-063AE OP                          | 1.4180             | Adder | 1.67           |
| 918512 | AA1-065 E OP                          | 1.1096             | Adder | 1.31           |
| 918532 | AA1-067 E                             | 0.2104             | Adder | 0.25           |
| 919692 | AA2-053 E OP                          | 1.4063             | Adder | 1.65           |
| 919702 | AA2-057 E OP                          | 1.1712             | Adder | 1.38           |
| 920042 | AA2-088 E OP                          | 2.9997             | Adder | 3.53           |
| 920592 | AA2-165 E                             | 0.1610             | Adder | 0.19           |
| 920672 | AA2-174 E OP                          | 0.1625             | Adder | 0.19           |
| 922922 | AB1-081 C OP                          | 3.0031             | Adder | 3.53           |
| 922923 | AB1-081 E OP                          | 1.2870             | Adder | 1.51           |
| 923262 | AB1-132 C OP (Suspended)              | 6.3446             | Adder | 7.46           |
| 923263 | AB1-132 E OP (Suspended)              | 2.7191             | Adder | 3.2            |
| 923572 | AB1-173 C OP                          | 1.0681             | Adder | 1.26           |
| 923573 | AB1-173 E OP                          | 0.4984             | Adder | 0.59           |
| 923582 | AB1-173AC OP                          | 1.0681             | Adder | 1.26           |
| 923583 | AB1-173AE OP                          | 0.4984             | Adder | 0.59           |
| 923852 | AB2-025 E                             | 1.0021             | 50/50 | 1.0021         |
| 923911 | AB2-031 C O1                          | 1.0602             | Adder | 1.25           |
| 923912 | AB2-031 E O1                          | 0.5222             | Adder | 0.61           |
| 923991 | AB2-040 C O1                          | 3.4812             | Adder | 4.1            |
| 923992 | AB2-040 E O1                          | 2.8482             | Adder | 3.35           |
| 924022 | AB2-043 E O1                          | 0.8350             | Adder | 0.98           |
| 924152 | AB2-059 E OP                          | 1.8233             | Adder | 2.15           |
| 924162 | AB2-060 E OP                          | 1.2536             | Adder | 1.47           |
| 924301 | AB2-077 C O1 (Suspended)              | 0.5927             | Adder | 0.7            |
| 924302 | AB2-077 E O1 (Suspended)              | 0.3951             | Adder | 0.46           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924311 | AB2-078 C O1<br>(Suspended) | 0.5927             | Adder | 0.7            |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.3951             | Adder | 0.46           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5927             | Adder | 0.7            |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3951             | Adder | 0.46           |
| 924501 | AB2-099 C (Suspended)       | 0.1725             | Adder | 0.2            |
| 924502 | AB2-099 E (Suspended)       | 0.0739             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.4223             | 50/50 | 1.4223         |
| 924512 | AB2-100 E                   | 4.0613             | 50/50 | 4.0613         |
| 925051 | AB2-160 C O1<br>(Suspended) | 7.9019             | 50/50 | 7.9019         |
| 925052 | AB2-160 E O1<br>(Suspended) | 12.8925            | 50/50 | 12.8925        |
| 925172 | AB2-174 E O1                | 3.1192             | Adder | 3.67           |
| 925591 | AC1-034 C                   | 2.2925             | Adder | 2.7            |
| 925592 | AC1-034 E                   | 1.7295             | Adder | 2.03           |
| 925781 | AC1-054 C O1                | 2.4514             | Adder | 2.88           |
| 925782 | AC1-054 E O1                | 1.1293             | Adder | 1.33           |
| 926071 | AC1-086 C                   | 9.3432             | Adder | 10.99          |
| 926072 | AC1-086 E                   | 4.2524             | Adder | 5.0            |
| 926201 | AC1-098 C                   | 2.0796             | Adder | 2.45           |
| 926202 | AC1-098 E                   | 1.2389             | Adder | 1.46           |
| 926211 | AC1-099 C                   | 0.6969             | Adder | 0.82           |
| 926212 | AC1-099 E                   | 0.4093             | Adder | 0.48           |
| 927021 | AC1-189 C                   | 2.6258             | Adder | 3.09           |
| 927022 | AC1-189 E                   | 1.3080             | Adder | 1.54           |
| 927141 | AC1-208 C                   | 3.2021             | Adder | 3.77           |
| 927142 | AC1-208 E                   | 1.4219             | Adder | 1.67           |
| 932581 | AC2-078 C O1                | 1.1238             | Adder | 1.32           |
| 932582 | AC2-078 E O1                | 1.8336             | Adder | 2.16           |
| 932631 | AC2-084 C                   | 2.9646             | Adder | 3.49           |
| 932632 | AC2-084 E                   | 1.4602             | Adder | 1.72           |
| 934331 | AD1-057 C O1                | 3.8896             | Adder | 4.58           |
| 934332 | AD1-057 E O1                | 2.0749             | Adder | 2.44           |
| 934611 | AD1-087 C O1                | 2.4186             | Adder | 2.85           |
| 934612 | AD1-087 E O1                | 1.1367             | Adder | 1.34           |
| 935171 | AD1-152 C O1                | 2.4035             | Adder | 2.83           |
| 935172 | AD1-152 E O1                | 1.6024             | Adder | 1.89           |
| 936361 | AD2-046 C O1                | 2.8106             | Adder | 3.31           |
| 936362 | AD2-046 E O1                | 1.2925             | Adder | 1.52           |
| 936401 | AD2-051 C O1                | 2.4640             | Adder | 2.9            |
| 936402 | AD2-051 E O1                | 1.0580             | Adder | 1.24           |
| 936481 | AD2-063 C O1                | 4.1960             | Adder | 4.94           |
| 936482 | AD2-063 E O1                | 2.7740             | Adder | 3.26           |
| 936762 | AD2-097 E                   | -3.0883            | Adder | -3.63          |
| 937481 | AD2-202 C O1                | 0.6409             | Adder | 0.75           |
| 937482 | AD2-202 E O1                | 0.3605             | Adder | 0.42           |
| 938221 | AE1-035 C                   | 0.6195             | Adder | 0.73           |
| 938222 | AE1-035 E                   | 0.3051             | Adder | 0.36           |
| 938491 | AE1-068 C O1                | 22.0260            | Adder | 25.91          |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 938492 | AE1-068 E O1 | 12.1652            | Adder | 14.31          |
| 938501 | AE1-069 C O1 | 17.2195            | Adder | 20.26          |
| 938502 | AE1-069 E O1 | 9.8445             | Adder | 11.58          |
| 938631 | AE1-085 C O1 | 2.3847             | Adder | 2.81           |
| 938632 | AE1-085 E O1 | 1.1923             | Adder | 1.4            |
| 939181 | AE1-148 C O1 | 2.7641             | Adder | 3.25           |
| 939182 | AE1-148 E O1 | 1.8427             | Adder | 2.17           |
| 939191 | AE1-149 C O1 | 3.0779             | Adder | 3.62           |
| 939192 | AE1-149 E O1 | 2.0519             | Adder | 2.41           |
| 939411 | AE1-173 C    | 25.0186            | Adder | 29.43          |
| 939412 | AE1-173 E    | 16.6790            | Adder | 19.62          |
| 940431 | AE2-027 C O1 | 11.7209            | 50/50 | 11.7209        |
| 940432 | AE2-027 E O1 | 7.8139             | 50/50 | 7.8139         |
| 940471 | AE2-031 C    | 11.9947            | Adder | 14.11          |
| 940472 | AE2-031 E    | 7.9965             | Adder | 9.41           |
| 940481 | AE2-033 C    | 13.9347            | 50/50 | 13.9347        |
| 940482 | AE2-033 E    | 9.3942             | 50/50 | 9.3942         |
| 940541 | AE2-040 O1   | 4.0809             | 50/50 | 4.0809         |
| 940571 | AE2-044 C    | 1.5015             | Adder | 1.77           |
| 940572 | AE2-044 E    | 0.6435             | Adder | 0.76           |
| 940651 | AE2-052      | 1.0260             | Adder | 1.21           |
| 940661 | AE2-053 O1   | 1.0237             | Adder | 1.2            |
| 941031 | AE2-094 C    | 14.4471            | Adder | 17.0           |
| 941032 | AE2-094 E    | 6.4705             | Adder | 7.61           |
| 941541 | AE2-151 C    | 0.3203             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1725             | Adder | 0.2            |
| 942371 | AE2-250 C O1 | 14.0362            | 50/50 | 14.0362        |
| 942372 | AE2-250 E O1 | 7.4080             | 50/50 | 7.4080         |
| 942451 | AE2-258      | 0.6967             | Adder | 0.82           |
| 942471 | AE2-260 C O1 | 10.5310            | 50/50 | 10.5310        |
| 942472 | AE2-260 E O1 | 14.9370            | 50/50 | 14.9370        |
| 942931 | AE2-313 C    | 12.9874            | Adder | 15.28          |
| 942932 | AE2-313 E    | 8.6582             | Adder | 10.19          |
| 943171 | AE2-346 C    | 0.4141             | Adder | 0.49           |
| 943172 | AE2-346 E    | 0.1775             | Adder | 0.21           |
| 943911 | AF1-059      | 6.7532             | Adder | 7.94           |
| 944011 | AF1-069 C    | 4.7204             | Adder | 5.55           |
| 944012 | AF1-069 E    | 1.8338             | Adder | 2.16           |
| 944141 | AF1-082      | 0.9653             | Adder | 1.14           |
| 945811 | AF1-246 C O1 | 2.4290             | Adder | 2.86           |
| 945812 | AF1-246 E O1 | 3.3544             | Adder | 3.95           |
| 946011 | AF1-266      | 11.6645            | 50/50 | 11.6645        |
| 946281 | AF1-292 C    | 0.9413             | 50/50 | 0.9413         |
| 946282 | AF1-292 E    | 0.6346             | 50/50 | 0.6346         |
| 957481 | AF2-042 C O1 | 9.1361             | Adder | 20.28          |
| 957482 | AF2-042 E O1 | 6.0908             | Adder | 13.52          |
| 957521 | AF2-046 C    | 2.6117             | Adder | 5.8            |
| 957522 | AF2-046 E    | 1.3137             | Adder | 2.92           |
| 957861 | AF2-080 C    | 1.2640             | Adder | 2.81           |
| 957862 | AF2-080 E    | 0.5603             | Adder | 1.24           |
| 958141 | AF2-108      | 7.8655             | 50/50 | 7.8655         |
| 959231 | AF2-214 C    | 1.7195             | Adder | 3.82           |

| Bus #   | Bus                                   | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------------------------------------|--------------------|---------------|----------------|
| 959232  | AF2-214 E                             | 2.5779             | Adder         | 5.72           |
| 959681  | AF2-259 C                             | 6.7419             | 50/50         | 6.7419         |
| 959682  | AF2-259 E                             | 4.4946             | 50/50         | 4.4946         |
| 959731  | AF2-264 C                             | 0.3504             | Adder         | 0.78           |
| 959732  | AF2-264 E                             | 0.1726             | Adder         | 0.38           |
| 959751  | AF2-266 O1                            | 1.4101             | Adder         | 3.13           |
| 960081  | AF2-299 C                             | 1.5864             | 50/50         | 1.5864         |
| 960082  | AF2-299 E                             | 1.0576             | 50/50         | 1.0576         |
| 960122  | AF2-303 E O1                          | 2.1421             | Adder         | 4.75           |
| 960331  | AF2-324 C O1                          | 1.3938             | Adder         | 3.09           |
| 960332  | AF2-324 E O1                          | 0.7483             | Adder         | 1.66           |
| 960351  | AF2-326 C (Withdrawn :<br>07/22/2020) | 0.4540             | Adder         | 1.01           |
| 960352  | AF2-326 E (Withdrawn :<br>07/22/2020) | 0.1135             | Adder         | 0.25           |
| 960811  | AF2-372 C                             | 0.1984             | Adder         | 0.44           |
| 960812  | AF2-372 E                             | 0.3238             | Adder         | 0.72           |
| 960821  | AF2-373 C                             | 0.1411             | Adder         | 0.31           |
| 960822  | AF2-373 E                             | 0.2116             | Adder         | 0.47           |
| 960831  | AF2-374 C                             | 0.2162             | Adder         | 0.48           |
| 960832  | AF2-374 E                             | 0.3528             | Adder         | 0.78           |
| WEC     | WEC                                   | 0.2867             | Confirmed LTF | 0.2867         |
| LGEE    | LGEE                                  | 0.5408             | Confirmed LTF | 0.5408         |
| CPLE    | CPLE                                  | 3.0006             | Confirmed LTF | 3.0006         |
| CBM-W2  | CBM-W2                                | 11.5643            | Confirmed LTF | 11.5643        |
| NY      | NY                                    | 0.4120             | Confirmed LTF | 0.4120         |
| CBM-W1  | CBM-W1                                | 10.6961            | Confirmed LTF | 10.6961        |
| TVA     | TVA                                   | 2.4332             | Confirmed LTF | 2.4332         |
| O-066   | O-066                                 | 5.8330             | Confirmed LTF | 5.8330         |
| CBM-S2  | CBM-S2                                | 20.4265            | Confirmed LTF | 20.4265        |
| CBM-S1  | CBM-S1                                | 13.5553            | Confirmed LTF | 13.5553        |
| G-007   | G-007                                 | 0.9110             | Confirmed LTF | 0.9110         |
| MADISON | MADISON                               | 0.6834             | Confirmed LTF | 0.6834         |
| MEC     | MEC                                   | 1.7400             | Confirmed LTF | 1.7400         |
| AA2-074 | AA2-074                               | 2.0452             | LTF           | 2.0452         |

## 11.6.21 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706524 | 314331    | 6POE     | DVP           | 314299  | 6HARROWG | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 541.0      | 138.81                | 141.45                 | DC    | 31.7      |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                               | 0.3501             | 50/50 | 0.3501         |
| 314539 | 3UNCAMP                               | 0.6872             | Adder | 0.81           |
| 314541 | 3WATKINS                              | 0.2020             | Adder | 0.24           |
| 315131 | 1EDGECEMA (Deactivation : 22/04/2019) | 3.0029             | Adder | 3.53           |
| 315132 | 1EDGECEMB (Deactivation : 22/04/2019) | 3.0029             | Adder | 3.53           |
| 900672 | V4-068 E                              | 0.0934             | Adder | 0.11           |
| 907092 | X1-038 E                              | 1.7181             | Adder | 2.02           |
| 917332 | Z2-043 E                              | 0.3606             | Adder | 0.42           |
| 917342 | Z2-044 E                              | 0.1895             | Adder | 0.22           |
| 917512 | Z2-088 E OP1                          | 1.1777             | Adder | 1.39           |
| 918492 | AA1-063AE OP                          | 1.4311             | Adder | 1.68           |
| 918512 | AA1-065 E OP                          | 1.1298             | Adder | 1.33           |
| 918532 | AA1-067 E                             | 0.2085             | Adder | 0.25           |
| 919692 | AA2-053 E OP                          | 1.3707             | Adder | 1.61           |
| 919702 | AA2-057 E OP                          | 1.1342             | Adder | 1.33           |
| 920042 | AA2-088 E OP                          | 3.3180             | Adder | 3.9            |
| 920592 | AA2-165 E                             | 0.1559             | Adder | 0.18           |
| 920672 | AA2-174 E OP                          | 0.1584             | Adder | 0.19           |
| 922922 | AB1-081 C OP                          | 2.8884             | Adder | 3.4            |
| 922923 | AB1-081 E OP                          | 1.2379             | Adder | 1.46           |
| 923262 | AB1-132 C OP (Suspended)              | 6.0126             | Adder | 7.07           |
| 923263 | AB1-132 E OP (Suspended)              | 2.5768             | Adder | 3.03           |
| 923572 | AB1-173 C OP                          | 1.0096             | Adder | 1.19           |
| 923573 | AB1-173 E OP                          | 0.4711             | Adder | 0.55           |
| 923582 | AB1-173AC OP                          | 1.0096             | Adder | 1.19           |
| 923583 | AB1-173AE OP                          | 0.4711             | Adder | 0.55           |
| 923801 | AB2-015 C OP                          | 2.4956             | Adder | 2.94           |
| 923802 | AB2-015 E OP                          | 2.0464             | Adder | 2.41           |
| 923852 | AB2-025 E                             | 0.9118             | 50/50 | 0.9118         |
| 923911 | AB2-031 C O1                          | 1.0021             | Adder | 1.18           |
| 923912 | AB2-031 E O1                          | 0.4936             | Adder | 0.58           |
| 923991 | AB2-040 C O1                          | 3.2905             | Adder | 3.87           |
| 923992 | AB2-040 E O1                          | 2.6922             | Adder | 3.17           |
| 924022 | AB2-043 E O1                          | 0.7888             | Adder | 0.93           |
| 924152 | AB2-059 E OP                          | 1.7537             | Adder | 2.06           |
| 924162 | AB2-060 E OP                          | 1.1840             | Adder | 1.39           |
| 924301 | AB2-077 C O1 (Suspended)              | 0.5601             | Adder | 0.66           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924302 | AB2-077 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924501 | AB2-099 C (Suspended)       | 0.1773             | Adder | 0.21           |
| 924502 | AB2-099 E (Suspended)       | 0.0760             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.3143             | 50/50 | 1.3143         |
| 924512 | AB2-100 E                   | 3.7528             | 50/50 | 3.7528         |
| 925061 | AB2-161 C O1<br>(Suspended) | 2.4158             | 50/50 | 2.4158         |
| 925062 | AB2-161 E O1<br>(Suspended) | 3.9416             | 50/50 | 3.9416         |
| 925122 | AB2-169 E                   | 1.5101             | Adder | 1.78           |
| 925172 | AB2-174 E O1                | 2.9357             | Adder | 3.45           |
| 925591 | AC1-034 C                   | 2.2050             | Adder | 2.59           |
| 925592 | AC1-034 E                   | 1.6634             | Adder | 1.96           |
| 925781 | AC1-054 C O1                | 2.3459             | Adder | 2.76           |
| 925782 | AC1-054 E O1                | 1.0807             | Adder | 1.27           |
| 926071 | AC1-086 C                   | 8.8543             | Adder | 10.42          |
| 926072 | AC1-086 E                   | 4.0299             | Adder | 4.74           |
| 926201 | AC1-098 C                   | 2.0384             | Adder | 2.4            |
| 926202 | AC1-098 E                   | 1.2144             | Adder | 1.43           |
| 926211 | AC1-099 C                   | 0.6831             | Adder | 0.8            |
| 926212 | AC1-099 E                   | 0.4012             | Adder | 0.47           |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.4685             | Adder | 1.73           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.7310             | Adder | 0.86           |
| 927021 | AC1-189 C                   | 2.5727             | Adder | 3.03           |
| 927022 | AC1-189 E                   | 1.2815             | Adder | 1.51           |
| 927141 | AC1-208 C                   | 3.1122             | Adder | 3.66           |
| 927142 | AC1-208 E                   | 1.3819             | Adder | 1.63           |
| 932581 | AC2-078 C O1                | 4.5616             | 50/50 | 4.5616         |
| 932582 | AC2-078 E O1                | 7.4426             | 50/50 | 7.4426         |
| 932591 | AC2-079 C O1                | 2.5898             | Adder | 3.05           |
| 932592 | AC2-079 E O1                | 4.2255             | Adder | 4.97           |
| 932631 | AC2-084 C                   | 2.9058             | Adder | 3.42           |
| 932632 | AC2-084 E                   | 1.4312             | Adder | 1.68           |
| 934331 | AD1-057 C O1                | 3.7094             | Adder | 4.36           |
| 934332 | AD1-057 E O1                | 1.9787             | Adder | 2.33           |
| 934571 | AD1-082 C                   | 5.5056             | 50/50 | 5.5056         |
| 934572 | AD1-082 E                   | 3.1406             | 50/50 | 3.1406         |
| 934611 | AD1-087 C O1                | 2.2736             | Adder | 2.67           |
| 934612 | AD1-087 E O1                | 1.0686             | Adder | 1.26           |
| 935171 | AD1-152 C O1                | 2.2595             | Adder | 2.66           |
| 935172 | AD1-152 E O1                | 1.5063             | Adder | 1.77           |
| 936361 | AD2-046 C O1                | 2.6732             | Adder | 3.14           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936362 | AD2-046 E O1 | 1.2293             | Adder | 1.45           |
| 936401 | AD2-051 C O1 | 2.5014             | Adder | 2.94           |
| 936402 | AD2-051 E O1 | 1.0741             | Adder | 1.26           |
| 936481 | AD2-063 C O1 | 3.9604             | Adder | 4.66           |
| 936482 | AD2-063 E O1 | 2.6183             | Adder | 3.08           |
| 936661 | AD2-085 C    | 1.5789             | Adder | 1.86           |
| 936662 | AD2-085 E    | 2.5762             | Adder | 3.03           |
| 936762 | AD2-097 E    | -2.9410            | Adder | -3.46          |
| 937481 | AD2-202 C O1 | 0.6025             | Adder | 0.71           |
| 937482 | AD2-202 E O1 | 0.3389             | Adder | 0.4            |
| 938171 | AE1-026 C O1 | 8.1805             | Adder | 9.62           |
| 938172 | AE1-026 E O1 | 2.1582             | Adder | 2.54           |
| 938221 | AE1-035 C    | 0.6308             | Adder | 0.74           |
| 938222 | AE1-035 E    | 0.3107             | Adder | 0.37           |
| 938491 | AE1-068 C O1 | 20.6407            | Adder | 24.28          |
| 938492 | AE1-068 E O1 | 11.4001            | Adder | 13.41          |
| 938501 | AE1-069 C O1 | 16.1400            | Adder | 18.99          |
| 938502 | AE1-069 E O1 | 9.2274             | Adder | 10.86          |
| 938631 | AE1-085 C O1 | 9.4765             | 50/50 | 9.4765         |
| 938632 | AE1-085 E O1 | 4.7383             | 50/50 | 4.7383         |
| 938771 | AE1-103 C O1 | 1.0308             | Adder | 1.21           |
| 938772 | AE1-103 E O1 | 1.4235             | Adder | 1.67           |
| 939181 | AE1-148 C O1 | 2.6282             | Adder | 3.09           |
| 939182 | AE1-148 E O1 | 1.7522             | Adder | 2.06           |
| 939191 | AE1-149 C O1 | 12.7956            | 50/50 | 12.7956        |
| 939192 | AE1-149 E O1 | 8.5304             | 50/50 | 8.5304         |
| 939411 | AE1-173 C    | 24.2638            | Adder | 28.55          |
| 939412 | AE1-173 E    | 16.1758            | Adder | 19.03          |
| 940061 | AE2-000BC O1 | 11.4435            | 50/50 | 11.4435        |
| 940062 | AE2-000BE O1 | 7.6290             | 50/50 | 7.6290         |
| 940471 | AE2-031 C    | 11.2374            | Adder | 13.22          |
| 940472 | AE2-031 E    | 7.4916             | Adder | 8.81           |
| 940481 | AE2-033 C    | 12.6994            | 50/50 | 12.6994        |
| 940482 | AE2-033 E    | 8.5614             | 50/50 | 8.5614         |
| 940571 | AE2-044 C    | 1.4442             | Adder | 1.7            |
| 940572 | AE2-044 E    | 0.6189             | Adder | 0.73           |
| 940651 | AE2-052      | 4.2652             | 50/50 | 4.2652         |
| 940661 | AE2-053 O1   | 0.9734             | Adder | 1.15           |
| 941031 | AE2-094 C    | 13.5348            | Adder | 15.92          |
| 941032 | AE2-094 E    | 6.0619             | Adder | 7.13           |
| 941101 | AE2-104 C O1 | 0.8265             | Adder | 0.97           |
| 941102 | AE2-104 E O1 | 1.3139             | Adder | 1.55           |
| 941541 | AE2-151 C    | 0.3249             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1749             | Adder | 0.21           |
| 942341 | AE2-247 C    | 0.6889             | Adder | 0.81           |
| 942342 | AE2-247 E    | 0.9513             | Adder | 1.12           |
| 942451 | AE2-258      | 0.6581             | Adder | 0.77           |
| 942471 | AE2-260 C O1 | 9.7098             | 50/50 | 9.7098         |
| 942472 | AE2-260 E O1 | 13.7722            | 50/50 | 13.7722        |
| 942931 | AE2-313 C    | 12.1674            | Adder | 14.31          |
| 942932 | AE2-313 E    | 8.1116             | Adder | 9.54           |
| 943171 | AE2-346 C    | 0.4256             | Adder | 0.5            |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943172 | AE2-346 E                          | 0.1824             | Adder         | 0.21           |
| 943461 | AF1-017 C                          | 0.6233             | Adder         | 0.73           |
| 943462 | AF1-017 E                          | 1.0169             | Adder         | 1.2            |
| 943911 | AF1-059                            | 6.3283             | Adder         | 7.45           |
| 944011 | AF1-069 C                          | 4.4223             | Adder         | 5.2            |
| 944012 | AF1-069 E                          | 1.7180             | Adder         | 2.02           |
| 944141 | AF1-082                            | 0.9284             | Adder         | 1.09           |
| 945811 | AF1-246 C O1                       | 2.2784             | Adder         | 2.68           |
| 945812 | AF1-246 E O1                       | 3.1463             | Adder         | 3.7            |
| 946011 | AF1-266                            | 10.6304            | 50/50         | 10.6304        |
| 946281 | AF1-292 C                          | 0.7457             | Adder         | 0.88           |
| 946282 | AF1-292 E                          | 0.5027             | Adder         | 0.59           |
| 957481 | AF2-042 C O1                       | 8.5699             | Adder         | 19.02          |
| 957482 | AF2-042 E O1                       | 5.7132             | Adder         | 12.68          |
| 957521 | AF2-046 C                          | 2.7695             | Adder         | 6.15           |
| 957522 | AF2-046 E                          | 1.3931             | Adder         | 3.09           |
| 957861 | AF2-080 C                          | 1.2384             | Adder         | 2.75           |
| 957862 | AF2-080 E                          | 0.5490             | Adder         | 1.22           |
| 958161 | AF2-110 C                          | 0.1806             | Adder         | 0.4            |
| 958162 | AF2-110 E                          | 0.2824             | Adder         | 0.63           |
| 959231 | AF2-214 C                          | 1.6538             | Adder         | 3.67           |
| 959232 | AF2-214 E                          | 2.4794             | Adder         | 5.5            |
| 959511 | AF2-242                            | 1.1275             | Adder         | 2.5            |
| 959731 | AF2-264 C                          | 0.3655             | Adder         | 0.81           |
| 959732 | AF2-264 E                          | 0.1800             | Adder         | 0.4            |
| 959751 | AF2-266 O1                         | 1.3233             | Adder         | 2.94           |
| 960081 | AF2-299 C                          | 0.6661             | Adder         | 1.48           |
| 960082 | AF2-299 E                          | 0.4441             | Adder         | 0.99           |
| 960122 | AF2-303 E O1                       | 2.0580             | Adder         | 4.57           |
| 960331 | AF2-324 C O1                       | 1.3391             | Adder         | 2.97           |
| 960332 | AF2-324 E O1                       | 0.7189             | Adder         | 1.6            |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.4368             | Adder         | 0.97           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1092             | Adder         | 0.24           |
| 960361 | AF2-327 C (Withdrawn : 07/22/2020) | 2.3496             | 50/50         | 2.3496         |
| 960362 | AF2-327 E (Withdrawn : 07/22/2020) | 0.5874             | 50/50         | 0.5874         |
| 960811 | AF2-372 C                          | 0.1875             | Adder         | 0.42           |
| 960812 | AF2-372 E                          | 0.3060             | Adder         | 0.68           |
| 960821 | AF2-373 C                          | 0.1331             | Adder         | 0.3            |
| 960822 | AF2-373 E                          | 0.1996             | Adder         | 0.44           |
| 960831 | AF2-374 C                          | 0.2160             | Adder         | 0.48           |
| 960832 | AF2-374 E                          | 0.3524             | Adder         | 0.78           |
| 961091 | AF2-400 C                          | 0.0714             | Adder         | 0.16           |
| 961092 | AF2-400 E                          | 0.1172             | Adder         | 0.26           |
| 961111 | AF2-402 C O1                       | 0.7542             | 50/50         | 0.7542         |
| 961112 | AF2-402 E O1                       | 1.2330             | 50/50         | 1.2330         |
| WEC    | WEC                                | 0.2693             | Confirmed LTF | 0.2693         |
| LGEE   | LGEE                               | 0.5089             | Confirmed LTF | 0.5089         |
| CPLE   | CPLE                               | 2.8524             | Confirmed LTF | 2.8524         |
| CBM-W2 | CBM-W2                             | 10.9173            | Confirmed LTF | 10.9173        |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>NY</b>      | NY         | 0.3971                    | Confirmed LTF | 0.3971                |
| <b>CBM-W1</b>  | CBM-W1     | 10.0455                   | Confirmed LTF | 10.0455               |
| <b>TVA</b>     | TVA        | 2.3002                    | Confirmed LTF | 2.3002                |
| <b>O-066</b>   | O-066      | 5.6112                    | Confirmed LTF | 5.6112                |
| <b>CBM-S2</b>  | CBM-S2     | 19.3746                   | Confirmed LTF | 19.3746               |
| <b>CBM-S1</b>  | CBM-S1     | 12.8056                   | Confirmed LTF | 12.8056               |
| <b>G-007</b>   | G-007      | 0.8757                    | Confirmed LTF | 0.8757                |
| <b>MADISON</b> | MADISON    | 0.6492                    | Confirmed LTF | 0.6492                |
| <b>MEC</b>     | MEC        | 1.6383                    | Confirmed LTF | 1.6383                |
| <b>AA2-074</b> | AA2-074    | 1.9440                    | LTF           | 1.9440                |

## 11.6.22 Index 22

| 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 |
|-----------|-----------|----------|---------------|---------|--------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197013 | 314677    | 6BUCKING | DVP           | 314747  | 6BREMO | DVP         | 1      | DVP_P1-2: LN 556-B | single | 571.52     | 105.73                | 121.18                 | DC    | 88.3      |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.2224             | 80/20 | 0.2224         |
| 314429 | 3JTRSVLE                 | 0.8894             | 80/20 | 0.8894         |
| 314572 | 3EMPORIA                 | 0.0292             | 80/20 | 0.0292         |
| 314677 | 6BUCKING                 | 1.6255             | 80/20 | 1.6255         |
| 314704 | 3LAWRENC                 | 0.2186             | 80/20 | 0.2186         |
| 315126 | 1ROARAP2                 | 0.5601             | 80/20 | 0.5601         |
| 315153 | 1CLOVER1                 | 22.4165            | 80/20 | 22.4165        |
| 315154 | 1CLOVER2                 | 22.1931            | 80/20 | 22.1931        |
| 315158 | 1KERR 1                  | 0.4151             | 80/20 | 0.4151         |
| 315159 | 1KERR 2                  | 1.1623             | 80/20 | 1.1623         |
| 315160 | 1KERR 3                  | 1.1623             | 80/20 | 1.1623         |
| 315161 | 1KERR 4                  | 1.1623             | 80/20 | 1.1623         |
| 315162 | 1KERR 5                  | 1.1623             | 80/20 | 1.1623         |
| 315163 | 1KERR 6                  | 1.1623             | 80/20 | 1.1623         |
| 315164 | 1KERR 7                  | 1.1623             | 80/20 | 1.1623         |
| 315266 | 1PLYWOOD A               | 1.5007             | 80/20 | 1.5007         |
| 923572 | AB1-173 C OP             | 0.8992             | 80/20 | 0.8992         |
| 923582 | AB1-173AC OP             | 0.8992             | 80/20 | 0.8992         |
| 923911 | AB2-031 C O1             | 0.8926             | 80/20 | 0.8926         |
| 923991 | AB2-040 C O1             | 2.9308             | 80/20 | 2.9308         |
| 924021 | AB2-043 C O1             | 0.7438             | 80/20 | 0.7438         |
| 924161 | AB2-060 C OP             | 2.1939             | 80/20 | 2.1939         |
| 924301 | AB2-077 C O1 (Suspended) | 2.6879             | 80/20 | 2.6879         |
| 924311 | AB2-078 C O1 (Suspended) | 2.6879             | 80/20 | 2.6879         |
| 924321 | AB2-079 C O1 (Suspended) | 2.6879             | 80/20 | 2.6879         |
| 925171 | AB2-174 C O1             | 0.4858             | 80/20 | 0.4858         |
| 925611 | AC1-036 C                | 1.8344             | 80/20 | 1.8344         |
| 925781 | AC1-054 C O1             | 6.0680             | 80/20 | 6.0680         |
| 925831 | AC1-062                  | 0.1320             | 80/20 | 0.1320         |
| 925991 | AC1-075 C                | 4.9449             | 80/20 | 4.9449         |
| 926021 | AC1-080 C                | 1.6526             | 80/20 | 1.6526         |
| 926271 | AC1-105 C O1 (Suspended) | 6.7508             | 80/20 | 6.7508         |
| 926451 | AC1-116 C                | -0.3870            | Adder | -0.46          |
| 927251 | AC1-221 C                | 1.6580             | 80/20 | 1.6580         |
| 927261 | AC1-222 C                | 4.0540             | 80/20 | 4.0540         |
| 932511 | AC2-071 C                | 9.2838             | 80/20 | 9.2838         |
| 932761 | AC2-100 C                | 3.8156             | 80/20 | 3.8156         |
| 934311 | AD1-055 C                | 2.8148             | 80/20 | 2.8148         |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 934341  | AD1-058 C    | 4.1563             | 80/20         | 4.1563         |
| 934611  | AD1-087 C O1 | 12.0219            | 80/20         | 12.0219        |
| 934621  | AD1-088 C    | 35.2545            | 80/20         | 35.2545        |
| 934991  | AD1-131 C    | 1.3627             | 80/20         | 1.3627         |
| 935171  | AD1-152 C O1 | 11.9472            | 80/20         | 11.9472        |
| 935221  | AD1-157 C    | 3.8737             | 80/20         | 3.8737         |
| 936161  | AD2-022 C O1 | 4.1538             | 80/20         | 4.1538         |
| 936171  | AD2-023 C O1 | 2.4230             | 80/20         | 2.4230         |
| 936261  | AD2-033 C    | 23.7814            | 80/20         | 23.7814        |
| 936361  | AD2-046 C O1 | 9.3719             | 80/20         | 9.3719         |
| 936481  | AD2-063 C O1 | 23.7816            | 80/20         | 23.7816        |
| 937481  | AD2-202 C O1 | 3.1859             | 80/20         | 3.1859         |
| 938371  | AE1-056 C    | 16.6999            | 80/20         | 16.6999        |
| 939181  | AE1-148 C O1 | 9.3928             | 80/20         | 9.3928         |
| 940241  | AE2-006      | 0.9333             | 80/20         | 0.9333         |
| 940661  | AE2-053 O1   | 3.4788             | 80/20         | 3.4788         |
| 941791  | AE2-182 C    | 5.7276             | 80/20         | 5.7276         |
| 942451  | AE2-258      | 3.2168             | 80/20         | 3.2168         |
| 942461  | AE2-259 C O1 | 30.4704            | 80/20         | 30.4704        |
| 942751  | AE2-291 C O1 | 6.6384             | 80/20         | 6.6384         |
| 942761  | AE2-292 C O1 | 8.2654             | 80/20         | 8.2654         |
| 943901  | AF1-058 C    | 2.2854             | 80/20         | 2.2854         |
| 943911  | AF1-059      | 15.6580            | 80/20         | 15.6580        |
| 945811  | AF1-246 C O1 | 12.3619            | 80/20         | 12.3619        |
| 946281  | AF1-292 C    | 0.6072             | 80/20         | 0.6072         |
| 946301  | AF1-294 C    | 9.9099             | 80/20         | 9.9099         |
| 957481  | AF2-042 C O1 | 88.2990            | 80/20         | 88.2990        |
| 958211  | AF2-115 C    | 6.0426             | 80/20         | 6.0426         |
| 958801  | AF2-171 C O1 | 36.0315            | 80/20         | 36.0315        |
| 959311  | AF2-222 C    | 33.3260            | 80/20         | 33.3260        |
| 959751  | AF2-266 O1   | 14.7175            | 80/20         | 14.7175        |
| 960061  | AF2-297 C O1 | 9.1416             | 80/20         | 9.1416         |
| 960081  | AF2-299 C    | 1.0235             | 80/20         | 1.0235         |
| 960811  | AF2-372 C    | 1.6978             | 80/20         | 1.6978         |
| 960821  | AF2-373 C    | 1.1751             | 80/20         | 1.1751         |
| 961081  | AF2-399 C    | 0.7797             | 80/20         | 0.7797         |
| WEC     | WEC          | 0.2892             | Confirmed LTF | 0.2892         |
| LGEE    | LGEE         | 0.5465             | Confirmed LTF | 0.5465         |
| CPL     | CPL          | 3.4094             | Confirmed LTF | 3.4094         |
| CBM-W2  | CBM-W2       | 12.0639            | Confirmed LTF | 12.0639        |
| NY      | NY           | 0.3816             | Confirmed LTF | 0.3816         |
| CBM-W1  | CBM-W1       | 10.7461            | Confirmed LTF | 10.7461        |
| TVA     | TVA          | 2.5704             | Confirmed LTF | 2.5704         |
| CBM-S2  | CBM-S2       | 22.8483            | Confirmed LTF | 22.8483        |
| CBM-S1  | CBM-S1       | 14.2540            | Confirmed LTF | 14.2540        |
| MADISON | MADISON      | 0.7620             | Confirmed LTF | 0.7620         |
| MEC     | MEC          | 1.7829             | Confirmed LTF | 1.7829         |
| AA2-074 | AA2-074      | 2.3229             | LTF           | 2.3229         |

### 11.6.23 Index 23

| 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 |
|-----------|-----------|----------|---------------|---------|----------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197024 | 314692    | 6FARMVIL | DVP           | 314677  | 6BUCKING | DVP         | 1      | DVP_P1-2: LN 556-B | single | 559.3      | 104.61                | 120.4                  | DC    | 88.32     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.2224             | 80/20 | 0.2224         |
| 314429 | 3JTRSVLE                 | 0.8896             | 80/20 | 0.8896         |
| 314572 | 3EMPORIA                 | 0.0293             | 80/20 | 0.0293         |
| 314704 | 3LAWRENC                 | 0.2187             | 80/20 | 0.2187         |
| 315126 | 1ROARAP2                 | 0.5607             | 80/20 | 0.5607         |
| 315153 | 1CLOVER1                 | 22.4218            | 80/20 | 22.4218        |
| 315154 | 1CLOVER2                 | 22.1984            | 80/20 | 22.1984        |
| 315158 | 1KERR 1                  | 0.4153             | 80/20 | 0.4153         |
| 315159 | 1KERR 2                  | 1.1628             | 80/20 | 1.1628         |
| 315160 | 1KERR 3                  | 1.1628             | 80/20 | 1.1628         |
| 315161 | 1KERR 4                  | 1.1628             | 80/20 | 1.1628         |
| 315162 | 1KERR 5                  | 1.1628             | 80/20 | 1.1628         |
| 315163 | 1KERR 6                  | 1.1628             | 80/20 | 1.1628         |
| 315164 | 1KERR 7                  | 1.1628             | 80/20 | 1.1628         |
| 315266 | 1PLYWOOD A               | 1.5012             | 80/20 | 1.5012         |
| 923572 | AB1-173 C OP             | 0.9002             | 80/20 | 0.9002         |
| 923582 | AB1-173AC OP             | 0.9002             | 80/20 | 0.9002         |
| 923911 | AB2-031 C O1             | 0.8935             | 80/20 | 0.8935         |
| 923991 | AB2-040 C O1             | 2.9339             | 80/20 | 2.9339         |
| 924021 | AB2-043 C O1             | 0.7440             | 80/20 | 0.7440         |
| 924161 | AB2-060 C OP             | 2.1946             | 80/20 | 2.1946         |
| 924301 | AB2-077 C O1 (Suspended) | 2.6887             | 80/20 | 2.6887         |
| 924311 | AB2-078 C O1 (Suspended) | 2.6887             | 80/20 | 2.6887         |
| 924321 | AB2-079 C O1 (Suspended) | 2.6887             | 80/20 | 2.6887         |
| 925171 | AB2-174 C O1             | 0.4863             | 80/20 | 0.4863         |
| 925611 | AC1-036 C                | 1.8348             | 80/20 | 1.8348         |
| 925781 | AC1-054 C O1             | 6.0711             | 80/20 | 6.0711         |
| 925831 | AC1-062                  | 0.1320             | 80/20 | 0.1320         |
| 925991 | AC1-075 C                | 4.9476             | 80/20 | 4.9476         |
| 926021 | AC1-080 C                | 1.6535             | 80/20 | 1.6535         |
| 926271 | AC1-105 C O1 (Suspended) | 6.7531             | 80/20 | 6.7531         |
| 926451 | AC1-116 C                | -0.3868            | Adder | -0.46          |
| 927251 | AC1-221 C                | 1.6590             | 80/20 | 1.6590         |
| 927261 | AC1-222 C                | 4.0556             | 80/20 | 4.0556         |
| 932761 | AC2-100 C                | 3.8180             | 80/20 | 3.8180         |
| 934311 | AD1-055 C                | 2.8159             | 80/20 | 2.8159         |
| 934341 | AD1-058 C                | 4.1589             | 80/20 | 4.1589         |
| 934611 | AD1-087 C O1             | 12.0253            | 80/20 | 12.0253        |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 934621  | AD1-088 C    | 35.2595            | 80/20         | 35.2595        |
| 934991  | AD1-131 C    | 1.3636             | 80/20         | 1.3636         |
| 935171  | AD1-152 C O1 | 11.9506            | 80/20         | 11.9506        |
| 935221  | AD1-157 C    | 3.8743             | 80/20         | 3.8743         |
| 936161  | AD2-022 C O1 | 4.1580             | 80/20         | 4.1580         |
| 936171  | AD2-023 C O1 | 2.4255             | 80/20         | 2.4255         |
| 936261  | AD2-033 C    | 23.7869            | 80/20         | 23.7869        |
| 936361  | AD2-046 C O1 | 9.3757             | 80/20         | 9.3757         |
| 936481  | AD2-063 C O1 | 23.7879            | 80/20         | 23.7879        |
| 937481  | AD2-202 C O1 | 3.1868             | 80/20         | 3.1868         |
| 938371  | AE1-056 C    | 16.7026            | 80/20         | 16.7026        |
| 938561  | AE1-075 C    | -0.9128            | Adder         | -1.07          |
| 939181  | AE1-148 C O1 | 9.3965             | 80/20         | 9.3965         |
| 940241  | AE2-006      | 0.9335             | 80/20         | 0.9335         |
| 940661  | AE2-053 O1   | 3.4802             | 80/20         | 3.4802         |
| 941791  | AE2-182 C    | 5.7284             | 80/20         | 5.7284         |
| 942451  | AE2-258      | 3.2178             | 80/20         | 3.2178         |
| 942461  | AE2-259 C O1 | 30.4746            | 80/20         | 30.4746        |
| 942751  | AE2-291 C O1 | 6.6426             | 80/20         | 6.6426         |
| 942761  | AE2-292 C O1 | 8.2707             | 80/20         | 8.2707         |
| 943901  | AF1-058 C    | 2.2862             | 80/20         | 2.2862         |
| 943911  | AF1-059      | 15.6650            | 80/20         | 15.6650        |
| 945811  | AF1-246 C O1 | 12.3648            | 80/20         | 12.3648        |
| 946281  | AF1-292 C    | 0.6079             | 80/20         | 0.6079         |
| 946301  | AF1-294 C    | 9.9116             | 80/20         | 9.9116         |
| 957481  | AF2-042 C O1 | 88.3200            | 80/20         | 88.3200        |
| 958211  | AF2-115 C    | 6.0437             | 80/20         | 6.0437         |
| 958801  | AF2-171 C O1 | 36.0378            | 80/20         | 36.0378        |
| 959311  | AF2-222 C    | 33.3330            | 80/20         | 33.3330        |
| 959751  | AF2-266 O1   | 14.7210            | 80/20         | 14.7210        |
| 960061  | AF2-297 C O1 | 9.1450             | 80/20         | 9.1450         |
| 960081  | AF2-299 C    | 1.0245             | 80/20         | 1.0245         |
| 960811  | AF2-372 C    | 1.6984             | 80/20         | 1.6984         |
| 960821  | AF2-373 C    | 1.1755             | 80/20         | 1.1755         |
| 961081  | AF2-399 C    | 0.7798             | 80/20         | 0.7798         |
| WEC     | WEC          | 0.2914             | Confirmed LTF | 0.2914         |
| LGEE    | LGEE         | 0.5505             | Confirmed LTF | 0.5505         |
| CPL     | CPL          | 3.4140             | Confirmed LTF | 3.4140         |
| CBM-W2  | CBM-W2       | 12.1212            | Confirmed LTF | 12.1212        |
| NY      | NY           | 0.3777             | Confirmed LTF | 0.3777         |
| CBM-W1  | CBM-W1       | 10.8337            | Confirmed LTF | 10.8337        |
| TVA     | TVA          | 2.5802             | Confirmed LTF | 2.5802         |
| CBM-S2  | CBM-S2       | 22.8888            | Confirmed LTF | 22.8888        |
| CBM-S1  | CBM-S1       | 14.3136            | Confirmed LTF | 14.3136        |
| MADISON | MADISON      | 0.7620             | Confirmed LTF | 0.7620         |
| MEC     | MEC          | 1.7940             | Confirmed LTF | 1.7940         |
| AA2-074 | AA2-074      | 2.3261             | LTF           | 2.3261         |

## 11.6.24 Index 24

| 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 |
|-----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106196954 | 314697    | 6SEDGE HILL | DVP           | 927250  | AC1-221 TAP | DVP         | 1      | DVP_P1-2: LN 556-B | single | 674.92     | 106.2                 | 126.08                 | DC    | 155.36    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.1294             | 80/20 | 0.1294         |
| 314429 | 3JTRSVLE                 | 0.5174             | 80/20 | 0.5174         |
| 314677 | 6BUCKING                 | 0.4258             | 80/20 | 0.4258         |
| 315153 | 1CLOVER1                 | 39.4381            | 80/20 | 39.4381        |
| 315154 | 1CLOVER2                 | 39.0451            | 80/20 | 39.0451        |
| 315156 | 1HALLBR1                 | 1.1309             | 80/20 | 1.1309         |
| 315158 | 1KERR 1                  | 0.3659             | 80/20 | 0.3659         |
| 315159 | 1KERR 2                  | 1.0244             | 80/20 | 1.0244         |
| 315160 | 1KERR 3                  | 1.0244             | 80/20 | 1.0244         |
| 315161 | 1KERR 4                  | 1.0244             | 80/20 | 1.0244         |
| 315162 | 1KERR 5                  | 1.0244             | 80/20 | 1.0244         |
| 315163 | 1KERR 6                  | 1.0244             | 80/20 | 1.0244         |
| 315164 | 1KERR 7                  | 1.0244             | 80/20 | 1.0244         |
| 315192 | 1BEARGRDN G2             | 2.8787             | 80/20 | 2.8787         |
| 315193 | 1BEARGRDN S1             | 5.9246             | 80/20 | 5.9246         |
| 315266 | 1PLYWOOD A               | 3.3432             | 80/20 | 3.3432         |
| 924021 | AB2-043 C O1             | 0.7329             | 80/20 | 0.7329         |
| 924161 | AB2-060 C OP             | 2.1135             | 80/20 | 2.1135         |
| 924301 | AB2-077 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924311 | AB2-078 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924321 | AB2-079 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 925611 | AC1-036 C                | 1.3105             | 80/20 | 1.3105         |
| 925661 | AC1-042 C                | 1.3657             | Adder | 1.61           |
| 925781 | AC1-054 C O1             | 5.0298             | 80/20 | 5.0298         |
| 925831 | AC1-062                  | 0.0768             | 80/20 | 0.0768         |
| 925991 | AC1-075 C                | 11.9864            | 80/20 | 11.9864        |
| 926021 | AC1-080 C                | 4.0059             | 80/20 | 4.0059         |
| 926271 | AC1-105 C O1 (Suspended) | 14.5305            | 80/20 | 14.5305        |
| 926641 | AC1-145 C                | 1.6258             | Adder | 1.91           |
| 927251 | AC1-221 C                | -2.4414            | Adder | -2.87          |
| 927261 | AC1-222 C                | 10.1431            | 80/20 | 10.1431        |
| 932511 | AC2-071 C                | 2.4320             | 80/20 | 2.4320         |
| 934311 | AD1-055 C                | 7.0426             | 80/20 | 7.0426         |
| 934341 | AD1-058 C                | -6.1203            | Adder | -7.2           |
| 934611 | AD1-087 C O1             | 27.0094            | 80/20 | 27.0094        |
| 934621 | AD1-088 C                | 24.0247            | 80/20 | 24.0247        |
| 935171 | AD1-152 C O1             | 26.8416            | 80/20 | 26.8416        |
| 935221 | AD1-157 C                | 2.1223             | 80/20 | 2.1223         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 936261     | AD2-033 C    | 17.8675            | 80/20         | 17.8675        |
| 936361     | AD2-046 C O1 | 8.4639             | 80/20         | 8.4639         |
| 936481     | AD2-063 C O1 | 20.4093            | 80/20         | 20.4093        |
| 937481     | AD2-202 C O1 | 7.1578             | 80/20         | 7.1578         |
| 938371     | AE1-056 C    | 9.1494             | 80/20         | 9.1494         |
| 939181     | AE1-148 C O1 | 8.5347             | 80/20         | 8.5347         |
| 939941     | AE1-230 C    | 0.6161             | Adder         | 0.72           |
| 940241     | AE2-006      | 0.6667             | 80/20         | 0.6667         |
| 940661     | AE2-053 O1   | 3.1610             | 80/20         | 3.1610         |
| 941791     | AE2-182 C    | 3.9032             | 80/20         | 3.9032         |
| 941801     | AE2-185 C    | 3.0805             | Adder         | 3.62           |
| 941821     | AE2-187 C    | 3.0805             | Adder         | 3.62           |
| 942451     | AE2-258      | 3.1698             | 80/20         | 3.1698         |
| 942461     | AE2-259 C O1 | 14.4012            | 80/20         | 14.4012        |
| 942671     | AE2-283 C    | 3.3886             | Adder         | 3.99           |
| 942751     | AE2-291 C O1 | 15.7260            | 80/20         | 15.7260        |
| 942761     | AE2-292 C O1 | 19.5804            | 80/20         | 19.5804        |
| 943901     | AF1-058 C    | 5.7522             | 80/20         | 5.7522         |
| 943911     | AF1-059      | 14.3780            | 80/20         | 14.3780        |
| 945081     | AF1-173      | 1.1937             | Adder         | 1.4            |
| 945811     | AF1-246 C O1 | 21.7505            | 80/20         | 21.7505        |
| 946301     | AF1-294 C    | 5.7653             | 80/20         | 5.7653         |
| 957481     | AF2-042 C O1 | 155.3610           | 80/20         | 155.3610       |
| 958211     | AF2-115 C    | 3.5154             | 80/20         | 3.5154         |
| 958801     | AF2-171 C O1 | 21.0762            | 80/20         | 21.0762        |
| 959311     | AF2-222 C    | 23.0530            | 80/20         | 23.0530        |
| 959751     | AF2-266 O1   | 25.8930            | 80/20         | 25.8930        |
| 960061     | AF2-297 C O1 | 23.0088            | 80/20         | 23.0088        |
| 960811     | AF2-372 C    | 1.7262             | 80/20         | 1.7262         |
| 960821     | AF2-373 C    | 2.1290             | 80/20         | 2.1290         |
| 961081     | AF2-399 C    | 0.4546             | 80/20         | 0.4546         |
| 961121     | AF2-403      | 0.3628             | Adder         | 0.81           |
| NEWTON     | NEWTON       | 1.6150             | Confirmed LTF | 1.6150         |
| FARMERCITY | FARMERCITY   | 0.0953             | Confirmed LTF | 0.0953         |
| G-007A     | G-007A       | 0.4939             | Confirmed LTF | 0.4939         |
| VFT        | VFT          | 1.3094             | Confirmed LTF | 1.3094         |
| CALDERWOOD | CALDERWOOD   | 1.4284             | Confirmed LTF | 1.4284         |
| PRAIRIE    | PRAIRIE      | 4.4893             | Confirmed LTF | 4.4893         |
| AC1-131    | AC1-131      | 5.1015             | LTF           | 5.1015         |
| CHEOAH     | CHEOAH       | 1.4720             | Confirmed LTF | 1.4720         |
| EDWARDS    | EDWARDS      | 0.4816             | Confirmed LTF | 0.4816         |
| TILTON     | TILTON       | 0.8429             | Confirmed LTF | 0.8429         |
| GIBSON     | GIBSON       | 0.7671             | Confirmed LTF | 0.7671         |
| BLUEG      | BLUEG        | 2.3314             | Confirmed LTF | 2.3314         |
| TRIMBLE    | TRIMBLE      | 0.7379             | Confirmed LTF | 0.7379         |
| CATAWBA    | CATAWBA      | 1.6961             | Confirmed LTF | 1.6961         |

## 11.6.25 Index 25

| 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 |
|----------|-----------|----------|---------------|---------|------------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97887001 | 314747    | 6BREMO   | DVP           | 313867  | 6BREMODIST | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 112.55                | 116.48                 | DC    | 26.0      |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1491             | 80/20 | 0.1491         |
| 314429 | 3JTRSVLE                    | 0.5962             | 80/20 | 0.5962         |
| 314572 | 3EMPORIA                    | 0.0240             | 80/20 | 0.0240         |
| 314677 | 6BUCKING                    | 1.1738             | 80/20 | 1.1738         |
| 314704 | 3LAWRENC                    | 0.1552             | 80/20 | 0.1552         |
| 315153 | 1CLOVER1                    | 8.0124             | 80/20 | 8.0124         |
| 315154 | 1CLOVER2                    | 7.9325             | 80/20 | 7.9325         |
| 315158 | 1KERR 1                     | 0.2616             | 80/20 | 0.2616         |
| 315159 | 1KERR 2                     | 0.7325             | 80/20 | 0.7325         |
| 315160 | 1KERR 3                     | 0.7325             | 80/20 | 0.7325         |
| 315161 | 1KERR 4                     | 0.7325             | 80/20 | 0.7325         |
| 315162 | 1KERR 5                     | 0.7325             | 80/20 | 0.7325         |
| 315163 | 1KERR 6                     | 0.7325             | 80/20 | 0.7325         |
| 315164 | 1KERR 7                     | 0.7325             | 80/20 | 0.7325         |
| 315191 | 1BEARGRDN G1                | 16.5646            | 80/20 | 16.5646        |
| 315192 | 1BEARGRDN G2                | 16.5646            | 80/20 | 16.5646        |
| 315193 | 1BEARGRDN S1                | 34.0910            | 80/20 | 34.0910        |
| 315266 | 1PLYWOOD A                  | 0.7353             | 80/20 | 0.7353         |
| 920291 | AA2-127                     | 3.4412             | 80/20 | 3.4412         |
| 923572 | AB1-173 C OP                | 0.7332             | 80/20 | 0.7332         |
| 923582 | AB1-173AC OP                | 0.7332             | 80/20 | 0.7332         |
| 923911 | AB2-031 C O1                | 0.7278             | 80/20 | 0.7278         |
| 923991 | AB2-040 C O1                | 2.3896             | 80/20 | 2.3896         |
| 924021 | AB2-043 C O1                | 0.4676             | 80/20 | 0.4676         |
| 924161 | AB2-060 C OP                | 1.3842             | 80/20 | 1.3842         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 925171 | AB2-174 C O1                | 0.3972             | 80/20 | 0.3972         |
| 925611 | AC1-036 C                   | 1.2045             | 80/20 | 1.2045         |
| 925781 | AC1-054 C O1                | 3.9503             | 80/20 | 3.9503         |
| 925831 | AC1-062                     | 0.0885             | 80/20 | 0.0885         |
| 925991 | AC1-075 C                   | 2.3895             | 80/20 | 2.3895         |
| 926021 | AC1-080 C                   | 0.7986             | 80/20 | 0.7986         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.3692             | 80/20 | 3.3692         |
| 926451 | AC1-116 C                   | -0.7531            | Adder | -0.89          |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 927251 | AC1-221 C    | 0.7912             | 80/20         | 0.7912         |
| 927261 | AC1-222 C    | 1.8753             | 80/20         | 1.8753         |
| 932511 | AC2-071 C    | 6.7040             | 80/20         | 6.7040         |
| 932761 | AC2-100 C    | 1.8208             | 80/20         | 1.8208         |
| 933501 | AC2-165 C    | 35.3138            | 80/20         | 35.3138        |
| 934311 | AD1-055 C    | 1.3021             | 80/20         | 1.3021         |
| 934341 | AD1-058 C    | 1.9834             | 80/20         | 1.9834         |
| 934611 | AD1-087 C O1 | 4.5455             | 80/20         | 4.5455         |
| 934621 | AD1-088 C    | 21.9177            | 80/20         | 21.9177        |
| 934991 | AD1-131 C    | 0.6503             | 80/20         | 0.6503         |
| 935171 | AD1-152 C O1 | 4.5173             | 80/20         | 4.5173         |
| 935221 | AD1-157 C    | 2.6102             | 80/20         | 2.6102         |
| 936261 | AD2-033 C    | 15.5243            | 80/20         | 15.5243        |
| 936361 | AD2-046 C O1 | 5.9036             | 80/20         | 5.9036         |
| 936481 | AD2-063 C O1 | 15.2622            | 80/20         | 15.2622        |
| 937481 | AD2-202 C O1 | 1.2046             | 80/20         | 1.2046         |
| 938371 | AE1-056 C    | 11.2528            | 80/20         | 11.2528        |
| 938821 | AE1-108 C    | 11.6026            | 80/20         | 11.6026        |
| 939181 | AE1-148 C O1 | 5.9157             | 80/20         | 5.9157         |
| 940241 | AE2-006      | 0.6128             | 80/20         | 0.6128         |
| 940661 | AE2-053 O1   | 2.1910             | 80/20         | 2.1910         |
| 941791 | AE2-182 C    | 3.5609             | 80/20         | 3.5609         |
| 942451 | AE2-258      | 2.0222             | 80/20         | 2.0222         |
| 942461 | AE2-259 C O1 | 20.7678            | 80/20         | 20.7678        |
| 942751 | AE2-291 C O1 | 3.3042             | 80/20         | 3.3042         |
| 942761 | AE2-292 C O1 | 4.1140             | 80/20         | 4.1140         |
| 943901 | AF1-058 C    | 1.0482             | 80/20         | 1.0482         |
| 943911 | AF1-059      | 10.4370            | 80/20         | 10.4370        |
| 945811 | AF1-246 C O1 | 3.5725             | 80/20         | 3.5725         |
| 946281 | AF1-292 C    | 0.4998             | 80/20         | 0.4998         |
| 946291 | AF1-293 C O1 | 6.7728             | 80/20         | 6.7728         |
| 946301 | AF1-294 C    | 6.6427             | 80/20         | 6.6427         |
| 946591 | AF1-323 C    | 3.7326             | 80/20         | 3.7326         |
| 957481 | AF2-042 C O1 | 26.0010            | 80/20         | 26.0010        |
| 958131 | AF2-107 C    | 2.0323             | 80/20         | 2.0323         |
| 958211 | AF2-115 C    | 4.0505             | 80/20         | 4.0505         |
| 958801 | AF2-171 C O1 | 24.1407            | 80/20         | 24.1407        |
| 959311 | AF2-222 C    | 21.9610            | 80/20         | 21.9610        |
| 959751 | AF2-266 O1   | 5.2605             | 80/20         | 5.2605         |
| 960061 | AF2-297 C O1 | 4.1928             | 80/20         | 4.1928         |
| 960081 | AF2-299 C    | 0.8424             | 80/20         | 0.8424         |
| 960111 | AF2-302 C    | 1.3573             | 80/20         | 1.3573         |
| 960811 | AF2-372 C    | 1.0609             | 80/20         | 1.0609         |
| 960821 | AF2-373 C    | 0.6309             | 80/20         | 0.6309         |
| 961081 | AF2-399 C    | 0.5225             | 80/20         | 0.5225         |
| WEC    | WEC          | 0.0636             | Confirmed LTF | 0.0636         |
| LGEE   | LGEE         | 0.1278             | Confirmed LTF | 0.1278         |
| CPL    | CPL          | 2.2326             | Confirmed LTF | 2.2326         |
| CBM-W2 | CBM-W2       | 5.0614             | Confirmed LTF | 5.0614         |
| NY     | NY           | 0.4015             | Confirmed LTF | 0.4015         |
| CBM-W1 | CBM-W1       | 2.0391             | Confirmed LTF | 2.0391         |
| TVA    | TVA          | 1.2404             | Confirmed LTF | 1.2404         |

| Bus #          | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|----------------|---------|--------------------|---------------|----------------|
| <b>CBM-S2</b>  | CBM-S2  | 14.2882            | Confirmed LTF | 14.2882        |
| <b>CBM-S1</b>  | CBM-S1  | 6.5008             | Confirmed LTF | 6.5008         |
| <b>MADISON</b> | MADISON | 0.5786             | Confirmed LTF | 0.5786         |
| <b>MEC</b>     | MEC     | 0.5641             | Confirmed LTF | 0.5641         |
| <b>AA2-074</b> | AA2-074 | 1.5188             | LTF           | 1.5188         |

## 11.6.26 Index 26

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97886954 | 314765    | 6MTEAGLE | DVP           | 314749  | 6CHARLVL | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 106.02                | 109.61                 | DC    | 23.74     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1363             | 80/20 | 0.1363         |
| 314429 | 3JTRSVLE                    | 0.5452             | 80/20 | 0.5452         |
| 314572 | 3EMPORIA                    | 0.0219             | 80/20 | 0.0219         |
| 314677 | 6BUCKING                    | 1.0694             | 80/20 | 1.0694         |
| 314704 | 3LAWRENC                    | 0.1423             | 80/20 | 0.1423         |
| 315153 | 1CLOVER1                    | 7.3430             | 80/20 | 7.3430         |
| 315154 | 1CLOVER2                    | 7.2698             | 80/20 | 7.2698         |
| 315158 | 1KERR 1                     | 0.2422             | 80/20 | 0.2422         |
| 315159 | 1KERR 2                     | 0.6782             | 80/20 | 0.6782         |
| 315160 | 1KERR 3                     | 0.6782             | 80/20 | 0.6782         |
| 315161 | 1KERR 4                     | 0.6782             | 80/20 | 0.6782         |
| 315162 | 1KERR 5                     | 0.6782             | 80/20 | 0.6782         |
| 315163 | 1KERR 6                     | 0.6782             | 80/20 | 0.6782         |
| 315164 | 1KERR 7                     | 0.6782             | 80/20 | 0.6782         |
| 315191 | 1BEARGRDN G1                | 15.0842            | 80/20 | 15.0842        |
| 315192 | 1BEARGRDN G2                | 15.0842            | 80/20 | 15.0842        |
| 315193 | 1BEARGRDN S1                | 31.0443            | 80/20 | 31.0443        |
| 315266 | 1PLYWOOD A                  | 0.6953             | 80/20 | 0.6953         |
| 920291 | AA2-127                     | 3.1336             | 80/20 | 3.1336         |
| 924021 | AB2-043 C O1                | 0.4312             | 80/20 | 0.4312         |
| 924161 | AB2-060 C OP                | 1.2758             | 80/20 | 1.2758         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 925171 | AB2-174 C O1                | 0.3622             | 80/20 | 0.3622         |
| 925611 | AC1-036 C                   | 1.1045             | 80/20 | 1.1045         |
| 925781 | AC1-054 C O1                | 3.6512             | 80/20 | 3.6512         |
| 925831 | AC1-062                     | 0.0809             | 80/20 | 0.0809         |
| 925991 | AC1-075 C                   | 2.5684             | 80/20 | 2.5684         |
| 926021 | AC1-080 C                   | 0.8584             | 80/20 | 0.8584         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.1786             | 80/20 | 3.1786         |
| 926451 | AC1-116 C                   | 3.6384             | 80/20 | 3.6384         |
| 927251 | AC1-221 C                   | 0.7555             | 80/20 | 0.7555         |
| 927261 | AC1-222 C                   | 1.8244             | 80/20 | 1.8244         |
| 932511 | AC2-071 C                   | 6.1076             | 80/20 | 6.1076         |
| 932761 | AC2-100 C                   | 1.7388             | 80/20 | 1.7388         |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 933501 | AC2-165 C    | 32.1571            | 80/20         | 32.1571        |
| 934311 | AD1-055 C    | 1.2668             | 80/20         | 1.2668         |
| 934341 | AD1-058 C    | 1.8940             | 80/20         | 1.8940         |
| 934611 | AD1-087 C O1 | 4.2050             | 80/20         | 4.2050         |
| 934621 | AD1-088 C    | 19.9913            | 80/20         | 19.9913        |
| 934991 | AD1-131 C    | 0.6210             | 80/20         | 0.6210         |
| 935171 | AD1-152 C O1 | 4.1789             | 80/20         | 4.1789         |
| 935221 | AD1-157 C    | 2.3854             | 80/20         | 2.3854         |
| 936261 | AD2-033 C    | 14.2451            | 80/20         | 14.2451        |
| 936361 | AD2-046 C O1 | 5.4614             | 80/20         | 5.4614         |
| 936481 | AD2-063 C O1 | 14.0364            | 80/20         | 14.0364        |
| 937481 | AD2-202 C O1 | 1.1144             | 80/20         | 1.1144         |
| 938371 | AE1-056 C    | 10.2839            | 80/20         | 10.2839        |
| 938821 | AE1-108 C    | 35.7983            | 80/20         | 35.7983        |
| 939181 | AE1-148 C O1 | 5.4713             | 80/20         | 5.4713         |
| 940241 | AE2-006      | 0.5619             | 80/20         | 0.5619         |
| 940661 | AE2-053 O1   | 2.0264             | 80/20         | 2.0264         |
| 941011 | AE2-092 C    | 29.1911            | 80/20         | 29.1911        |
| 941791 | AE2-182 C    | 3.2479             | 80/20         | 3.2479         |
| 942451 | AE2-258      | 1.8649             | 80/20         | 1.8649         |
| 942461 | AE2-259 C O1 | 18.9528            | 80/20         | 18.9528        |
| 942751 | AE2-291 C O1 | 3.7718             | 80/20         | 3.7718         |
| 942761 | AE2-292 C O1 | 4.6962             | 80/20         | 4.6962         |
| 943901 | AF1-058 C    | 0.9984             | 80/20         | 0.9984         |
| 943911 | AF1-059      | 9.5960             | 80/20         | 9.5960         |
| 945811 | AF1-246 C O1 | 3.2617             | 80/20         | 3.2617         |
| 946281 | AF1-292 C    | 0.4551             | 80/20         | 0.4551         |
| 946291 | AF1-293 C O1 | 47.0478            | 80/20         | 47.0478        |
| 946301 | AF1-294 C    | 6.0747             | 80/20         | 6.0747         |
| 946591 | AF1-323 C    | 11.4715            | 80/20         | 11.4715        |
| 957481 | AF2-042 C O1 | 23.7450            | 80/20         | 23.7450        |
| 958131 | AF2-107 C    | 6.0592             | 80/20         | 6.0592         |
| 958211 | AF2-115 C    | 3.7041             | 80/20         | 3.7041         |
| 958801 | AF2-171 C O1 | 22.0788            | 80/20         | 22.0788        |
| 959311 | AF2-222 C    | 20.1270            | 80/20         | 20.1270        |
| 959751 | AF2-266 O1   | 4.8210             | 80/20         | 4.8210         |
| 960061 | AF2-297 C O1 | 3.9936             | 80/20         | 3.9936         |
| 960081 | AF2-299 C    | 0.7671             | 80/20         | 0.7671         |
| 960111 | AF2-302 C    | 4.1714             | 80/20         | 4.1714         |
| 960811 | AF2-372 C    | 0.9790             | 80/20         | 0.9790         |
| 960821 | AF2-373 C    | 0.5906             | 80/20         | 0.5906         |
| 961061 | AF2-397 C O1 | 49.8186            | 80/20         | 49.8186        |
| 961081 | AF2-399 C    | 0.4779             | 80/20         | 0.4779         |
| WEC    | WEC          | 0.1254             | Confirmed LTF | 0.1254         |
| LGEE   | LGEE         | 0.2482             | Confirmed LTF | 0.2482         |
| CPL    | CPL          | 2.1704             | Confirmed LTF | 2.1704         |
| CBM-W2 | CBM-W2       | 6.5766             | Confirmed LTF | 6.5766         |
| NY     | NY           | 0.4302             | Confirmed LTF | 0.4302         |
| CBM-W1 | CBM-W1       | 4.4035             | Confirmed LTF | 4.4035         |
| TVA    | TVA          | 1.4980             | Confirmed LTF | 1.4980         |
| CBM-S2 | CBM-S2       | 14.4558            | Confirmed LTF | 14.4558        |
| CBM-S1 | CBM-S1       | 8.1110             | Confirmed LTF | 8.1110         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MADISON | MADISON | 0.5443             | Confirmed LTF | 0.5443         |
| MEC     | MEC     | 0.8692             | Confirmed LTF | 0.8692         |
| AA2-074 | AA2-074 | 1.4778             | LTF           | 1.4778         |

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| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 96825661 | 314902    | 8CARSON  | DVP           | 314914  | 8MDLTHAN | DVP         | 1      | DVP_P4-2:<br>557T574 | breaker | 3938.0     | 133.52                | 137.4                  | DC    | 152.78    |

| Bus #  | Bus                    | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK              | 0.0788             | 50/50 | 0.0788         |
| 314491 | 3PENDLTN               | 0.5875             | 50/50 | 0.5875         |
| 314947 | 8GREENSVILLE           | 102.0684           | 50/50 | 102.0684       |
| 315102 | 1BRUNSWICKG1           | 16.7135            | 50/50 | 16.7135        |
| 315103 | 1BRUNSWICKG2           | 16.7135            | 50/50 | 16.7135        |
| 315104 | 1BRUNSWICKG3           | 16.7135            | 50/50 | 16.7135        |
| 315105 | 1BRUNSWICKS1           | 34.7221            | 50/50 | 34.7221        |
| 315108 | 1ELIZAR1               | 5.7339             | 50/50 | 5.7339         |
| 315109 | 1ELIZAR2               | 5.6343             | 50/50 | 5.6343         |
| 315110 | 1ELIZAR3               | 5.8073             | 50/50 | 5.8073         |
| 315233 | 1SURRY 2               | 45.2544            | 50/50 | 45.2544        |
| 315603 | 6AA1-139SOLA           | 4.3963             | 50/50 | 4.3963         |
| 916192 | Z1-068 E               | 3.1959             | 50/50 | 3.1959         |
| 919152 | AA1-139 E              | 10.9228            | 50/50 | 10.9228        |
| 924241 | AB2-068 OP             | 329.5010           | 50/50 | 329.5010       |
| 925522 | AC1-027 E              | 1.9463             | 50/50 | 1.9463         |
| 926291 | AC1-107 O1 (Suspended) | 497.3600           | 50/50 | 497.3600       |
| 926751 | AC1-161 C O1           | 54.9190            | 50/50 | 54.9190        |
| 926752 | AC1-161 E O1           | 23.4434            | 50/50 | 23.4434        |
| 933291 | AC2-141 C              | 54.9190            | 50/50 | 54.9190        |
| 933292 | AC2-141 E              | 23.4434            | 50/50 | 23.4434        |
| 933731 | AC2-196 C              | 3.0625             | 50/50 | 3.0625         |
| 933732 | AC2-196 E              | 2.0396             | 50/50 | 2.0396         |
| 934061 | AD1-033 C              | 12.8516            | 50/50 | 12.8516        |
| 934062 | AD1-033 E              | 8.5677             | 50/50 | 8.5677         |
| 937221 | AD2-160 C O1           | 9.9787             | 50/50 | 9.9787         |
| 937222 | AD2-160 E O1           | 5.2328             | 50/50 | 5.2328         |
| 938491 | AE1-068 C O1           | 118.2687           | 50/50 | 118.2687       |
| 938492 | AE1-068 E O1           | 65.3213            | 50/50 | 65.3213        |
| 938501 | AE1-069 C O1           | 92.3886            | 50/50 | 92.3886        |
| 938502 | AE1-069 E O1           | 52.8194            | 50/50 | 52.8194        |
| 938531 | AE1-072 C O1           | 29.8324            | 50/50 | 29.8324        |
| 938532 | AE1-072 E O1           | 15.5516            | 50/50 | 15.5516        |
| 939411 | AE1-173 C              | 173.7120           | 50/50 | 173.7120       |
| 939412 | AE1-173 E              | 115.8080           | 50/50 | 115.8080       |
| 940251 | AE2-007 O1             | 293.8408           | 50/50 | 293.8408       |
| 940471 | AE2-031 C              | 64.4722            | 50/50 | 64.4722        |
| 940472 | AE2-031 E              | 42.9815            | 50/50 | 42.9815        |
| 940641 | AE2-051 C O1           | 34.2000            | 50/50 | 34.2000        |
| 940642 | AE2-051 E O1           | 22.8000            | 50/50 | 22.8000        |
| 941031 | AE2-094 C              | 77.6917            | 50/50 | 77.6917        |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 941032  | AE2-094 E    | 34.7963            | 50/50         | 34.7963        |
| 941281  | AE2-122 C O1 | 48.3851            | 50/50         | 48.3851        |
| 941282  | AE2-122 E O1 | 195.2454           | 50/50         | 195.2454       |
| 941291  | AE2-123 C O1 | 49.7249            | 50/50         | 49.7249        |
| 941292  | AE2-123 E O1 | 193.9056           | 50/50         | 193.9056       |
| 941301  | AE2-124 C O1 | 45.2479            | 50/50         | 45.2479        |
| 941302  | AE2-124 E O1 | 198.5425           | 50/50         | 198.5425       |
| 941591  | AE2-156 O1   | 30.2960            | 50/50         | 30.2960        |
| 942401  | AE2-253 C    | 10.4959            | 50/50         | 10.4959        |
| 942402  | AE2-253 E    | 4.7156             | 50/50         | 4.7156         |
| 942931  | AE2-313 C    | 69.8079            | 50/50         | 69.8079        |
| 942932  | AE2-313 E    | 46.5386            | 50/50         | 46.5386        |
| 944011  | AF1-069 C    | 25.3848            | 50/50         | 25.3848        |
| 944012  | AF1-069 E    | 9.8614             | 50/50         | 9.8614         |
| 944581  | AF1-123 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944582  | AF1-123 E O1 | 191.4798           | 50/50         | 191.4798       |
| 944591  | AF1-124 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944592  | AF1-124 E O1 | 191.4798           | 50/50         | 191.4798       |
| 944601  | AF1-125 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944602  | AF1-125 E O1 | 191.4798           | 50/50         | 191.4798       |
| 945811  | AF1-246 C O1 | 12.9209            | 50/50         | 12.9209        |
| 945812  | AF1-246 E O1 | 17.8431            | 50/50         | 17.8431        |
| 957481  | AF2-042 C O1 | 91.6680            | 50/50         | 91.6680        |
| 957482  | AF2-042 E O1 | 61.1120            | 50/50         | 61.1120        |
| 957871  | AF2-081 C O1 | 16.9910            | 50/50         | 16.9910        |
| 957872  | AF2-081 E O1 | 7.2818             | 50/50         | 7.2818         |
| WEC     | WEC          | 1.2109             | Confirmed LTF | 1.2109         |
| LGEE    | LGEE         | 2.3168             | Confirmed LTF | 2.3168         |
| CPL     | CPL          | 12.8920            | Confirmed LTF | 12.8920        |
| CBM-W2  | CBM-W2       | 49.9508            | Confirmed LTF | 49.9508        |
| NY      | NY           | 2.6173             | Confirmed LTF | 2.6173         |
| CBM-W1  | CBM-W1       | 44.7233            | Confirmed LTF | 44.7233        |
| TVA     | TVA          | 10.6106            | Confirmed LTF | 10.6106        |
| O-066   | O-066        | 36.4022            | Confirmed LTF | 36.4022        |
| CBM-S2  | CBM-S2       | 88.5265            | Confirmed LTF | 88.5265        |
| CBM-S1  | CBM-S1       | 59.0010            | Confirmed LTF | 59.0010        |
| G-007   | G-007        | 5.6774             | Confirmed LTF | 5.6774         |
| MADISON | MADISON      | 3.0200             | Confirmed LTF | 3.0200         |
| MEC     | MEC          | 7.4302             | Confirmed LTF | 7.4302         |
| AA2-074 | AA2-074      | 8.7867             | LTF           | 8.7867         |

## 11.6.28 Index 28

| 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 |
|----------|-----------|----------|---------------|---------|---------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825770 | 314903    | 8CHCKAHM | DVP           | 314908  | 8ELMONT | DVP         | 1      | DVP_P1-2: LN 563 | single | 2442.12    | 163.45                | 163.64                 | DC    | 65.41     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0813             | 80/20 | 0.0813         |
| 314421 | 6WINCHST                             | 0.2482             | 80/20 | 0.2482         |
| 314491 | 3PENDLTN                             | 0.6068             | 80/20 | 0.6068         |
| 314507 | 3THOMPSN                             | 0.6099             | 80/20 | 0.6099         |
| 315092 | 1YORKTN3                             | 44.1974            | 80/20 | 44.1974        |
| 315098 | 1CHESPKA                             | 0.8066             | 80/20 | 0.8066         |
| 315099 | 1CHESPKB (Deactivation : 31/05/2019) | 5.2288             | 80/20 | 5.2288         |
| 315108 | 1ELIZAR1                             | 5.9415             | 80/20 | 5.9415         |
| 315109 | 1ELIZAR2                             | 5.8383             | 80/20 | 5.8383         |
| 315110 | 1ELIZAR3                             | 6.0175             | 80/20 | 6.0175         |
| 315233 | 1SURRY 2                             | 53.8009            | 80/20 | 53.8009        |
| 315260 | 1GOSPORTA                            | 0.6439             | 80/20 | 0.6439         |
| 315261 | 1GOSPORTB                            | 0.8224             | 80/20 | 0.8224         |
| 315262 | 1GOSPORTC                            | 0.6980             | 80/20 | 0.6980         |
| 315294 | 1DOMTR10                             | 13.7739            | Adder | 16.2           |
| 315603 | 6AA1-139SOLA                         | 4.4977             | 80/20 | 4.4977         |
| 315611 | 6Z1-036WIND                          | 9.5313             | Adder | 11.21          |
| 923801 | AB2-015 C OP                         | 11.2140            | Adder | 13.19          |
| 923831 | AB2-022 C                            | 3.3523             | Adder | 3.94           |
| 924241 | AB2-068 OP                           | 611.1006           | 80/20 | 611.1006       |
| 924501 | AB2-099 C (Suspended)                | 0.7143             | Adder | 0.84           |
| 925061 | AB2-161 C O1 (Suspended)             | 4.1804             | Adder | 4.92           |
| 925331 | AB2-190 C                            | 23.2754            | Adder | 27.38          |
| 925861 | AC1-065 C                            | 4.3238             | Adder | 5.09           |
| 926071 | AC1-086 C                            | 7.8864             | Adder | 9.28           |
| 926291 | AC1-107 O1 (Suspended)               | 922.4160           | 80/20 | 922.4160       |
| 926661 | AC1-147 C                            | 3.9544             | 80/20 | 3.9544         |
| 926751 | AC1-161 C O1                         | 57.6606            | 80/20 | 57.6606        |
| 926781 | AC1-164 C                            | 54.9677            | Adder | 64.67          |
| 932041 | AC2-012 C                            | 17.8889            | 80/20 | 17.8889        |
| 932581 | AC2-078 C O1                         | 4.3793             | Adder | 5.15           |
| 932591 | AC2-079 C O1                         | 7.5131             | Adder | 8.84           |
| 932831 | AC2-110 C                            | 1.7295             | Adder | 2.03           |
| 933261 | AC2-137 C                            | 2.2815             | Adder | 2.68           |
| 933291 | AC2-141 C                            | 57.6606            | 80/20 | 57.6606        |
| 933731 | AC2-196 C                            | 3.1486             | 80/20 | 3.1486         |
| 933991 | AD1-023 C                            | 16.9234            | Adder | 19.91          |
| 934011 | AD1-025 C                            | 19.8686            | Adder | 23.37          |
| 934061 | AD1-033 C                            | 13.2199            | 80/20 | 13.2199        |
| 934141 | AD1-041 C                            | 6.8442             | Adder | 8.05           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|------------------------------------|--------------------|-------|----------------|
| 934521 | AD1-076 C                          | 70.8965            | Adder | 83.41          |
| 934571 | AD1-082 C                          | 9.5270             | Adder | 11.21          |
| 935111 | AD1-144 C                          | 2.4996             | Adder | 2.94           |
| 935161 | AD1-151 C O1                       | 18.7035            | Adder | 22.0           |
| 936041 | AD2-007 C                          | 0.9491             | Adder | 1.12           |
| 936051 | AD2-008 C                          | 3.4591             | Adder | 4.07           |
| 936151 | AD2-021                            | 0.2602             | Adder | 0.31           |
| 936301 | AD2-039 C                          | 1.7295             | Adder | 2.03           |
| 936401 | AD2-051 C O1                       | 10.8936            | Adder | 12.82          |
| 936591 | AD2-074 C                          | 6.0389             | Adder | 7.1            |
| 936661 | AD2-085 C                          | 4.4965             | Adder | 5.29           |
| 937221 | AD2-160 C O1                       | 10.2234            | 80/20 | 10.2234        |
| 937251 | AD2-164 (Withdrawn : 06/30/2020)   | 8.5333             | 80/20 | 8.5333         |
| 937541 | AD2-215 C                          | 2.5253             | Adder | 2.97           |
| 938031 | AE1-004 C                          | 1.7295             | Adder | 2.03           |
| 938171 | AE1-026 C O1                       | 41.0026            | Adder | 48.24          |
| 938221 | AE1-035 C                          | 2.7948             | Adder | 3.29           |
| 938491 | AE1-068 C O1                       | 70.7597            | Adder | 83.25          |
| 938501 | AE1-069 C O1                       | 55.3100            | Adder | 65.07          |
| 938531 | AE1-072 C O1                       | 30.4743            | 80/20 | 30.4743        |
| 938631 | AE1-085 C O1                       | 9.8056             | Adder | 11.54          |
| 938771 | AE1-103 C O1                       | 4.7784             | Adder | 5.62           |
| 939191 | AE1-149 C O1                       | 11.2210            | Adder | 13.2           |
| 939311 | AE1-162 C                          | 2.9920             | Adder | 3.52           |
| 939411 | AE1-173 C                          | 120.2335           | Adder | 141.45         |
| 939421 | AE1-174 C (Withdrawn : 06/16/2020) | 0.6390             | 80/20 | 0.6390         |
| 939431 | AE1-175 C                          | 4.2491             | 80/20 | 4.2491         |
| 939611 | AE1-191 C                          | 13.6884            | Adder | 16.1           |
| 940061 | AE2-000BC O1                       | 19.8020            | Adder | 23.3           |
| 940231 | AE2-005 C                          | 1.7295             | Adder | 2.03           |
| 940251 | AE2-007 O1                         | 304.5231           | 80/20 | 304.5231       |
| 940471 | AE2-031 C                          | 38.5649            | Adder | 45.37          |
| 940481 | AE2-033 C                          | 16.5492            | Adder | 19.47          |
| 940491 | AE2-034 C                          | 9.6494             | Adder | 11.35          |
| 940551 | AE2-041 O1                         | 9.4340             | Adder | 11.1           |
| 940641 | AE2-051 C O1                       | 21.9991            | Adder | 25.88          |
| 940651 | AE2-052                            | 3.7403             | Adder | 4.4            |
| 940891 | AE2-078 C                          | 3.2115             | Adder | 3.78           |
| 940901 | AE2-079 C                          | 3.2115             | Adder | 3.78           |
| 941031 | AE2-094 C                          | 46.4323            | Adder | 54.63          |
| 941101 | AE2-104 C O1                       | 4.7122             | Adder | 5.54           |
| 941281 | AE2-122 C O1                       | 49.9327            | 80/20 | 49.9327        |
| 941291 | AE2-123 C O1                       | 51.3154            | 80/20 | 51.3154        |
| 941301 | AE2-124 C O1                       | 46.6691            | 80/20 | 46.6691        |
| 941501 | AE2-147 C                          | 22.7029            | Adder | 26.71          |
| 941541 | AE2-151 C                          | 1.3213             | Adder | 1.55           |
| 941591 | AE2-156 O1                         | 31.4270            | 80/20 | 31.4270        |
| 942131 | AE2-225 C                          | 3.1125             | Adder | 3.66           |
| 942171 | AE2-229 C                          | 3.1125             | Adder | 3.66           |
| 942341 | AE2-247 C                          | 1.9469             | Adder | 2.29           |
| 942401 | AE2-253 C                          | 10.7533            | 80/20 | 10.7533        |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 942551  | AE2-270                            | 31.6799            | Adder         | 37.27          |
| 942851  | AE2-304 C                          | 0.8943             | Adder         | 1.05           |
| 942931  | AE2-313 C                          | 41.7565            | Adder         | 49.13          |
| 943171  | AE2-346 C                          | 1.7143             | Adder         | 2.02           |
| 943431  | AF1-014 C                          | 1.6385             | Adder         | 1.93           |
| 943461  | AF1-017 C                          | 1.7615             | Adder         | 2.07           |
| 943471  | AF1-018                            | 9.4340             | Adder         | 11.1           |
| 943611  | AF1-032 C                          | 2.5419             | Adder         | 2.99           |
| 943621  | AF1-033 C                          | 3.2115             | Adder         | 3.78           |
| 943741  | AF1-042 C                          | 3.1599             | Adder         | 3.72           |
| 944011  | AF1-069 C                          | 15.1712            | Adder         | 17.85          |
| 944501  | AF1-115 C O1                       | 9.7805             | Adder         | 11.51          |
| 944581  | AF1-123 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944591  | AF1-124 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944601  | AF1-125 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944871  | AF1-152 C                          | 7.5676             | Adder         | 8.9            |
| 945361  | AF1-201 C O1                       | 23.5046            | Adder         | 27.65          |
| 945711  | AF1-236 C O1                       | 105.6374           | Adder         | 124.28         |
| 945811  | AF1-246 C O1                       | 7.8319             | Adder         | 9.21           |
| 946011  | AF1-266                            | 13.8530            | Adder         | 16.3           |
| 957481  | AF2-042 C O1                       | 29.4654            | Adder         | 65.41          |
| 957491  | AF2-043 C                          | 1.6496             | Adder         | 3.66           |
| 957521  | AF2-046 C                          | 10.9010            | Adder         | 24.2           |
| 957531  | AF2-047 C                          | 12.1522            | Adder         | 26.97          |
| 957601  | AF2-054 C                          | 1.4483             | Adder         | 3.21           |
| 957631  | AF2-057                            | 6.2768             | 80/20         | 6.2768         |
| 957711  | AF2-065 C                          | 8.5631             | Adder         | 19.01          |
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 7.1284             | Adder         | 15.82          |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 3.1682             | Adder         | 7.03           |
| 957821  | AF2-076 C O1                       | 4.0733             | Adder         | 9.04           |
| 957831  | AF2-077 C                          | 1.6126             | Adder         | 3.58           |
| 957871  | AF2-081 C O1                       | 17.3830            | 80/20         | 17.3830        |
| 958161  | AF2-110 C                          | 1.0296             | Adder         | 2.29           |
| 959511  | AF2-242                            | 4.9841             | Adder         | 11.06          |
| 959731  | AF2-264 C                          | 1.4561             | Adder         | 3.23           |
| 960101  | AF2-301 C                          | 2.0041             | Adder         | 4.45           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.8017             | Adder         | 4.0            |
| 960831  | AF2-374 C                          | 0.7953             | Adder         | 1.77           |
| 961091  | AF2-400 C                          | 0.3209             | Adder         | 0.71           |
| 961111  | AF2-402 C O1                       | 0.7442             | Adder         | 1.65           |
| WEC     | WEC                                | 0.5887             | Confirmed LTF | 0.5887         |
| LGEE    | LGEE                               | 1.1313             | Confirmed LTF | 1.1313         |
| CPL     | CPL                                | 9.4138             | Confirmed LTF | 9.4138         |
| CBM-W2  | CBM-W2                             | 29.0417            | Confirmed LTF | 29.0417        |
| NY      | NY                                 | 1.8221             | Confirmed LTF | 1.8221         |
| CBM-W1  | CBM-W1                             | 21.1669            | Confirmed LTF | 21.1669        |
| TVA     | TVA                                | 6.4848             | Confirmed LTF | 6.4848         |
| CBM-S2  | CBM-S2                             | 62.0599            | Confirmed LTF | 62.0599        |
| CBM-S1  | CBM-S1                             | 35.2728            | Confirmed LTF | 35.2728        |
| MADISON | MADISON                            | 2.3023             | Confirmed LTF | 2.3023         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MEC     | MEC     | 3.9503             | Confirmed LTF | 3.9503         |
| AA2-074 | AA2-074 | 6.4107             | LTF           | 6.4107         |

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| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825782 | 314914    | 8MDLTHAN | DVP           | 314918  | 8NO ANNA | DVP         | 1      | DVP_P1-2: LN 574 | single | 2442.12    | 149.62                | 149.87                 | DC    | 83.25     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0726             | 80/20 | 0.0726         |
| 314491 | 3PENDLTN                             | 0.5418             | 80/20 | 0.5418         |
| 314507 | 3THOMPSN                             | 0.5451             | 80/20 | 0.5451         |
| 314947 | 8GREENSVILLE                         | 87.0542            | 80/20 | 87.0542        |
| 315060 | 1CHESTF5 (Deactivation : 31/05/2023) | 69.3084            | Adder | 81.54          |
| 315065 | 1CHESTF6 (Deactivation : 31/05/2023) | 146.9609           | Adder | 172.9          |
| 315074 | 1HOPCGN1 (Deactivation : 25/06/2019) | 9.9733             | Adder | 11.73          |
| 315075 | 1HOPCGN2 (Deactivation : 25/06/2019) | 9.8441             | Adder | 11.58          |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 13.2114            | Adder | 15.54          |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 13.2114            | Adder | 15.54          |
| 315098 | 1CHESPKA                             | 0.7204             | 80/20 | 0.7204         |
| 315099 | 1CHESPKB (Deactivation : 31/05/2019) | 4.6698             | 80/20 | 4.6698         |
| 315102 | 1BRUNSWICKG1                         | 14.2990            | 80/20 | 14.2990        |
| 315103 | 1BRUNSWICKG2                         | 14.2990            | 80/20 | 14.2990        |
| 315104 | 1BRUNSWICKG3                         | 14.2990            | 80/20 | 14.2990        |
| 315105 | 1BRUNSWICKS1                         | 29.7062            | 80/20 | 29.7062        |
| 315108 | 1ELIZAR1                             | 5.2967             | 80/20 | 5.2967         |
| 315109 | 1ELIZAR2                             | 5.2047             | 80/20 | 5.2047         |
| 315110 | 1ELIZAR3                             | 5.3644             | 80/20 | 5.3644         |
| 315260 | 1GOSPORTA                            | 0.5752             | 80/20 | 0.5752         |
| 315261 | 1GOSPORTB                            | 0.7348             | 80/20 | 0.7348         |
| 315262 | 1GOSPORTC                            | 0.6236             | 80/20 | 0.6236         |
| 315294 | 1DOMTR10                             | 13.9892            | Adder | 16.46          |
| 315603 | 6AA1-139SOLA                         | 4.0434             | 80/20 | 4.0434         |
| 315611 | 6Z1-036WIND                          | 8.9548             | Adder | 10.54          |
| 923262 | AB1-132 C OP (Suspended)             | 17.9107            | Adder | 21.07          |
| 923572 | AB1-173 C OP                         | 2.8821             | Adder | 3.39           |
| 923582 | AB1-173AC OP                         | 2.8821             | Adder | 3.39           |
| 923801 | AB2-015 C OP                         | 11.2353            | Adder | 13.22          |
| 923831 | AB2-022 C                            | 3.0540             | Adder | 3.59           |
| 923911 | AB2-031 C O1                         | 2.8607             | Adder | 3.37           |
| 923991 | AB2-040 C O1                         | 9.3934             | Adder | 11.05          |
| 924501 | AB2-099 C (Suspended)                | 0.7533             | Adder | 0.89           |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 925051 | AB2-160 C O1<br>(Suspended)         | 6.7647             | Adder | 7.96           |
| 925061 | AB2-161 C O1<br>(Suspended)         | 4.4017             | Adder | 5.18           |
| 925331 | AB2-190 C                           | 24.7625            | Adder | 29.13          |
| 926071 | AC1-086 C                           | 26.3756            | Adder | 31.03          |
| 926201 | AC1-098 C                           | 7.7123             | Adder | 9.07           |
| 926211 | AC1-099 C                           | 2.5844             | Adder | 3.04           |
| 926661 | AC1-147 C                           | 3.5317             | 80/20 | 3.5317         |
| 926751 | AC1-161 C O1                        | 47.9555            | 80/20 | 47.9555        |
| 926781 | AC1-164 C                           | 42.3513            | Adder | 49.83          |
| 927021 | AC1-189 C                           | 10.6067            | Adder | 12.48          |
| 927141 | AC1-208 C                           | 11.2696            | Adder | 13.26          |
| 932041 | AC2-012 C                           | 15.9765            | 80/20 | 15.9765        |
| 932581 | AC2-078 C O1                        | 5.2283             | Adder | 6.15           |
| 932591 | AC2-079 C O1                        | 7.5172             | Adder | 8.84           |
| 932631 | AC2-084 C                           | 10.9941            | Adder | 12.93          |
| 933261 | AC2-137 C                           | 2.2372             | Adder | 2.63           |
| 933291 | AC2-141 C                           | 47.9555            | 80/20 | 47.9555        |
| 933501 | AC2-165 C                           | 12.0834            | Adder | 14.22          |
| 933731 | AC2-196 C                           | 2.8076             | 80/20 | 2.8076         |
| 933991 | AD1-023 C                           | 17.0211            | Adder | 20.02          |
| 934011 | AD1-025 C                           | 20.8815            | Adder | 24.57          |
| 934061 | AD1-033 C                           | 11.7902            | 80/20 | 11.7902        |
| 934331 | AD1-057 C O1                        | 12.3833            | Adder | 14.57          |
| 934521 | AD1-076 C                           | 70.5939            | Adder | 83.05          |
| 934571 | AD1-082 C                           | 10.0312            | Adder | 11.8           |
| 934611 | AD1-087 C O1                        | 10.1365            | Adder | 11.93          |
| 935111 | AD1-144 C                           | 2.2639             | Adder | 2.66           |
| 935161 | AD1-151 C O1                        | 19.8984            | Adder | 23.41          |
| 935171 | AD1-152 C O1                        | 10.0735            | Adder | 11.85          |
| 936041 | AD2-007 C                           | 0.9975             | Adder | 1.17           |
| 936051 | AD2-008 C                           | 3.6354             | Adder | 4.28           |
| 936151 | AD2-021                             | 0.2551             | Adder | 0.3            |
| 936401 | AD2-051 C O1                        | 11.3172            | Adder | 13.31          |
| 936661 | AD2-085 C                           | 4.5093             | Adder | 5.31           |
| 937221 | AD2-160 C O1                        | 9.1692             | 80/20 | 9.1692         |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | 5.9277             | Adder | 6.97           |
| 937481 | AD2-202 C O1                        | 2.6863             | Adder | 3.16           |
| 937541 | AD2-215 C                           | 2.2873             | Adder | 2.69           |
| 938171 | AE1-026 C O1                        | 41.4837            | Adder | 48.8           |
| 938221 | AE1-035 C                           | 2.8952             | Adder | 3.41           |
| 938491 | AE1-068 C O1                        | 100.6401           | 80/20 | 100.6401       |
| 938501 | AE1-069 C O1                        | 78.7983            | 80/20 | 78.7983        |
| 938531 | AE1-072 C O1                        | 27.4650            | 80/20 | 27.4650        |
| 938551 | AE1-074 C                           | 3.8930             | 80/20 | 3.8930         |
| 938561 | AE1-075 C                           | 2.7423             | Adder | 3.23           |
| 938631 | AE1-085 C O1                        | 11.4826            | Adder | 13.51          |
| 938771 | AE1-103 C O1                        | 4.7449             | Adder | 5.58           |
| 939191 | AE1-149 C O1                        | 13.7333            | Adder | 16.16          |
| 939311 | AE1-162 C                           | 2.7747             | Adder | 3.26           |
| 939411 | AE1-173 C                           | 149.3664           | 80/20 | 149.3664       |

| Bus #  | Bus                                | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|------------------------------------|--------------------|-------|----------------|
| 939421 | AE1-174 C (Withdrawn : 06/16/2020) | 0.4234             | Adder | 0.5            |
| 939431 | AE1-175 C                          | 2.8157             | Adder | 3.31           |
| 940061 | AE2-000BC O1                       | 20.8501            | Adder | 24.53          |
| 940251 | AE2-007 O1                         | 271.5376           | 80/20 | 271.5376       |
| 940431 | AE2-027 C O1                       | 15.5613            | Adder | 18.31          |
| 940471 | AE2-031 C                          | 54.8831            | 80/20 | 54.8831        |
| 940481 | AE2-033 C                          | 20.8408            | Adder | 24.52          |
| 940491 | AE2-034 C                          | 9.3934             | Adder | 11.05          |
| 940541 | AE2-040 O1                         | 3.4936             | Adder | 4.11           |
| 940641 | AE2-051 C O1                       | 28.9125            | 80/20 | 28.9125        |
| 940651 | AE2-052                            | 4.5778             | Adder | 5.39           |
| 940891 | AE2-078 C                          | 2.9818             | Adder | 3.51           |
| 940901 | AE2-079 C                          | 2.9818             | Adder | 3.51           |
| 941031 | AE2-094 C                          | 65.8378            | 80/20 | 65.8378        |
| 941101 | AE2-104 C O1                       | 4.4295             | Adder | 5.21           |
| 941281 | AE2-122 C O1                       | 44.5730            | 80/20 | 44.5730        |
| 941291 | AE2-123 C O1                       | 45.8073            | 80/20 | 45.8073        |
| 941301 | AE2-124 C O1                       | 41.6587            | 80/20 | 41.6587        |
| 941501 | AE2-147 C                          | 20.9564            | Adder | 24.65          |
| 941541 | AE2-151 C                          | 1.3946             | Adder | 1.64           |
| 941591 | AE2-156 O1                         | 28.0450            | 80/20 | 28.0450        |
| 942001 | AE2-212 C                          | 2.6820             | Adder | 3.16           |
| 942131 | AE2-225 C                          | 2.8329             | Adder | 3.33           |
| 942151 | AE2-227 C                          | 2.4906             | Adder | 2.93           |
| 942161 | AE2-228 C                          | 2.6217             | Adder | 3.08           |
| 942171 | AE2-229 C                          | 2.8329             | Adder | 3.33           |
| 942341 | AE2-247 C                          | 1.9544             | Adder | 2.3            |
| 942371 | AE2-250 C O1                       | 12.0162            | Adder | 14.14          |
| 942401 | AE2-253 C                          | 9.6445             | 80/20 | 9.6445         |
| 942471 | AE2-260 C O1                       | 18.5888            | Adder | 21.87          |
| 942551 | AE2-270                            | 33.2584            | Adder | 39.13          |
| 942851 | AE2-304 C                          | 0.8325             | Adder | 0.98           |
| 942931 | AE2-313 C                          | 59.4251            | 80/20 | 59.4251        |
| 943171 | AE2-346 C                          | 1.8079             | Adder | 2.13           |
| 943461 | AF1-017 C                          | 1.7682             | Adder | 2.08           |
| 943611 | AF1-032 C                          | 2.3136             | Adder | 2.72           |
| 943621 | AF1-033 C                          | 2.9818             | Adder | 3.51           |
| 943911 | AF1-059                            | 20.1459            | Adder | 23.7           |
| 944011 | AF1-069 C                          | 21.5117            | 80/20 | 21.5117        |
| 944501 | AF1-115 C O1                       | 9.0810             | Adder | 10.68          |
| 944581 | AF1-123 C O1                       | 75.6758            | 80/20 | 75.6758        |
| 944591 | AF1-124 C O1                       | 75.6758            | 80/20 | 75.6758        |
| 944601 | AF1-125 C O1                       | 75.6758            | 80/20 | 75.6758        |
| 944631 | AF1-128 O1                         | 53.9362            | Adder | 63.45          |
| 944871 | AF1-152 C                          | 6.9855             | Adder | 8.22           |
| 945361 | AF1-201 C O1                       | 18.7020            | Adder | 22.0           |
| 945711 | AF1-236 C O1                       | 102.8352           | Adder | 120.98         |
| 945811 | AF1-246 C O1                       | 11.7046            | 80/20 | 11.7046        |
| 946011 | AF1-266                            | 17.4454            | Adder | 20.52          |
| 946261 | AF1-291 C                          | 2.6208             | Adder | 3.08           |
| 946281 | AF1-292 C                          | 1.9260             | Adder | 2.27           |
| 957481 | AF2-042 C O1                       | 37.5028            | Adder | 83.25          |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 957491  | AF2-043 C                          | 1.5015             | Adder         | 3.33           |
| 957521  | AF2-046 C                          | 11.4733            | Adder         | 25.47          |
| 957531  | AF2-047 C                          | 11.8298            | Adder         | 26.26          |
| 957631  | AF2-057                            | 5.6058             | 80/20         | 5.6058         |
| 957711  | AF2-065 C                          | 8.9897             | Adder         | 19.95          |
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 6.7042             | Adder         | 14.88          |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 2.9797             | Adder         | 6.61           |
| 957821  | AF2-076 C O1                       | 3.7337             | Adder         | 8.29           |
| 957831  | AF2-077 C                          | 1.2826             | Adder         | 2.85           |
| 957861  | AF2-080 C                          | 5.1057             | Adder         | 11.33          |
| 957871  | AF2-081 C O1                       | 15.6274            | 80/20         | 15.6274        |
| 957911  | AF2-085                            | 6.6342             | 80/20         | 6.6342         |
| 958141  | AF2-108                            | 2.1259             | Adder         | 4.72           |
| 958161  | AF2-110 C                          | 0.9678             | Adder         | 2.15           |
| 958501  | AF2-144 C                          | 1.2252             | Adder         | 2.72           |
| 959511  | AF2-242                            | 5.2814             | Adder         | 11.72          |
| 959531  | AF2-244 C                          | 1.1291             | Adder         | 2.51           |
| 959641  | AF2-255 C                          | 0.3300             | Adder         | 0.73           |
| 959651  | AF2-256 C                          | 0.3474             | Adder         | 0.77           |
| 959661  | AF2-257 C                          | 0.3473             | Adder         | 0.77           |
| 959671  | AF2-258 C                          | 0.3554             | Adder         | 0.79           |
| 959681  | AF2-259 C                          | 1.8222             | Adder         | 4.04           |
| 959731  | AF2-264 C                          | 1.5342             | Adder         | 3.41           |
| 959751  | AF2-266 O1                         | 5.9398             | Adder         | 13.18          |
| 960081  | AF2-299 C                          | 1.7205             | Adder         | 3.82           |
| 960101  | AF2-301 C                          | 1.7837             | Adder         | 3.96           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.9591             | Adder         | 4.35           |
| 960831  | AF2-374 C                          | 0.8589             | Adder         | 1.91           |
| 961091  | AF2-400 C                          | 0.3216             | Adder         | 0.71           |
| 961111  | AF2-402 C O1                       | 0.7744             | Adder         | 1.72           |
| WEC     | WEC                                | 1.4084             | Confirmed LTF | 1.4084         |
| LGEE    | LGEE                               | 2.7116             | Confirmed LTF | 2.7116         |
| CPL     | CPL                                | 12.2708            | Confirmed LTF | 12.2708        |
| CBM-W2  | CBM-W2                             | 54.2096            | Confirmed LTF | 54.2096        |
| NY      | NY                                 | 3.1001             | Confirmed LTF | 3.1001         |
| CBM-W1  | CBM-W1                             | 52.2543            | Confirmed LTF | 52.2543        |
| TVA     | TVA                                | 11.2714            | Confirmed LTF | 11.2714        |
| CBM-S2  | CBM-S2                             | 86.3821            | Confirmed LTF | 86.3821        |
| CBM-S1  | CBM-S1                             | 63.3718            | Confirmed LTF | 63.3718        |
| MADISON | MADISON                            | 2.7861             | Confirmed LTF | 2.7861         |
| MEC     | MEC                                | 8.3693             | Confirmed LTF | 8.3693         |
| AA2-074 | AA2-074                            | 8.3677             | LTF           | 8.3677         |

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| 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 |
|----------|-----------|----------|---------------|---------|------------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825868 | 314918    | 8NO ANNA | DVP           | 314911  | 8LADYSMITH | DVP         | 1      | DVP_P1-2: LN 594 | single | 3218.56    | 113.42                | 114.88                 | DC    | 49.13     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314333 | 6POWHATN                 | 0.4041             | 80/20 | 0.4041         |
| 314435 | 6SAPONY                  | 0.3302             | 80/20 | 0.3302         |
| 314677 | 6BUCKING                 | 0.3113             | 80/20 | 0.3113         |
| 314947 | 8GREENSVILLE             | 51.0735            | 80/20 | 51.0735        |
| 315102 | 1BRUNSWICKG1             | 8.3810             | 80/20 | 8.3810         |
| 315103 | 1BRUNSWICKG2             | 8.3810             | 80/20 | 8.3810         |
| 315104 | 1BRUNSWICKG3             | 8.3810             | 80/20 | 8.3810         |
| 315105 | 1BRUNSWICKS1             | 17.4116            | 80/20 | 17.4116        |
| 315153 | 1CLOVER1                 | 11.8773            | 80/20 | 11.8773        |
| 315154 | 1CLOVER2                 | 11.7589            | 80/20 | 11.7589        |
| 315172 | 1LOISA A                 | 3.2295             | 80/20 | 3.2295         |
| 315173 | 1LOISA B                 | 3.2462             | 80/20 | 3.2462         |
| 315174 | 1LOISA C                 | 3.2462             | 80/20 | 3.2462         |
| 315175 | 1LOISA D                 | 3.2462             | 80/20 | 3.2462         |
| 315176 | 1LOISA E                 | 6.6181             | 80/20 | 6.6181         |
| 315177 | 1S ANNAG1                | 2.3097             | 80/20 | 2.3097         |
| 315178 | 1S ANNAS1                | 1.1870             | 80/20 | 1.1870         |
| 315179 | 1S ANNAG2                | 2.3097             | 80/20 | 2.3097         |
| 315180 | 1S ANNAS2                | 1.1870             | 80/20 | 1.1870         |
| 315225 | 1N ANNA1                 | 109.6270           | 80/20 | 109.6270       |
| 315226 | 1N ANNA2                 | 109.6732           | 80/20 | 109.6732       |
| 315294 | 1DOMTR10                 | 6.8222             | Adder | 8.03           |
| 315611 | 6Z1-036WIND              | 4.2207             | Adder | 4.97           |
| 923262 | AB1-132 C OP (Suspended) | 9.0457             | Adder | 10.64          |
| 923572 | AB1-173 C OP             | 1.4733             | Adder | 1.73           |
| 923582 | AB1-173AC OP             | 1.4733             | Adder | 1.73           |
| 923801 | AB2-015 C OP             | 5.3762             | Adder | 6.32           |
| 923831 | AB2-022 C                | 1.4218             | Adder | 1.67           |
| 923911 | AB2-031 C O1             | 1.4624             | Adder | 1.72           |
| 923991 | AB2-040 C O1             | 4.8018             | Adder | 5.65           |
| 924301 | AB2-077 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924311 | AB2-078 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924321 | AB2-079 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924501 | AB2-099 C (Suspended)    | 0.3713             | Adder | 0.44           |
| 924511 | AB2-100 C                | 1.5315             | 80/20 | 1.5315         |
| 925021 | AB2-158 C                | 4.3137             | 80/20 | 4.3137         |
| 925061 | AB2-161 C O1 (Suspended) | 1.9813             | Adder | 2.33           |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 925611 | AC1-036 C                | 0.6257             | Adder | 0.74           |
| 925671 | AC1-043 C (Suspended)    | 6.1176             | 80/20 | 6.1176         |
| 925781 | AC1-054 C O1             | 4.6755             | Adder | 5.5            |
| 926001 | AC1-076 C (Suspended)    | 6.4522             | 80/20 | 6.4522         |
| 926071 | AC1-086 C                | 13.3208            | Adder | 15.67          |
| 926201 | AC1-098 C                | 3.9103             | Adder | 4.6            |
| 926211 | AC1-099 C                | 1.3104             | Adder | 1.54           |
| 926271 | AC1-105 C O1 (Suspended) | 3.6088             | Adder | 4.25           |
| 926481 | AC1-120 C O1             | 7.6784             | 80/20 | 7.6784         |
| 926501 | AC1-121 C O1             | 2.6370             | 80/20 | 2.6370         |
| 926661 | AC1-147 C                | 1.3751             | Adder | 1.62           |
| 926731 | AC1-158 C                | 39.0561            | 80/20 | 39.0561        |
| 926751 | AC1-161 C O1             | 18.6762            | Adder | 21.97          |
| 927141 | AC1-208 C                | 5.7544             | Adder | 6.77           |
| 932041 | AC2-012 C                | 6.2205             | Adder | 7.32           |
| 932511 | AC2-071 C                | 1.7779             | 80/20 | 1.7779         |
| 932591 | AC2-079 C O1             | 3.4236             | Adder | 4.03           |
| 932631 | AC2-084 C                | 5.5743             | Adder | 6.56           |
| 933291 | AC2-141 C                | 18.6762            | Adder | 21.97          |
| 933501 | AC2-165 C                | 9.2745             | 80/20 | 9.2745         |
| 933731 | AC2-196 C                | 1.1026             | Adder | 1.3            |
| 933991 | AD1-023 C                | 8.2543             | Adder | 9.71           |
| 934061 | AD1-033 C                | 4.6281             | Adder | 5.44           |
| 934331 | AD1-057 C O1             | 6.3433             | Adder | 7.46           |
| 934521 | AD1-076 C                | 34.1071            | Adder | 40.13          |
| 934571 | AD1-082 C                | 4.5152             | Adder | 5.31           |
| 934611 | AD1-087 C O1             | 6.9595             | 80/20 | 6.9595         |
| 934621 | AD1-088 C                | 10.2416            | 80/20 | 10.2416        |
| 934861 | AD1-115 C                | 3.0588             | 80/20 | 3.0588         |
| 935111 | AD1-144 C                | 1.0177             | Adder | 1.2            |
| 935171 | AD1-152 C O1             | 6.9163             | 80/20 | 6.9163         |
| 935221 | AD1-157 C                | 1.1909             | 80/20 | 1.1909         |
| 936261 | AD2-033 C                | 8.5295             | Adder | 10.03          |
| 936361 | AD2-046 C O1             | 5.7508             | Adder | 6.77           |
| 936401 | AD2-051 C O1             | 5.5506             | Adder | 6.53           |
| 936481 | AD2-063 C O1             | 9.7515             | Adder | 11.47          |
| 936661 | AD2-085 C                | 2.0525             | Adder | 2.41           |
| 937221 | AD2-160 C O1             | 3.6085             | Adder | 4.25           |
| 937481 | AD2-202 C O1             | 1.8444             | 80/20 | 1.8444         |
| 937541 | AD2-215 C                | 1.0282             | Adder | 1.21           |
| 938171 | AE1-026 C O1             | 20.1591            | Adder | 23.72          |
| 938221 | AE1-035 C                | 1.4187             | Adder | 1.67           |
| 938371 | AE1-056 C                | 5.1340             | 80/20 | 5.1340         |
| 938491 | AE1-068 C O1             | 59.0892            | 80/20 | 59.0892        |
| 938501 | AE1-069 C O1             | 46.2299            | 80/20 | 46.2299        |
| 938531 | AE1-072 C O1             | 10.8274            | Adder | 12.74          |
| 938551 | AE1-074 C                | 1.9211             | 80/20 | 1.9211         |
| 938561 | AE1-075 C                | 2.0539             | 80/20 | 2.0539         |
| 938771 | AE1-103 C O1             | 2.2600             | Adder | 2.66           |
| 939181 | AE1-148 C O1             | 5.6737             | Adder | 6.67           |
| 939221 | AE1-153 C O1             | 12.0985            | 80/20 | 12.0985        |
| 939231 | AE1-154 C                | 4.0997             | 80/20 | 4.0997         |

| Bus #  | Bus                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------|--------------------|-------|----------------|
| 939411 | AE1-173 C           | 81.2976            | 80/20 | 81.2976        |
| 940061 | AE2-000BC O1        | 9.3850             | Adder | 11.04          |
| 940241 | AE2-006             | 0.3184             | Adder | 0.37           |
| 940251 | AE2-007 O1          | 105.8753           | Adder | 124.56         |
| 940471 | AE2-031 C           | 32.2909            | 80/20 | 32.2909        |
| 940481 | AE2-033 C           | 12.2749            | 80/20 | 12.2749        |
| 940491 | AE2-034 C           | 4.4961             | Adder | 5.29           |
| 940641 | AE2-051 C O1        | 16.4250            | 80/20 | 16.4250        |
| 940661 | AE2-053 O1          | 2.1014             | Adder | 2.47           |
| 941031 | AE2-094 C           | 38.7091            | 80/20 | 38.7091        |
| 941101 | AE2-104 C O1        | 2.0477             | Adder | 2.41           |
| 941281 | AE2-122 C O1        | 17.4436            | Adder | 20.52          |
| 941291 | AE2-123 C O1        | 17.9267            | Adder | 21.09          |
| 941301 | AE2-124 C O1        | 16.3108            | Adder | 19.19          |
| 941381 | AE2-134 (Suspended) | 4.4460             | 80/20 | 4.4460         |
| 941501 | AE2-147 C           | 9.7943             | Adder | 11.52          |
| 941541 | AE2-151 C           | 0.6882             | Adder | 0.81           |
| 941591 | AE2-156 O1          | 10.9250            | Adder | 12.85          |
| 941791 | AE2-182 C           | 1.6639             | 80/20 | 1.6639         |
| 942131 | AE2-225 C           | 1.3109             | Adder | 1.54           |
| 942171 | AE2-229 C           | 1.3109             | Adder | 1.54           |
| 942341 | AE2-247 C           | 0.8894             | Adder | 1.05           |
| 942401 | AE2-253 C           | 3.7955             | Adder | 4.47           |
| 942451 | AE2-258             | 1.5151             | Adder | 1.78           |
| 942461 | AE2-259 C O1        | 8.0742             | 80/20 | 8.0742         |
| 942471 | AE2-260 C O1        | 11.0189            | 80/20 | 11.0189        |
| 942851 | AE2-304 C           | 0.3907             | Adder | 0.46           |
| 942931 | AE2-313 C           | 34.9633            | 80/20 | 34.9633        |
| 943171 | AE2-346 C           | 0.8911             | Adder | 1.05           |
| 943461 | AF1-017 C           | 0.8047             | Adder | 0.95           |
| 943611 | AF1-032 C           | 1.0706             | Adder | 1.26           |
| 943901 | AF1-058 C           | 1.2672             | Adder | 1.49           |
| 943911 | AF1-059             | 10.9004            | Adder | 12.82          |
| 944011 | AF1-069 C           | 12.6477            | 80/20 | 12.6477        |
| 944111 | AF1-079 C           | 7.7894             | 80/20 | 7.7894         |
| 944581 | AF1-123 C O1        | 29.8452            | Adder | 35.11          |
| 944591 | AF1-124 C O1        | 29.8452            | Adder | 35.11          |
| 944601 | AF1-125 C O1        | 29.8452            | Adder | 35.11          |
| 944871 | AF1-152 C           | 3.2648             | Adder | 3.84           |
| 945711 | AF1-236 C O1        | 49.2211            | Adder | 57.91          |
| 945811 | AF1-246 C O1        | 6.9069             | 80/20 | 6.9069         |
| 946011 | AF1-266             | 10.2750            | 80/20 | 10.2750        |
| 946281 | AF1-292 C           | 0.9871             | Adder | 1.16           |
| 946301 | AF1-294 C           | 2.7499             | Adder | 3.24           |
| 946371 | AF1-301 C           | 31.5932            | 80/20 | 31.5932        |
| 957431 | AF2-037 C           | 27.5012            | 80/20 | 27.5012        |
| 957481 | AF2-042 C O1        | 49.1340            | 80/20 | 49.1340        |
| 957491 | AF2-043 C           | 0.6948             | Adder | 1.54           |
| 957521 | AF2-046 C           | 5.6371             | Adder | 12.51          |
| 957531 | AF2-047 C           | 5.6622             | Adder | 12.57          |
| 957631 | AF2-057             | 1.1568             | Adder | 2.57           |
| 957691 | AF2-063 C           | 43.8849            | 80/20 | 43.8849        |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 3.1509             | Adder         | 6.99           |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 1.4004             | Adder         | 3.11           |
| 957821  | AF2-076 C O1                       | 1.7336             | Adder         | 3.85           |
| 957871  | AF2-081 C O1                       | 3.2625             | Adder         | 7.24           |
| 957911  | AF2-085                            | 3.9264             | 80/20         | 3.9264         |
| 958161  | AF2-110 C                          | 0.4474             | Adder         | 0.99           |
| 958211  | AF2-115 C                          | 0.8887             | Adder         | 1.97           |
| 958501  | AF2-144 C                          | 1.7313             | 80/20         | 1.7313         |
| 958801  | AF2-171 C O1                       | 5.3292             | Adder         | 11.83          |
| 959311  | AF2-222 C                          | 5.8331             | Adder         | 12.95          |
| 959531  | AF2-244 C                          | 1.5956             | 80/20         | 1.5956         |
| 959731  | AF2-264 C                          | 0.7550             | Adder         | 1.68           |
| 959751  | AF2-266 O1                         | 7.7980             | 80/20         | 7.7980         |
| 960061  | AF2-297 C O1                       | 2.6866             | Adder         | 5.96           |
| 960081  | AF2-299 C                          | 0.8817             | Adder         | 1.96           |
| 960811  | AF2-372 C                          | 0.4309             | Adder         | 0.96           |
| 960821  | AF2-373 C                          | 0.3213             | Adder         | 0.71           |
| 960831  | AF2-374 C                          | 0.4276             | Adder         | 0.95           |
| 961081  | AF2-399 C                          | 0.1149             | Adder         | 0.26           |
| 961091  | AF2-400 C                          | 0.1539             | Adder         | 0.34           |
| 961101  | AF2-401 C                          | 0.1955             | Adder         | 0.43           |
| 961111  | AF2-402 C O1                       | 0.3495             | Adder         | 0.78           |
| WEC     | WEC                                | 0.5204             | Confirmed LTF | 0.5204         |
| LGEE    | LGEE                               | 1.0286             | Confirmed LTF | 1.0286         |
| CPLE    | CPLE                               | 6.6011             | Confirmed LTF | 6.6011         |
| CBM-W2  | CBM-W2                             | 23.7920            | Confirmed LTF | 23.7920        |
| NY      | NY                                 | 2.2690             | Confirmed LTF | 2.2690         |
| CBM-W1  | CBM-W1                             | 18.5899            | Confirmed LTF | 18.5899        |
| TVA     | TVA                                | 5.2318             | Confirmed LTF | 5.2318         |
| CBM-S2  | CBM-S2                             | 45.3152            | Confirmed LTF | 45.3152        |
| CBM-S1  | CBM-S1                             | 28.7806            | Confirmed LTF | 28.7806        |
| MADISON | MADISON                            | 1.6410             | Confirmed LTF | 1.6410         |
| MEC     | MEC                                | 3.3623             | Confirmed LTF | 3.3623         |
| AA2-074 | AA2-074                            | 4.4973             | LTF           | 4.4973         |

## 11.6.31 Index 31

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825852 | 314934    | 8SPOTSYL | DVP           | 314916  | 8MORRSVL | DVP         | 1      | DVP_P1-2: LN 575 | single | 3218.56    | 121.32                | 121.77                 | DC    | 53.76     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0427             | 80/20 | 0.0427         |
| 314333 | 6POWHATN                             | 0.4427             | 80/20 | 0.4427         |
| 314435 | 6SAPONY                              | 0.4013             | 80/20 | 0.4013         |
| 314491 | 3PENDLTN                             | 0.3185             | 80/20 | 0.3185         |
| 314947 | 8GREENSVILLE                         | 55.6059            | 80/20 | 55.6059        |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 7.7150             | Adder | 9.08           |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 7.7150             | Adder | 9.08           |
| 315102 | 1BRUNSWICKG1                         | 9.1308             | 80/20 | 9.1308         |
| 315103 | 1BRUNSWICKG2                         | 9.1308             | 80/20 | 9.1308         |
| 315104 | 1BRUNSWICKG3                         | 9.1308             | 80/20 | 9.1308         |
| 315105 | 1BRUNSWICKS1                         | 18.9693            | 80/20 | 18.9693        |
| 315108 | 1ELIZAR1                             | 3.1110             | 80/20 | 3.1110         |
| 315109 | 1ELIZAR2                             | 3.0570             | 80/20 | 3.0570         |
| 315110 | 1ELIZAR3                             | 3.1509             | 80/20 | 3.1509         |
| 315153 | 1CLOVER1                             | 13.0303            | 80/20 | 13.0303        |
| 315154 | 1CLOVER2                             | 12.9004            | 80/20 | 12.9004        |
| 315172 | 1LOISA A                             | 2.6507             | 80/20 | 2.6507         |
| 315173 | 1LOISA B                             | 2.6644             | 80/20 | 2.6644         |
| 315174 | 1LOISA C                             | 2.6644             | 80/20 | 2.6644         |
| 315175 | 1LOISA D                             | 2.6644             | 80/20 | 2.6644         |
| 315176 | 1LOISA E                             | 5.4320             | 80/20 | 5.4320         |
| 315177 | 1S ANNAG1                            | 1.9036             | 80/20 | 1.9036         |
| 315178 | 1S ANNAS1                            | 0.9782             | 80/20 | 0.9782         |
| 315179 | 1S ANNAG2                            | 1.9036             | 80/20 | 1.9036         |
| 315180 | 1S ANNAS2                            | 0.9782             | 80/20 | 0.9782         |
| 315225 | 1N ANNA1                             | 94.3965            | 80/20 | 94.3965        |
| 315226 | 1N ANNA2                             | 94.4363            | 80/20 | 94.4363        |
| 315294 | 1DOMTR10                             | 8.3766             | Adder | 9.85           |
| 315611 | 6Z1-036WIND                          | 5.3050             | Adder | 6.24           |
| 923262 | AB1-132 C OP (Suspended)             | 10.8849            | Adder | 12.81          |
| 923572 | AB1-173 C OP                         | 1.7649             | Adder | 2.08           |
| 923582 | AB1-173AC OP                         | 1.7649             | Adder | 2.08           |
| 923801 | AB2-015 C OP                         | 6.7031             | Adder | 7.89           |
| 923831 | AB2-022 C                            | 1.8019             | Adder | 2.12           |
| 923911 | AB2-031 C O1                         | 1.7518             | Adder | 2.06           |
| 923991 | AB2-040 C O1                         | 5.7521             | Adder | 6.77           |
| 924501 | AB2-099 C (Suspended)                | 0.4534             | Adder | 0.53           |
| 925021 | AB2-158 C                            | 3.6518             | 80/20 | 3.6518         |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 925051 | AB2-160 C O1<br>(Suspended)         | 3.8923             | Adder | 4.58           |
| 925061 | AB2-161 C O1<br>(Suspended)         | 2.5837             | Adder | 3.04           |
| 925331 | AB2-190 C                           | 14.0201            | Adder | 16.49          |
| 925611 | AC1-036 C                           | 0.7054             | Adder | 0.83           |
| 926001 | AC1-076 C (Suspended)               | 6.6859             | 80/20 | 6.6859         |
| 926071 | AC1-086 C                           | 16.0294            | Adder | 18.86          |
| 926201 | AC1-098 C                           | 4.6850             | Adder | 5.51           |
| 926211 | AC1-099 C                           | 1.5700             | Adder | 1.85           |
| 926481 | AC1-120 C O1                        | 7.0706             | 80/20 | 7.0706         |
| 926501 | AC1-121 C O1                        | 2.4283             | 80/20 | 2.4283         |
| 926661 | AC1-147 C                           | 1.7625             | Adder | 2.07           |
| 926731 | AC1-158 C                           | 41.1073            | 80/20 | 41.1073        |
| 926751 | AC1-161 C O1                        | 28.0860            | 80/20 | 28.0860        |
| 927141 | AC1-208 C                           | 6.8648             | Adder | 8.08           |
| 932041 | AC2-012 C                           | 7.9734             | Adder | 9.38           |
| 932511 | AC2-071 C                           | 1.6441             | Adder | 1.93           |
| 932581 | AC2-078 C O1                        | 3.0556             | Adder | 3.59           |
| 932591 | AC2-079 C O1                        | 4.4208             | Adder | 5.2            |
| 932631 | AC2-084 C                           | 6.6786             | Adder | 7.86           |
| 933291 | AC2-141 C                           | 28.0860            | 80/20 | 28.0860        |
| 933501 | AC2-165 C                           | 10.1420            | 80/20 | 10.1420        |
| 933731 | AC2-196 C                           | 1.6522             | 80/20 | 1.6522         |
| 933991 | AD1-023 C                           | 10.1782            | Adder | 11.97          |
| 934011 | AD1-025 C                           | 11.8375            | Adder | 13.93          |
| 934061 | AD1-033 C                           | 6.9376             | 80/20 | 6.9376         |
| 934521 | AD1-076 C                           | 42.1568            | Adder | 49.6           |
| 934571 | AD1-082 C                           | 5.8881             | Adder | 6.93           |
| 934611 | AD1-087 C O1                        | 6.5298             | Adder | 7.68           |
| 934621 | AD1-088 C                           | 9.5283             | Adder | 11.21          |
| 935111 | AD1-144 C                           | 1.3232             | Adder | 1.56           |
| 935161 | AD1-151 C O1                        | 11.2662            | Adder | 13.25          |
| 935171 | AD1-152 C O1                        | 6.4892             | Adder | 7.63           |
| 935221 | AD1-157 C                           | 1.1268             | Adder | 1.33           |
| 936041 | AD2-007 C                           | 0.5655             | Adder | 0.67           |
| 936051 | AD2-008 C                           | 2.0609             | Adder | 2.42           |
| 936261 | AD2-033 C                           | 0.4699             | Adder | 0.55           |
| 936401 | AD2-051 C O1                        | 6.7955             | Adder | 7.99           |
| 936661 | AD2-085 C                           | 2.6517             | Adder | 3.12           |
| 937221 | AD2-160 C O1                        | 5.3999             | 80/20 | 5.3999         |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | 3.3373             | Adder | 3.93           |
| 937481 | AD2-202 C O1                        | 1.7305             | Adder | 2.04           |
| 937541 | AD2-215 C                           | 1.3369             | Adder | 1.57           |
| 938171 | AE1-026 C O1                        | 24.8240            | Adder | 29.2           |
| 938221 | AE1-035 C                           | 1.7378             | Adder | 2.04           |
| 938371 | AE1-056 C                           | 4.8580             | Adder | 5.72           |
| 938491 | AE1-068 C O1                        | 64.2976            | 80/20 | 64.2976        |
| 938501 | AE1-069 C O1                        | 50.3325            | 80/20 | 50.3325        |
| 938531 | AE1-072 C O1                        | 13.7566            | Adder | 16.18          |
| 938551 | AE1-074 C                           | 2.3903             | 80/20 | 2.3903         |
| 938561 | AE1-075 C                           | 2.2502             | 80/20 | 2.2502         |

| Bus #  | Bus                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------|--------------------|-------|----------------|
| 938631 | AE1-085 C O1        | 6.7150             | Adder | 7.9            |
| 938771 | AE1-103 C O1        | 2.8264             | Adder | 3.33           |
| 939191 | AE1-149 C O1        | 8.0198             | Adder | 9.44           |
| 939231 | AE1-154 C           | 3.4706             | 80/20 | 3.4706         |
| 939311 | AE1-162 C           | 1.6054             | Adder | 1.89           |
| 939411 | AE1-173 C           | 92.7984            | 80/20 | 92.7984        |
| 940061 | AE2-000BC O1        | 12.2385            | Adder | 14.4           |
| 940241 | AE2-006             | 0.3589             | Adder | 0.42           |
| 940251 | AE2-007 O1          | 159.4798           | 80/20 | 159.4798       |
| 940471 | AE2-031 C           | 35.1132            | 80/20 | 35.1132        |
| 940481 | AE2-033 C           | 14.9057            | 80/20 | 14.9057        |
| 940491 | AE2-034 C           | 5.5924             | Adder | 6.58           |
| 940541 | AE2-040 O1          | 2.0102             | Adder | 2.36           |
| 940641 | AE2-051 C O1        | 18.2385            | 80/20 | 18.2385        |
| 940651 | AE2-052             | 2.6733             | Adder | 3.15           |
| 940891 | AE2-078 C           | 1.7031             | Adder | 2.0            |
| 940901 | AE2-079 C           | 1.7031             | Adder | 2.0            |
| 941031 | AE2-094 C           | 42.0802            | 80/20 | 42.0802        |
| 941101 | AE2-104 C O1        | 2.6116             | Adder | 3.07           |
| 941281 | AE2-122 C O1        | 26.2058            | 80/20 | 26.2058        |
| 941291 | AE2-123 C O1        | 26.9314            | 80/20 | 26.9314        |
| 941301 | AE2-124 C O1        | 24.4966            | 80/20 | 24.4966        |
| 941381 | AE2-134 (Suspended) | 4.6071             | 80/20 | 4.6071         |
| 941501 | AE2-147 C           | 12.3823            | Adder | 14.57          |
| 941541 | AE2-151 C           | 0.8396             | Adder | 0.99           |
| 941591 | AE2-156 O1          | 16.4680            | 80/20 | 16.4680        |
| 941791 | AE2-182 C           | 1.5480             | Adder | 1.82           |
| 942001 | AE2-212 C           | 1.5470             | Adder | 1.82           |
| 942131 | AE2-225 C           | 1.6690             | Adder | 1.96           |
| 942161 | AE2-228 C           | 1.4898             | Adder | 1.75           |
| 942171 | AE2-229 C           | 1.6690             | Adder | 1.96           |
| 942341 | AE2-247 C           | 1.1492             | Adder | 1.35           |
| 942371 | AE2-250 C O1        | 6.9139             | Adder | 8.13           |
| 942401 | AE2-253 C           | 5.6797             | 80/20 | 5.6797         |
| 942461 | AE2-259 C O1        | 7.5740             | Adder | 8.91           |
| 942471 | AE2-260 C O1        | 11.3175            | Adder | 13.31          |
| 942551 | AE2-270             | 18.8560            | Adder | 22.18          |
| 942851 | AE2-304 C           | 0.4925             | Adder | 0.58           |
| 942931 | AE2-313 C           | 38.0191            | 80/20 | 38.0191        |
| 943171 | AE2-346 C           | 1.0883             | Adder | 1.28           |
| 943461 | AF1-017 C           | 1.0397             | Adder | 1.22           |
| 943611 | AF1-032 C           | 1.3630             | Adder | 1.6            |
| 943621 | AF1-033 C           | 1.7031             | Adder | 2.0            |
| 943911 | AF1-059             | 12.7118            | Adder | 14.96          |
| 944011 | AF1-069 C           | 13.7492            | 80/20 | 13.7492        |
| 944111 | AF1-079 C           | 6.5941             | 80/20 | 6.5941         |
| 944501 | AF1-115 C O1        | 5.1867             | Adder | 6.1            |
| 944581 | AF1-123 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944591 | AF1-124 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944601 | AF1-125 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944871 | AF1-152 C           | 4.1274             | Adder | 4.86           |
| 945711 | AF1-236 C O1        | 61.2235            | Adder | 72.03          |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 945811  | AF1-246 C O1                       | 7.5562             | 80/20         | 7.5562         |
| 946011  | AF1-266                            | 12.4773            | 80/20         | 12.4773        |
| 946261  | AF1-291 C                          | 1.4890             | Adder         | 1.75           |
| 946281  | AF1-292 C                          | 1.1819             | Adder         | 1.39           |
| 946301  | AF1-294 C                          | 3.0711             | Adder         | 3.61           |
| 946371  | AF1-301 C                          | 26.7611            | 80/20         | 26.7611        |
| 957431  | AF2-037 C                          | 23.4449            | 80/20         | 23.4449        |
| 957481  | AF2-042 C O1                       | 53.7630            | 80/20         | 53.7630        |
| 957491  | AF2-043 C                          | 0.8846             | Adder         | 1.96           |
| 957521  | AF2-046 C                          | 6.9040             | Adder         | 15.33          |
| 957531  | AF2-047 C                          | 7.0430             | Adder         | 15.63          |
| 957631  | AF2-057                            | 1.4828             | Adder         | 3.29           |
| 957691  | AF2-063 C                          | 37.4121            | 80/20         | 37.4121        |
| 957711  | AF2-065 C                          | 5.0968             | Adder         | 11.31          |
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 3.9696             | Adder         | 8.81           |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 1.7642             | Adder         | 3.92           |
| 957821  | AF2-076 C O1                       | 2.2020             | Adder         | 4.89           |
| 957871  | AF2-081 C O1                       | 4.1472             | Adder         | 9.21           |
| 957911  | AF2-085                            | 4.3264             | 80/20         | 4.3264         |
| 958141  | AF2-108                            | 1.2458             | Adder         | 2.77           |
| 958161  | AF2-110 C                          | 0.5706             | Adder         | 1.27           |
| 958211  | AF2-115 C                          | 0.9925             | Adder         | 2.2            |
| 958501  | AF2-144 C                          | 1.8969             | 80/20         | 1.8969         |
| 958801  | AF2-171 C O1                       | 5.9532             | Adder         | 13.21          |
| 959311  | AF2-222 C                          | 6.5674             | Adder         | 14.58          |
| 959511  | AF2-242                            | 3.1800             | Adder         | 7.06           |
| 959531  | AF2-244 C                          | 1.7481             | 80/20         | 1.7481         |
| 959651  | AF2-256 C                          | 0.1974             | Adder         | 0.44           |
| 959661  | AF2-257 C                          | 0.1973             | Adder         | 0.44           |
| 959671  | AF2-258 C                          | 0.2050             | Adder         | 0.46           |
| 959681  | AF2-259 C                          | 1.0678             | Adder         | 2.37           |
| 959731  | AF2-264 C                          | 0.9233             | Adder         | 2.05           |
| 959751  | AF2-266 O1                         | 8.5550             | 80/20         | 8.5550         |
| 960081  | AF2-299 C                          | 1.0557             | Adder         | 2.34           |
| 960101  | AF2-301 C                          | 1.0129             | Adder         | 2.25           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.1487             | Adder         | 2.55           |
| 960831  | AF2-374 C                          | 0.5191             | Adder         | 1.15           |
| 961081  | AF2-399 C                          | 0.1283             | Adder         | 0.28           |
| 961091  | AF2-400 C                          | 0.1918             | Adder         | 0.43           |
| 961111  | AF2-402 C O1                       | 0.4547             | Adder         | 1.01           |
| WEC     | WEC                                | 0.5856             | Confirmed LTF | 0.5856         |
| LGEE    | LGEE                               | 1.1724             | Confirmed LTF | 1.1724         |
| CPL     | CPL                                | 7.5107             | Confirmed LTF | 7.5107         |
| CBM-W2  | CBM-W2                             | 27.1908            | Confirmed LTF | 27.1908        |
| NY      | NY                                 | 2.5676             | Confirmed LTF | 2.5676         |
| CBM-W1  | CBM-W1                             | 20.7541            | Confirmed LTF | 20.7541        |
| TVA     | TVA                                | 6.0144             | Confirmed LTF | 6.0144         |
| CBM-S2  | CBM-S2                             | 51.7194            | Confirmed LTF | 51.7194        |
| CBM-S1  | CBM-S1                             | 33.0576            | Confirmed LTF | 33.0576        |
| MADISON | MADISON                            | 1.8930             | Confirmed LTF | 1.8930         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MEC     | MEC     | 3.8152             | Confirmed LTF | 3.8152         |
| AA2-074 | AA2-074 | 5.1170             | LTF           | 5.1170         |

## 11.6.32 Index 32

| 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 |
|-----------|-----------|-------------|---------------|---------|--------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 107174538 | 927250    | AC1-221 TAP | DVP           | 304070  | 6PERSON230 T | CPL         | 1      | DVP_P1-2: LN 556-B | single | 718.0      | 111.83                | 129.26                 | DC    | 155.36    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.1294             | 80/20 | 0.1294         |
| 314429 | 3JTRSVLE                 | 0.5174             | 80/20 | 0.5174         |
| 314677 | 6BUCKING                 | 0.4258             | 80/20 | 0.4258         |
| 315153 | 1CLOVER1                 | 39.4381            | 80/20 | 39.4381        |
| 315154 | 1CLOVER2                 | 39.0451            | 80/20 | 39.0451        |
| 315156 | 1HALLBR1                 | 1.1309             | 80/20 | 1.1309         |
| 315158 | 1KERR 1                  | 0.3659             | 80/20 | 0.3659         |
| 315159 | 1KERR 2                  | 1.0244             | 80/20 | 1.0244         |
| 315160 | 1KERR 3                  | 1.0244             | 80/20 | 1.0244         |
| 315161 | 1KERR 4                  | 1.0244             | 80/20 | 1.0244         |
| 315162 | 1KERR 5                  | 1.0244             | 80/20 | 1.0244         |
| 315163 | 1KERR 6                  | 1.0244             | 80/20 | 1.0244         |
| 315164 | 1KERR 7                  | 1.0244             | 80/20 | 1.0244         |
| 315192 | 1BEARGRDN G2             | 2.8787             | 80/20 | 2.8787         |
| 315193 | 1BEARGRDN S1             | 5.9246             | 80/20 | 5.9246         |
| 315266 | 1PLYWOOD A               | 3.3432             | 80/20 | 3.3432         |
| 924021 | AB2-043 C O1             | 0.7329             | 80/20 | 0.7329         |
| 924161 | AB2-060 C OP             | 2.1135             | 80/20 | 2.1135         |
| 924301 | AB2-077 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924311 | AB2-078 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924321 | AB2-079 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 925611 | AC1-036 C                | 1.3105             | 80/20 | 1.3105         |
| 925781 | AC1-054 C O1             | 5.0298             | 80/20 | 5.0298         |
| 925831 | AC1-062                  | 0.0768             | 80/20 | 0.0768         |
| 925991 | AC1-075 C                | 11.9864            | 80/20 | 11.9864        |
| 926021 | AC1-080 C                | 4.0059             | 80/20 | 4.0059         |
| 926271 | AC1-105 C O1 (Suspended) | 14.5305            | 80/20 | 14.5305        |
| 927251 | AC1-221 C                | 11.7277            | 80/20 | 11.7277        |
| 927261 | AC1-222 C                | 10.1431            | 80/20 | 10.1431        |
| 932511 | AC2-071 C                | 2.4320             | 80/20 | 2.4320         |
| 932761 | AC2-100 C                | 26.9899            | 80/20 | 26.9899        |
| 934311 | AD1-055 C                | 7.0426             | 80/20 | 7.0426         |
| 934341 | AD1-058 C                | 29.3997            | 80/20 | 29.3997        |
| 934611 | AD1-087 C O1             | 27.0094            | 80/20 | 27.0094        |
| 934621 | AD1-088 C                | 24.0247            | 80/20 | 24.0247        |
| 934991 | AD1-131 C                | 9.6392             | 80/20 | 9.6392         |
| 935171 | AD1-152 C O1             | 26.8416            | 80/20 | 26.8416        |
| 935221 | AD1-157 C                | 2.1223             | 80/20 | 2.1223         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 936261     | AD2-033 C    | 17.8675            | 80/20         | 17.8675        |
| 936361     | AD2-046 C O1 | 8.4639             | 80/20         | 8.4639         |
| 936481     | AD2-063 C O1 | 20.4093            | 80/20         | 20.4093        |
| 937481     | AD2-202 C O1 | 7.1578             | 80/20         | 7.1578         |
| 938371     | AE1-056 C    | 9.1494             | 80/20         | 9.1494         |
| 939181     | AE1-148 C O1 | 8.5347             | 80/20         | 8.5347         |
| 940241     | AE2-006      | 0.6667             | 80/20         | 0.6667         |
| 940661     | AE2-053 O1   | 3.1610             | 80/20         | 3.1610         |
| 941791     | AE2-182 C    | 3.9032             | 80/20         | 3.9032         |
| 942451     | AE2-258      | 3.1698             | 80/20         | 3.1698         |
| 942461     | AE2-259 C O1 | 14.4012            | 80/20         | 14.4012        |
| 942751     | AE2-291 C O1 | 15.7260            | 80/20         | 15.7260        |
| 942761     | AE2-292 C O1 | 19.5804            | 80/20         | 19.5804        |
| 943901     | AF1-058 C    | 5.7522             | 80/20         | 5.7522         |
| 943911     | AF1-059      | 14.3780            | 80/20         | 14.3780        |
| 945811     | AF1-246 C O1 | 21.7505            | 80/20         | 21.7505        |
| 946301     | AF1-294 C    | 5.7653             | 80/20         | 5.7653         |
| 957481     | AF2-042 C O1 | 155.3610           | 80/20         | 155.3610       |
| 958211     | AF2-115 C    | 3.5154             | 80/20         | 3.5154         |
| 958801     | AF2-171 C O1 | 21.0762            | 80/20         | 21.0762        |
| 959311     | AF2-222 C    | 23.0530            | 80/20         | 23.0530        |
| 959751     | AF2-266 O1   | 25.8930            | 80/20         | 25.8930        |
| 960061     | AF2-297 C O1 | 23.0088            | 80/20         | 23.0088        |
| 960811     | AF2-372 C    | 1.7262             | 80/20         | 1.7262         |
| 960821     | AF2-373 C    | 2.1290             | 80/20         | 2.1290         |
| 961081     | AF2-399 C    | 0.4546             | 80/20         | 0.4546         |
| NEWTON     | NEWTON       | 1.6150             | Confirmed LTF | 1.6150         |
| FARMERCITY | FARMERCITY   | 0.0953             | Confirmed LTF | 0.0953         |
| G-007A     | G-007A       | 0.4939             | Confirmed LTF | 0.4939         |
| VFT        | VFT          | 1.3094             | Confirmed LTF | 1.3094         |
| CALDERWOOD | CALDERWOOD   | 1.4284             | Confirmed LTF | 1.4284         |
| PRAIRIE    | PRAIRIE      | 4.4893             | Confirmed LTF | 4.4893         |
| AC1-131    | AC1-131      | 5.1015             | LTF           | 5.1015         |
| CHEOAH     | CHEOAH       | 1.4720             | Confirmed LTF | 1.4720         |
| EDWARDS    | EDWARDS      | 0.4816             | Confirmed LTF | 0.4816         |
| TILTON     | TILTON       | 0.8429             | Confirmed LTF | 0.8429         |
| GIBSON     | GIBSON       | 0.7671             | Confirmed LTF | 0.7671         |
| BLUEG      | BLUEG        | 2.3314             | Confirmed LTF | 2.3314         |
| TRIMBLE    | TRIMBLE      | 0.7379             | Confirmed LTF | 0.7379         |
| CATAWBA    | CATAWBA      | 1.6961             | Confirmed LTF | 1.6961         |

### 11.6.33 Index 33

| 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 |
|----------|-----------|-------------|---------------|---------|---------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825863 | 940470    | AE2-031 TAP | DVP           | 314902  | 8CARSON | DVP         | 1      | DVP_P1-2: LN 585-A | single | 4070.2     | 107.33                | 111.09                 | DC    | 152.72    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0933             | 80/20 | 0.0933         |
| 314429 | 3JTRSVLE                 | 0.3731             | 80/20 | 0.3731         |
| 314947 | 8GREENSVILLE             | 165.8983           | 80/20 | 165.8983       |
| 315102 | 1BRUNSWICKG1             | 27.5832            | 80/20 | 27.5832        |
| 315103 | 1BRUNSWICKG2             | 27.5832            | 80/20 | 27.5832        |
| 315104 | 1BRUNSWICKG3             | 27.5832            | 80/20 | 27.5832        |
| 315105 | 1BRUNSWICKS1             | 57.3040            | 80/20 | 57.3040        |
| 315153 | 1CLOVER1                 | 34.7979            | 80/20 | 34.7979        |
| 315154 | 1CLOVER2                 | 34.4511            | 80/20 | 34.4511        |
| 315158 | 1KERR 1                  | 0.3886             | 80/20 | 0.3886         |
| 315159 | 1KERR 2                  | 1.0879             | 80/20 | 1.0879         |
| 315160 | 1KERR 3                  | 1.0879             | 80/20 | 1.0879         |
| 315161 | 1KERR 4                  | 1.0879             | 80/20 | 1.0879         |
| 315162 | 1KERR 5                  | 1.0879             | 80/20 | 1.0879         |
| 315163 | 1KERR 6                  | 1.0879             | 80/20 | 1.0879         |
| 315164 | 1KERR 7                  | 1.0879             | 80/20 | 1.0879         |
| 315266 | 1PLYWOOD A               | 2.1042             | 80/20 | 2.1042         |
| 923831 | AB2-022 C                | -1.7098            | Adder | -2.01          |
| 924021 | AB2-043 C O1             | 0.5442             | 80/20 | 0.5442         |
| 924161 | AB2-060 C OP             | 1.5677             | 80/20 | 1.5677         |
| 924301 | AB2-077 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924311 | AB2-078 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924321 | AB2-079 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 925331 | AB2-190 C                | -15.2463           | Adder | -17.94         |
| 925611 | AC1-036 C                | 0.9578             | 80/20 | 0.9578         |
| 925831 | AC1-062                  | 0.0554             | 80/20 | 0.0554         |
| 925861 | AC1-065 C                | -2.4191            | Adder | -2.85          |
| 925991 | AC1-075 C                | 8.3954             | 80/20 | 8.3954         |
| 926021 | AC1-080 C                | 2.8058             | 80/20 | 2.8058         |
| 926051 | AC1-083 C O1             | 5.2478             | 80/20 | 5.2478         |
| 926271 | AC1-105 C O1 (Suspended) | 9.0580             | 80/20 | 9.0580         |
| 926661 | AC1-147 C                | -1.9228            | Adder | -2.26          |
| 926781 | AC1-164 C                | -27.3619           | Adder | -32.19         |
| 927251 | AC1-221 C                | 4.0131             | 80/20 | 4.0131         |
| 927261 | AC1-222 C                | 6.3188             | 80/20 | 6.3188         |
| 932761 | AC2-100 C                | 9.2356             | 80/20 | 9.2356         |
| 932831 | AC2-110 C                | -0.9676            | Adder | -1.14          |
| 933261 | AC2-137 C                | -1.3882            | Adder | -1.63          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933731 | AC2-196 C                           | -1.5059            | Adder | -1.77          |
| 933941 | AD1-017 C                           | 1.0496             | 80/20 | 1.0496         |
| 934311 | AD1-055 C                           | 4.3873             | 80/20 | 4.3873         |
| 934341 | AD1-058 C                           | 10.0602            | 80/20 | 10.0602        |
| 934611 | AD1-087 C O1                        | 19.4205            | 80/20 | 19.4205        |
| 934621 | AD1-088 C                           | 19.0767            | 80/20 | 19.0767        |
| 934991 | AD1-131 C                           | 3.2984             | 80/20 | 3.2984         |
| 935111 | AD1-144 C                           | -1.3609            | Adder | -1.6           |
| 935171 | AD1-152 C O1                        | 19.2998            | 80/20 | 19.2998        |
| 935221 | AD1-157 C                           | 1.5236             | 80/20 | 1.5236         |
| 936151 | AD2-021                             | -0.1583            | Adder | -0.19          |
| 936161 | AD2-022 C O1                        | 13.3614            | 80/20 | 13.3614        |
| 936171 | AD2-023 C O1                        | 7.7942             | 80/20 | 7.7942         |
| 936261 | AD2-033 C                           | 13.0946            | 80/20 | 13.0946        |
| 936301 | AD2-039 C                           | -0.9676            | Adder | -1.14          |
| 936361 | AD2-046 C O1                        | 8.3729             | 80/20 | 8.3729         |
| 936481 | AD2-063 C O1                        | 15.0615            | 80/20 | 15.0615        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.8227            | Adder | -4.5           |
| 937481 | AD2-202 C O1                        | 5.1466             | 80/20 | 5.1466         |
| 937541 | AD2-215 C                           | -1.3749            | Adder | -1.62          |
| 938031 | AE1-004 C                           | -0.9676            | Adder | -1.14          |
| 938371 | AE1-056 C                           | 6.5685             | 80/20 | 6.5685         |
| 938491 | AE1-068 C O1                        | 190.0454           | 80/20 | 190.0454       |
| 938501 | AE1-069 C O1                        | 150.1652           | 80/20 | 150.1652       |
| 939181 | AE1-148 C O1                        | 8.2901             | 80/20 | 8.2901         |
| 939311 | AE1-162 C                           | -1.7547            | Adder | -2.06          |
| 940081 | AE1-250 C                           | 14.1417            | 80/20 | 14.1417        |
| 940241 | AE2-006                             | 0.4873             | 80/20 | 0.4873         |
| 940471 | AE2-031 C                           | 115.6856           | 80/20 | 115.6856       |
| 940601 | AE2-047 C O1                        | 4.5937             | 80/20 | 4.5937         |
| 940661 | AE2-053 O1                          | 3.0704             | 80/20 | 3.0704         |
| 941031 | AE2-094 C                           | 122.2418           | 80/20 | 122.2418       |
| 941431 | AE2-140 C O1                        | 16.8321            | 80/20 | 16.8321        |
| 941791 | AE2-182 C                           | 3.0993             | 80/20 | 3.0993         |
| 942131 | AE2-225 C                           | -1.6759            | Adder | -1.97          |
| 942171 | AE2-229 C                           | -1.6759            | Adder | -1.97          |
| 942451 | AE2-258                             | 2.3537             | 80/20 | 2.3537         |
| 942461 | AE2-259 C O1                        | 10.2120            | 80/20 | 10.2120        |
| 942751 | AE2-291 C O1                        | 11.9193            | 80/20 | 11.9193        |
| 942761 | AE2-292 C O1                        | 14.8407            | 80/20 | 14.8407        |
| 942931 | AE2-313 C                           | 125.2596           | 80/20 | 125.2596       |
| 943811 | AF1-049 C O1                        | 11.8350            | 80/20 | 11.8350        |
| 943901 | AF1-058 C                           | 3.5020             | 80/20 | 3.5020         |
| 944011 | AF1-069 C                           | 39.9410            | 80/20 | 39.9410        |
| 945811 | AF1-246 C O1                        | 21.5695            | 80/20 | 21.5695        |
| 946301 | AF1-294 C                           | 4.1574             | 80/20 | 4.1574         |
| 957481 | AF2-042 C O1                        | 152.7180           | 80/20 | 152.7180       |
| 958211 | AF2-115 C                           | 2.5350             | 80/20 | 2.5350         |
| 958801 | AF2-171 C O1                        | 15.2046            | 80/20 | 15.2046        |
| 959311 | AF2-222 C                           | 16.8160            | 80/20 | 16.8160        |
| 959751 | AF2-266 O1                          | 22.8465            | 80/20 | 22.8465        |
| 960061 | AF2-297 C O1                        | 14.0078            | 80/20 | 14.0078        |

| Bus #   | Bus       | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|-----------|--------------------|---------------|----------------|
| 960811  | AF2-372 C | 1.2847             | 80/20         | 1.2847         |
| 960821  | AF2-373 C | 1.3675             | 80/20         | 1.3675         |
| 961081  | AF2-399 C | 0.3278             | 80/20         | 0.3278         |
| WEC     | WEC       | 1.5536             | Confirmed LTF | 1.5536         |
| LGEE    | LGEE      | 2.9312             | Confirmed LTF | 2.9312         |
| CPL     | CPL       | 14.6172            | Confirmed LTF | 14.6172        |
| CBM-W2  | CBM-W2    | 61.6052            | Confirmed LTF | 61.6052        |
| NY      | NY        | 2.0832             | Confirmed LTF | 2.0832         |
| CBM-W1  | CBM-W1    | 58.0964            | Confirmed LTF | 58.0964        |
| TVA     | TVA       | 12.8968            | Confirmed LTF | 12.8968        |
| CBM-S2  | CBM-S2    | 104.4562           | Confirmed LTF | 104.4562       |
| CBM-S1  | CBM-S1    | 72.0366            | Confirmed LTF | 72.0366        |
| MADISON | MADISON   | 3.5220             | Confirmed LTF | 3.5220         |
| MEC     | MEC       | 9.3529             | Confirmed LTF | 9.3529         |
| AA2-074 | AA2-074   | 9.9648             | LTF           | 9.9648         |

## 11.6.34 Index 34

| 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 |
|----------|-----------|-------------|---------------|---------|----------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97886908 | 961060    | AF2-397 TAP | DVP           | 314765  | 6MTEAGLE | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 109.15                | 112.73                 | DC    | 23.74     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1363             | 80/20 | 0.1363         |
| 314429 | 3JTRSVLE                    | 0.5452             | 80/20 | 0.5452         |
| 314572 | 3EMPORIA                    | 0.0219             | 80/20 | 0.0219         |
| 314677 | 6BUCKING                    | 1.0694             | 80/20 | 1.0694         |
| 314704 | 3LAWRENC                    | 0.1423             | 80/20 | 0.1423         |
| 315153 | 1CLOVER1                    | 7.3430             | 80/20 | 7.3430         |
| 315154 | 1CLOVER2                    | 7.2698             | 80/20 | 7.2698         |
| 315158 | 1KERR 1                     | 0.2422             | 80/20 | 0.2422         |
| 315159 | 1KERR 2                     | 0.6782             | 80/20 | 0.6782         |
| 315160 | 1KERR 3                     | 0.6782             | 80/20 | 0.6782         |
| 315161 | 1KERR 4                     | 0.6782             | 80/20 | 0.6782         |
| 315162 | 1KERR 5                     | 0.6782             | 80/20 | 0.6782         |
| 315163 | 1KERR 6                     | 0.6782             | 80/20 | 0.6782         |
| 315164 | 1KERR 7                     | 0.6782             | 80/20 | 0.6782         |
| 315191 | 1BEARGRDN G1                | 15.0842            | 80/20 | 15.0842        |
| 315192 | 1BEARGRDN G2                | 15.0842            | 80/20 | 15.0842        |
| 315193 | 1BEARGRDN S1                | 31.0443            | 80/20 | 31.0443        |
| 315266 | 1PLYWOOD A                  | 0.6953             | 80/20 | 0.6953         |
| 920291 | AA2-127                     | 3.1336             | 80/20 | 3.1336         |
| 924021 | AB2-043 C O1                | 0.4312             | 80/20 | 0.4312         |
| 924161 | AB2-060 C OP                | 1.2758             | 80/20 | 1.2758         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 925171 | AB2-174 C O1                | 0.3622             | 80/20 | 0.3622         |
| 925611 | AC1-036 C                   | 1.1045             | 80/20 | 1.1045         |
| 925781 | AC1-054 C O1                | 3.6512             | 80/20 | 3.6512         |
| 925831 | AC1-062                     | 0.0809             | 80/20 | 0.0809         |
| 925991 | AC1-075 C                   | 2.5684             | 80/20 | 2.5684         |
| 926021 | AC1-080 C                   | 0.8584             | 80/20 | 0.8584         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.1786             | 80/20 | 3.1786         |
| 926451 | AC1-116 C                   | -0.9024            | Adder | -1.06          |
| 927251 | AC1-221 C                   | 0.7555             | 80/20 | 0.7555         |
| 927261 | AC1-222 C                   | 1.8244             | 80/20 | 1.8244         |
| 932511 | AC2-071 C                   | 6.1076             | 80/20 | 6.1076         |
| 932761 | AC2-100 C                   | 1.7388             | 80/20 | 1.7388         |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 933501 | AC2-165 C    | 32.1571            | 80/20         | 32.1571        |
| 934311 | AD1-055 C    | 1.2668             | 80/20         | 1.2668         |
| 934341 | AD1-058 C    | 1.8940             | 80/20         | 1.8940         |
| 934611 | AD1-087 C O1 | 4.2050             | 80/20         | 4.2050         |
| 934621 | AD1-088 C    | 19.9913            | 80/20         | 19.9913        |
| 934991 | AD1-131 C    | 0.6210             | 80/20         | 0.6210         |
| 935171 | AD1-152 C O1 | 4.1789             | 80/20         | 4.1789         |
| 935221 | AD1-157 C    | 2.3854             | 80/20         | 2.3854         |
| 936261 | AD2-033 C    | 14.2451            | 80/20         | 14.2451        |
| 936361 | AD2-046 C O1 | 5.4614             | 80/20         | 5.4614         |
| 936481 | AD2-063 C O1 | 14.0364            | 80/20         | 14.0364        |
| 937481 | AD2-202 C O1 | 1.1144             | 80/20         | 1.1144         |
| 938371 | AE1-056 C    | 10.2839            | 80/20         | 10.2839        |
| 938821 | AE1-108 C    | 35.7983            | 80/20         | 35.7983        |
| 939181 | AE1-148 C O1 | 5.4713             | 80/20         | 5.4713         |
| 940241 | AE2-006      | 0.5619             | 80/20         | 0.5619         |
| 940661 | AE2-053 O1   | 2.0264             | 80/20         | 2.0264         |
| 941011 | AE2-092 C    | 29.1911            | 80/20         | 29.1911        |
| 941791 | AE2-182 C    | 3.2479             | 80/20         | 3.2479         |
| 942451 | AE2-258      | 1.8649             | 80/20         | 1.8649         |
| 942461 | AE2-259 C O1 | 18.9528            | 80/20         | 18.9528        |
| 942751 | AE2-291 C O1 | 3.7718             | 80/20         | 3.7718         |
| 942761 | AE2-292 C O1 | 4.6962             | 80/20         | 4.6962         |
| 943901 | AF1-058 C    | 0.9984             | 80/20         | 0.9984         |
| 943911 | AF1-059      | 9.5960             | 80/20         | 9.5960         |
| 945811 | AF1-246 C O1 | 3.2617             | 80/20         | 3.2617         |
| 946281 | AF1-292 C    | 0.4551             | 80/20         | 0.4551         |
| 946291 | AF1-293 C O1 | 47.0478            | 80/20         | 47.0478        |
| 946301 | AF1-294 C    | 6.0747             | 80/20         | 6.0747         |
| 946591 | AF1-323 C    | 11.4715            | 80/20         | 11.4715        |
| 957481 | AF2-042 C O1 | 23.7450            | 80/20         | 23.7450        |
| 958131 | AF2-107 C    | 6.0592             | 80/20         | 6.0592         |
| 958211 | AF2-115 C    | 3.7041             | 80/20         | 3.7041         |
| 958801 | AF2-171 C O1 | 22.0788            | 80/20         | 22.0788        |
| 959311 | AF2-222 C    | 20.1270            | 80/20         | 20.1270        |
| 959751 | AF2-266 O1   | 4.8210             | 80/20         | 4.8210         |
| 960061 | AF2-297 C O1 | 3.9936             | 80/20         | 3.9936         |
| 960081 | AF2-299 C    | 0.7671             | 80/20         | 0.7671         |
| 960111 | AF2-302 C    | 4.1714             | 80/20         | 4.1714         |
| 960811 | AF2-372 C    | 0.9790             | 80/20         | 0.9790         |
| 960821 | AF2-373 C    | 0.5906             | 80/20         | 0.5906         |
| 961061 | AF2-397 C O1 | 49.8186            | 80/20         | 49.8186        |
| 961081 | AF2-399 C    | 0.4779             | 80/20         | 0.4779         |
| WEC    | WEC          | 0.1254             | Confirmed LTF | 0.1254         |
| LGEE   | LGEE         | 0.2482             | Confirmed LTF | 0.2482         |
| CPL    | CPL          | 2.1704             | Confirmed LTF | 2.1704         |
| CBM-W2 | CBM-W2       | 6.5766             | Confirmed LTF | 6.5766         |
| NY     | NY           | 0.4302             | Confirmed LTF | 0.4302         |
| CBM-W1 | CBM-W1       | 4.4035             | Confirmed LTF | 4.4035         |
| TVA    | TVA          | 1.4980             | Confirmed LTF | 1.4980         |
| CBM-S2 | CBM-S2       | 14.4558            | Confirmed LTF | 14.4558        |
| CBM-S1 | CBM-S1       | 8.1110             | Confirmed LTF | 8.1110         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>MADISON</b> | MADISON    | 0.5443                    | Confirmed LTF | 0.5443                |
| <b>MEC</b>     | MEC        | 0.8692                    | Confirmed LTF | 0.8692                |
| <b>AA2-074</b> | AA2-074    | 1.4778                    | LTF           | 1.4778                |

## 11.7 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                                    |
|--------------|-----------------------------------|-------------------------------------------|
| AA1-063A     | 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      | CPL- PJM                          | Confirmed                                 |
| AA2-088      | Boykins-Handsome 115kV            | In Service                                |
| AA2-127      | Bear Garden 230kV                 | In Service                                |
| AA2-165      | Hornertown-Whitakers 115kV        | In Service                                |
| AA2-174      | Carolina-Jackson 115kV            | In Service                                |
| AA2-178      | Mackeys 230kV                     | Under Construction                        |
| AB1-081      | Anaconda-Mayo Dunbar 115kV        | Under Construction                        |
| 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               | Under Construction                        |
| AB2-060      | Chase City-Lunenburg 115kV        | Under Construction                        |
| AB2-068      | Chickahominy 500kV                | Engineering and Procurement               |
| 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          | Under Construction                        |
| AB2-134      | Hopewell-Surry 230kV              | In Service                                |
| AB2-158      | Louisa-South Anna 230kV           | Under Construction                        |
| AB2-160      | Reams 115kV                       | Suspended                                 |
| AB2-161      | Waverly #2 DP 115kV               | Suspended                                 |
| AB2-169      | Pantago-Five Points 115kV         | Partially in Service - Under Construction |
| AB2-174      | Emporia-Trego 115kV               | Under Construction                        |
| AB2-190      | Hopewell-Surry 230kV              | Engineering and Procurement               |
| AC1-027      | Pendleton 34.5kV                  | In Service                                |
| AC1-034      | Heartsease DP - Mayo Dunbar 115kV | Active                                    |

| Queue Number | Project Name                       | Status                      |
|--------------|------------------------------------|-----------------------------|
| AC1-036      | Twittys Creek 34.5kV               | Engineering and Procurement |
| AC1-042      | Altavista-Mt. Airy 69kV            | Engineering and Procurement |
| AC1-043      | Mountain Run-Mitchell 115 kV       | Suspended                   |
| AC1-054      | Kerr Dam–Eatons Ferry 115 kV       | Engineering and Procurement |
| AC1-062      | Jettersville 34.5kV                | In Service                  |
| AC1-065      | Harmony Village-Shackleford 115kV  | Engineering and Procurement |
| AC1-075      | Perth-Hickory Grove 115kV          | Engineering and Procurement |
| AC1-076      | Locust Grove-Paytes 115kV          | Suspended                   |
| AC1-080      | Perth-Hickory Grove 115kV          | Engineering and Procurement |
| AC1-083      | Smith Mountain-Bearskin 138kV      | Active                      |
| 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           | Suspended                   |
| AC1-107      | Chickahominy 500kV                 | Suspended                   |
| AC1-116      | Mount Eagle 34.5kV                 | Engineering and Procurement |
| AC1-120      | Mitchell-Mountain Run 115kV        | Engineering and Procurement |
| AC1-121      | Mitchell-Mountain Run 115kV        | Engineering and Procurement |
| AC1-131      | PJM-CPLE                           | Confirmed                   |
| AC1-145      | Gretna DP 69 kV                    | Engineering and Procurement |
| AC1-147      | Grassfield 34.5kV                  | Engineering and Procurement |
| AC1-158      | Spotsylvania 500kV                 | Under Construction          |
| AC1-161      | Septa 500kV                        | Active                      |
| AC1-164      | Chickahominy 230kV                 | Engineering and Procurement |
| AC1-189      | Chinquapin-Everetts 230kV          | Active                      |
| AC1-208      | Cox-Whitakers 115kV                | Engineering and Procurement |
| AC1-216      | Hopewell-Surry 230kV               | Under Construction          |
| AC1-221      | Halifax-Person 230kV               | Engineering and Procurement |
| AC1-222      | Crystal Hill-Halifax 115kV         | Engineering and Procurement |
| AC2-012      | Grassfield-Great Bridge 115kV      | Active                      |
| AC2-071      | Buckingham 35kV                    | Engineering and Procurement |
| AC2-078      | Disputanta-Waverly 115kV           | Active                      |
| AC2-079      | Ivor-Oakridge 115kV                | Active                      |
| AC2-084      | Dawson-South Justice 115kV         | Active                      |
| AC2-100      | Halifax-Person 230kV               | Active                      |
| AC2-110      | Harmony Village-Shackleford 115kV  | Engineering and Procurement |
| AC2-137      | Elko 34.5kV                        | Under Construction          |
| AC2-141      | Septa 500kV                        | Active                      |
| AC2-165      | Bremo-Powhatan 230kV               | Active                      |
| AC2-196      | Fentress 34.5kV                    | Engineering and Procurement |
| AD1-017      | Smith Mountain-Bearskin 138 kV     | Active                      |
| AD1-023      | Cashie-Trowbridge 230 kV           | Active                      |
| AD1-025      | Hopewell-Surry 230 kV              | Active                      |
| AD1-033      | Fentress-Landstown 230 kV          | Active                      |
| AD1-041      | Harmony Village-Shackleford 115 kV | Active                      |
| 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             | Active                      |
| AD1-087      | Clover-Sedge Hill 230 kV           | Active                      |
| AD1-088      | Briery-Clover 230 kV               | Active                      |

| Queue Number | Project Name                         | Status                      |
|--------------|--------------------------------------|-----------------------------|
| AD1-115      | Mountain Run-Mitchell 115 kV         | Active                      |
| AD1-131      | Sedge Hill-Person 230 kV             | Active                      |
| AD1-144      | Kings Fork 34.5 kV                   | Engineering and Procurement |
| AD1-151      | Hopewell-Surry 230 kV                | Active                      |
| AD1-152      | Clover-Sedge Hill 230 kV             | Active                      |
| AD1-157      | South Creek 34.5 kV                  | Engineering and Procurement |
| AD2-007      | Hopewell-Surry 230 kV                | Active                      |
| AD2-008      | Hopewell-Surry 230 kV                | Active                      |
| AD2-021      | Elko 34.5 kV                         | 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                      |
| AD2-039      | Harmony Village-Shackleford 115 kV   | Engineering and Procurement |
| AD2-046      | Boydton DP-Kerr Dam 115 kV           | Active                      |
| AD2-051      | Earleys – Northampton 230kV          | Active                      |
| AD2-063      | Central-Chase City 115kV             | Active                      |
| AD2-074      | Garner DP-Lancaster 115 kV           | Active                      |
| AD2-085      | Myrtle-Windsor DP 115kV              | Active                      |
| AD2-097      | Spruance NUG 230kV                   | In Service                  |
| AD2-160      | Hickory-Moyock 230kV                 | Active                      |
| AD2-164      | Peninsula 34.5kV                     | Withdrawn                   |
| AD2-202      | Clover-Sedge Hill 230kV              | Active                      |
| AD2-215      | Kings Fork 34.5 kV                   | Engineering and Procurement |
| AE1-004      | Harmony Village-Shackleford 115 kV   | Engineering and Procurement |
| AE1-026      | Cashie 230 kV                        | Active                      |
| AE1-035      | Earleys 230 kV                       | Engineering and Procurement |
| AE1-056      | Red House-South Creek 115 kV         | Active                      |
| AE1-068      | Carson-Rogers Rd 500 kV              | Active                      |
| AE1-069      | Carson-Rogers Road 500 kV            | Active                      |
| AE1-072      | Shawboro-Sligo 230 kV                | Active                      |
| AE1-074      | Winterpock 34.5 kV                   | Engineering and Procurement |
| AE1-075      | Powhatan 34.5 kV                     | Engineering and Procurement |
| AE1-085      | Bakers Pond-Bell Ave 115 kV          | Active                      |
| AE1-103      | Holland-Union Camp 115 kV            | Active                      |
| AE1-108      | Bremo-Scottsville 138 kV             | Active                      |
| AE1-148      | Kerr Dam-Ridge Rd 115 kV             | Active                      |
| AE1-149      | Disputanta-Poe 115 kV                | Active                      |
| AE1-153      | Remington-Gordonsville 230 kV        | Active                      |
| AE1-154      | Louisa-South Anna 230 kV             | Engineering and Procurement |
| AE1-162      | Smithfield 34.5 kV                   | Engineering and Procurement |
| AE1-173      | Carson-Suffolk 500 kV                | Active                      |
| AE1-174      | Light Foot 34.5 kV                   | Withdrawn                   |
| AE1-175      | Light Foot 34.5 kV                   | Engineering and Procurement |
| AE1-176      | Roanoke-Vinton 12 kV (Niagara Hydro) | In Service                  |
| AE1-191      | Harmony Village-Shackleford 115 kV   | Active                      |
| AE1-230      | Shockoe 69 kV                        | Active                      |
| AE1-250      | Smith Mountain-E. Danville 138 kV    | Active                      |
| AE2-000B     | N/A                                  | N/A                         |
| AE2-005      | Harmony Village-Shackleford 115 kV   | Engineering and Procurement |
| AE2-006      | Twittys Creek 34.5 kV                | Engineering and Procurement |
| AE2-007      | Chesapeake 230 kV                    | Active                      |
| AE2-027      | Harrowgate-Locks 115kV               | Active                      |

| Queue Number | Project Name                                | Status                      |
|--------------|---------------------------------------------|-----------------------------|
| AE2-031      | Carson-Rawlings 500 kV                      | Active                      |
| AE2-033      | Clubhouse-Sappony 230 kV                    | Active                      |
| AE2-034      | Mackeys 230 kV                              | Active                      |
| AE2-040      | Sapony 34.5 kV                              | Active                      |
| AE2-041      | Harmony Village 230 kV                      | Active                      |
| AE2-044      | Anaconda-Dunbar 115 kV                      | Active                      |
| AE2-047      | Ridgeway-Solite 69 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 |
| AE2-092      | Kidds Store-Sherwood 115 kV                 | Active                      |
| 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                      |
| AE2-134      | Locust Grove-Paytes 115 kV                  | Suspended                   |
| AE2-140      | Axton-Danville 138 kV                       | Active                      |
| AE2-147      | Swamp 230 kV                                | Active                      |
| AE2-150      | Bakers Pond-Bell Ave 115 kV                 | Active                      |
| AE2-151      | Earleys 34.5kV                              | Engineering and Procurement |
| AE2-156      | Yadkin 115 kV                               | Active                      |
| AE2-182      | Briery-Clover 230 kV                        | Active                      |
| AE2-185      | Gladys DP-Stonemill Switching Station 69 kV | Active                      |
| AE2-187      | Shockoe DP-Chatham 69 kV                    | Active                      |
| AE2-212      | Harrowgate 34 kV                            | Active                      |
| AE2-225      | Suffolk 34 kV                               | Engineering and Procurement |
| AE2-227      | Iron Bridge 34 kV                           | Active                      |
| AE2-228      | Tyler 34 kv                                 | Active                      |
| 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                      |
| AE2-259      | Curdsville-Willis Mtn 115 kV                | Active                      |
| AE2-260      | Clubhouse 230 kV                            | Active                      |
| AE2-270      | Hopewell-Surry 230 kV                       | Active                      |
| AE2-283      | Gladys-Stone Mill 69 kV                     | Active                      |
| AE2-291      | Grit DP-Perth 115 kV                        | Active                      |
| AE2-292      | Grit DP-Perth 115 kV                        | Active                      |
| AE2-304      | South Hertford 34 kV                        | Engineering and Procurement |
| AE2-313      | Carson-Rawlings 500 kV                      | Active                      |
| AE2-346      | Ahoskie 34.5 kV                             | Active                      |
| AF1-014      | Harmony Village-Shackleford 115 kV          | Active                      |
| AF1-017      | Myrtle-Windsor 115 kV                       | Active                      |
| AF1-018      | Harmony Village 230 kV                      | Active                      |
| AF1-032      | Suffolk 34.5 kV                             | Engineering and Procurement |
| AF1-033      | Poolesville 34 kV                           | Engineering and Procurement |
| AF1-042      | Garner DP-Lancaster 115 kV                  | Active                      |
| AF1-049      | Berry Hill 138 kV                           | Active                      |

| Queue Number | Project Name                          | Status                      |
|--------------|---------------------------------------|-----------------------------|
| AF1-058      | Welco 34.5 kV                         | Engineering and Procurement |
| AF1-059      | Brodnax-South Hill 115 kV             |                             |
| AF1-069      | Carson-Rogers Rd 500 kV               |                             |
| AF1-079      | Louisa-South Anna 230 kV              |                             |
| AF1-082      | Heartsease-Mayo Dunbar DP             |                             |
| AF1-115      | Poolesville 230 kV                    |                             |
| AF1-123      | Fentress 500 kV                       |                             |
| AF1-124      | Fentress 500 kV                       |                             |
| AF1-125      | Fentress 500 kV                       |                             |
| AF1-128      | Chesterfield 230 kV                   |                             |
| AF1-152      | Swamp 230 kV                          |                             |
| AF1-173      | Gretna DP-Shockoe DP 69 kV            |                             |
| AF1-201      | Hayes-Whitemarsh 115 kV               |                             |
| AF1-236      | Mackeys 230 kV                        |                             |
| AF1-246      | Clover-Rawlings 500 kV                |                             |
| AF1-266      | Clubhouse-Sapony 230 kV               | Engineering and Procurement |
| AF1-291      | Tyler 34.5 kV                         |                             |
| AF1-292      | Fields Crossroads 34.5 kV             |                             |
| AF1-293      | Kidds Store-Fort Union 115 kV         |                             |
| AF1-294      | Jetersville-Ponton 115 kV             |                             |
| AF1-301      | Louisa-South Anna 230 kV              |                             |
| AF1-323      | Scottsville-Colleen 138 kV            |                             |
| AF2-037      | Louisa-North Anna 230 kV              |                             |
| AF2-042      | Clover 500 kV                         |                             |
| AF2-043      | Suffolk 34.5 kV                       |                             |
| AF2-046      | Tunis-Mapleton 115 kV                 |                             |
| AF2-047      | Creswell-Riders Creek 115 kV          |                             |
| AF2-054      | Wan 34.5 kV                           |                             |
| AF2-057      | Grassfield 34.5 kV                    |                             |
| AF2-063      | Louisa-North Anna 230 kV              | Withdrawn                   |
| AF2-065      | Surry-Hopewell 230 kV                 |                             |
| AF2-073      | Nucor Steel-Suffolk 230 kV            |                             |
| AF2-074      | Nucor Steel-Suffolk 230 kV            |                             |
| AF2-076      | Suffolk-Nucor Steel 230 kV            |                             |
| AF2-077      | White Marsh 34.5 kV                   |                             |
| AF2-080      | Chinquapin-Everetts 230 kV            |                             |
| AF2-081      | Moyock 230 kV                         |                             |
| AF2-085      | Midlothian 34.5 kV                    |                             |
| AF2-107      | Clifford 138 kV                       |                             |
| AF2-108      | Locks 34.5 kV                         |                             |
| AF2-110      | Suffolk 115 kV                        |                             |
| AF2-115      | Jetersville-Ponton 115 kV             |                             |
| AF2-144      | Powhatan 34.5 kV                      |                             |
| AF2-171      | Madisonville 115 kV                   | Active                      |
| AF2-214      | Heartsease DP-Anaconda 115 kV         |                             |
| AF2-222      | Madisonville DP-Twitty's Creek 115 kV |                             |
| AF2-242      | Wharton 115 kV                        |                             |
| AF2-244      | Powhatan 34.5 kV                      |                             |
| AF2-255      | Iron Bridge 34.5 kV                   |                             |
| AF2-256      | Tyler 34.5 kV                         |                             |
| AF2-257      | Tyler 34.5 kV                         |                             |
| AF2-258      | Harrowgate 34.5 kV                    |                             |

| Queue Number | Project Name                  | Status             |
|--------------|-------------------------------|--------------------|
| AF2-259      | Locks 34.5 kV                 | Active             |
| AF2-264      | Tunis 34.5 kV                 | Active             |
| AF2-266      | Clover 230 kV                 | Active             |
| AF2-297      | Sedge Hill 115 kV             | Active             |
| AF2-299      | Fields 34.5 kV                | Active             |
| AF2-301      | Poolesville-Winchester 230 kV | Active             |
| AF2-302      | Scottsville-Colleen 138 kV    | Active             |
| AF2-303      | Edgecombe 230 kV              | Active             |
| AF2-304      | Surry-Hopewell 230 kV         | Active             |
| AF2-324      | Edgecombe 230 kV              | Active             |
| AF2-326      | Battleboro 34.5kV             | Withdrawn          |
| AF2-327      | Wakefield 13 kV               | Withdrawn          |
| AF2-372      | Black Branch 34.5 kV          | Active             |
| AF2-373      | Mount Laurel 115 kV           | Active             |
| AF2-374      | Woodland 34.5 kV              | Active             |
| AF2-397      | Fork Union-Mt. Eagle 230 kV   | Active             |
| AF2-399      | Crewe 12.5 kV                 | Active             |
| AF2-400      | Franklin 13.2 kV              | Active             |
| AF2-401      | Culpeper 34.5 kV              | Active             |
| AF2-402      | Ivor-Oak Ridge 115 kV         | Active             |
| AF2-403      | Shockoe DP-Chatham 69 kV      | Active             |
| V4-068       | Murphy's 34.5kV               | In Service         |
| W1-029       | Winfall 230kV                 | In Service         |
| X1-038       | Union Camp 115kV              | In Service         |
| Z1-036       | WinFall-Chowan 230kV          | Suspended          |
| Z1-068       | Birdneck 34.5kV               | Under Construction |
| Z2-043       | Kelford 34.5kV                | In Service         |
| Z2-044       | Whitakers 34.5kV              | In Service         |
| Z2-088       | Tarboro-Everetts 230kV        | In Service         |

## 11.8 Contingency Descriptions - Primary POI

| Contingency Name           | Contingency Definition                                                                                                                                                                                                                                    |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DVP_P1-2: LN 563</b>    | CONTINGENCY 'DVP_P1-2: LN 563'<br>OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 -<br>8MDLTHAN 500.00<br>END                                                                                                                           |
| <b>DVP_P4-2: 562T563</b>   | CONTINGENCY 'DVP_P4-2: 562T563' /* CARSON 500 KV<br>OPEN BRANCH FROM BUS 314902 TO BUS 940640 CKT 1 /* 8CARSON 500.00 - AE2-<br>051 TAP 500.00<br>OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 -<br>8MDLTHAN 500.00<br>END           |
| <b>DVP_P4-2: 568T575</b>   | CONTINGENCY 'DVP_P4-2: 568T575' /* LADYSMITH 500 KV<br>OPEN BRANCH FROM BUS 314911 TO BUS 314922 CKT 1 /* 8LADYSMITH 500.00 -<br>8POSSUM 500.00<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>END       |
| <b>DVP_P1-2: LN 557</b>    | CONTINGENCY 'DVP_P1-2: LN 557'<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 -<br>8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 -<br>8ELMONT 500.00<br>END                                |
| <b>DVP_P4-2: H1T575</b>    | CONTINGENCY 'DVP_P4-2: H1T575' /* LADYSMITH 500 KV<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>OPEN BRANCH FROM BUS 314196 TO BUS 314911 CKT 1 /* 6LADYSMITH 230.00 -<br>8LADYSMITH 500.00<br>END     |
| <b>DVP_P4-2: 511T556-A</b> | CONTINGENCY 'DVP_P4-2: 511T556-A' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 -<br>8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>END |

| Contingency Name                                        | Contingency Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DVP_P4-2: 511T591</b>                                | CONTINGENCY 'DVP_P4-2: 511T591' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 -<br>8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                                                                                                                                   |
| <b>DVP_P1-2: LN 594</b>                                 | CONTINGENCY 'DVP_P1-2: LN 594'<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                                                                                                                                                                                                                                        |
| <b>DVP_P1-2: LN 2027-B</b>                              | CONTINGENCY 'DVP_P1-2: LN 2027-B'<br>OPEN BRANCH FROM BUS 933500 TO BUS 314333 CKT 1 /* AC2-165 TAP 230.00 -<br>6POWHATN 230.00<br>OPEN BRANCH FROM BUS 314310 TO BUS 314322 CKT 1 /* 6JUDES F 230.00 -<br>6MDLTHAN 230.00<br>OPEN BRANCH FROM BUS 314310 TO BUS 314333 CKT 1 /* 6JUDES F 230.00 -<br>6POWHATN 230.00<br>OPEN BUS 314310 /* ISLAND: 6JUDES F 230.00<br>OPEN BUS 314333 /* ISLAND: 6POWHATN 230.00<br>OPEN BUS 923862 /* ISLAND: AB2-026 E 230.00<br>END |
| <b>DVP_P1-2: LN 511-B</b>                               | CONTINGENCY 'DVP_P1-2: LN 511-B'<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                                                                                                                                                                                                                                                  |
| <b>DVP_P1-2: LN 511-A</b>                               | CONTINGENCY 'DVP_P1-2: LN 511-A'<br>OPEN BRANCH FROM BUS 314902 TO BUS 940470 CKT 1 /* 8CARSON 500.00 - AE2-<br>031 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                                   |
| <b>314333 6POWHATN 230 933500<br/>AC2-165 TAP 230 1</b> | CONTINGENCY '314333 6POWHATN 230 933500 AC2-165 TAP 230 1'<br>OPEN BRANCH FROM BUS 314333 TO BUS 933500 CKT 1<br>END                                                                                                                                                                                                                                                                                                                                                    |
| <b>314906 8CLOVER 500 314936 AF1-<br/>246 TAP 500 1</b> | CONTINGENCY '314906 8CLOVER 500 314936 AF1-246 TAP 500 1'<br>OPEN BRANCH FROM BUS 314906 TO BUS 945810 CKT 1<br>END                                                                                                                                                                                                                                                                                                                                                     |

| Contingency Name                     | Contingency Definition                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AEP_P4_#11111_05J.FERR 765_B1</b> | CONTINGENCY 'AEP_P4_#11111_05J.FERR 765_B1'<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765<br>242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242514 TO BUS 242684 CKT 2 / 242514 05J.FERR 765<br>242684 05J.FERR 138 2<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500<br>306719 8ANTIOCH 500 1<br>END |
| <b>DVP_P1-2: LN 575</b>              | CONTINGENCY 'DVP_P1-2: LN 575'<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>END                                                                                                                                                                                                                       |
| <b>DVP_P1-2: LN 573</b>              | CONTINGENCY 'DVP_P1-2: LN 573'<br>OPEN BRANCH FROM BUS 314918 TO BUS 314934 CKT 1 /* 8NO ANNA 500.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                                                                                                                         |
| <b>AEP_P1-2_#1377</b>                | CONTINGENCY 'AEP_P1-2_#1377'<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765<br>242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500<br>306719 8ANTIOCH 500 1<br>END                                                                                                                  |
| <b>DVP_P4-2: 556T591</b>             | CONTINGENCY 'DVP_P4-2: 556T591' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                    |
| <b>DVP_P1-2: LN 574</b>              | CONTINGENCY 'DVP_P1-2: LN 574'<br>OPEN BRANCH FROM BUS 314908 TO BUS 314911 CKT 1 /* 8ELMONT 500.00 -<br>8LADYSMITH 500.00<br>END                                                                                                                                                                                                                        |
| <b>DVP_P4-2: 557T574</b>             | CONTINGENCY 'DVP_P4-2: 557T574' /* ELMONT 500 KV<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 -<br>8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 -<br>8ELMONT 500.00<br>OPEN BRANCH FROM BUS 314908 TO BUS 314911 CKT 1 /* 8ELMONT 500.00 -<br>8LADYSMITH 500.00<br>END                 |
| <b>Base Case</b>                     |                                                                                                                                                                                                                                                                                                                                                          |

| Contingency Name                     | Contingency Definition                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DVP_P4-2: H2T557</b>              | CONTINGENCY 'DVP_P4-2: H2T557' /* ELMONT 500 KV<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 -<br>8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 -<br>8ELMONT 500.00<br>OPEN BRANCH FROM BUS 314218 TO BUS 314908 CKT 2 /* 6ELMONT 230.00 -<br>8ELMONT 500.00<br>END                                                                                                                         |
| <b>DVP_P1-2: LN 556-B</b>            | CONTINGENCY 'DVP_P1-2: LN 556-B'<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                                                                                                                                                                                                                                       |
| <b>DVP_P1-2: LN 585-A</b>            | CONTINGENCY 'DVP_P1-2: LN 585-A'<br>OPEN BRANCH FROM BUS 314902 TO BUS 941030 CKT 1 /* 8CARSON 500.00 - AE2-<br>094 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                        |
| <b>DVP_P1-2: LN 585-B</b>            | CONTINGENCY 'DVP_P1-2: LN 585-B'<br>OPEN BRANCH FROM BUS 941030 TO BUS 938490 CKT 1 /* AE2-094 TAP 500.00 -<br>AE1-068 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                     |
| <b>DVP_P4-2: H1T594</b>              | CONTINGENCY 'DVP_P4-2: H1T594' /* MORRISVILLE 500 KV<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>OPEN BRANCH FROM BUS 314063 TO BUS 314916 CKT 1 /* 6MORRSVL 230.00 -<br>8MORRSVL 500.00<br>OPEN BUS 314897 /* 8MORRS_1 500.00 KV<br>END                                                                                                                                                                   |
| <b>AEP_P4_#11112_05J.FERR 765_A1</b> | CONTINGENCY 'AEP_P4_#11112_05J.FERR 765_A1'<br>OPEN BRANCH FROM BUS 242511 TO BUS 242514 CKT 1 / 242511 05BROADF 765<br>242514 05J.FERR 765 1<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765<br>242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500<br>306719 8ANTIOCH 500 1<br>OPEN BRANCH FROM BUS 242566 TO BUS 242567 CKT ZB / 242566 05BROADF 138<br>242567 05BROADX 138 ZB<br>END |
| <b>DVP_P4-2: SPOTS H1T594</b>        | CONTINGENCY 'DVP_P4-2: SPOTS H1T594' /* SPOTSYLVANIA 500 KV<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>OPEN BRANCH FROM BUS 314755 TO BUS 314934 CKT 1 /* 3SPOTSYL 115.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                                                                                                     |

## 12 Short Circuit Analysis - Primary POI

Short circuit analysis will be provided in the System Impact Study report.

### 13 Summer Peak - Load Flow Analysis - Secondary POI

The Queue Project AF2-042 was evaluated as a 500.0 MW (Capacity 300.0 MW) injection tapping the Clover to Rawlings 500 kV line in the Dominion area. Project AF2-042 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF2-042 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

#### 13.1 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 | CK T ID | CONT NAME           | Type   | Rating MVA    | PRE PROJECT LOADIN G % | POST PROJECT LOADIN G % | AC D C | MW IMPAC T |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|---------------------|--------|---------------|------------------------|-------------------------|--------|------------|
| 106197307 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P 1-2: LN 556-B | single | 571.520019531 | 88.69                  | 105.3                   | DC     | 94.93      |
| 106197300 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P 1-2: LN 556-B | single | 571.520019531 | 89.76                  | 106.37                  | DC     | 94.93      |
| 106197269 | 314686    | 6CLOVER     | 230.0 | DVP           | 934610  | AD1-087 TAP | 230.0 | DVP         | 1       | DVP_P 1-2: LN 556-B | single | 814.979980469 | 83.98                  | 108.97                  | DC     | 203.7      |
| 96825908  | 314936    | 8RAWLINGS   | 500.0 | DVP           | 940470  | AE2-031 TAP | 500.0 | DVP         | 1       | DVP_P 1-2: LN 585-A | single | 4070.19995117 | 98.59                  | 102.37                  | DC     | 154.07     |
| 106197149 | 934610    | AD1-087 TAP | 230.0 | DVP           | 314697  | 6SEDGE HILL | 230.0 | DVP         | 1       | DVP_P 1-2: LN 556-B | single | 814.979980469 | 93.86                  | 118.85                  | DC     | 203.7      |
| 106197282 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P 1-2: LN 556-B | single | 571.520019531 | 90.46                  | 107.07                  | DC     | 94.93      |
| 96825903  | 938490    | AE1-068 TAP | 500.0 | DVP           | 941030  | AE2-094 TAP | 500.0 | DVP         | 1       | DVP_P 1-2: LN 511-A | single | 4070.19995117 | 98.06                  | 101.42                  | DC     | 137.07     |
| 96825874  | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON     | 500.0 | DVP         | 1       | DVP_P 1-2: LN 511-B | single | 4070.19995117 | 97.61                  | 100.97                  | DC     | 137.07     |

#### 13.2 Multiple Facility Contingency

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

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS      | kV    | TO BUS AREA | CK T ID | CONT NAME          | Type    | Rating MVA | PRE PROJECT LOADIN G % | POST PROJECT LOADIN G % | AC D C | MW IMPAC T |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|--------------------|---------|------------|------------------------|-------------------------|--------|------------|
| 97706699  | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P4 -2: 511T591 | breaker | 699.0      | 86.95                  | 109.62                  | DC     | 158.5      |
| 105952775 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P4 -2: 556T591 | breaker | 699.0      | 87.05                  | 109.72                  | DC     | 158.5      |
| 148708238 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P4 -2: 511T556 | breaker | 699.0      | 87.03                  | 109.71                  | DC     | 158.5      |
| 97706698  | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P4 -2: 511T591 | breaker | 699.0      | 87.82                  | 110.5                   | DC     | 158.5      |

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS      | kV    | TO BUS AREA | CK T ID | CONT NAME         | Type    | Rating MVA | PRE PROJECT LOADING % | POST PROJECT LOADING % | AC DC | MW IMPACT |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 105952765 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P4-2: 556T591 | breaker | 699.0      | 87.92                 | 110.6                  | DC    | 158.5     |
| 148708229 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P4-2: 511T556 | breaker | 699.0      | 87.91                 | 110.58                 | DC    | 158.5     |
| 105952833 | 314686    | 6CLOVER     | 230.0 | DVP           | 934620  | AD1-088 TAP | 230.0 | DVP         | 1       | DVP_P4-2: 556T591 | breaker | 699.0      | 78.39                 | 101.06                 | DC    | 158.5     |
| 148708294 | 314686    | 6CLOVER     | 230.0 | DVP           | 934620  | AD1-088 TAP | 230.0 | DVP         | 1       | DVP_P4-2: 511T556 | breaker | 699.0      | 78.39                 | 101.06                 | DC    | 158.5     |
| 96825705  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL    | 500.0 | DVP         | 1       | DVP_P4-2: H1T575  | breaker | 3938.0     | 99.87                 | 100.57                 | DC    | 92.56     |
| 97706697  | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P4-2: 511T591 | breaker | 699.0      | 88.39                 | 111.07                 | DC    | 158.5     |
| 105952756 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P4-2: 556T591 | breaker | 699.0      | 88.49                 | 111.17                 | DC    | 158.5     |
| 148708224 | 934620    | AD1-088 TAP | 230.0 | DVP           | 314268  | 6BRIERY     | 230.0 | DVP         | 1       | DVP_P4-2: 511T556 | breaker | 699.0      | 88.48                 | 111.15                 | DC    | 158.5     |

### 13.3 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 | CK T ID | CONT NAME                                    | Type    | Rating MVA    | PRE PROJECT LOADING % | POST PROJECT LOADING % | AC DC | MW IMPACT |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|----------------------------------------------|---------|---------------|-----------------------|------------------------|-------|-----------|
| 95620979  | 242631    | 05EDAN 1    | 138.0 | AEP           | 242620  | 05DANVL 2   | 138.0 | AEP         | 1       | AEP_P4_#11112_05 J.FERR 765_A1               | breaker | 402.0         | 106.16                | 109.21                 | DC    | 27.21     |
| 95620981  | 242631    | 05EDAN 1    | 138.0 | AEP           | 242620  | 05DANVL 2   | 138.0 | AEP         | 1       | AEP_P4_#11111_05 J.FERR 765_B1               | breaker | 402.0         | 100.01                | 103.2                  | DC    | 28.46     |
| 148955924 | 313707    | 6FORK UNION | 230.0 | DVP           | 314765  | 6MTEAGLE    | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 109.21                | 112.73                 | DC    | 23.3      |
| 148955925 | 313707    | 6FORK UNION | 230.0 | DVP           | 314765  | 6MTEAGLE    | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 109.15                | 112.67                 | DC    | 23.3      |
| 97887020  | 313867    | 6BREMO DIST | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 110.26                | 114.11                 | DC    | 25.52     |
| 97887021  | 313867    | 6BREMO DIST | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 110.18                | 114.04                 | DC    | 25.52     |
| 97706470  | 314282    | 6CARSON     | 230.0 | DVP           | 314285  | 6CHRL24 9   | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 684.0         | 165.37                | 168.27                 | DC    | 43.35     |
| 97706659  | 314282    | 6CARSON     | 230.0 | DVP           | 314331  | 6POE        | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 830.0         | 111.13                | 113.2                  | DC    | 38.16     |
| 97886798  | 314282    | 6CARSON     | 230.0 | DVP           | 314285  | 6CHRL24 9   | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 559.299987793 | 139.72                | 141.25                 | DC    | 19.98     |
| 97706480  | 314285    | 6CHRL24 9   | 230.0 | DVP           | 314316  | 6LOCKS      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 684.0         | 162.29                | 165.18                 | DC    | 43.35     |
| 97886820  | 314285    | 6CHRL24 9   | 230.0 | DVP           | 314316  | 6LOCKS      | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 559.299987793 | 135.95                | 137.48                 | DC    | 19.98     |

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS      | kV    | TO BUS AREA | CK T ID | CONT NAME                                    | Type    | Rating MVA    | PRE PROJE CT LOADI NG % | POST PROJE CT LOADI NG % | AC  DC | MW IMPA CT |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|----------------------------------------------|---------|---------------|-------------------------|--------------------------|--------|------------|
| 97706519  | 314287    | 6CHESTFB    | 230.0 | DVP           | 314276  | 6BASIN      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 812.0         | 138.48                  | 140.16                   | DC     | 30.0       |
| 97706529  | 314299    | 6HARROWG    | 230.0 | DVP           | 314263  | 6TYLER1     | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 137.68                  | 140.34                   | DC     | 31.91      |
| 97887013  | 314299    | 6HARROWG    | 230.0 | DVP           | 314263  | 6TYLER1     | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 113.93                  | 115.47                   | DC     | 15.09      |
| 97706584  | 314301    | 6HARR205    | 230.0 | DVP           | 314346  | 6TYLER      | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 119.93                  | 122.77                   | DC     | 34.02      |
| 97706539  | 314316    | 6LOCKS      | 230.0 | DVP           | 314301  | 6HARR205    | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 134.18                  | 137.01                   | DC     | 34.02      |
| 97887032  | 314316    | 6LOCKS      | 230.0 | DVP           | 314301  | 6HARR205    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 109.93                  | 111.53                   | DC     | 15.83      |
| 97706524  | 314331    | 6POE        | 230.0 | DVP           | 314299  | 6HARROWG    | 230.0 | DVP         | 1       | DVP_P4-2: 562T563                            | breaker | 541.0         | 137.7                   | 140.36                   | DC     | 31.91      |
| 97887008  | 314331    | 6POE        | 230.0 | DVP           | 314299  | 6HARROWG    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 441.799987793 | 113.96                  | 115.49                   | DC     | 15.09      |
| 97706551  | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 511T591                            | breaker | 699.0         | 112.43                  | 131.96                   | DC     | 147.5      |
| 97706552  | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 556T591                            | breaker | 699.0         | 112.52                  | 132.04                   | DC     | 147.5      |
| 97706553  | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P4-2: 511T556                            | breaker | 699.0         | 112.52                  | 132.04                   | DC     | 147.5      |
| 106197013 | 314677    | 6BUCKING    | 230.0 | DVP           | 314747  | 6BREMO      | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 571.520019531 | 105.73                  | 121.18                   | DC     | 88.3       |
| 97706566  | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 511T591                            | breaker | 684.0         | 110.76                  | 130.71                   | DC     | 147.53     |
| 97706567  | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 511T556                            | breaker | 684.0         | 110.85                  | 130.8                    | DC     | 147.53     |
| 97706568  | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P4-2: 556T591                            | breaker | 684.0         | 110.85                  | 130.8                    | DC     | 147.53     |
| 106197024 | 314692    | 6FARMVIL    | 230.0 | DVP           | 314677  | 6BUCKING    | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 559.299987793 | 104.61                  | 120.4                    | DC     | 88.32      |
| 106196954 | 314697    | 6SEEDGEHILL | 230.0 | DVP           | 927250  | AC1-221TAP  | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B                           | single  | 674.91998291  | 106.2                   | 126.15                   | DC     | 155.36     |
| 97887000  | 314747    | 6BREMO      | 230.0 | DVP           | 313867  | 6BREMO DIST | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 112.63                  | 116.49                   | DC     | 25.52      |
| 97887001  | 314747    | 6BREMO      | 230.0 | DVP           | 313867  | 6BREMO DIST | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 112.55                  | 116.41                   | DC     | 25.52      |
| 97886953  | 314765    | 6MTEAGLE    | 230.0 | DVP           | 314749  | 6CHARLV L   | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B                          | single  | 661.760009766 | 106.07                  | 109.59                   | DC     | 23.3       |
| 97886954  | 314765    | 6MTEAGLE    | 230.0 | DVP           | 314749  | 6CHARLV L   | 230.0 | DVP         | 1       | 314333 6POWHATN 230 933500 AC2-165 TAP 230 1 | single  | 661.760009766 | 106.02                  | 109.54                   | DC     | 23.3       |
| 96825661  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N   | 500.0 | DVP         | 1       | DVP_P4-2: 557T574                            | breaker | 3938.0        | 133.52                  | 135.9                    | DC     | 153.82     |
| 96825662  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N   | 500.0 | DVP         | 1       | DVP_P4-2: H2T557                             | breaker | 3938.0        | 126.8                   | 129.13                   | DC     | 149.94     |
| 96825806  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N   | 500.0 | DVP         | 1       | DVP_P1-2: LN 557                             | single  | 3218.56005859 | 123.33                  | 123.82                   | DC     | 88.37      |
| 96825810  | 314902    | 8CARSON     | 500.0 | DVP           | 314914  | 8MDLTHA N   | 500.0 | DVP         | 1       | DVP_P1-2: LN 574                             | single  | 3218.56005859 | 104.43                  | 107.01                   | DC     | 83.7       |
| 96825770  | 314903    | 8CHCKAH M   | 500.0 | DVP           | 314908  | 8ELMONT     | 500.0 | DVP         | 1       | DVP_P1-2: LN 563                             | single  | 2442.12011719 | 163.45                  | 163.63                   | DC     | 65.81      |
| 96825782  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA    | 500.0 | DVP         | 1       | DVP_P1-2: LN 574                             | single  | 2442.12011719 | 149.52                  | 150.04                   | DC     | 83.6       |
| 96825783  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA    | 500.0 | DVP         | 1       | DVP_P1-2: LN 557                             | single  | 2442.12011719 | 138.87                  | 139.05                   | DC     | 80.64      |
| 96825791  | 314914    | 8MDLTHA N   | 500.0 | DVP           | 314918  | 8NO ANNA    | 500.0 | DVP         | 1       | Base Case                                    | single  | 2442.12011719 | 107.75                  | 108.33                   | DC     | 68.29      |
| 96825694  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH | 500.0 | DVP         | 1       | DVP_P4-2: SPOTS H1T594                       | breaker | 3938.0        | 107.63                  | 108.15                   | DC     | 85.86      |
| 96825695  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH | 500.0 | DVP         | 1       | DVP_P4-2: H1T594                             | breaker | 3938.0        | 103.43                  | 103.9                    | DC     | 82.44      |
| 96825704  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL    | 500.0 | DVP         | 1       | DVP_P4-2: 568T575                            | breaker | 3938.0        | 104.54                  | 105.21                   | DC     | 96.76      |

| ID        | FROM BUS# | FROM BUS    | kV    | FROM BUS AREA | TO BUS# | TO BUS        | kV    | TO BUS AREA | CK T ID | CONT NAME          | Type    | Rating MVA    | PRE PROJE CT LOADIN G % | POST PROJE CT LOADIN G % | AC DC | MW IMPACT |
|-----------|-----------|-------------|-------|---------------|---------|---------------|-------|-------------|---------|--------------------|---------|---------------|-------------------------|--------------------------|-------|-----------|
| 96825868  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P1-2: LN 594   | single  | 3218.56005859 | 113.42                  | 114.88                   | DC    | 49.34     |
| 96825869  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314911  | 8LADYSM ITH   | 500.0 | DVP         | 1       | DVP_P1-2: LN 573   | single  | 3218.56005859 | 111.69                  | 113.34                   | DC    | 51.82     |
| 96825878  | 314918    | 8NO ANNA    | 500.0 | DVP           | 314934  | 8SPOTSYL      | 500.0 | DVP         | 1       | DVP_P1-2: LN 575   | single  | 3218.56005859 | 116.46                  | 116.92                   | DC    | 55.49     |
| 96825884  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P4-2: 568T575  | breaker | 3938.0        | 111.26                  | 111.68                   | DC    | 94.83     |
| 96825885  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P4-2: H1T575   | breaker | 3938.0        | 105.67                  | 106.07                   | DC    | 90.03     |
| 96825852  | 314934    | 8SPOTSYL    | 500.0 | DVP           | 314916  | 8MORRS VL     | 500.0 | DVP         | 1       | DVP_P1-2: LN 575   | single  | 3218.56005859 | 121.31                  | 121.75                   | DC    | 53.97     |
| 96825753  | 927250    | AC1-221 TAP | 230.0 | DVP           | 304070  | 6PERSON 230 T | 230.0 | CPL E       | 1       | DVP_P1-2: LN 570   | single  | 718.0         | 104.83                  | 112.95                   | DC    | 58.33     |
| 107174538 | 927250    | AC1-221 TAP | 230.0 | DVP           | 304070  | 6PERSON 230 T | 230.0 | CPL E       | 1       | DVP_P1-2: LN 556-B | single  | 718.0         | 111.83                  | 129.36                   | DC    | 155.36    |
| 97886987  | 934610    | AD1-087     | 230.0 | DVP           | 314697  | 6SEGE HILL    | 230.0 | DVP         | 1       | DVP_P1-2: LN 570   | single  | 814.979980469 | 101.4                   | 109.5                    | DC    | 75.3      |
| 96825863  | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 585-A | single  | 4070.19995117 | 107.33                  | 111.12                   | DC    | 154.07    |
| 96825864  | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 585-B | single  | 4070.19995117 | 100.52                  | 104.31                   | DC    | 154.07    |
| 96825873  | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON       | 500.0 | DVP         | 1       | DVP_P1-2: LN 511-A | single  | 4070.19995117 | 102.53                  | 105.9                    | DC    | 137.07    |

### 13.4 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 | CK T ID | CONT NAME           | Type      | Rating MVA    | PRE PROJE CT LOADIN G % | POST PROJE CT LOADIN G % | AC DC | MW IMPACT |
|-----------|-----------|-------------|-------|---------------|---------|-------------|-------|-------------|---------|---------------------|-----------|---------------|-------------------------|--------------------------|-------|-----------|
| 95621251  | 242631    | 05EDAN 1    | 138.0 | AEP           | 242620  | 05DANVL2    | 138.0 | AEP         | 1       | AEP_P1-2_#1377      | operation | 402.0         | 99.99                   | 103.17                   | DC    | 28.46     |
| 106197305 | 313802    | 6PRINCE EDW | 230.0 | DVP           | 314692  | 6FARMVIL    | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B  | operation | 571.520019531 | 104.01                  | 131.69                   | DC    | 158.22    |
| 97887016  | 313867    | 6BREMODIST  | 230.0 | DVP           | 313707  | 6FORK UNION | 230.0 | DVP         | 1       | DVP_P1-2: LN 2027-B | operation | 661.760009766 | 122.67                  | 125.58                   | DC    | 42.53     |
| 106197298 | 314268    | 6BRIERY     | 230.0 | DVP           | 313802  | 6PRINCE EDW | 230.0 | DVP         | 1       | DVP_P1-2: LN 556-B  | operation | 571.520019531 | 105.08                  | 132.76                   | DC    | 158.22    |
| 97886796  | 314282    | 6CARSON     | 230.0 | DVP           | 314285  | 6CHRL249    | 230.0 | DVP         | 1       | DVP_P1-2: LN 563    | operation | 559.299987793 | 160.83                  | 163.52                   | DC    | 33.3      |

| 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 |
|-----------|-----------|--------------|-------|---------------|---------|--------------|-------|-------------|--------|----------------------|-----------|---------------|------------------------|-------------------------|-------|-----------|
| 97886818  | 314285    | 6CHRL249     | 230.0 | DVP           | 314316  | 6LOCKS       | 230.0 | DVP         | 1      | DVP_P 1-2: LN 563    | operation | 559.299987793 | 157.06                 | 159.75                  | DC    | 33.3      |
| 97887011  | 314299    | 6HARROWG     | 230.0 | DVP           | 314263  | 6TYLER1      | 230.0 | DVP         | 1      | DVP_P 1-2: LN 563    | operation | 441.799987793 | 138.47                 | 141.03                  | DC    | 25.15     |
| 97887031  | 314316    | 6LOCKS       | 230.0 | DVP           | 314301  | 6HARR205     | 230.0 | DVP         | 1      | DVP_P 1-2: LN 563    | operation | 441.799987793 | 129.14                 | 131.84                  | DC    | 26.38     |
| 97887006  | 314331    | 6POE         | 230.0 | DVP           | 314299  | 6HARROWG     | 230.0 | DVP         | 1      | DVP_P 1-2: LN 563    | operation | 441.799987793 | 138.49                 | 141.06                  | DC    | 25.15     |
| 106197010 | 314677    | 6BUCKING     | 230.0 | DVP           | 314747  | 6BREMO       | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 571.520019531 | 134.66                 | 158.49                  | DC    | 147.17    |
| 106197267 | 314686    | 6CLOVER      | 230.0 | DVP           | 934610  | AD1-087 TAP  | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 814.979980469 | 91.31                  | 132.9                   | DC    | 339.5     |
| 106197421 | 314686    | 6CLOVER      | 230.0 | DVP           | 934620  | AD1-088 TAP  | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 571.520019531 | 93.44                  | 121.12                  | DC    | 158.22    |
| 106197021 | 314692    | 6FARMVIL     | 230.0 | DVP           | 314677  | 6BUCKING     | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 559.299987793 | 132.54                 | 156.89                  | DC    | 147.2     |
| 106196952 | 314697    | 6SEEDGE HILL | 230.0 | DVP           | 927250  | AC1-221 TAP  | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 674.91998291  | 127.25                 | 165.64                  | DC    | 258.94    |
| 97886996  | 314747    | 6BREMO       | 230.0 | DVP           | 313867  | 6BREMODIST   | 230.0 | DVP         | 1      | DVP_P 1-2: LN 2027-B | operation | 661.760009766 | 125.04                 | 127.95                  | DC    | 42.53     |
| 96825804  | 314902    | 8CARSON      | 500.0 | DVP           | 314914  | 8MDLTHAN     | 500.0 | DVP         | 1      | DVP_P 1-2: LN 557    | operation | 3218.56005859 | 152.68                 | 155.49                  | DC    | 147.28    |
| 96825812  | 314902    | 8CARSON      | 500.0 | DVP           | 314914  | 8MDLTHAN     | 500.0 | DVP         | 1      | Base Case            | operation | 3218.56005859 | 103.5                  | 104.04                  | DC    | 123.83    |
| 96825790  | 314914    | 8MDLTHAN     | 500.0 | DVP           | 314918  | 8NO ANNA     | 500.0 | DVP         | 1      | Base Case            | operation | 2442.12011719 | 115.39                 | 115.83                  | DC    | 113.81    |
| 96825866  | 314918    | 8NO ANNA     | 500.0 | DVP           | 314911  | 8LADYSMITH   | 500.0 | DVP         | 1      | DVP_P 1-2: LN 594    | operation | 3218.56005859 | 125.84                 | 126.41                  | DC    | 82.23     |
| 96825876  | 314918    | 8NO ANNA     | 500.0 | DVP           | 314934  | 8SPOTSYL     | 500.0 | DVP         | 1      | DVP_P 1-2: LN 575    | operation | 3218.56005859 | 122.04                 | 122.9                   | DC    | 92.48     |
| 96825928  | 314923    | 8SEPTA       | 500.0 | DVP           | 314924  | 8SURREY      | 500.0 | DVP         | 1      | DVP_P 1-2: LN 563    | operation | 2442.12011719 | 112.73                 | 115.69                  | DC    | 101.93    |
| 96825849  | 314934    | 8SPOTSYL     | 500.0 | DVP           | 314916  | 8MORRSVL     | 500.0 | DVP         | 1      | DVP_P 1-2: LN 575    | operation | 3218.56005859 | 129.16                 | 129.65                  | DC    | 89.96     |
| 96825905  | 314936    | 8RAWLINGS    | 500.0 | DVP           | 940470  | AE2-031 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 585-A  | operation | 4070.19995117 | 111.63                 | 117.95                  | DC    | 256.78    |
| 96825930  | 314940    | 8ROGERSRD    | 500.0 | DVP           | 938490  | AE1-068 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A  | operation | 4070.19995117 | 104.88                 | 110.51                  | DC    | 228.45    |
| 107174535 | 927250    | AC1-221 TAP  | 230.0 | DVP           | 304070  | 6PERSON230 T | 230.0 | CPL E       | 1      | DVP_P 1-2: LN 556-B  | operation | 718.0         | 133.55                 | 169.64                  | DC    | 258.94    |
| 106197147 | 934610    | AD1-087 TAP  | 230.0 | DVP           | 314697  | 6SEEDGE HILL | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 814.979980469 | 103.71                 | 145.27                  | DC    | 339.5     |
| 106197280 | 934620    | AD1-088 TAP  | 230.0 | DVP           | 314268  | 6BRIERY      | 230.0 | DVP         | 1      | DVP_P 1-2: LN 556-B  | operation | 571.520019531 | 105.78                 | 133.46                  | DC    | 158.22    |
| 96825901  | 938490    | AE1-068 TAP  | 500.0 | DVP           | 941030  | AE2-094 TAP  | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A  | operation | 4070.19995117 | 112.67                 | 118.29                  | DC    | 228.45    |

| 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 |
|----------|-----------|-------------|-------|---------------|---------|---------|-------|-------------|--------|---------------------|-----------|---------------|------------------------|-------------------------|-------|-----------|
| 96825860 | 940470    | AE2-031 TAP | 500.0 | DVP           | 314902  | 8CARSON | 500.0 | DVP         | 1      | DVP_P 1-2: LN 585-A | operation | 4070.19995117 | 123.68                 | 130.0                   | DC    | 256.78    |
| 96825871 | 941030    | AE2-094 TAP | 500.0 | DVP           | 314902  | 8CARSON | 500.0 | DVP         | 1      | DVP_P 1-2: LN 511-A | operation | 4070.19995117 | 118.49                 | 124.12                  | DC    | 228.45    |

### 13.5 Flow Gate Details - Secondary POI

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".

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### 13.5.1 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 |
|-----------|-----------|-------------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 148708238 | 313802    | 6PRINCE EDW | DVP           | 314692  | 6FARMVIL | DVP         | 1      | DVP_P4-2: 511T556 | breaker | 699.0      | 87.03                 | 109.71                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |
| 941791 | AE2-182 C                | 6.8123             | 50/50 | 6.8123         |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O2 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O2 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O2   | 15.8500            | 50/50                 | 15.8500        |
| 960061  | AF2-297 C O2 | 9.3019             | 50/50                 | 9.3019         |
| 960062  | AF2-297 E O2 | 6.2013             | 50/50                 | 6.2013         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3724             | 50/50                 | 5.3724         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

## 13.5.2 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 148708229 | 314268    | 6BRIERY  | DVP           | 313802  | 6PRINCE EDW | DVP         | 1      | DVP_P4-2:<br>511T556 | breaker | 699.0      | 87.91                 | 110.58                 | DC    | 158.5     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                    | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                    | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A                  | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                   | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                   | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                   | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                   | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                   | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1<br>(Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                   | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                   | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                   | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                   | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                   | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                   | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                   | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                   | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                   | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                   | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                   | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1                | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1                | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                   | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                   | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                   | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                   | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1                | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1                | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                   | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                   | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1                | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1                | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1                | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1                | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1                | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1                | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                   | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                     | -0.1769            | Adder | -0.21          |
| 941791 | AE2-182 C                   | 6.8123             | 50/50 | 6.8123         |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O2 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O2 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O2   | 15.8500            | 50/50                 | 15.8500        |
| 960061  | AF2-297 C O2 | 9.3019             | 50/50                 | 9.3019         |
| 960062  | AF2-297 E O2 | 6.2013             | 50/50                 | 6.2013         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3724             | 50/50                 | 5.3724         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

### 13.5.3 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197269 | 314686    | 6CLOVER  | DVP           | 934610  | AD1-087 TAP | DVP         | 1      | DVP_P1-2: LN 556-B | single | 814.98     | 83.98                 | 108.97                 | DC    | 203.7     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0707             | 80/20 | 0.0707         |
| 314333 | 6POWHATN                 | 0.1384             | 80/20 | 0.1384         |
| 314429 | 3JTRSVLE                 | 0.2828             | 80/20 | 0.2828         |
| 314677 | 6BUCKING                 | 0.4694             | 80/20 | 0.4694         |
| 315153 | 1CLOVER1                 | 51.7091            | 80/20 | 51.7091        |
| 315154 | 1CLOVER2                 | 51.1938            | 80/20 | 51.1938        |
| 315191 | 1BEARGRDN G1             | 3.1145             | 80/20 | 3.1145         |
| 315192 | 1BEARGRDN G2             | 3.1145             | 80/20 | 3.1145         |
| 315193 | 1BEARGRDN S1             | 6.4099             | 80/20 | 6.4099         |
| 920291 | AA2-127                  | 0.6470             | 80/20 | 0.6470         |
| 925611 | AC1-036 C                | 0.3848             | 80/20 | 0.3848         |
| 925831 | AC1-062                  | 0.0420             | 80/20 | 0.0420         |
| 925991 | AC1-075 C                | -3.3297            | Adder | -3.92          |
| 926021 | AC1-080 C                | -1.1128            | Adder | -1.31          |
| 926271 | AC1-105 C O1 (Suspended) | -3.4045            | Adder | -4.01          |
| 926451 | AC1-116 C                | 0.2932             | 80/20 | 0.2932         |
| 927251 | AC1-221 C                | -1.3047            | Adder | -1.53          |
| 927261 | AC1-222 C                | -2.6803            | Adder | -3.15          |
| 932511 | AC2-071 C                | 2.6809             | 80/20 | 2.6809         |
| 933501 | AC2-165 C                | 3.8965             | 80/20 | 3.8965         |
| 934311 | AD1-055 C                | -1.8610            | Adder | -2.19          |
| 934341 | AD1-058 C                | -3.2706            | Adder | -3.85          |
| 934621 | AD1-088 C                | 29.1619            | 80/20 | 29.1619        |
| 935221 | AD1-157 C                | 1.3385             | 80/20 | 1.3385         |
| 936261 | AD2-033 C                | 4.2728             | 80/20 | 4.2728         |
| 938371 | AE1-056 C                | 5.7703             | 80/20 | 5.7703         |
| 938561 | AE1-075 C                | 0.7037             | 80/20 | 0.7037         |
| 938821 | AE1-108 C                | 6.5977             | 80/20 | 6.5977         |
| 940241 | AE2-006                  | 0.1958             | 80/20 | 0.1958         |
| 941011 | AE2-092 C                | 6.4559             | 80/20 | 6.4559         |
| 941791 | AE2-182 C                | 4.7378             | 80/20 | 4.7378         |
| 942461 | AE2-259 C O1             | 12.3990            | 80/20 | 12.3990        |
| 945811 | AF1-246 C O1             | 28.5180            | 80/20 | 28.5180        |
| 946291 | AF1-293 C O1             | 9.6964             | 80/20 | 9.6964         |
| 946301 | AF1-294 C                | 3.1505             | 80/20 | 3.1505         |
| 946591 | AF1-323 C                | 2.0140             | 80/20 | 2.0140         |
| 957481 | AF2-042 C O2             | 203.7000           | 80/20 | 203.7000       |
| 958211 | AF2-115 C                | 1.9211             | 80/20 | 1.9211         |
| 958501 | AF2-144 C                | 0.5932             | 80/20 | 0.5932         |
| 958801 | AF2-171 C O2             | 11.8980            | 80/20 | 11.8980        |
| 959311 | AF2-222 C                | 7.6050             | 80/20 | 7.6050         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 959531     | AF2-244 C    | 0.5467             | 80/20         | 0.5467         |
| 959751     | AF2-266 O2   | 33.9500            | 80/20         | 33.9500        |
| 960111     | AF2-302 C    | 0.7324             | 80/20         | 0.7324         |
| 961061     | AF2-397 C O2 | 7.5925             | 80/20         | 7.5925         |
| 961081     | AF2-399 C    | 0.2471             | 80/20         | 0.2471         |
| NEWTON     | NEWTON       | 1.4044             | Confirmed LTF | 1.4044         |
| FARMERCITY | FARMERCITY   | 0.0797             | Confirmed LTF | 0.0797         |
| G-007A     | G-007A       | 0.4100             | Confirmed LTF | 0.4100         |
| VFT        | VFT          | 1.0772             | Confirmed LTF | 1.0772         |
| CALDERWOOD | CALDERWOOD   | 1.0760             | Confirmed LTF | 1.0760         |
| PRAIRIE    | PRAIRIE      | 3.7479             | Confirmed LTF | 3.7479         |
| CHEOAH     | CHEOAH       | 1.1026             | Confirmed LTF | 1.1026         |
| EDWARDS    | EDWARDS      | 0.4263             | Confirmed LTF | 0.4263         |
| TILTON     | TILTON       | 0.7566             | Confirmed LTF | 0.7566         |
| GIBSON     | GIBSON       | 0.6825             | Confirmed LTF | 0.6825         |
| BLUEG      | BLUEG        | 2.1162             | Confirmed LTF | 2.1162         |
| TRIMBLE    | TRIMBLE      | 0.6723             | Confirmed LTF | 0.6723         |
| CATAWBA    | CATAWBA      | 1.1473             | Confirmed LTF | 1.1473         |

### 13.5.4 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 |
|----------|-----------|-----------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825908 | 314936    | 8RAWLINGS | DVP           | 940470  | AE2-031 TAP | DVP         | 1      | DVP_P1-2: LN 585-A | single | 4070.2     | 98.59                 | 102.37                 | DC    | 154.07    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0933             | 80/20 | 0.0933         |
| 314429 | 3JTRSVLE                 | 0.3731             | 80/20 | 0.3731         |
| 314947 | 8GREENSVILLE             | 165.8983           | 80/20 | 165.8983       |
| 315102 | 1BRUNSWICKG1             | 27.5832            | 80/20 | 27.5832        |
| 315103 | 1BRUNSWICKG2             | 27.5832            | 80/20 | 27.5832        |
| 315104 | 1BRUNSWICKG3             | 27.5832            | 80/20 | 27.5832        |
| 315105 | 1BRUNSWICKS1             | 57.3040            | 80/20 | 57.3040        |
| 315153 | 1CLOVER1                 | 34.7979            | 80/20 | 34.7979        |
| 315154 | 1CLOVER2                 | 34.4511            | 80/20 | 34.4511        |
| 315158 | 1KERR 1                  | 0.3886             | 80/20 | 0.3886         |
| 315159 | 1KERR 2                  | 1.0879             | 80/20 | 1.0879         |
| 315160 | 1KERR 3                  | 1.0879             | 80/20 | 1.0879         |
| 315161 | 1KERR 4                  | 1.0879             | 80/20 | 1.0879         |
| 315162 | 1KERR 5                  | 1.0879             | 80/20 | 1.0879         |
| 315163 | 1KERR 6                  | 1.0879             | 80/20 | 1.0879         |
| 315164 | 1KERR 7                  | 1.0879             | 80/20 | 1.0879         |
| 315266 | 1PLYWOOD A               | 2.1042             | 80/20 | 2.1042         |
| 923831 | AB2-022 C                | -1.7098            | Adder | -2.01          |
| 924021 | AB2-043 C O1             | 0.5442             | 80/20 | 0.5442         |
| 924161 | AB2-060 C OP             | 1.5677             | 80/20 | 1.5677         |
| 924241 | AB2-068 OP               | -128.0681          | Adder | -150.67        |
| 924301 | AB2-077 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924311 | AB2-078 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924321 | AB2-079 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 925331 | AB2-190 C                | -15.2463           | Adder | -17.94         |
| 925611 | AC1-036 C                | 0.9578             | 80/20 | 0.9578         |
| 925831 | AC1-062                  | 0.0554             | 80/20 | 0.0554         |
| 925861 | AC1-065 C                | -2.4191            | Adder | -2.85          |
| 925991 | AC1-075 C                | 8.3954             | 80/20 | 8.3954         |
| 926021 | AC1-080 C                | 2.8058             | 80/20 | 2.8058         |
| 926051 | AC1-083 C O1             | 5.2478             | 80/20 | 5.2478         |
| 926271 | AC1-105 C O1 (Suspended) | 9.0580             | 80/20 | 9.0580         |
| 926661 | AC1-147 C                | -1.9228            | Adder | -2.26          |
| 926781 | AC1-164 C                | -27.3619           | Adder | -32.19         |
| 927251 | AC1-221 C                | 4.0131             | 80/20 | 4.0131         |
| 927261 | AC1-222 C                | 6.3188             | 80/20 | 6.3188         |
| 932761 | AC2-100 C                | 9.2356             | 80/20 | 9.2356         |
| 932831 | AC2-110 C                | -0.9676            | Adder | -1.14          |

| Bus #  | Bus                              | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|----------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                        | -1.3882            | Adder | -1.63          |
| 933731 | AC2-196 C                        | -1.5059            | Adder | -1.77          |
| 933941 | AD1-017 C                        | 1.0496             | 80/20 | 1.0496         |
| 934311 | AD1-055 C                        | 4.3873             | 80/20 | 4.3873         |
| 934341 | AD1-058 C                        | 10.0602            | 80/20 | 10.0602        |
| 934611 | AD1-087 C O1                     | 19.4205            | 80/20 | 19.4205        |
| 934621 | AD1-088 C                        | 19.0767            | 80/20 | 19.0767        |
| 934991 | AD1-131 C                        | 3.2984             | 80/20 | 3.2984         |
| 935111 | AD1-144 C                        | -1.3609            | Adder | -1.6           |
| 935171 | AD1-152 C O1                     | 19.2998            | 80/20 | 19.2998        |
| 935221 | AD1-157 C                        | 1.5236             | 80/20 | 1.5236         |
| 936151 | AD2-021                          | -0.1583            | Adder | -0.19          |
| 936161 | AD2-022 C O1                     | 13.3614            | 80/20 | 13.3614        |
| 936171 | AD2-023 C O1                     | 7.7942             | 80/20 | 7.7942         |
| 936261 | AD2-033 C                        | 13.0946            | 80/20 | 13.0946        |
| 936301 | AD2-039 C                        | -0.9676            | Adder | -1.14          |
| 936361 | AD2-046 C O1                     | 8.3729             | 80/20 | 8.3729         |
| 936481 | AD2-063 C O1                     | 15.0615            | 80/20 | 15.0615        |
| 937251 | AD2-164 (Withdrawn : 06/30/2020) | -3.8227            | Adder | -4.5           |
| 937481 | AD2-202 C O1                     | 5.1466             | 80/20 | 5.1466         |
| 937541 | AD2-215 C                        | -1.3749            | Adder | -1.62          |
| 938031 | AE1-004 C                        | -0.9676            | Adder | -1.14          |
| 938371 | AE1-056 C                        | 6.5685             | 80/20 | 6.5685         |
| 938491 | AE1-068 C O1                     | 190.0454           | 80/20 | 190.0454       |
| 938501 | AE1-069 C O1                     | 150.1652           | 80/20 | 150.1652       |
| 939181 | AE1-148 C O1                     | 8.2901             | 80/20 | 8.2901         |
| 939311 | AE1-162 C                        | -1.7547            | Adder | -2.06          |
| 940081 | AE1-250 C                        | 14.1417            | 80/20 | 14.1417        |
| 940241 | AE2-006                          | 0.4873             | 80/20 | 0.4873         |
| 940601 | AE2-047 C O1                     | 4.5937             | 80/20 | 4.5937         |
| 940661 | AE2-053 O1                       | 3.0704             | 80/20 | 3.0704         |
| 941031 | AE2-094 C                        | 122.2418           | 80/20 | 122.2418       |
| 941431 | AE2-140 C O1                     | 16.8321            | 80/20 | 16.8321        |
| 941791 | AE2-182 C                        | 3.0993             | 80/20 | 3.0993         |
| 942131 | AE2-225 C                        | -1.6759            | Adder | -1.97          |
| 942171 | AE2-229 C                        | -1.6759            | Adder | -1.97          |
| 942451 | AE2-258                          | 2.3537             | 80/20 | 2.3537         |
| 942461 | AE2-259 C O1                     | 10.2120            | 80/20 | 10.2120        |
| 942751 | AE2-291 C O1                     | 11.9193            | 80/20 | 11.9193        |
| 942761 | AE2-292 C O1                     | 14.8407            | 80/20 | 14.8407        |
| 943811 | AF1-049 C O1                     | 11.8350            | 80/20 | 11.8350        |
| 943901 | AF1-058 C                        | 3.5020             | 80/20 | 3.5020         |
| 944011 | AF1-069 C                        | 39.9410            | 80/20 | 39.9410        |
| 945811 | AF1-246 C O1                     | 21.5695            | 80/20 | 21.5695        |
| 946301 | AF1-294 C                        | 4.1574             | 80/20 | 4.1574         |
| 957481 | AF2-042 C O2                     | 154.0680           | 80/20 | 154.0680       |
| 958211 | AF2-115 C                        | 2.5350             | 80/20 | 2.5350         |
| 958801 | AF2-171 C O2                     | 15.2127            | 80/20 | 15.2127        |
| 959311 | AF2-222 C                        | 16.8160            | 80/20 | 16.8160        |
| 959751 | AF2-266 O2                       | 25.6780            | 80/20 | 25.6780        |
| 960061 | AF2-297 C O2                     | 16.6670            | 80/20 | 16.6670        |
| 960811 | AF2-372 C                        | 1.2847             | 80/20 | 1.2847         |

| Bus #   | Bus       | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|-----------|--------------------|---------------|----------------|
| 960821  | AF2-373 C | 1.3675             | 80/20         | 1.3675         |
| 961081  | AF2-399 C | 0.3278             | 80/20         | 0.3278         |
| WEC     | WEC       | 1.5536             | Confirmed LTF | 1.5536         |
| LGEE    | LGEE      | 2.9312             | Confirmed LTF | 2.9312         |
| CPL     | CPL       | 14.6172            | Confirmed LTF | 14.6172        |
| CBM-W2  | CBM-W2    | 61.6052            | Confirmed LTF | 61.6052        |
| NY      | NY        | 2.0832             | Confirmed LTF | 2.0832         |
| CBM-W1  | CBM-W1    | 58.0964            | Confirmed LTF | 58.0964        |
| TVA     | TVA       | 12.8968            | Confirmed LTF | 12.8968        |
| CBM-S2  | CBM-S2    | 104.4562           | Confirmed LTF | 104.4562       |
| CBM-S1  | CBM-S1    | 72.0366            | Confirmed LTF | 72.0366        |
| MADISON | MADISON   | 3.5220             | Confirmed LTF | 3.5220         |
| MEC     | MEC       | 9.3529             | Confirmed LTF | 9.3529         |
| AA2-074 | AA2-074   | 9.9648             | LTF           | 9.9648         |

### 13.5.5 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 |
|-----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106197149 | 934610    | AD1-087 TAP | DVP           | 314697  | 6SEDGE HILL | DVP         | 1      | DVP_P1-2: LN 556-B | single | 814.98     | 93.86                 | 118.85                 | DC    | 203.7     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0707             | 80/20 | 0.0707         |
| 314333 | 6POWHATN                 | 0.1384             | 80/20 | 0.1384         |
| 314429 | 3JTRSVLE                 | 0.2828             | 80/20 | 0.2828         |
| 314677 | 6BUCKING                 | 0.4694             | 80/20 | 0.4694         |
| 315153 | 1CLOVER1                 | 51.7091            | 80/20 | 51.7091        |
| 315154 | 1CLOVER2                 | 51.1938            | 80/20 | 51.1938        |
| 315191 | 1BEARGRDN G1             | 3.1145             | 80/20 | 3.1145         |
| 315192 | 1BEARGRDN G2             | 3.1145             | 80/20 | 3.1145         |
| 315193 | 1BEARGRDN S1             | 6.4099             | 80/20 | 6.4099         |
| 920291 | AA2-127                  | 0.6470             | 80/20 | 0.6470         |
| 925611 | AC1-036 C                | 0.3848             | 80/20 | 0.3848         |
| 925831 | AC1-062                  | 0.0420             | 80/20 | 0.0420         |
| 925991 | AC1-075 C                | -3.3297            | Adder | -3.92          |
| 926021 | AC1-080 C                | -1.1128            | Adder | -1.31          |
| 926271 | AC1-105 C O1 (Suspended) | -3.4045            | Adder | -4.01          |
| 926451 | AC1-116 C                | 0.2932             | 80/20 | 0.2932         |
| 927251 | AC1-221 C                | -1.3047            | Adder | -1.53          |
| 927261 | AC1-222 C                | -2.6803            | Adder | -3.15          |
| 932511 | AC2-071 C                | 2.6809             | 80/20 | 2.6809         |
| 933501 | AC2-165 C                | 3.8965             | 80/20 | 3.8965         |
| 934311 | AD1-055 C                | -1.8610            | Adder | -2.19          |
| 934341 | AD1-058 C                | -3.2706            | Adder | -3.85          |
| 934611 | AD1-087 C O1             | 35.7744            | 80/20 | 35.7744        |
| 934621 | AD1-088 C                | 29.1619            | 80/20 | 29.1619        |
| 935171 | AD1-152 C O1             | 35.5522            | 80/20 | 35.5522        |
| 935221 | AD1-157 C                | 1.3385             | 80/20 | 1.3385         |
| 936261 | AD2-033 C                | 4.2728             | 80/20 | 4.2728         |
| 937481 | AD2-202 C O1             | 9.4806             | 80/20 | 9.4806         |
| 938371 | AE1-056 C                | 5.7703             | 80/20 | 5.7703         |
| 938561 | AE1-075 C                | 0.7037             | 80/20 | 0.7037         |
| 938821 | AE1-108 C                | 6.5977             | 80/20 | 6.5977         |
| 940241 | AE2-006                  | 0.1958             | 80/20 | 0.1958         |
| 941011 | AE2-092 C                | 6.4559             | 80/20 | 6.4559         |
| 941791 | AE2-182 C                | 4.7378             | 80/20 | 4.7378         |
| 942461 | AE2-259 C O1             | 12.3990            | 80/20 | 12.3990        |
| 945811 | AF1-246 C O1             | 28.5180            | 80/20 | 28.5180        |
| 946291 | AF1-293 C O1             | 9.6964             | 80/20 | 9.6964         |
| 946301 | AF1-294 C                | 3.1505             | 80/20 | 3.1505         |
| 946591 | AF1-323 C                | 2.0140             | 80/20 | 2.0140         |
| 957481 | AF2-042 C O2             | 203.7000           | 80/20 | 203.7000       |
| 958211 | AF2-115 C                | 1.9211             | 80/20 | 1.9211         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 958501     | AF2-144 C    | 0.5932             | 80/20         | 0.5932         |
| 958801     | AF2-171 C O2 | 11.8980            | 80/20         | 11.8980        |
| 959311     | AF2-222 C    | 7.6050             | 80/20         | 7.6050         |
| 959531     | AF2-244 C    | 0.5467             | 80/20         | 0.5467         |
| 959751     | AF2-266 O2   | 33.9500            | 80/20         | 33.9500        |
| 960111     | AF2-302 C    | 0.7324             | 80/20         | 0.7324         |
| 961061     | AF2-397 C O2 | 7.5925             | 80/20         | 7.5925         |
| 961081     | AF2-399 C    | 0.2471             | 80/20         | 0.2471         |
| NEWTON     | NEWTON       | 1.4044             | Confirmed LTF | 1.4044         |
| FARMERCITY | FARMERCITY   | 0.0797             | Confirmed LTF | 0.0797         |
| G-007A     | G-007A       | 0.4100             | Confirmed LTF | 0.4100         |
| VFT        | VFT          | 1.0772             | Confirmed LTF | 1.0772         |
| CALDERWOOD | CALDERWOOD   | 1.0760             | Confirmed LTF | 1.0760         |
| PRAIRIE    | PRAIRIE      | 3.7479             | Confirmed LTF | 3.7479         |
| CHEOAH     | CHEOAH       | 1.1026             | Confirmed LTF | 1.1026         |
| EDWARDS    | EDWARDS      | 0.4263             | Confirmed LTF | 0.4263         |
| TILTON     | TILTON       | 0.7566             | Confirmed LTF | 0.7566         |
| GIBSON     | GIBSON       | 0.6825             | Confirmed LTF | 0.6825         |
| BLUEG      | BLUEG        | 2.1162             | Confirmed LTF | 2.1162         |
| TRIMBLE    | TRIMBLE      | 0.6723             | Confirmed LTF | 0.6723         |
| CATAWBA    | CATAWBA      | 1.1473             | Confirmed LTF | 1.1473         |

### 13.5.6 Index 6

| 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 |
|-----------|-----------|-------------|---------------|---------|---------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 148708224 | 934620    | AD1-088 TAP | DVP           | 314268  | 6BRIERY | DVP         | 1      | DVP_P4-2: 511T556 | breaker | 699.0      | 88.48                 | 111.15                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934621 | AD1-088 C                | 41.9311            | 50/50 | 41.9311        |
| 934622 | AD1-088 E                | 19.7323            | 50/50 | 19.7323        |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |
| 941791 | AE2-182 C                | 6.8123             | 50/50 | 6.8123         |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 941792  | AE2-182 E    | 3.1713             | 50/50                 | 3.1713         |
| 942751  | AE2-291 C O1 | 4.3135             | Adder                 | 5.07           |
| 942752  | AE2-291 E O1 | 2.8757             | Adder                 | 3.38           |
| 942761  | AE2-292 C O1 | 5.3707             | Adder                 | 6.32           |
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O2 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O2 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O2   | 15.8500            | 50/50                 | 15.8500        |
| 960061  | AF2-297 C O2 | 9.3019             | 50/50                 | 9.3019         |
| 960062  | AF2-297 E O2 | 6.2013             | 50/50                 | 6.2013         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3724             | 50/50                 | 5.3724         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

### 13.5.7 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 |
|----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825903 | 938490    | AE1-068 TAP | DVP           | 941030  | AE2-094 TAP | DVP         | 1      | DVP_P1-2: LN 511-A | single | 4070.2     | 98.06                 | 101.42                 | DC    | 137.07    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0834             | 80/20 | 0.0834         |
| 314429 | 3JTRSVLE                 | 0.3334             | 80/20 | 0.3334         |
| 314947 | 8GREENSVILLE             | 172.5085           | 80/20 | 172.5085       |
| 315102 | 1BRUNSWICKG1             | 27.3925            | 80/20 | 27.3925        |
| 315103 | 1BRUNSWICKG2             | 27.3925            | 80/20 | 27.3925        |
| 315104 | 1BRUNSWICKG3             | 27.3925            | 80/20 | 27.3925        |
| 315105 | 1BRUNSWICKS1             | 56.9078            | 80/20 | 56.9078        |
| 315153 | 1CLOVER1                 | 31.0511            | 80/20 | 31.0511        |
| 315154 | 1CLOVER2                 | 30.7416            | 80/20 | 30.7416        |
| 315158 | 1KERR 1                  | 0.3574             | 80/20 | 0.3574         |
| 315159 | 1KERR 2                  | 1.0007             | 80/20 | 1.0007         |
| 315160 | 1KERR 3                  | 1.0007             | 80/20 | 1.0007         |
| 315161 | 1KERR 4                  | 1.0007             | 80/20 | 1.0007         |
| 315162 | 1KERR 5                  | 1.0007             | 80/20 | 1.0007         |
| 315163 | 1KERR 6                  | 1.0007             | 80/20 | 1.0007         |
| 315164 | 1KERR 7                  | 1.0007             | 80/20 | 1.0007         |
| 315266 | 1PLYWOOD A               | 1.9134             | 80/20 | 1.9134         |
| 923831 | AB2-022 C                | -1.6327            | Adder | -1.92          |
| 924021 | AB2-043 C O1             | 0.4936             | 80/20 | 0.4936         |
| 924161 | AB2-060 C OP             | 1.4212             | 80/20 | 1.4212         |
| 924241 | AB2-068 OP               | -122.7522          | Adder | -144.41        |
| 924301 | AB2-077 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924311 | AB2-078 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924321 | AB2-079 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 925331 | AB2-190 C                | -14.5942           | Adder | -17.17         |
| 925611 | AC1-036 C                | 0.8617             | 80/20 | 0.8617         |
| 925831 | AC1-062                  | 0.0495             | 80/20 | 0.0495         |
| 925861 | AC1-065 C                | -2.3177            | Adder | -2.73          |
| 925991 | AC1-075 C                | 7.6646             | 80/20 | 7.6646         |
| 926021 | AC1-080 C                | 2.5615             | 80/20 | 2.5615         |
| 926051 | AC1-083 C O1             | 4.9537             | 80/20 | 4.9537         |
| 926271 | AC1-105 C O1 (Suspended) | 8.2302             | 80/20 | 8.2302         |
| 926661 | AC1-147 C                | -1.8372            | Adder | -2.16          |
| 926781 | AC1-164 C                | -26.2283           | Adder | -30.86         |
| 927251 | AC1-221 C                | 3.7572             | 80/20 | 3.7572         |
| 927261 | AC1-222 C                | 5.7474             | 80/20 | 5.7474         |
| 932761 | AC2-100 C                | 8.6466             | 80/20 | 8.6466         |
| 932831 | AC2-110 C                | -0.9271            | Adder | -1.09          |

| Bus #  | Bus                              | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|----------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                        | -1.3312            | Adder | -1.57          |
| 933731 | AC2-196 C                        | -1.4387            | Adder | -1.69          |
| 933941 | AD1-017 C                        | 0.9907             | 80/20 | 0.9907         |
| 934311 | AD1-055 C                        | 3.9906             | 80/20 | 3.9906         |
| 934341 | AD1-058 C                        | 9.4186             | 80/20 | 9.4186         |
| 934611 | AD1-087 C O1                     | 17.4604            | 80/20 | 17.4604        |
| 934621 | AD1-088 C                        | 16.9154            | 80/20 | 16.9154        |
| 934991 | AD1-131 C                        | 3.0881             | 80/20 | 3.0881         |
| 935111 | AD1-144 C                        | -1.3005            | Adder | -1.53          |
| 935171 | AD1-152 C O1                     | 17.3520            | 80/20 | 17.3520        |
| 935221 | AD1-157 C                        | 1.3582             | 80/20 | 1.3582         |
| 936151 | AD2-021                          | -0.1518            | Adder | -0.18          |
| 936161 | AD2-022 C O1                     | 12.7182            | 80/20 | 12.7182        |
| 936171 | AD2-023 C O1                     | 7.4190             | 80/20 | 7.4190         |
| 936261 | AD2-033 C                        | 11.7991            | 80/20 | 11.7991        |
| 936301 | AD2-039 C                        | -0.9271            | Adder | -1.09          |
| 936361 | AD2-046 C O1                     | 7.6835             | 80/20 | 7.6835         |
| 936481 | AD2-063 C O1                     | 13.6188            | 80/20 | 13.6188        |
| 937251 | AD2-164 (Withdrawn : 06/30/2020) | -3.6559            | Adder | -4.3           |
| 937481 | AD2-202 C O1                     | 4.6272             | 80/20 | 4.6272         |
| 937541 | AD2-215 C                        | -1.3139            | Adder | -1.55          |
| 938031 | AE1-004 C                        | -0.9271            | Adder | -1.09          |
| 938371 | AE1-056 C                        | 5.8553             | 80/20 | 5.8553         |
| 938491 | AE1-068 C O1                     | 204.3564           | 80/20 | 204.3564       |
| 938501 | AE1-069 C O1                     | 156.1485           | 80/20 | 156.1485       |
| 939181 | AE1-148 C O1                     | 7.6027             | 80/20 | 7.6027         |
| 939311 | AE1-162 C                        | -1.6776            | Adder | -1.97          |
| 940081 | AE1-250 C                        | 13.3920            | 80/20 | 13.3920        |
| 940241 | AE2-006                          | 0.4384             | 80/20 | 0.4384         |
| 940471 | AE2-031 C                        | 97.2242            | 80/20 | 97.2242        |
| 940601 | AE2-047 C O1                     | 4.3675             | 80/20 | 4.3675         |
| 940661 | AE2-053 O1                       | 2.8158             | 80/20 | 2.8158         |
| 941431 | AE2-140 C O1                     | 16.0031            | 80/20 | 16.0031        |
| 941791 | AE2-182 C                        | 2.7482             | 80/20 | 2.7482         |
| 942131 | AE2-225 C                        | -1.6010            | Adder | -1.88          |
| 942171 | AE2-229 C                        | -1.6010            | Adder | -1.88          |
| 942451 | AE2-258                          | 2.1349             | 80/20 | 2.1349         |
| 942461 | AE2-259 C O1                     | 9.0432             | 80/20 | 9.0432         |
| 942751 | AE2-291 C O1                     | 10.9058            | 80/20 | 10.9058        |
| 942761 | AE2-292 C O1                     | 13.5788            | 80/20 | 13.5788        |
| 942931 | AE2-313 C                        | 105.2704           | 80/20 | 105.2704       |
| 943811 | AF1-049 C O1                     | 11.2537            | 80/20 | 11.2537        |
| 943901 | AF1-058 C                        | 3.1828             | 80/20 | 3.1828         |
| 945811 | AF1-246 C O1                     | 19.1898            | 80/20 | 19.1898        |
| 946301 | AF1-294 C                        | 3.7148             | 80/20 | 3.7148         |
| 957481 | AF2-042 C O2                     | 137.0700           | 80/20 | 137.0700       |
| 958211 | AF2-115 C                        | 2.2652             | 80/20 | 2.2652         |
| 958801 | AF2-171 C O2                     | 13.5873            | 80/20 | 13.5873        |
| 959311 | AF2-222 C                        | 15.1150            | 80/20 | 15.1150        |
| 959751 | AF2-266 O2                       | 22.8450            | 80/20 | 22.8450        |
| 960061 | AF2-297 C O2                     | 15.1334            | 80/20 | 15.1334        |
| 960811 | AF2-372 C                        | 1.1660             | 80/20 | 1.1660         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>960821</b>  | AF2-373 C  | 1.2421                    | 80/20         | 1.2421                |
| <b>961081</b>  | AF2-399 C  | 0.2930                    | 80/20         | 0.2930                |
| <b>WEC</b>     | WEC        | 1.4833                    | Confirmed LTF | 1.4833                |
| <b>LGEE</b>    | LGEE       | 2.7989                    | Confirmed LTF | 2.7989                |
| <b>CPL</b>     | CPL        | 14.1151                   | Confirmed LTF | 14.1151               |
| <b>CBM-W2</b>  | CBM-W2     | 59.1236                   | Confirmed LTF | 59.1236               |
| <b>NY</b>      | NY         | 2.0218                    | Confirmed LTF | 2.0218                |
| <b>CBM-W1</b>  | CBM-W1     | 55.4443                   | Confirmed LTF | 55.4443               |
| <b>TVA</b>     | TVA        | 12.3970                   | Confirmed LTF | 12.3970               |
| <b>CBM-S2</b>  | CBM-S2     | 100.8148                  | Confirmed LTF | 100.8148              |
| <b>CBM-S1</b>  | CBM-S1     | 69.1909                   | Confirmed LTF | 69.1909               |
| <b>MADISON</b> | MADISON    | 3.4171                    | Confirmed LTF | 3.4171                |
| <b>MEC</b>     | MEC        | 8.9508                    | Confirmed LTF | 8.9508                |
| <b>AA2-074</b> | AA2-074    | 9.6223                    | LTF           | 9.6223                |

### 13.5.8 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 |
|----------|-----------|-------------|---------------|---------|---------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825873 | 941030    | AE2-094 TAP | DVP           | 314902  | 8CARSON | DVP         | 1      | DVP_P1-2: LN 511-A | single | 4070.2     | 102.53                | 105.9                  | DC    | 137.07    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0834             | 80/20 | 0.0834         |
| 314429 | 3JTRSVLE                 | 0.3334             | 80/20 | 0.3334         |
| 314947 | 8GREENSVILLE             | 172.5085           | 80/20 | 172.5085       |
| 315102 | 1BRUNSWICKG1             | 27.3925            | 80/20 | 27.3925        |
| 315103 | 1BRUNSWICKG2             | 27.3925            | 80/20 | 27.3925        |
| 315104 | 1BRUNSWICKG3             | 27.3925            | 80/20 | 27.3925        |
| 315105 | 1BRUNSWICKS1             | 56.9078            | 80/20 | 56.9078        |
| 315153 | 1CLOVER1                 | 31.0511            | 80/20 | 31.0511        |
| 315154 | 1CLOVER2                 | 30.7416            | 80/20 | 30.7416        |
| 315158 | 1KERR 1                  | 0.3574             | 80/20 | 0.3574         |
| 315159 | 1KERR 2                  | 1.0007             | 80/20 | 1.0007         |
| 315160 | 1KERR 3                  | 1.0007             | 80/20 | 1.0007         |
| 315161 | 1KERR 4                  | 1.0007             | 80/20 | 1.0007         |
| 315162 | 1KERR 5                  | 1.0007             | 80/20 | 1.0007         |
| 315163 | 1KERR 6                  | 1.0007             | 80/20 | 1.0007         |
| 315164 | 1KERR 7                  | 1.0007             | 80/20 | 1.0007         |
| 315266 | 1PLYWOOD A               | 1.9134             | 80/20 | 1.9134         |
| 923831 | AB2-022 C                | -1.6327            | Adder | -1.92          |
| 924021 | AB2-043 C O1             | 0.4936             | 80/20 | 0.4936         |
| 924161 | AB2-060 C OP             | 1.4212             | 80/20 | 1.4212         |
| 924241 | AB2-068 OP               | -122.7522          | Adder | -144.41        |
| 924301 | AB2-077 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924311 | AB2-078 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 924321 | AB2-079 C O1 (Suspended) | 1.8460             | 80/20 | 1.8460         |
| 925331 | AB2-190 C                | -14.5942           | Adder | -17.17         |
| 925611 | AC1-036 C                | 0.8617             | 80/20 | 0.8617         |
| 925831 | AC1-062                  | 0.0495             | 80/20 | 0.0495         |
| 925861 | AC1-065 C                | -2.3177            | Adder | -2.73          |
| 925991 | AC1-075 C                | 7.6646             | 80/20 | 7.6646         |
| 926021 | AC1-080 C                | 2.5615             | 80/20 | 2.5615         |
| 926051 | AC1-083 C O1             | 4.9537             | 80/20 | 4.9537         |
| 926271 | AC1-105 C O1 (Suspended) | 8.2302             | 80/20 | 8.2302         |
| 926661 | AC1-147 C                | -1.8372            | Adder | -2.16          |
| 926781 | AC1-164 C                | -26.2283           | Adder | -30.86         |
| 927251 | AC1-221 C                | 3.7572             | 80/20 | 3.7572         |
| 927261 | AC1-222 C                | 5.7474             | 80/20 | 5.7474         |
| 932761 | AC2-100 C                | 8.6466             | 80/20 | 8.6466         |
| 932831 | AC2-110 C                | -0.9271            | Adder | -1.09          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933261 | AC2-137 C                           | -1.3312            | Adder | -1.57          |
| 933731 | AC2-196 C                           | -1.4387            | Adder | -1.69          |
| 933941 | AD1-017 C                           | 0.9907             | 80/20 | 0.9907         |
| 934311 | AD1-055 C                           | 3.9906             | 80/20 | 3.9906         |
| 934341 | AD1-058 C                           | 9.4186             | 80/20 | 9.4186         |
| 934611 | AD1-087 C O1                        | 17.4604            | 80/20 | 17.4604        |
| 934621 | AD1-088 C                           | 16.9154            | 80/20 | 16.9154        |
| 934991 | AD1-131 C                           | 3.0881             | 80/20 | 3.0881         |
| 935111 | AD1-144 C                           | -1.3005            | Adder | -1.53          |
| 935171 | AD1-152 C O1                        | 17.3520            | 80/20 | 17.3520        |
| 935221 | AD1-157 C                           | 1.3582             | 80/20 | 1.3582         |
| 936151 | AD2-021                             | -0.1518            | Adder | -0.18          |
| 936161 | AD2-022 C O1                        | 12.7182            | 80/20 | 12.7182        |
| 936171 | AD2-023 C O1                        | 7.4190             | 80/20 | 7.4190         |
| 936261 | AD2-033 C                           | 11.7991            | 80/20 | 11.7991        |
| 936301 | AD2-039 C                           | -0.9271            | Adder | -1.09          |
| 936361 | AD2-046 C O1                        | 7.6835             | 80/20 | 7.6835         |
| 936481 | AD2-063 C O1                        | 13.6188            | 80/20 | 13.6188        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.6559            | Adder | -4.3           |
| 937481 | AD2-202 C O1                        | 4.6272             | 80/20 | 4.6272         |
| 937541 | AD2-215 C                           | -1.3139            | Adder | -1.55          |
| 938031 | AE1-004 C                           | -0.9271            | Adder | -1.09          |
| 938371 | AE1-056 C                           | 5.8553             | 80/20 | 5.8553         |
| 938491 | AE1-068 C O1                        | 204.3564           | 80/20 | 204.3564       |
| 938501 | AE1-069 C O1                        | 156.1485           | 80/20 | 156.1485       |
| 939181 | AE1-148 C O1                        | 7.6027             | 80/20 | 7.6027         |
| 939311 | AE1-162 C                           | -1.6776            | Adder | -1.97          |
| 940081 | AE1-250 C                           | 13.3920            | 80/20 | 13.3920        |
| 940241 | AE2-006                             | 0.4384             | 80/20 | 0.4384         |
| 940471 | AE2-031 C                           | 97.2242            | 80/20 | 97.2242        |
| 940601 | AE2-047 C O1                        | 4.3675             | 80/20 | 4.3675         |
| 940661 | AE2-053 O1                          | 2.8158             | 80/20 | 2.8158         |
| 941031 | AE2-094 C                           | 139.5782           | 80/20 | 139.5782       |
| 941431 | AE2-140 C O1                        | 16.0031            | 80/20 | 16.0031        |
| 941791 | AE2-182 C                           | 2.7482             | 80/20 | 2.7482         |
| 942131 | AE2-225 C                           | -1.6010            | Adder | -1.88          |
| 942171 | AE2-229 C                           | -1.6010            | Adder | -1.88          |
| 942451 | AE2-258                             | 2.1349             | 80/20 | 2.1349         |
| 942461 | AE2-259 C O1                        | 9.0432             | 80/20 | 9.0432         |
| 942751 | AE2-291 C O1                        | 10.9058            | 80/20 | 10.9058        |
| 942761 | AE2-292 C O1                        | 13.5788            | 80/20 | 13.5788        |
| 942931 | AE2-313 C                           | 105.2704           | 80/20 | 105.2704       |
| 943811 | AF1-049 C O1                        | 11.2537            | 80/20 | 11.2537        |
| 943901 | AF1-058 C                           | 3.1828             | 80/20 | 3.1828         |
| 944011 | AF1-069 C                           | 45.6054            | 80/20 | 45.6054        |
| 945811 | AF1-246 C O1                        | 19.1898            | 80/20 | 19.1898        |
| 946301 | AF1-294 C                           | 3.7148             | 80/20 | 3.7148         |
| 957481 | AF2-042 C O2                        | 137.0700           | 80/20 | 137.0700       |
| 958211 | AF2-115 C                           | 2.2652             | 80/20 | 2.2652         |
| 958801 | AF2-171 C O2                        | 13.5873            | 80/20 | 13.5873        |
| 959311 | AF2-222 C                           | 15.1150            | 80/20 | 15.1150        |
| 959751 | AF2-266 O2                          | 22.8450            | 80/20 | 22.8450        |

| <b>Bus #</b>   | <b>Bus</b>   | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|--------------|---------------------------|---------------|-----------------------|
| <b>960061</b>  | AF2-297 C O2 | 15.1334                   | 80/20         | 15.1334               |
| <b>960811</b>  | AF2-372 C    | 1.1660                    | 80/20         | 1.1660                |
| <b>960821</b>  | AF2-373 C    | 1.2421                    | 80/20         | 1.2421                |
| <b>961081</b>  | AF2-399 C    | 0.2930                    | 80/20         | 0.2930                |
| <b>WEC</b>     | WEC          | 1.4833                    | Confirmed LTF | 1.4833                |
| <b>LGEE</b>    | LGEE         | 2.7989                    | Confirmed LTF | 2.7989                |
| <b>CPL</b>     | CPL          | 14.1151                   | Confirmed LTF | 14.1151               |
| <b>CBM-W2</b>  | CBM-W2       | 59.1236                   | Confirmed LTF | 59.1236               |
| <b>NY</b>      | NY           | 2.0218                    | Confirmed LTF | 2.0218                |
| <b>CBM-W1</b>  | CBM-W1       | 55.4443                   | Confirmed LTF | 55.4443               |
| <b>TVA</b>     | TVA          | 12.3970                   | Confirmed LTF | 12.3970               |
| <b>CBM-S2</b>  | CBM-S2       | 100.8148                  | Confirmed LTF | 100.8148              |
| <b>CBM-S1</b>  | CBM-S1       | 69.1909                   | Confirmed LTF | 69.1909               |
| <b>MADISON</b> | MADISON      | 3.4171                    | Confirmed LTF | 3.4171                |
| <b>MEC</b>     | MEC          | 8.9508                    | Confirmed LTF | 8.9508                |
| <b>AA2-074</b> | AA2-074      | 9.6223                    | LTF           | 9.6223                |

### 13.5.9 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 |
|-----------|-----------|----------|---------------|---------|-------------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 148708294 | 314686    | 6CLOVER  | DVP           | 934620  | AD1-088 TAP | DVP         | 1      | DVP_P4-2: 511T556 | breaker | 699.0      | 78.39                 | 101.06                 | DC    | 158.5     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 315153 | 1CLOVER1                 | 24.1422            | 50/50 | 24.1422        |
| 315154 | 1CLOVER2                 | 23.9016            | 50/50 | 23.9016        |
| 315266 | 1PLYWOOD A               | 0.9389             | 50/50 | 0.9389         |
| 925611 | AC1-036 C                | -0.3478            | Adder | -0.41          |
| 925991 | AC1-075 C                | 3.1972             | Adder | 3.76           |
| 925992 | AC1-075 E                | 1.8115             | Adder | 2.13           |
| 926021 | AC1-080 C                | 1.0685             | Adder | 1.26           |
| 926022 | AC1-080 E                | 0.6010             | Adder | 0.71           |
| 926271 | AC1-105 C O1 (Suspended) | 3.8688             | 50/50 | 3.8688         |
| 926272 | AC1-105 E O1 (Suspended) | 1.9259             | 50/50 | 1.9259         |
| 926451 | AC1-116 C                | -0.2683            | Adder | -0.32          |
| 927251 | AC1-221 C                | 1.4819             | 50/50 | 1.4819         |
| 927252 | AC1-221 E                | 1.4819             | 50/50 | 1.4819         |
| 927261 | AC1-222 C                | 3.0620             | 50/50 | 3.0620         |
| 927262 | AC1-222 E                | 2.9149             | 50/50 | 2.9149         |
| 932761 | AC2-100 C                | 3.4104             | 50/50 | 3.4104         |
| 932762 | AC2-100 E                | 1.6646             | 50/50 | 1.6646         |
| 934311 | AD1-055 C                | 2.1260             | 50/50 | 2.1260         |
| 934312 | AD1-055 E                | 0.5482             | 50/50 | 0.5482         |
| 934341 | AD1-058 C                | 3.7149             | 50/50 | 3.7149         |
| 934342 | AD1-058 E                | 0.9439             | 50/50 | 0.9439         |
| 934611 | AD1-087 C O1             | 12.3358            | 50/50 | 12.3358        |
| 934612 | AD1-087 E O1             | 5.7976             | 50/50 | 5.7976         |
| 934991 | AD1-131 C                | 1.2180             | 50/50 | 1.2180         |
| 934992 | AD1-131 E                | 0.8120             | 50/50 | 0.8120         |
| 935171 | AD1-152 C O1             | 12.2592            | 50/50 | 12.2592        |
| 935172 | AD1-152 E O1             | 8.1728             | 50/50 | 8.1728         |
| 935221 | AD1-157 C                | -1.1710            | Adder | -1.38          |
| 935222 | AD1-157 E                | -0.7807            | Adder | -0.92          |
| 936161 | AD2-022 C O1             | 2.9386             | Adder | 3.46           |
| 936162 | AD2-022 E O1             | 1.7632             | Adder | 2.07           |
| 936171 | AD2-023 C O1             | 1.7142             | Adder | 2.02           |
| 936172 | AD2-023 E O1             | 0.9306             | Adder | 1.09           |
| 937481 | AD2-202 C O1             | 3.2691             | 50/50 | 3.2691         |
| 937482 | AD2-202 E O1             | 1.8389             | 50/50 | 1.8389         |
| 938561 | AE1-075 C                | -0.6494            | Adder | -0.76          |
| 940241 | AE2-006                  | -0.1769            | Adder | -0.21          |
| 942751 | AE2-291 C O1             | 4.3135             | Adder | 5.07           |
| 942752 | AE2-291 E O1             | 2.8757             | Adder | 3.38           |
| 942761 | AE2-292 C O1             | 5.3707             | Adder | 6.32           |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 942762  | AE2-292 E O1 | 3.5805             | Adder                 | 4.21           |
| 943901  | AF1-058 C    | 1.7239             | 50/50                 | 1.7239         |
| 943902  | AF1-058 E    | 1.1493             | 50/50                 | 1.1493         |
| 945811  | AF1-246 C O1 | 13.3140            | 50/50                 | 13.3140        |
| 945812  | AF1-246 E O1 | 18.3860            | 50/50                 | 18.3860        |
| 946293  | AF1-293 BAT  | 7.5791             | Merchant Transmission | 7.5791         |
| 957481  | AF2-042 C O2 | 95.1000            | 50/50                 | 95.1000        |
| 957482  | AF2-042 E O2 | 63.4000            | 50/50                 | 63.4000        |
| 958503  | AF2-144 BAT  | 0.3346             | Merchant Transmission | 0.3346         |
| 959751  | AF2-266 O2   | 15.8500            | 50/50                 | 15.8500        |
| 960061  | AF2-297 C O2 | 9.3019             | 50/50                 | 9.3019         |
| 960062  | AF2-297 E O2 | 6.2013             | 50/50                 | 6.2013         |
| 960821  | AF2-373 C    | 0.2137             | Adder                 | 0.47           |
| 960822  | AF2-373 E    | 0.3205             | Adder                 | 0.71           |
| 961063  | AF2-397 BAT  | 5.3724             | 50/50                 | 5.3724         |
| WEC     | WEC          | 0.2432             | Confirmed LTF         | 0.2432         |
| LGEE    | LGEE         | 0.4604             | Confirmed LTF         | 0.4604         |
| CPL     | CPL          | 2.6553             | Confirmed LTF         | 2.6553         |
| CBM-W2  | CBM-W2       | 9.8853             | Confirmed LTF         | 9.8853         |
| NY      | NY           | 0.3058             | Confirmed LTF         | 0.3058         |
| CBM-W1  | CBM-W1       | 9.0697             | Confirmed LTF         | 9.0697         |
| TVA     | TVA          | 2.0902             | Confirmed LTF         | 2.0902         |
| O-066   | O-066        | 4.3075             | Confirmed LTF         | 4.3075         |
| CBM-S2  | CBM-S2       | 18.0798            | Confirmed LTF         | 18.0798        |
| CBM-S1  | CBM-S1       | 11.6383            | Confirmed LTF         | 11.6383        |
| G-007   | G-007        | 0.6718             | Confirmed LTF         | 0.6718         |
| MADISON | MADISON      | 0.5927             | Confirmed LTF         | 0.5927         |
| MEC     | MEC          | 1.4825             | Confirmed LTF         | 1.4825         |
| AA2-074 | AA2-074      | 1.8099             | LTF                   | 1.8099         |

### 13.5.10 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825878 | 314918    | 8NO ANNA | DVP           | 314934  | 8SPOTSYL | DVP         | 1      | DVP_P1-2: LN 575 | single | 3218.56    | 116.46                | 116.92                 | DC    | 55.49     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0437             | 80/20 | 0.0437         |
| 314333 | 6POWHATN                             | 0.4510             | 80/20 | 0.4510         |
| 314435 | 6SAPONY                              | 0.4117             | 80/20 | 0.4117         |
| 314491 | 3PENDLTN                             | 0.3262             | 80/20 | 0.3262         |
| 314947 | 8GREENSVILLE                         | 57.2873            | 80/20 | 57.2873        |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 7.8693             | Adder | 9.26           |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 7.8693             | Adder | 9.26           |
| 315102 | 1BRUNSWICKG1                         | 9.4062             | 80/20 | 9.4062         |
| 315103 | 1BRUNSWICKG2                         | 9.4062             | 80/20 | 9.4062         |
| 315104 | 1BRUNSWICKG3                         | 9.4062             | 80/20 | 9.4062         |
| 315105 | 1BRUNSWICKS1                         | 19.5413            | 80/20 | 19.5413        |
| 315108 | 1ELIZAR1                             | 3.1861             | 80/20 | 3.1861         |
| 315109 | 1ELIZAR2                             | 3.1308             | 80/20 | 3.1308         |
| 315110 | 1ELIZAR3                             | 3.2269             | 80/20 | 3.2269         |
| 315153 | 1CLOVER1                             | 13.3814            | 80/20 | 13.3814        |
| 315154 | 1CLOVER2                             | 13.2480            | 80/20 | 13.2480        |
| 315172 | 1LOISA A                             | 2.3794             | 80/20 | 2.3794         |
| 315173 | 1LOISA B                             | 2.3917             | 80/20 | 2.3917         |
| 315174 | 1LOISA C                             | 2.3917             | 80/20 | 2.3917         |
| 315175 | 1LOISA D                             | 2.3917             | 80/20 | 2.3917         |
| 315176 | 1LOISA E                             | 4.8760             | 80/20 | 4.8760         |
| 315177 | 1S ANNAG1                            | 1.7326             | 80/20 | 1.7326         |
| 315178 | 1S ANNAS1                            | 0.8904             | 80/20 | 0.8904         |
| 315179 | 1S ANNAG2                            | 1.7326             | 80/20 | 1.7326         |
| 315180 | 1S ANNAS2                            | 0.8904             | 80/20 | 0.8904         |
| 315225 | 1N ANNA1                             | 98.4361            | 80/20 | 98.4361        |
| 315226 | 1N ANNA2                             | 98.4776            | 80/20 | 98.4776        |
| 315294 | 1DOMTR10                             | 8.5919             | Adder | 10.11          |
| 315611 | 6Z1-036WIND                          | 5.4363             | Adder | 6.4            |
| 923262 | AB1-132 C OP (Suspended)             | 11.1691            | Adder | 13.14          |
| 923572 | AB1-173 C OP                         | 1.8100             | Adder | 2.13           |
| 923582 | AB1-173AC OP                         | 1.8100             | Adder | 2.13           |
| 923801 | AB2-015 C OP                         | 6.8693             | Adder | 8.08           |
| 923831 | AB2-022 C                            | 1.8460             | Adder | 2.17           |
| 923911 | AB2-031 C O1                         | 1.7965             | Adder | 2.11           |
| 923991 | AB2-040 C O1                         | 5.8991             | Adder | 6.94           |
| 924501 | AB2-099 C (Suspended)                | 0.4651             | Adder | 0.55           |
| 925021 | AB2-158 C                            | 3.6228             | 80/20 | 3.6228         |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 925051 | AB2-160 C O1<br>(Suspended)         | 3.9721             | Adder | 4.67           |
| 925061 | AB2-161 C O1<br>(Suspended)         | 2.6441             | Adder | 3.11           |
| 925331 | AB2-190 C                           | 14.2990            | Adder | 16.82          |
| 925611 | AC1-036 C                           | 0.7192             | Adder | 0.85           |
| 926071 | AC1-086 C                           | 16.4478            | Adder | 19.35          |
| 926201 | AC1-098 C                           | 4.8084             | Adder | 5.66           |
| 926211 | AC1-099 C                           | 1.6113             | Adder | 1.9            |
| 926661 | AC1-147 C                           | 1.8050             | Adder | 2.12           |
| 926751 | AC1-161 C O1                        | 28.7656            | 80/20 | 28.7656        |
| 927141 | AC1-208 C                           | 7.0465             | Adder | 8.29           |
| 932041 | AC2-012 C                           | 8.1653             | Adder | 9.61           |
| 932581 | AC2-078 C O1                        | 3.1242             | Adder | 3.68           |
| 932591 | AC2-079 C O1                        | 4.5257             | Adder | 5.32           |
| 932631 | AC2-084 C                           | 6.8545             | Adder | 8.06           |
| 933291 | AC2-141 C                           | 28.7656            | 80/20 | 28.7656        |
| 933501 | AC2-165 C                           | 10.3027            | 80/20 | 10.3027        |
| 933731 | AC2-196 C                           | 1.6924             | 80/20 | 1.6924         |
| 933991 | AD1-023 C                           | 10.4378            | Adder | 12.28          |
| 934011 | AD1-025 C                           | 12.0754            | Adder | 14.21          |
| 934061 | AD1-033 C                           | 7.1060             | 80/20 | 7.1060         |
| 934331 | AD1-057 C O1                        | 7.7449             | Adder | 9.11           |
| 934521 | AD1-076 C                           | 43.2281            | Adder | 50.86          |
| 934571 | AD1-082 C                           | 6.0257             | Adder | 7.09           |
| 934611 | AD1-087 C O1                        | 6.7072             | Adder | 7.89           |
| 934621 | AD1-088 C                           | 9.6867             | Adder | 11.4           |
| 935111 | AD1-144 C                           | 1.3544             | Adder | 1.59           |
| 935161 | AD1-151 C O1                        | 11.4903            | Adder | 13.52          |
| 935171 | AD1-152 C O1                        | 6.6655             | Adder | 7.84           |
| 935221 | AD1-157 C                           | 1.1448             | Adder | 1.35           |
| 936041 | AD2-007 C                           | 0.5768             | Adder | 0.68           |
| 936051 | AD2-008 C                           | 2.1023             | Adder | 2.47           |
| 936261 | AD2-033 C                           | 9.8296             | Adder | 11.56          |
| 936401 | AD2-051 C O1                        | 6.9701             | Adder | 8.2            |
| 936481 | AD2-063 C O1                        | 1.1292             | Adder | 1.33           |
| 936661 | AD2-085 C                           | 2.7146             | Adder | 3.19           |
| 937221 | AD2-160 C O1                        | 5.5314             | 80/20 | 5.5314         |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | 3.4052             | Adder | 4.01           |
| 937481 | AD2-202 C O1                        | 1.7775             | Adder | 2.09           |
| 937541 | AD2-215 C                           | 1.3684             | Adder | 1.61           |
| 938171 | AE1-026 C O1                        | 25.4584            | Adder | 29.95          |
| 938221 | AE1-035 C                           | 1.7824             | Adder | 2.1            |
| 938371 | AE1-056 C                           | 4.9355             | Adder | 5.81           |
| 938491 | AE1-068 C O1                        | 66.2431            | 80/20 | 66.2431        |
| 938501 | AE1-069 C O1                        | 51.8544            | 80/20 | 51.8544        |
| 938531 | AE1-072 C O1                        | 14.0918            | Adder | 16.58          |
| 938551 | AE1-074 C                           | 2.4463             | 80/20 | 2.4463         |
| 938561 | AE1-075 C                           | 2.2923             | 80/20 | 2.2923         |
| 938631 | AE1-085 C O1                        | 6.8671             | Adder | 8.08           |
| 938771 | AE1-103 C O1                        | 2.8962             | Adder | 3.41           |
| 939191 | AE1-149 C O1                        | 8.1988             | Adder | 9.65           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 939231 | AE1-154 C    | 3.4430             | 80/20 | 3.4430         |
| 939311 | AE1-162 C    | 1.6415             | Adder | 1.93           |
| 939411 | AE1-173 C    | 95.4384            | 80/20 | 95.4384        |
| 940061 | AE2-000BC O1 | 12.5246            | Adder | 14.73          |
| 940241 | AE2-006      | 0.3659             | Adder | 0.43           |
| 940251 | AE2-007 O1   | 163.3309           | 80/20 | 163.3309       |
| 940471 | AE2-031 C    | 36.1711            | 80/20 | 36.1711        |
| 940481 | AE2-033 C    | 15.2893            | 80/20 | 15.2893        |
| 940491 | AE2-034 C    | 5.7334             | Adder | 6.75           |
| 940541 | AE2-040 O1   | 2.0514             | Adder | 2.41           |
| 940641 | AE2-051 C O1 | 18.7767            | 80/20 | 18.7767        |
| 940651 | AE2-052      | 2.7329             | Adder | 3.22           |
| 940891 | AE2-078 C    | 1.7393             | Adder | 2.05           |
| 940901 | AE2-079 C    | 1.7393             | Adder | 2.05           |
| 941031 | AE2-094 C    | 43.3545            | 80/20 | 43.3545        |
| 941101 | AE2-104 C O1 | 2.6746             | Adder | 3.15           |
| 941281 | AE2-122 C O1 | 26.8414            | 80/20 | 26.8414        |
| 941291 | AE2-123 C O1 | 27.5846            | 80/20 | 27.5846        |
| 941301 | AE2-124 C O1 | 25.0891            | 80/20 | 25.0891        |
| 941501 | AE2-147 C    | 12.6860            | Adder | 14.92          |
| 941541 | AE2-151 C    | 0.8612             | Adder | 1.01           |
| 941591 | AE2-156 O1   | 16.8650            | 80/20 | 16.8650        |
| 941791 | AE2-182 C    | 1.5738             | Adder | 1.85           |
| 942001 | AE2-212 C    | 1.5790             | Adder | 1.86           |
| 942131 | AE2-225 C    | 1.7096             | Adder | 2.01           |
| 942161 | AE2-228 C    | 1.5184             | Adder | 1.79           |
| 942171 | AE2-229 C    | 1.7096             | Adder | 2.01           |
| 942341 | AE2-247 C    | 1.1765             | Adder | 1.38           |
| 942371 | AE2-250 C O1 | 7.0557             | Adder | 8.3            |
| 942401 | AE2-253 C    | 5.8181             | 80/20 | 5.8181         |
| 942461 | AE2-259 C O1 | 7.6760             | Adder | 9.03           |
| 942471 | AE2-260 C O1 | 11.6092            | Adder | 13.66          |
| 942551 | AE2-270      | 19.2346            | Adder | 22.63          |
| 942851 | AE2-304 C    | 0.5047             | Adder | 0.59           |
| 942931 | AE2-313 C    | 39.1646            | 80/20 | 39.1646        |
| 943171 | AE2-346 C    | 1.1162             | Adder | 1.31           |
| 943461 | AF1-017 C    | 1.0644             | Adder | 1.25           |
| 943611 | AF1-032 C    | 1.3962             | Adder | 1.64           |
| 943621 | AF1-033 C    | 1.7393             | Adder | 2.05           |
| 943911 | AF1-059      | 13.0169            | Adder | 15.31          |
| 944011 | AF1-069 C    | 14.1655            | 80/20 | 14.1655        |
| 944111 | AF1-079 C    | 6.5417             | 80/20 | 6.5417         |
| 944501 | AF1-115 C O1 | 5.2970             | Adder | 6.23           |
| 944581 | AF1-123 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944591 | AF1-124 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944601 | AF1-125 C O1 | 45.6622            | 80/20 | 45.6622        |
| 944871 | AF1-152 C    | 4.2287             | Adder | 4.97           |
| 945711 | AF1-236 C O1 | 62.7673            | Adder | 73.84          |
| 945811 | AF1-246 C O1 | 7.7683             | 80/20 | 7.7683         |
| 946011 | AF1-266      | 12.7984            | 80/20 | 12.7984        |
| 946261 | AF1-291 C    | 1.5175             | Adder | 1.79           |
| 946281 | AF1-292 C    | 1.2119             | Adder | 1.43           |

| Bus #   | Bus                                   | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------------------------------------|--------------------|---------------|----------------|
| 946301  | AF1-294 C                             | 3.1229             | Adder         | 3.67           |
| 946371  | AF1-301 C                             | 26.5970            | 80/20         | 26.5970        |
| 957431  | AF2-037 C                             | 23.7512            | 80/20         | 23.7512        |
| 957481  | AF2-042 C O2                          | 55.4880            | 80/20         | 55.4880        |
| 957491  | AF2-043 C                             | 0.9061             | Adder         | 2.01           |
| 957521  | AF2-046 C                             | 7.0794             | Adder         | 15.71          |
| 957531  | AF2-047 C                             | 7.2206             | Adder         | 16.03          |
| 957631  | AF2-057                               | 1.5185             | Adder         | 3.37           |
| 957691  | AF2-063 C                             | 37.9008            | 80/20         | 37.9008        |
| 957711  | AF2-065 C                             | 5.1991             | Adder         | 11.54          |
| 957791  | AF2-073 C (Withdrawn :<br>07/02/2020) | 4.0675             | Adder         | 9.03           |
| 957801  | AF2-074 C (Withdrawn :<br>07/02/2020) | 1.8078             | Adder         | 4.01           |
| 957821  | AF2-076 C O2                          | 2.2621             | Adder         | 5.02           |
| 957871  | AF2-081 C O2                          | 4.2486             | Adder         | 9.43           |
| 957911  | AF2-085                               | 4.4458             | 80/20         | 4.4458         |
| 958141  | AF2-108                               | 1.2735             | Adder         | 2.83           |
| 958161  | AF2-110 C                             | 0.5844             | Adder         | 1.3            |
| 958211  | AF2-115 C                             | 1.0092             | Adder         | 2.24           |
| 958501  | AF2-144 C                             | 1.9324             | 80/20         | 1.9324         |
| 958801  | AF2-171 C O2                          | 6.0578             | Adder         | 13.45          |
| 959311  | AF2-222 C                             | 6.6935             | Adder         | 14.86          |
| 959511  | AF2-242                               | 3.2637             | Adder         | 7.24           |
| 959531  | AF2-244 C                             | 1.7808             | 80/20         | 1.7808         |
| 959651  | AF2-256 C                             | 0.2012             | Adder         | 0.45           |
| 959661  | AF2-257 C                             | 0.2011             | Adder         | 0.45           |
| 959671  | AF2-258 C                             | 0.2092             | Adder         | 0.46           |
| 959681  | AF2-259 C                             | 1.0915             | Adder         | 2.42           |
| 959731  | AF2-264 C                             | 0.9469             | Adder         | 2.1            |
| 959751  | AF2-266 O2                            | 9.2480             | 80/20         | 9.2480         |
| 960061  | AF2-297 C O2                          | 3.2659             | Adder         | 7.25           |
| 960081  | AF2-299 C                             | 1.0826             | Adder         | 2.4            |
| 960101  | AF2-301 C                             | 1.0341             | Adder         | 2.3            |
| 960131  | AF2-304 C O2                          | 6.0467             | Adder         | 13.42          |
| 960361  | AF2-327 C (Withdrawn :<br>07/22/2020) | 1.1752             | Adder         | 2.61           |
| 960831  | AF2-374 C                             | 0.5324             | Adder         | 1.18           |
| 961081  | AF2-399 C                             | 0.1305             | Adder         | 0.29           |
| 961091  | AF2-400 C                             | 0.1966             | Adder         | 0.44           |
| 961111  | AF2-402 C O2                          | 0.4652             | Adder         | 1.03           |
| WEC     | WEC                                   | 0.6445             | Confirmed LTF | 0.6445         |
| LGEE    | LGEE                                  | 1.2779             | Confirmed LTF | 1.2779         |
| CPLE    | CPLE                                  | 7.7402             | Confirmed LTF | 7.7402         |
| CBM-W2  | CBM-W2                                | 28.8616            | Confirmed LTF | 28.8616        |
| NY      | NY                                    | 2.4835             | Confirmed LTF | 2.4835         |
| CBM-W1  | CBM-W1                                | 23.0684            | Confirmed LTF | 23.0684        |
| TVA     | TVA                                   | 6.3154             | Confirmed LTF | 6.3154         |
| CBM-S2  | CBM-S2                                | 53.4361            | Confirmed LTF | 53.4361        |
| CBM-S1  | CBM-S1                                | 34.8383            | Confirmed LTF | 34.8383        |
| MADISON | MADISON                               | 1.9212             | Confirmed LTF | 1.9212         |
| MEC     | MEC                                   | 4.1203             | Confirmed LTF | 4.1203         |
| AA2-074 | AA2-074                               | 5.2740             | LTF           | 5.2740         |



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| 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 LOADIN G % | POST PROJECT LOADIN G % | AC/D C | MW IMPACT |
|----------|-----------|----------|---------------|---------|-----------|-------------|---------|--------------------------------|---------|------------|------------------------|-------------------------|--------|-----------|
| 95620979 | 242631    | 05EDAN 1 | AEP           | 242620  | 05DANVL 2 | AEP         | 1       | AEP_P4_#11112_05J.FER R 765_A1 | breaker | 402.0      | 106.16                 | 109.21                  | DC     | 27.21     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 244012 | 05PINNACLE               | -1.8090            | Adder | -2.13          |
| 917332 | Z2-043 E                 | 0.3416             | Adder | 0.4            |
| 917342 | Z2-044 E                 | 0.2131             | Adder | 0.25           |
| 917512 | Z2-088 E OP1             | 1.3831             | Adder | 1.63           |
| 918492 | AA1-063AE OP             | 1.1318             | Adder | 1.33           |
| 918532 | AA1-067 E                | 0.2426             | Adder | 0.29           |
| 919692 | AA2-053 E OP             | 1.0995             | Adder | 1.29           |
| 919702 | AA2-057 E OP             | 1.2081             | Adder | 1.42           |
| 920592 | AA2-165 E                | 0.1660             | Adder | 0.2            |
| 920672 | AA2-174 E OP             | 0.1271             | Adder | 0.15           |
| 922922 | AB1-081 C OP             | 3.4267             | Adder | 4.03           |
| 922923 | AB1-081 E OP             | 1.4686             | Adder | 1.73           |
| 923262 | AB1-132 C OP (Suspended) | 4.0634             | Adder | 4.78           |
| 923263 | AB1-132 E OP (Suspended) | 1.7414             | Adder | 2.05           |
| 923572 | AB1-173 C OP             | 0.6354             | Adder | 0.75           |
| 923573 | AB1-173 E OP             | 0.2965             | Adder | 0.35           |
| 923582 | AB1-173AC OP             | 0.6354             | Adder | 0.75           |
| 923583 | AB1-173AE OP             | 0.2965             | Adder | 0.35           |
| 923911 | AB2-031 C O1             | 0.6307             | Adder | 0.74           |
| 923912 | AB2-031 E O1             | 0.3106             | Adder | 0.37           |
| 923991 | AB2-040 C O1             | 2.0708             | Adder | 2.44           |
| 923992 | AB2-040 E O1             | 1.6943             | Adder | 1.99           |
| 924022 | AB2-043 E O1             | 0.8878             | Adder | 1.04           |
| 924152 | AB2-059 E OP             | 2.0805             | Adder | 2.45           |
| 924162 | AB2-060 E OP             | 1.3365             | Adder | 1.57           |
| 924301 | AB2-077 C O1 (Suspended) | 0.6357             | Adder | 0.75           |
| 924302 | AB2-077 E O1 (Suspended) | 0.4238             | Adder | 0.5            |
| 924311 | AB2-078 C O1 (Suspended) | 0.6357             | Adder | 0.75           |
| 924312 | AB2-078 E O1 (Suspended) | 0.4238             | Adder | 0.5            |
| 924321 | AB2-079 C O1 (Suspended) | 0.6357             | Adder | 0.75           |
| 924322 | AB2-079 E O1 (Suspended) | 0.4238             | Adder | 0.5            |
| 924501 | AB2-099 C (Suspended)    | 0.1611             | Adder | 0.19           |
| 924502 | AB2-099 E (Suspended)    | 0.0690             | Adder | 0.08           |
| 925122 | AB2-169 E                | 1.6847             | Adder | 1.98           |
| 925172 | AB2-174 E O1             | 1.7694             | Adder | 2.08           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 925591 | AC1-034 C                   | 2.6159             | Adder | 3.08           |
| 925592 | AC1-034 E                   | 1.9734             | Adder | 2.32           |
| 925611 | AC1-036 C                   | 0.2686             | Adder | 0.32           |
| 925612 | AC1-036 E                   | 0.4382             | Adder | 0.52           |
| 925781 | AC1-054 C O1                | 2.4980             | Adder | 2.94           |
| 925782 | AC1-054 E O1                | 1.1507             | Adder | 1.35           |
| 926051 | AC1-083 C O1                | 3.9626             | 50/50 | 3.9626         |
| 926052 | AC1-083 E O1                | 6.4654             | 50/50 | 6.4654         |
| 926071 | AC1-086 C                   | 5.9838             | Adder | 7.04           |
| 926072 | AC1-086 E                   | 2.7234             | Adder | 3.2            |
| 926201 | AC1-098 C                   | 1.9882             | Adder | 2.34           |
| 926202 | AC1-098 E                   | 1.1845             | Adder | 1.39           |
| 926211 | AC1-099 C                   | 0.6663             | Adder | 0.78           |
| 926212 | AC1-099 E                   | 0.3913             | Adder | 0.46           |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.9582             | Adder | 2.3            |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.9748             | Adder | 1.15           |
| 927021 | AC1-189 C                   | 3.0130             | Adder | 3.54           |
| 927022 | AC1-189 E                   | 1.5009             | Adder | 1.77           |
| 927141 | AC1-208 C                   | 2.9907             | Adder | 3.52           |
| 927142 | AC1-208 E                   | 1.3280             | Adder | 1.56           |
| 927251 | AC1-221 C                   | 1.5648             | 50/50 | 1.5648         |
| 927252 | AC1-221 E                   | 1.5648             | 50/50 | 1.5648         |
| 927261 | AC1-222 C                   | 1.2518             | Adder | 1.47           |
| 927262 | AC1-222 E                   | 1.1917             | Adder | 1.4            |
| 932631 | AC2-084 C                   | 2.8343             | Adder | 3.33           |
| 932632 | AC2-084 E                   | 1.3960             | Adder | 1.64           |
| 932761 | AC2-100 C                   | 3.6012             | 50/50 | 3.6012         |
| 932762 | AC2-100 E                   | 1.7578             | 50/50 | 1.7578         |
| 933941 | AD1-017 C                   | 0.7925             | 50/50 | 0.7925         |
| 933942 | AD1-017 E                   | 1.2931             | 50/50 | 1.2931         |
| 934311 | AD1-055 C                   | 0.8691             | Adder | 1.02           |
| 934312 | AD1-055 E                   | 0.2241             | Adder | 0.26           |
| 934331 | AD1-057 C O1                | 3.4134             | Adder | 4.02           |
| 934332 | AD1-057 E O1                | 1.8209             | Adder | 2.14           |
| 934341 | AD1-058 C                   | 3.9228             | 50/50 | 3.9228         |
| 934342 | AD1-058 E                   | 0.9968             | 50/50 | 0.9968         |
| 934611 | AD1-087 C O1                | 2.7885             | Adder | 3.28           |
| 934612 | AD1-087 E O1                | 1.3105             | Adder | 1.54           |
| 934991 | AD1-131 C                   | 1.2862             | 50/50 | 1.2862         |
| 934992 | AD1-131 E                   | 0.8574             | 50/50 | 0.8574         |
| 935171 | AD1-152 C O1                | 2.7711             | Adder | 3.26           |
| 935172 | AD1-152 E O1                | 1.8474             | Adder | 2.17           |
| 936161 | AD2-022 C O1                | 10.5804            | 50/50 | 10.5804        |
| 936162 | AD2-022 E O1                | 6.3482             | 50/50 | 6.3482         |
| 936171 | AD2-023 C O1                | 6.1719             | 50/50 | 6.1719         |
| 936172 | AD2-023 E O1                | 3.3505             | 50/50 | 3.3505         |
| 936261 | AD2-033 C                   | 3.7513             | Adder | 4.41           |
| 936262 | AD2-033 E                   | 2.5008             | Adder | 2.94           |
| 936361 | AD2-046 C O1                | 3.1497             | Adder | 3.71           |
| 936362 | AD2-046 E O1                | 1.4484             | Adder | 1.7            |
| 936481 | AD2-063 C O1                | 4.5403             | Adder | 5.34           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 936482 | AD2-063 E O1                       | 3.0016             | Adder         | 3.53           |
| 937481 | AD2-202 C O1                       | 0.7390             | Adder         | 0.87           |
| 937482 | AD2-202 E O1                       | 0.4157             | Adder         | 0.49           |
| 939181 | AE1-148 C O1                       | 3.0900             | Adder         | 3.64           |
| 939182 | AE1-148 E O1                       | 2.0600             | Adder         | 2.42           |
| 939441 | AE1-176                            | -0.1149            | Adder         | -0.14          |
| 940081 | AE1-250 C                          | 14.0508            | 50/50         | 14.0508        |
| 940082 | AE1-250 E                          | 9.3672             | 50/50         | 9.3672         |
| 940241 | AE2-006                            | 0.1366             | Adder         | 0.16           |
| 940571 | AE2-044 C                          | 1.7134             | Adder         | 2.02           |
| 940572 | AE2-044 E                          | 0.7343             | Adder         | 0.86           |
| 940661 | AE2-053 O1                         | 1.1444             | Adder         | 1.35           |
| 941541 | AE2-151 C                          | 0.3022             | Adder         | 0.36           |
| 941542 | AE2-151 E                          | 0.1627             | Adder         | 0.19           |
| 942451 | AE2-258                            | 0.7407             | Adder         | 0.87           |
| 943171 | AE2-346 C                          | 0.3866             | Adder         | 0.45           |
| 943172 | AE2-346 E                          | 0.1657             | Adder         | 0.19           |
| 943901 | AF1-058 C                          | 0.7057             | Adder         | 0.83           |
| 943902 | AF1-058 E                          | 0.4705             | Adder         | 0.55           |
| 943911 | AF1-059                            | 4.9266             | Adder         | 5.8            |
| 944141 | AF1-082                            | 1.1014             | Adder         | 1.3            |
| 945811 | AF1-246 C O1                       | 1.9428             | Adder         | 2.29           |
| 945812 | AF1-246 E O1                       | 2.6829             | Adder         | 3.16           |
| 957481 | AF2-042 C O2                       | 7.3549             | Adder         | 16.33          |
| 957482 | AF2-042 E O2                       | 4.9032             | Adder         | 10.88          |
| 957861 | AF2-080 C                          | 1.4504             | Adder         | 3.22           |
| 957862 | AF2-080 E                          | 0.6429             | Adder         | 1.43           |
| 959231 | AF2-214 C                          | 1.9621             | Adder         | 4.36           |
| 959232 | AF2-214 E                          | 2.9415             | Adder         | 6.53           |
| 959311 | AF2-222 C                          | 2.4620             | Adder         | 5.47           |
| 959312 | AF2-222 E                          | 1.6495             | Adder         | 3.66           |
| 959511 | AF2-242                            | 1.2786             | Adder         | 2.84           |
| 959751 | AF2-266 O2                         | 1.2258             | Adder         | 2.72           |
| 960061 | AF2-297 C O2                       | 1.6795             | Adder         | 3.73           |
| 960062 | AF2-297 E O2                       | 1.1197             | Adder         | 2.49           |
| 960121 | AF2-303 C O2                       | 3.7421             | Adder         | 8.31           |
| 960122 | AF2-303 E O2                       | 2.4405             | Adder         | 5.42           |
| 960331 | AF2-324 C O2                       | 1.5809             | Adder         | 3.51           |
| 960332 | AF2-324 E O2                       | 0.8488             | Adder         | 1.88           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5185             | Adder         | 1.15           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1296             | Adder         | 0.29           |
| 960811 | AF2-372 C                          | 0.2128             | Adder         | 0.47           |
| 960812 | AF2-372 E                          | 0.3473             | Adder         | 0.77           |
| 960821 | AF2-373 C                          | 0.1698             | Adder         | 0.38           |
| 960822 | AF2-373 E                          | 0.2547             | Adder         | 0.57           |
| 960831 | AF2-374 C                          | 0.1904             | Adder         | 0.42           |
| 960832 | AF2-374 E                          | 0.3107             | Adder         | 0.69           |
| NEWTON | NEWTON                             | 0.3567             | Confirmed LTF | 0.3567         |
| CPL    | CPL                                | 5.5176             | Confirmed LTF | 5.5176         |
| G-007A | G-007A                             | 0.6186             | Confirmed LTF | 0.6186         |
| VFT    | VFT                                | 1.6254             | Confirmed LTF | 1.6254         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>CBM-W2</b>  | CBM-W2     | 5.2744                    | Confirmed LTF | 5.2744                |
| <b>TVA</b>     | TVA        | 1.9418                    | Confirmed LTF | 1.9418                |
| <b>EDWARDS</b> | EDWARDS    | 0.1740                    | Confirmed LTF | 0.1740                |
| <b>CBM-S2</b>  | CBM-S2     | 37.0845                   | Confirmed LTF | 37.0845               |
| <b>CBM-S1</b>  | CBM-S1     | 8.5967                    | Confirmed LTF | 8.5967                |
| <b>TILTON</b>  | TILTON     | 0.3856                    | Confirmed LTF | 0.3856                |
| <b>MADISON</b> | MADISON    | 1.8829                    | Confirmed LTF | 1.8829                |
| <b>GIBSON</b>  | GIBSON     | 0.2905                    | Confirmed LTF | 0.2905                |
| <b>BLUEG</b>   | BLUEG      | 1.2187                    | Confirmed LTF | 1.2187                |
| <b>TRIMBLE</b> | TRIMBLE    | 0.4096                    | Confirmed LTF | 0.4096                |
| <b>AA2-074</b> | AA2-074    | 3.7471                    | LTF           | 3.7471                |

### 13.5.12 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 |
|-----------|-----------|-------------|---------------|---------|----------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 148955925 | 313707    | 6FORK UNION | DVP           | 314765  | 6MTEAGLE | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 109.15                | 112.67                 | DC    | 23.3      |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1363             | 80/20 | 0.1363         |
| 314429 | 3JTRSVLE                    | 0.5452             | 80/20 | 0.5452         |
| 314572 | 3EMPORIA                    | 0.0219             | 80/20 | 0.0219         |
| 314677 | 6BUCKING                    | 1.0694             | 80/20 | 1.0694         |
| 314704 | 3LAWRENC                    | 0.1423             | 80/20 | 0.1423         |
| 315153 | 1CLOVER1                    | 7.3430             | 80/20 | 7.3430         |
| 315154 | 1CLOVER2                    | 7.2698             | 80/20 | 7.2698         |
| 315158 | 1KERR 1                     | 0.2422             | 80/20 | 0.2422         |
| 315159 | 1KERR 2                     | 0.6782             | 80/20 | 0.6782         |
| 315160 | 1KERR 3                     | 0.6782             | 80/20 | 0.6782         |
| 315161 | 1KERR 4                     | 0.6782             | 80/20 | 0.6782         |
| 315162 | 1KERR 5                     | 0.6782             | 80/20 | 0.6782         |
| 315163 | 1KERR 6                     | 0.6782             | 80/20 | 0.6782         |
| 315164 | 1KERR 7                     | 0.6782             | 80/20 | 0.6782         |
| 315191 | 1BEARGRDN G1                | 15.0842            | 80/20 | 15.0842        |
| 315192 | 1BEARGRDN G2                | 15.0842            | 80/20 | 15.0842        |
| 315193 | 1BEARGRDN S1                | 31.0443            | 80/20 | 31.0443        |
| 315266 | 1PLYWOOD A                  | 0.6953             | 80/20 | 0.6953         |
| 920291 | AA2-127                     | 3.1336             | 80/20 | 3.1336         |
| 924021 | AB2-043 C O1                | 0.4312             | 80/20 | 0.4312         |
| 924161 | AB2-060 C OP                | 1.2758             | 80/20 | 1.2758         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 925171 | AB2-174 C O1                | 0.3622             | 80/20 | 0.3622         |
| 925611 | AC1-036 C                   | 1.1045             | 80/20 | 1.1045         |
| 925781 | AC1-054 C O1                | 3.6512             | 80/20 | 3.6512         |
| 925831 | AC1-062                     | 0.0809             | 80/20 | 0.0809         |
| 925991 | AC1-075 C                   | 2.5684             | 80/20 | 2.5684         |
| 926021 | AC1-080 C                   | 0.8584             | 80/20 | 0.8584         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.1786             | 80/20 | 3.1786         |
| 926451 | AC1-116 C                   | -0.9024            | Adder | -1.06          |
| 927251 | AC1-221 C                   | 0.7555             | 80/20 | 0.7555         |
| 927261 | AC1-222 C                   | 1.8244             | 80/20 | 1.8244         |
| 932511 | AC2-071 C                   | 6.1076             | 80/20 | 6.1076         |
| 932761 | AC2-100 C                   | 1.7388             | 80/20 | 1.7388         |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 933501 | AC2-165 C    | 32.1571            | 80/20         | 32.1571        |
| 934311 | AD1-055 C    | 1.2668             | 80/20         | 1.2668         |
| 934341 | AD1-058 C    | 1.8940             | 80/20         | 1.8940         |
| 934611 | AD1-087 C O1 | 4.2050             | 80/20         | 4.2050         |
| 934621 | AD1-088 C    | 19.9913            | 80/20         | 19.9913        |
| 934991 | AD1-131 C    | 0.6210             | 80/20         | 0.6210         |
| 935171 | AD1-152 C O1 | 4.1789             | 80/20         | 4.1789         |
| 935221 | AD1-157 C    | 2.3854             | 80/20         | 2.3854         |
| 936261 | AD2-033 C    | 14.2459            | 80/20         | 14.2459        |
| 936361 | AD2-046 C O1 | 5.4614             | 80/20         | 5.4614         |
| 936481 | AD2-063 C O1 | 14.0364            | 80/20         | 14.0364        |
| 937481 | AD2-202 C O1 | 1.1144             | 80/20         | 1.1144         |
| 938371 | AE1-056 C    | 10.2839            | 80/20         | 10.2839        |
| 938821 | AE1-108 C    | 35.7983            | 80/20         | 35.7983        |
| 939181 | AE1-148 C O1 | 5.4713             | 80/20         | 5.4713         |
| 940241 | AE2-006      | 0.5619             | 80/20         | 0.5619         |
| 940661 | AE2-053 O1   | 2.0264             | 80/20         | 2.0264         |
| 941011 | AE2-092 C    | 29.1911            | 80/20         | 29.1911        |
| 941791 | AE2-182 C    | 3.2479             | 80/20         | 3.2479         |
| 942451 | AE2-258      | 1.8649             | 80/20         | 1.8649         |
| 942461 | AE2-259 C O1 | 18.9528            | 80/20         | 18.9528        |
| 942751 | AE2-291 C O1 | 3.7718             | 80/20         | 3.7718         |
| 942761 | AE2-292 C O1 | 4.6962             | 80/20         | 4.6962         |
| 943901 | AF1-058 C    | 0.9984             | 80/20         | 0.9984         |
| 943911 | AF1-059      | 9.5960             | 80/20         | 9.5960         |
| 945811 | AF1-246 C O1 | 3.2617             | 80/20         | 3.2617         |
| 946281 | AF1-292 C    | 0.4551             | 80/20         | 0.4551         |
| 946291 | AF1-293 C O1 | 47.0478            | 80/20         | 47.0478        |
| 946301 | AF1-294 C    | 6.0747             | 80/20         | 6.0747         |
| 946591 | AF1-323 C    | 11.4715            | 80/20         | 11.4715        |
| 957481 | AF2-042 C O2 | 23.2980            | 80/20         | 23.2980        |
| 958131 | AF2-107 C    | 6.0592             | 80/20         | 6.0592         |
| 958211 | AF2-115 C    | 3.7041             | 80/20         | 3.7041         |
| 958801 | AF2-171 C O2 | 22.5495            | 80/20         | 22.5495        |
| 959311 | AF2-222 C    | 20.1270            | 80/20         | 20.1270        |
| 959751 | AF2-266 O2   | 3.8830             | 80/20         | 3.8830         |
| 960061 | AF2-297 C O2 | 3.7296             | 80/20         | 3.7296         |
| 960081 | AF2-299 C    | 0.7671             | 80/20         | 0.7671         |
| 960111 | AF2-302 C    | 4.1714             | 80/20         | 4.1714         |
| 960811 | AF2-372 C    | 0.9790             | 80/20         | 0.9790         |
| 960821 | AF2-373 C    | 0.5906             | 80/20         | 0.5906         |
| 961061 | AF2-397 C O2 | 38.1787            | 80/20         | 38.1787        |
| 961081 | AF2-399 C    | 0.4779             | 80/20         | 0.4779         |
| WEC    | WEC          | 0.1254             | Confirmed LTF | 0.1254         |
| LGEE   | LGEE         | 0.2482             | Confirmed LTF | 0.2482         |
| CPL    | CPL          | 2.1704             | Confirmed LTF | 2.1704         |
| CBM-W2 | CBM-W2       | 6.5766             | Confirmed LTF | 6.5766         |
| NY     | NY           | 0.4302             | Confirmed LTF | 0.4302         |
| CBM-W1 | CBM-W1       | 4.4035             | Confirmed LTF | 4.4035         |
| TVA    | TVA          | 1.4980             | Confirmed LTF | 1.4980         |
| CBM-S2 | CBM-S2       | 14.4558            | Confirmed LTF | 14.4558        |
| CBM-S1 | CBM-S1       | 8.1110             | Confirmed LTF | 8.1110         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MADISON | MADISON | 0.5443             | Confirmed LTF | 0.5443         |
| MEC     | MEC     | 0.8692             | Confirmed LTF | 0.8692         |
| AA2-074 | AA2-074 | 1.4778             | LTF           | 1.4778         |

### 13.5.13 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 |
|----------|-----------|------------|---------------|---------|-------------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97887021 | 313867    | 6BREMODIST | DVP           | 313707  | 6FORK UNION | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 110.18                | 114.04                 | DC    | 25.52     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1491             | 80/20 | 0.1491         |
| 314429 | 3JTRSVLE                    | 0.5962             | 80/20 | 0.5962         |
| 314572 | 3EMPORIA                    | 0.0240             | 80/20 | 0.0240         |
| 314677 | 6BUCKING                    | 1.1738             | 80/20 | 1.1738         |
| 314704 | 3LAWRENC                    | 0.1552             | 80/20 | 0.1552         |
| 315153 | 1CLOVER1                    | 8.0124             | 80/20 | 8.0124         |
| 315154 | 1CLOVER2                    | 7.9325             | 80/20 | 7.9325         |
| 315158 | 1KERR 1                     | 0.2616             | 80/20 | 0.2616         |
| 315159 | 1KERR 2                     | 0.7325             | 80/20 | 0.7325         |
| 315160 | 1KERR 3                     | 0.7325             | 80/20 | 0.7325         |
| 315161 | 1KERR 4                     | 0.7325             | 80/20 | 0.7325         |
| 315162 | 1KERR 5                     | 0.7325             | 80/20 | 0.7325         |
| 315163 | 1KERR 6                     | 0.7325             | 80/20 | 0.7325         |
| 315164 | 1KERR 7                     | 0.7325             | 80/20 | 0.7325         |
| 315191 | 1BEARGRDN G1                | 16.5646            | 80/20 | 16.5646        |
| 315192 | 1BEARGRDN G2                | 16.5646            | 80/20 | 16.5646        |
| 315193 | 1BEARGRDN S1                | 34.0910            | 80/20 | 34.0910        |
| 315266 | 1PLYWOOD A                  | 0.7353             | 80/20 | 0.7353         |
| 920291 | AA2-127                     | 3.4412             | 80/20 | 3.4412         |
| 923572 | AB1-173 C OP                | 0.7332             | 80/20 | 0.7332         |
| 923582 | AB1-173AC OP                | 0.7332             | 80/20 | 0.7332         |
| 923911 | AB2-031 C O1                | 0.7278             | 80/20 | 0.7278         |
| 923991 | AB2-040 C O1                | 2.3896             | 80/20 | 2.3896         |
| 924021 | AB2-043 C O1                | 0.4676             | 80/20 | 0.4676         |
| 924161 | AB2-060 C OP                | 1.3842             | 80/20 | 1.3842         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 925171 | AB2-174 C O1                | 0.3972             | 80/20 | 0.3972         |
| 925611 | AC1-036 C                   | 1.2045             | 80/20 | 1.2045         |
| 925781 | AC1-054 C O1                | 3.9503             | 80/20 | 3.9503         |
| 925831 | AC1-062                     | 0.0885             | 80/20 | 0.0885         |
| 925991 | AC1-075 C                   | 2.3895             | 80/20 | 2.3895         |
| 926021 | AC1-080 C                   | 0.7986             | 80/20 | 0.7986         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.3692             | 80/20 | 3.3692         |
| 926451 | AC1-116 C                   | -0.7531            | Adder | -0.89          |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 927251 | AC1-221 C    | 0.7912             | 80/20         | 0.7912         |
| 927261 | AC1-222 C    | 1.8753             | 80/20         | 1.8753         |
| 932511 | AC2-071 C    | 6.7040             | 80/20         | 6.7040         |
| 932761 | AC2-100 C    | 1.8208             | 80/20         | 1.8208         |
| 933501 | AC2-165 C    | 35.3138            | 80/20         | 35.3138        |
| 934311 | AD1-055 C    | 1.3021             | 80/20         | 1.3021         |
| 934341 | AD1-058 C    | 1.9834             | 80/20         | 1.9834         |
| 934611 | AD1-087 C O1 | 4.5455             | 80/20         | 4.5455         |
| 934621 | AD1-088 C    | 21.9177            | 80/20         | 21.9177        |
| 934991 | AD1-131 C    | 0.6503             | 80/20         | 0.6503         |
| 935171 | AD1-152 C O1 | 4.5173             | 80/20         | 4.5173         |
| 935221 | AD1-157 C    | 2.6102             | 80/20         | 2.6102         |
| 936261 | AD2-033 C    | 15.5243            | 80/20         | 15.5243        |
| 936361 | AD2-046 C O1 | 5.9036             | 80/20         | 5.9036         |
| 936481 | AD2-063 C O1 | 15.2622            | 80/20         | 15.2622        |
| 937481 | AD2-202 C O1 | 1.2046             | 80/20         | 1.2046         |
| 938371 | AE1-056 C    | 11.2528            | 80/20         | 11.2528        |
| 938821 | AE1-108 C    | 11.6026            | 80/20         | 11.6026        |
| 939181 | AE1-148 C O1 | 5.9157             | 80/20         | 5.9157         |
| 940241 | AE2-006      | 0.6128             | 80/20         | 0.6128         |
| 940661 | AE2-053 O1   | 2.1910             | 80/20         | 2.1910         |
| 941791 | AE2-182 C    | 3.5609             | 80/20         | 3.5609         |
| 942451 | AE2-258      | 2.0222             | 80/20         | 2.0222         |
| 942461 | AE2-259 C O1 | 20.7678            | 80/20         | 20.7678        |
| 942751 | AE2-291 C O1 | 3.3042             | 80/20         | 3.3042         |
| 942761 | AE2-292 C O1 | 4.1140             | 80/20         | 4.1140         |
| 943901 | AF1-058 C    | 1.0482             | 80/20         | 1.0482         |
| 943911 | AF1-059      | 10.4370            | 80/20         | 10.4370        |
| 945811 | AF1-246 C O1 | 3.5725             | 80/20         | 3.5725         |
| 946281 | AF1-292 C    | 0.4998             | 80/20         | 0.4998         |
| 946291 | AF1-293 C O1 | 6.7728             | 80/20         | 6.7728         |
| 946301 | AF1-294 C    | 6.6427             | 80/20         | 6.6427         |
| 946591 | AF1-323 C    | 3.7326             | 80/20         | 3.7326         |
| 957481 | AF2-042 C O2 | 25.5180            | 80/20         | 25.5180        |
| 958131 | AF2-107 C    | 2.0323             | 80/20         | 2.0323         |
| 958211 | AF2-115 C    | 4.0505             | 80/20         | 4.0505         |
| 958801 | AF2-171 C O2 | 24.6609            | 80/20         | 24.6609        |
| 959311 | AF2-222 C    | 21.9610            | 80/20         | 21.9610        |
| 959751 | AF2-266 O2   | 4.2530             | 80/20         | 4.2530         |
| 960061 | AF2-297 C O2 | 3.9840             | 80/20         | 3.9840         |
| 960081 | AF2-299 C    | 0.8424             | 80/20         | 0.8424         |
| 960111 | AF2-302 C    | 1.3573             | 80/20         | 1.3573         |
| 960811 | AF2-372 C    | 1.0609             | 80/20         | 1.0609         |
| 960821 | AF2-373 C    | 0.6309             | 80/20         | 0.6309         |
| 961061 | AF2-397 C O2 | 12.2920            | 80/20         | 12.2920        |
| 961081 | AF2-399 C    | 0.5225             | 80/20         | 0.5225         |
| WEC    | WEC          | 0.0636             | Confirmed LTF | 0.0636         |
| LGEE   | LGEE         | 0.1278             | Confirmed LTF | 0.1278         |
| CPL    | CPL          | 2.2326             | Confirmed LTF | 2.2326         |
| CBM-W2 | CBM-W2       | 5.0614             | Confirmed LTF | 5.0614         |
| NY     | NY           | 0.4015             | Confirmed LTF | 0.4015         |
| CBM-W1 | CBM-W1       | 2.0391             | Confirmed LTF | 2.0391         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>TVA</b>     | TVA        | 1.2404                    | Confirmed LTF | 1.2404                |
| <b>CBM-S2</b>  | CBM-S2     | 14.2882                   | Confirmed LTF | 14.2882               |
| <b>CBM-S1</b>  | CBM-S1     | 6.5008                    | Confirmed LTF | 6.5008                |
| <b>MADISON</b> | MADISON    | 0.5786                    | Confirmed LTF | 0.5786                |
| <b>MEC</b>     | MEC        | 0.5641                    | Confirmed LTF | 0.5641                |
| <b>AA2-074</b> | AA2-074    | 1.5188                    | LTF           | 1.5188                |

### 13.5.14 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706470 | 314282    | 6CARSON  | DVP           | 314285  | 6CHRL249 | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 684.0      | 165.37                | 168.27                 | DC    | 43.35     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                  | 0.4961             | 50/50 | 0.4961         |
| 314572 | 3EMPORIA                 | 0.0563             | 50/50 | 0.0563         |
| 314704 | 3LAWRENC                 | 0.2225             | 50/50 | 0.2225         |
| 314947 | 8GREENSVILLE             | 28.5101            | 50/50 | 28.5101        |
| 315073 | 1STONECA                 | -2.3873            | Adder | -2.81          |
| 315136 | 1ROSEMG1                 | 1.4393             | 50/50 | 1.4393         |
| 315137 | 1ROSEMS1                 | 0.8925             | 50/50 | 0.8925         |
| 315138 | 1ROSEMG2                 | 0.6746             | 50/50 | 0.6746         |
| 315139 | 1GASTONA                 | 2.1424             | 50/50 | 2.1424         |
| 315141 | 1GASTONB                 | 2.1424             | 50/50 | 2.1424         |
| 315294 | 1DOMTR10                 | 3.2046             | Adder | 3.77           |
| 900672 | V4-068 E                 | 0.1060             | Adder | 0.12           |
| 917332 | Z2-043 E                 | 0.4484             | Adder | 0.53           |
| 917342 | Z2-044 E                 | 0.2477             | Adder | 0.29           |
| 917512 | Z2-088 E OP1             | 1.5190             | Adder | 1.79           |
| 918492 | AA1-063AE OP             | 1.7603             | Adder | 2.07           |
| 918512 | AA1-065 E OP             | 1.3711             | Adder | 1.61           |
| 918532 | AA1-067 E                | 0.2627             | Adder | 0.31           |
| 919692 | AA2-053 E OP             | 1.7687             | Adder | 2.08           |
| 919702 | AA2-057 E OP             | 1.4762             | Adder | 1.74           |
| 920042 | AA2-088 E OP             | 3.5841             | Adder | 4.22           |
| 920592 | AA2-165 E                | 0.2029             | Adder | 0.24           |
| 920672 | AA2-174 E OP             | 0.2044             | Adder | 0.24           |
| 922922 | AB1-081 C OP             | 3.7942             | Adder | 4.46           |
| 922923 | AB1-081 E OP             | 1.6261             | Adder | 1.91           |
| 923262 | AB1-132 C OP (Suspended) | 9.4844             | 50/50 | 9.4844         |
| 923263 | AB1-132 E OP (Suspended) | 4.0648             | 50/50 | 4.0648         |
| 923572 | AB1-173 C OP             | 1.5987             | 50/50 | 1.5987         |
| 923573 | AB1-173 E OP             | 0.7460             | 50/50 | 0.7460         |
| 923582 | AB1-173AC OP             | 1.5987             | 50/50 | 1.5987         |
| 923583 | AB1-173AE OP             | 0.7460             | 50/50 | 0.7460         |
| 923852 | AB2-025 E                | 1.2920             | 50/50 | 1.2920         |
| 923911 | AB2-031 C O1             | 1.5868             | 50/50 | 1.5868         |
| 923912 | AB2-031 E O1             | 0.7816             | 50/50 | 0.7816         |
| 923991 | AB2-040 C O1             | 5.2105             | 50/50 | 5.2105         |
| 923992 | AB2-040 E O1             | 4.2631             | 50/50 | 4.2631         |
| 924022 | AB2-043 E O1             | 1.0637             | Adder | 1.25           |
| 924152 | AB2-059 E OP             | 2.3036             | Adder | 2.71           |
| 924162 | AB2-060 E OP             | 1.5967             | Adder | 1.88           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924301 | AB2-077 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924302 | AB2-077 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924501 | AB2-099 C (Suspended)       | 0.2125             | Adder | 0.25           |
| 924502 | AB2-099 E (Suspended)       | 0.0911             | Adder | 0.11           |
| 924511 | AB2-100 C                   | 1.8239             | 50/50 | 1.8239         |
| 924512 | AB2-100 E                   | 5.2081             | 50/50 | 5.2081         |
| 925122 | AB2-169 E                   | 1.8308             | Adder | 2.15           |
| 925171 | AB2-174 C O1                | 0.8914             | 50/50 | 0.8914         |
| 925172 | AB2-174 E O1                | 4.6755             | 50/50 | 4.6755         |
| 925591 | AC1-034 C                   | 2.8965             | Adder | 3.41           |
| 925592 | AC1-034 E                   | 2.1851             | Adder | 2.57           |
| 925611 | AC1-036 C                   | 0.3066             | Adder | 0.36           |
| 925612 | AC1-036 E                   | 0.5003             | Adder | 0.59           |
| 925781 | AC1-054 C O1                | 3.1051             | Adder | 3.65           |
| 925782 | AC1-054 E O1                | 1.4304             | Adder | 1.68           |
| 926071 | AC1-086 C                   | 13.9670            | 50/50 | 13.9670        |
| 926072 | AC1-086 E                   | 6.3568             | 50/50 | 6.3568         |
| 926201 | AC1-098 C                   | 2.6095             | Adder | 3.07           |
| 926202 | AC1-098 E                   | 1.5546             | Adder | 1.83           |
| 926211 | AC1-099 C                   | 0.8745             | Adder | 1.03           |
| 926212 | AC1-099 E                   | 0.5136             | Adder | 0.6            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.9829             | Adder | 2.33           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.9871             | Adder | 1.16           |
| 927021 | AC1-189 C                   | 3.2944             | Adder | 3.88           |
| 927022 | AC1-189 E                   | 1.6410             | Adder | 1.93           |
| 927141 | AC1-208 C                   | 4.0314             | Adder | 4.74           |
| 927142 | AC1-208 E                   | 1.7901             | Adder | 2.11           |
| 927251 | AC1-221 C                   | 0.7780             | Adder | 0.92           |
| 927252 | AC1-221 E                   | 0.7780             | Adder | 0.92           |
| 927261 | AC1-222 C                   | 1.2345             | Adder | 1.45           |
| 927262 | AC1-222 E                   | 1.1752             | Adder | 1.38           |
| 932631 | AC2-084 C                   | 3.7200             | Adder | 4.38           |
| 932632 | AC2-084 E                   | 1.8322             | Adder | 2.16           |
| 932761 | AC2-100 C                   | 1.7904             | Adder | 2.11           |
| 932762 | AC2-100 E                   | 0.8739             | Adder | 1.03           |
| 933991 | AD1-023 C                   | 3.8491             | Adder | 4.53           |
| 933992 | AD1-023 E                   | 2.0955             | Adder | 2.47           |
| 934311 | AD1-055 C                   | 0.8571             | Adder | 1.01           |
| 934312 | AD1-055 E                   | 0.2210             | Adder | 0.26           |
| 934331 | AD1-057 C O1                | 4.9302             | Adder | 5.8            |
| 934332 | AD1-057 E O1                | 2.6300             | Adder | 3.09           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934341 | AD1-058 C    | 1.9503             | Adder | 2.29           |
| 934342 | AD1-058 E    | 0.4956             | Adder | 0.58           |
| 934611 | AD1-087 C O1 | 3.0816             | Adder | 3.63           |
| 934612 | AD1-087 E O1 | 1.4483             | Adder | 1.7            |
| 934991 | AD1-131 C    | 0.6394             | Adder | 0.75           |
| 934992 | AD1-131 E    | 0.4263             | Adder | 0.5            |
| 935171 | AD1-152 C O1 | 3.0624             | Adder | 3.6            |
| 935172 | AD1-152 E O1 | 2.0416             | Adder | 2.4            |
| 936261 | AD2-033 C    | 4.3247             | Adder | 5.09           |
| 936262 | AD2-033 E    | 2.8832             | Adder | 3.39           |
| 936361 | AD2-046 C O1 | 3.5694             | Adder | 4.2            |
| 936362 | AD2-046 E O1 | 1.6414             | Adder | 1.93           |
| 936401 | AD2-051 C O1 | 3.0488             | Adder | 3.59           |
| 936402 | AD2-051 E O1 | 1.3091             | Adder | 1.54           |
| 936481 | AD2-063 C O1 | 5.3473             | Adder | 6.29           |
| 936482 | AD2-063 E O1 | 3.5352             | Adder | 4.16           |
| 936762 | AD2-097 E    | -3.4441            | Adder | -4.05          |
| 937481 | AD2-202 C O1 | 0.8167             | Adder | 0.96           |
| 937482 | AD2-202 E O1 | 0.4594             | Adder | 0.54           |
| 938171 | AE1-026 C O1 | 9.7010             | Adder | 11.41          |
| 938172 | AE1-026 E O1 | 2.5594             | Adder | 3.01           |
| 938221 | AE1-035 C    | 0.7655             | Adder | 0.9            |
| 938222 | AE1-035 E    | 0.3770             | Adder | 0.44           |
| 938491 | AE1-068 C O1 | 33.0088            | 50/50 | 33.0088        |
| 938492 | AE1-068 E O1 | 18.2312            | 50/50 | 18.2312        |
| 938501 | AE1-069 C O1 | 25.8063            | 50/50 | 25.8063        |
| 938502 | AE1-069 E O1 | 14.7537            | 50/50 | 14.7537        |
| 939181 | AE1-148 C O1 | 3.5109             | Adder | 4.13           |
| 939182 | AE1-148 E O1 | 2.3406             | Adder | 2.75           |
| 939411 | AE1-173 C    | 31.3874            | Adder | 36.93          |
| 939412 | AE1-173 E    | 20.9250            | Adder | 24.62          |
| 940241 | AE2-006      | 0.1560             | Adder | 0.18           |
| 940471 | AE2-031 C    | 17.9777            | 50/50 | 17.9777        |
| 940472 | AE2-031 E    | 11.9851            | 50/50 | 11.9851        |
| 940481 | AE2-033 C    | 17.9557            | 50/50 | 17.9557        |
| 940482 | AE2-033 E    | 12.1050            | 50/50 | 12.1050        |
| 940542 | AE2-040 BAT  | 4.1423             | 50/50 | 4.1423         |
| 940571 | AE2-044 C    | 1.8971             | Adder | 2.23           |
| 940572 | AE2-044 E    | 0.8130             | Adder | 0.96           |
| 940661 | AE2-053 O1   | 1.3003             | Adder | 1.53           |
| 941031 | AE2-094 C    | 21.6524            | 50/50 | 21.6524        |
| 941032 | AE2-094 E    | 9.6976             | 50/50 | 9.6976         |
| 941541 | AE2-151 C    | 0.3965             | Adder | 0.47           |
| 941542 | AE2-151 E    | 0.2135             | Adder | 0.25           |
| 942451 | AE2-258      | 0.8875             | Adder | 1.04           |
| 942471 | AE2-260 C O1 | 13.5157            | 50/50 | 13.5157        |
| 942472 | AE2-260 E O1 | 19.1703            | 50/50 | 19.1703        |
| 942931 | AE2-313 C    | 19.4655            | 50/50 | 19.4655        |
| 942932 | AE2-313 E    | 12.9770            | 50/50 | 12.9770        |
| 943171 | AE2-346 C    | 0.5101             | Adder | 0.6            |
| 943172 | AE2-346 E    | 0.2186             | Adder | 0.26           |
| 943901 | AF1-058 C    | 0.6841             | Adder | 0.8            |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943902 | AF1-058 E                          | 0.4561             | Adder         | 0.54           |
| 943911 | AF1-059                            | 10.1430            | 50/50         | 10.1430        |
| 944011 | AF1-069 C                          | 7.0746             | 50/50         | 7.0746         |
| 944012 | AF1-069 E                          | 2.7483             | 50/50         | 2.7483         |
| 944141 | AF1-082                            | 1.2196             | Adder         | 1.43           |
| 945811 | AF1-246 C O1                       | 3.0955             | Adder         | 3.64           |
| 945812 | AF1-246 E O1                       | 4.2748             | Adder         | 5.03           |
| 946011 | AF1-266                            | 15.0304            | 50/50         | 15.0304        |
| 946281 | AF1-292 C                          | 1.2035             | 50/50         | 1.2035         |
| 946282 | AF1-292 E                          | 0.8114             | 50/50         | 0.8114         |
| 957481 | AF2-042 C O2                       | 11.7189            | Adder         | 26.01          |
| 957482 | AF2-042 E O2                       | 7.8126             | Adder         | 17.34          |
| 957521 | AF2-046 C                          | 3.1764             | Adder         | 7.05           |
| 957522 | AF2-046 E                          | 1.5978             | Adder         | 3.55           |
| 957861 | AF2-080 C                          | 1.5858             | Adder         | 3.52           |
| 957862 | AF2-080 E                          | 0.7030             | Adder         | 1.56           |
| 958142 | AF2-108 BAT                        | 2.9355             | 50/50         | 2.9355         |
| 959231 | AF2-214 C                          | 2.1725             | Adder         | 4.82           |
| 959232 | AF2-214 E                          | 3.2570             | Adder         | 7.23           |
| 959311 | AF2-222 C                          | 2.7922             | Adder         | 6.2            |
| 959312 | AF2-222 E                          | 1.8708             | Adder         | 4.15           |
| 959511 | AF2-242                            | 1.3876             | Adder         | 3.08           |
| 959731 | AF2-264 C                          | 0.4290             | Adder         | 0.95           |
| 959732 | AF2-264 E                          | 0.2113             | Adder         | 0.47           |
| 959751 | AF2-266 O2                         | 1.9531             | Adder         | 4.34           |
| 960061 | AF2-297 C O2                       | 1.5206             | Adder         | 3.38           |
| 960062 | AF2-297 E O2                       | 1.0137             | Adder         | 2.25           |
| 960081 | AF2-299 C                          | 2.0285             | 50/50         | 2.0285         |
| 960082 | AF2-299 E                          | 1.3523             | 50/50         | 1.3523         |
| 960121 | AF2-303 C O2                       | 4.1612             | Adder         | 9.24           |
| 960122 | AF2-303 E O2                       | 2.7138             | Adder         | 6.02           |
| 960331 | AF2-324 C O2                       | 1.7566             | Adder         | 3.9            |
| 960332 | AF2-324 E O2                       | 0.9431             | Adder         | 2.09           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5735             | Adder         | 1.27           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1434             | Adder         | 0.32           |
| 960811 | AF2-372 C                          | 0.2527             | Adder         | 0.56           |
| 960812 | AF2-372 E                          | 0.4124             | Adder         | 0.92           |
| 960821 | AF2-373 C                          | 0.1796             | Adder         | 0.4            |
| 960822 | AF2-373 E                          | 0.2695             | Adder         | 0.6            |
| 960831 | AF2-374 C                          | 0.2693             | Adder         | 0.6            |
| 960832 | AF2-374 E                          | 0.4394             | Adder         | 0.98           |
| WEC    | WEC                                | 0.3667             | Confirmed LTF | 0.3667         |
| LGEE   | LGEE                               | 0.6920             | Confirmed LTF | 0.6920         |
| CPL    | CPL                                | 3.8076             | Confirmed LTF | 3.8076         |
| CBM-W2 | CBM-W2                             | 14.7420            | Confirmed LTF | 14.7420        |
| NY     | NY                                 | 0.5176             | Confirmed LTF | 0.5176         |
| CBM-W1 | CBM-W1                             | 13.6859            | Confirmed LTF | 13.6859        |
| TVA    | TVA                                | 3.0996             | Confirmed LTF | 3.0996         |
| O-066  | O-066                              | 7.3450             | Confirmed LTF | 7.3450         |
| CBM-S2 | CBM-S2                             | 25.9522            | Confirmed LTF | 25.9522        |
| CBM-S1 | CBM-S1                             | 17.2786            | Confirmed LTF | 17.2786        |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| G-007   | G-007   | 1.1461             | Confirmed LTF | 1.1461         |
| MADISON | MADISON | 0.8669             | Confirmed LTF | 0.8669         |
| MEC     | MEC     | 2.2214             | Confirmed LTF | 2.2214         |
| AA2-074 | AA2-074 | 2.5952             | LTF           | 2.5952         |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706659 | 314282    | 6CARSON  | DVP           | 314331  | 6POE   | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 830.0      | 111.13                | 113.2                  | DC    | 38.16     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                     | 0.4549             | 50/50 | 0.4549         |
| 314572 | 3EMPORIA                    | 0.0497             | 50/50 | 0.0497         |
| 314704 | 3LAWRENC                    | 0.1970             | 50/50 | 0.1970         |
| 315073 | 1STONECA                    | -2.5521            | Adder | -3.0           |
| 917332 | Z2-043 E                    | 0.3563             | Adder | 0.42           |
| 917342 | Z2-044 E                    | 0.2089             | Adder | 0.25           |
| 917512 | Z2-088 E OP1                | 1.2619             | Adder | 1.48           |
| 918492 | AA1-063AE OP                | 1.3792             | Adder | 1.62           |
| 918512 | AA1-065 E OP                | 1.0567             | Adder | 1.24           |
| 918532 | AA1-067 E                   | 0.2124             | Adder | 0.25           |
| 919692 | AA2-053 E OP                | 1.4696             | Adder | 1.73           |
| 919702 | AA2-057 E OP                | 1.2393             | Adder | 1.46           |
| 920592 | AA2-165 E                   | 0.1703             | Adder | 0.2            |
| 920672 | AA2-174 E OP                | 0.1698             | Adder | 0.2            |
| 922922 | AB1-081 C OP                | 3.2187             | Adder | 3.79           |
| 922923 | AB1-081 E OP                | 1.3794             | Adder | 1.62           |
| 923262 | AB1-132 C OP<br>(Suspended) | 6.9915             | Adder | 8.23           |
| 923263 | AB1-132 E OP<br>(Suspended) | 2.9964             | Adder | 3.53           |
| 923572 | AB1-173 C OP                | 1.3921             | 50/50 | 1.3921         |
| 923573 | AB1-173 E OP                | 0.6497             | 50/50 | 0.6497         |
| 923582 | AB1-173AC OP                | 1.3921             | 50/50 | 1.3921         |
| 923583 | AB1-173AE OP                | 0.6497             | 50/50 | 0.6497         |
| 923852 | AB2-025 E                   | 1.1848             | 50/50 | 1.1848         |
| 923911 | AB2-031 C O1                | 1.3818             | 50/50 | 1.3818         |
| 923912 | AB2-031 E O1                | 0.6806             | 50/50 | 0.6806         |
| 923991 | AB2-040 C O1                | 4.5373             | 50/50 | 4.5373         |
| 923992 | AB2-040 E O1                | 3.7123             | 50/50 | 3.7123         |
| 924022 | AB2-043 E O1                | 0.9273             | Adder | 1.09           |
| 924152 | AB2-059 E OP                | 1.9542             | Adder | 2.3            |
| 924162 | AB2-060 E OP                | 1.3922             | Adder | 1.64           |
| 924301 | AB2-077 C O1<br>(Suspended) | 0.6577             | Adder | 0.77           |
| 924302 | AB2-077 E O1<br>(Suspended) | 0.4385             | Adder | 0.52           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.6577             | Adder | 0.77           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.4385             | Adder | 0.52           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.6577             | Adder | 0.77           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924322 | AB2-079 E O1<br>(Suspended) | 0.4385             | Adder | 0.52           |
| 924501 | AB2-099 C (Suspended)       | 0.1609             | Adder | 0.19           |
| 924502 | AB2-099 E (Suspended)       | 0.0690             | Adder | 0.08           |
| 924511 | AB2-100 C                   | 1.6389             | 50/50 | 1.6389         |
| 924512 | AB2-100 E                   | 4.6797             | 50/50 | 4.6797         |
| 925171 | AB2-174 C O1                | 0.7809             | 50/50 | 0.7809         |
| 925172 | AB2-174 E O1                | 4.0960             | 50/50 | 4.0960         |
| 925331 | AB2-190 C                   | -4.8628            | Adder | -5.72          |
| 925591 | AC1-034 C                   | 2.4571             | Adder | 2.89           |
| 925592 | AC1-034 E                   | 1.8536             | Adder | 2.18           |
| 925611 | AC1-036 C                   | 0.2681             | Adder | 0.32           |
| 925612 | AC1-036 E                   | 0.4374             | Adder | 0.51           |
| 925781 | AC1-054 C O1                | 2.6549             | Adder | 3.12           |
| 925782 | AC1-054 E O1                | 1.2231             | Adder | 1.44           |
| 926071 | AC1-086 C                   | 10.2958            | Adder | 12.11          |
| 926072 | AC1-086 E                   | 4.6860             | Adder | 5.51           |
| 926201 | AC1-098 C                   | 2.1487             | Adder | 2.53           |
| 926202 | AC1-098 E                   | 1.2801             | Adder | 1.51           |
| 926211 | AC1-099 C                   | 0.7200             | Adder | 0.85           |
| 926212 | AC1-099 E                   | 0.4229             | Adder | 0.5            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.7319             | Adder | 2.04           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.8621             | Adder | 1.01           |
| 927021 | AC1-189 C                   | 2.7143             | Adder | 3.19           |
| 927022 | AC1-189 E                   | 1.3521             | Adder | 1.59           |
| 927141 | AC1-208 C                   | 3.3646             | Adder | 3.96           |
| 927142 | AC1-208 E                   | 1.4940             | Adder | 1.76           |
| 927251 | AC1-221 C                   | 0.6771             | Adder | 0.8            |
| 927252 | AC1-221 E                   | 0.6771             | Adder | 0.8            |
| 927261 | AC1-222 C                   | 1.0789             | Adder | 1.27           |
| 927262 | AC1-222 E                   | 1.0271             | Adder | 1.21           |
| 932631 | AC2-084 C                   | 3.0630             | Adder | 3.6            |
| 932632 | AC2-084 E                   | 1.5086             | Adder | 1.77           |
| 932761 | AC2-100 C                   | 1.5582             | Adder | 1.83           |
| 932762 | AC2-100 E                   | 0.7606             | Adder | 0.89           |
| 934311 | AD1-055 C                   | 0.7491             | Adder | 0.88           |
| 934312 | AD1-055 E                   | 0.1932             | Adder | 0.23           |
| 934331 | AD1-057 C O1                | 4.2361             | Adder | 4.98           |
| 934332 | AD1-057 E O1                | 2.2597             | Adder | 2.66           |
| 934341 | AD1-058 C                   | 1.6974             | Adder | 2.0            |
| 934342 | AD1-058 E                   | 0.4313             | Adder | 0.51           |
| 934611 | AD1-087 C O1                | 2.7039             | Adder | 3.18           |
| 934612 | AD1-087 E O1                | 1.2708             | Adder | 1.5            |
| 934991 | AD1-131 C                   | 0.5565             | Adder | 0.65           |
| 934992 | AD1-131 E                   | 0.3710             | Adder | 0.44           |
| 935171 | AD1-152 C O1                | 2.6871             | Adder | 3.16           |
| 935172 | AD1-152 E O1                | 1.7914             | Adder | 2.11           |
| 936261 | AD2-033 C                   | 3.7784             | Adder | 4.45           |
| 936262 | AD2-033 E                   | 2.5190             | Adder | 2.96           |
| 936361 | AD2-046 C O1                | 3.0803             | Adder | 3.62           |
| 936362 | AD2-046 E O1                | 1.4165             | Adder | 1.67           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936401 | AD2-051 C O1 | 2.3624             | Adder | 2.78           |
| 936402 | AD2-051 E O1 | 1.0144             | Adder | 1.19           |
| 936481 | AD2-063 C O1 | 4.6665             | Adder | 5.49           |
| 936482 | AD2-063 E O1 | 3.0851             | Adder | 3.63           |
| 936762 | AD2-097 E    | -2.8602            | Adder | -3.36          |
| 937481 | AD2-202 C O1 | 0.7166             | Adder | 0.84           |
| 937482 | AD2-202 E O1 | 0.4031             | Adder | 0.47           |
| 938221 | AE1-035 C    | 0.5900             | Adder | 0.69           |
| 938222 | AE1-035 E    | 0.2906             | Adder | 0.34           |
| 938491 | AE1-068 C O1 | 24.7200            | Adder | 29.08          |
| 938492 | AE1-068 E O1 | 13.6532            | Adder | 16.06          |
| 938501 | AE1-069 C O1 | 19.3221            | Adder | 22.73          |
| 938502 | AE1-069 E O1 | 11.0467            | Adder | 13.0           |
| 939181 | AE1-148 C O1 | 3.0312             | Adder | 3.57           |
| 939182 | AE1-148 E O1 | 2.0208             | Adder | 2.38           |
| 939411 | AE1-173 C    | 26.2589            | Adder | 30.89          |
| 939412 | AE1-173 E    | 17.5059            | Adder | 20.6           |
| 940063 | AE2-000B BAT | 19.1715            | 50/50 | 19.1715        |
| 940241 | AE2-006      | 0.1364             | Adder | 0.16           |
| 940471 | AE2-031 C    | 13.4693            | Adder | 15.85          |
| 940472 | AE2-031 E    | 8.9795             | Adder | 10.56          |
| 940481 | AE2-033 C    | 16.4321            | 50/50 | 16.4321        |
| 940482 | AE2-033 E    | 11.0778            | 50/50 | 11.0778        |
| 940571 | AE2-044 C    | 1.6094             | Adder | 1.89           |
| 940572 | AE2-044 E    | 0.6897             | Adder | 0.81           |
| 940652 | AE2-052 BAT  | 5.2146             | 50/50 | 5.2146         |
| 940661 | AE2-053 O1   | 1.1227             | Adder | 1.32           |
| 941031 | AE2-094 C    | 16.2224            | Adder | 19.09          |
| 941032 | AE2-094 E    | 7.2656             | Adder | 8.55           |
| 941533 | AE2-150 BAT  | 8.9640             | 50/50 | 8.9640         |
| 941541 | AE2-151 C    | 0.3076             | Adder | 0.36           |
| 941542 | AE2-151 E    | 0.1656             | Adder | 0.19           |
| 942451 | AE2-258      | 0.7736             | Adder | 0.91           |
| 942471 | AE2-260 C O1 | 12.1817            | 50/50 | 12.1817        |
| 942472 | AE2-260 E O1 | 17.2783            | 50/50 | 17.2783        |
| 942931 | AE2-313 C    | 14.5839            | Adder | 17.16          |
| 942932 | AE2-313 E    | 9.7226             | Adder | 11.44          |
| 943171 | AE2-346 C    | 0.3863             | Adder | 0.45           |
| 943172 | AE2-346 E    | 0.1655             | Adder | 0.19           |
| 943901 | AF1-058 C    | 0.5979             | Adder | 0.7            |
| 943902 | AF1-058 E    | 0.3986             | Adder | 0.47           |
| 943911 | AF1-059      | 7.6007             | Adder | 8.94           |
| 944011 | AF1-069 C    | 5.3005             | Adder | 6.24           |
| 944012 | AF1-069 E    | 2.0591             | Adder | 2.42           |
| 944141 | AF1-082      | 1.0346             | Adder | 1.22           |
| 945811 | AF1-246 C O1 | 2.7243             | Adder | 3.21           |
| 945812 | AF1-246 E O1 | 3.7621             | Adder | 4.43           |
| 946011 | AF1-266      | 13.7549            | 50/50 | 13.7549        |
| 946281 | AF1-292 C    | 1.0691             | 50/50 | 1.0691         |
| 946282 | AF1-292 E    | 0.7207             | 50/50 | 0.7207         |
| 957481 | AF2-042 C O2 | 10.3133            | Adder | 22.89          |
| 957482 | AF2-042 E O2 | 6.8755             | Adder | 15.26          |

| Bus #   | Bus                                  | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------------------------------|--------------------|---------------|----------------|
| 957521  | AF2-046 C                            | 2.2565             | Adder         | 5.01           |
| 957522  | AF2-046 E                            | 1.1351             | Adder         | 2.52           |
| 957861  | AF2-080 C                            | 1.3066             | Adder         | 2.9            |
| 957862  | AF2-080 E                            | 0.5792             | Adder         | 1.29           |
| 959231  | AF2-214 C                            | 1.8430             | Adder         | 4.09           |
| 959232  | AF2-214 E                            | 2.7630             | Adder         | 6.13           |
| 959311  | AF2-222 C                            | 2.4422             | Adder         | 5.42           |
| 959312  | AF2-222 E                            | 1.6362             | Adder         | 3.63           |
| 959511  | AF2-242                              | 1.0892             | Adder         | 2.42           |
| 959731  | AF2-264 C                            | 0.3155             | Adder         | 0.7            |
| 959732  | AF2-264 E                            | 0.1554             | Adder         | 0.34           |
| 959751  | AF2-266 O2                           | 1.7189             | Adder         | 3.82           |
| 960061  | AF2-297 C O2                         | 1.3310             | Adder         | 2.95           |
| 960062  | AF2-297 E O2                         | 0.8873             | Adder         | 1.97           |
| 960081  | AF2-299 C                            | 1.8018             | 50/50         | 1.8018         |
| 960082  | AF2-299 E                            | 1.2012             | 50/50         | 1.2012         |
| 960121  | AF2-303 C O2                         | 3.5385             | Adder         | 7.85           |
| 960122  | AF2-303 E O2                         | 2.3077             | Adder         | 5.12           |
| 960331  | AF2-324 C O2                         | 1.4914             | Adder         | 3.31           |
| 960332  | AF2-324 E O2                         | 0.8007             | Adder         | 1.78           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020)   | 0.4863             | Adder         | 1.08           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020)   | 0.1216             | Adder         | 0.27           |
| 960363  | AF2-327 BAT (Withdrawn : 07/22/2020) | 1.5823             | 50/50         | 1.5823         |
| 960811  | AF2-372 C                            | 0.2202             | Adder         | 0.49           |
| 960812  | AF2-372 E                            | 0.3593             | Adder         | 0.8            |
| 960821  | AF2-373 C                            | 0.1568             | Adder         | 0.35           |
| 960822  | AF2-373 E                            | 0.2353             | Adder         | 0.52           |
| 960831  | AF2-374 C                            | 0.2148             | Adder         | 0.48           |
| 960832  | AF2-374 E                            | 0.3504             | Adder         | 0.78           |
| WEC     | WEC                                  | 0.3216             | Confirmed LTF | 0.3216         |
| LGEE    | LGEE                                 | 0.6070             | Confirmed LTF | 0.6070         |
| CPL     | CPL                                  | 3.2877             | Confirmed LTF | 3.2877         |
| CBM-W2  | CBM-W2                               | 12.8665            | Confirmed LTF | 12.8665        |
| NY      | NY                                   | 0.4380             | Confirmed LTF | 0.4380         |
| CBM-W1  | CBM-W1                               | 12.0221            | Confirmed LTF | 12.0221        |
| TVA     | TVA                                  | 2.7006             | Confirmed LTF | 2.7006         |
| O-066   | O-066                                | 6.2362             | Confirmed LTF | 6.2362         |
| CBM-S2  | CBM-S2                               | 22.4784            | Confirmed LTF | 22.4784        |
| CBM-S1  | CBM-S1                               | 15.0634            | Confirmed LTF | 15.0634        |
| G-007   | G-007                                | 0.9734             | Confirmed LTF | 0.9734         |
| MADISON | MADISON                              | 0.7479             | Confirmed LTF | 0.7479         |
| MEC     | MEC                                  | 1.9449             | Confirmed LTF | 1.9449         |
| AA2-074 | AA2-074                              | 2.2410             | LTF           | 2.2410         |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706480 | 314285    | 6CHRL249 | DVP           | 314316  | 6LOCKS | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 684.0      | 162.29                | 165.18                 | DC    | 43.35     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                     | 0.4961             | 50/50 | 0.4961         |
| 314572 | 3EMPORIA                    | 0.0563             | 50/50 | 0.0563         |
| 314704 | 3LAWRENC                    | 0.2225             | 50/50 | 0.2225         |
| 314947 | 8GREENSVILLE                | 28.5101            | 50/50 | 28.5101        |
| 315073 | 1STONECA                    | -2.3873            | Adder | -2.81          |
| 315136 | 1ROSEMG1                    | 1.4393             | 50/50 | 1.4393         |
| 315137 | 1ROSEMS1                    | 0.8925             | 50/50 | 0.8925         |
| 315138 | 1ROSEMG2                    | 0.6746             | 50/50 | 0.6746         |
| 315139 | 1GASTONA                    | 2.1424             | 50/50 | 2.1424         |
| 315141 | 1GASTONB                    | 2.1424             | 50/50 | 2.1424         |
| 315294 | 1DOMTR10                    | 3.2046             | Adder | 3.77           |
| 900672 | V4-068 E                    | 0.1060             | Adder | 0.12           |
| 917332 | Z2-043 E                    | 0.4484             | Adder | 0.53           |
| 917342 | Z2-044 E                    | 0.2477             | Adder | 0.29           |
| 917512 | Z2-088 E OP1                | 1.5190             | Adder | 1.79           |
| 918492 | AA1-063AE OP                | 1.7603             | Adder | 2.07           |
| 918512 | AA1-065 E OP                | 1.3711             | Adder | 1.61           |
| 918532 | AA1-067 E                   | 0.2627             | Adder | 0.31           |
| 919692 | AA2-053 E OP                | 1.7687             | Adder | 2.08           |
| 919702 | AA2-057 E OP                | 1.4762             | Adder | 1.74           |
| 920042 | AA2-088 E OP                | 3.5841             | Adder | 4.22           |
| 920592 | AA2-165 E                   | 0.2029             | Adder | 0.24           |
| 920672 | AA2-174 E OP                | 0.2044             | Adder | 0.24           |
| 922922 | AB1-081 C OP                | 3.7942             | Adder | 4.46           |
| 922923 | AB1-081 E OP                | 1.6261             | Adder | 1.91           |
| 923262 | AB1-132 C OP<br>(Suspended) | 9.4844             | 50/50 | 9.4844         |
| 923263 | AB1-132 E OP<br>(Suspended) | 4.0648             | 50/50 | 4.0648         |
| 923572 | AB1-173 C OP                | 1.5987             | 50/50 | 1.5987         |
| 923573 | AB1-173 E OP                | 0.7460             | 50/50 | 0.7460         |
| 923582 | AB1-173AC OP                | 1.5987             | 50/50 | 1.5987         |
| 923583 | AB1-173AE OP                | 0.7460             | 50/50 | 0.7460         |
| 923852 | AB2-025 E                   | 1.2920             | 50/50 | 1.2920         |
| 923911 | AB2-031 C O1                | 1.5868             | 50/50 | 1.5868         |
| 923912 | AB2-031 E O1                | 0.7816             | 50/50 | 0.7816         |
| 923991 | AB2-040 C O1                | 5.2105             | 50/50 | 5.2105         |
| 923992 | AB2-040 E O1                | 4.2631             | 50/50 | 4.2631         |
| 924022 | AB2-043 E O1                | 1.0637             | Adder | 1.25           |
| 924152 | AB2-059 E OP                | 2.3036             | Adder | 2.71           |
| 924162 | AB2-060 E OP                | 1.5967             | Adder | 1.88           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924301 | AB2-077 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924302 | AB2-077 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924311 | AB2-078 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924312 | AB2-078 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.7548             | Adder | 0.89           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.5032             | Adder | 0.59           |
| 924501 | AB2-099 C (Suspended)       | 0.2125             | Adder | 0.25           |
| 924502 | AB2-099 E (Suspended)       | 0.0911             | Adder | 0.11           |
| 924511 | AB2-100 C                   | 1.8239             | 50/50 | 1.8239         |
| 924512 | AB2-100 E                   | 5.2081             | 50/50 | 5.2081         |
| 925122 | AB2-169 E                   | 1.8308             | Adder | 2.15           |
| 925171 | AB2-174 C O1                | 0.8914             | 50/50 | 0.8914         |
| 925172 | AB2-174 E O1                | 4.6755             | 50/50 | 4.6755         |
| 925591 | AC1-034 C                   | 2.8965             | Adder | 3.41           |
| 925592 | AC1-034 E                   | 2.1851             | Adder | 2.57           |
| 925611 | AC1-036 C                   | 0.3066             | Adder | 0.36           |
| 925612 | AC1-036 E                   | 0.5003             | Adder | 0.59           |
| 925781 | AC1-054 C O1                | 3.1051             | Adder | 3.65           |
| 925782 | AC1-054 E O1                | 1.4304             | Adder | 1.68           |
| 926071 | AC1-086 C                   | 13.9670            | 50/50 | 13.9670        |
| 926072 | AC1-086 E                   | 6.3568             | 50/50 | 6.3568         |
| 926201 | AC1-098 C                   | 2.6095             | Adder | 3.07           |
| 926202 | AC1-098 E                   | 1.5546             | Adder | 1.83           |
| 926211 | AC1-099 C                   | 0.8745             | Adder | 1.03           |
| 926212 | AC1-099 E                   | 0.5136             | Adder | 0.6            |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.9829             | Adder | 2.33           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.9871             | Adder | 1.16           |
| 927021 | AC1-189 C                   | 3.2944             | Adder | 3.88           |
| 927022 | AC1-189 E                   | 1.6410             | Adder | 1.93           |
| 927141 | AC1-208 C                   | 4.0314             | Adder | 4.74           |
| 927142 | AC1-208 E                   | 1.7901             | Adder | 2.11           |
| 927251 | AC1-221 C                   | 0.7780             | Adder | 0.92           |
| 927252 | AC1-221 E                   | 0.7780             | Adder | 0.92           |
| 927261 | AC1-222 C                   | 1.2345             | Adder | 1.45           |
| 927262 | AC1-222 E                   | 1.1752             | Adder | 1.38           |
| 932631 | AC2-084 C                   | 3.7200             | Adder | 4.38           |
| 932632 | AC2-084 E                   | 1.8322             | Adder | 2.16           |
| 932761 | AC2-100 C                   | 1.7904             | Adder | 2.11           |
| 932762 | AC2-100 E                   | 0.8739             | Adder | 1.03           |
| 933991 | AD1-023 C                   | 3.8491             | Adder | 4.53           |
| 933992 | AD1-023 E                   | 2.0955             | Adder | 2.47           |
| 934311 | AD1-055 C                   | 0.8571             | Adder | 1.01           |
| 934312 | AD1-055 E                   | 0.2210             | Adder | 0.26           |
| 934331 | AD1-057 C O1                | 4.9302             | Adder | 5.8            |
| 934332 | AD1-057 E O1                | 2.6300             | Adder | 3.09           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934341 | AD1-058 C    | 1.9503             | Adder | 2.29           |
| 934342 | AD1-058 E    | 0.4956             | Adder | 0.58           |
| 934611 | AD1-087 C O1 | 3.0816             | Adder | 3.63           |
| 934612 | AD1-087 E O1 | 1.4483             | Adder | 1.7            |
| 934991 | AD1-131 C    | 0.6394             | Adder | 0.75           |
| 934992 | AD1-131 E    | 0.4263             | Adder | 0.5            |
| 935171 | AD1-152 C O1 | 3.0624             | Adder | 3.6            |
| 935172 | AD1-152 E O1 | 2.0416             | Adder | 2.4            |
| 936261 | AD2-033 C    | 4.3247             | Adder | 5.09           |
| 936262 | AD2-033 E    | 2.8832             | Adder | 3.39           |
| 936361 | AD2-046 C O1 | 3.5694             | Adder | 4.2            |
| 936362 | AD2-046 E O1 | 1.6414             | Adder | 1.93           |
| 936401 | AD2-051 C O1 | 3.0488             | Adder | 3.59           |
| 936402 | AD2-051 E O1 | 1.3091             | Adder | 1.54           |
| 936481 | AD2-063 C O1 | 5.3473             | Adder | 6.29           |
| 936482 | AD2-063 E O1 | 3.5352             | Adder | 4.16           |
| 936762 | AD2-097 E    | -3.4441            | Adder | -4.05          |
| 937481 | AD2-202 C O1 | 0.8167             | Adder | 0.96           |
| 937482 | AD2-202 E O1 | 0.4594             | Adder | 0.54           |
| 938171 | AE1-026 C O1 | 9.7010             | Adder | 11.41          |
| 938172 | AE1-026 E O1 | 2.5594             | Adder | 3.01           |
| 938221 | AE1-035 C    | 0.7655             | Adder | 0.9            |
| 938222 | AE1-035 E    | 0.3770             | Adder | 0.44           |
| 938491 | AE1-068 C O1 | 33.0088            | 50/50 | 33.0088        |
| 938492 | AE1-068 E O1 | 18.2312            | 50/50 | 18.2312        |
| 938501 | AE1-069 C O1 | 25.8063            | 50/50 | 25.8063        |
| 938502 | AE1-069 E O1 | 14.7537            | 50/50 | 14.7537        |
| 939181 | AE1-148 C O1 | 3.5109             | Adder | 4.13           |
| 939182 | AE1-148 E O1 | 2.3406             | Adder | 2.75           |
| 939411 | AE1-173 C    | 31.3874            | Adder | 36.93          |
| 939412 | AE1-173 E    | 20.9250            | Adder | 24.62          |
| 940241 | AE2-006      | 0.1560             | Adder | 0.18           |
| 940471 | AE2-031 C    | 17.9777            | 50/50 | 17.9777        |
| 940472 | AE2-031 E    | 11.9851            | 50/50 | 11.9851        |
| 940481 | AE2-033 C    | 17.9557            | 50/50 | 17.9557        |
| 940482 | AE2-033 E    | 12.1050            | 50/50 | 12.1050        |
| 940542 | AE2-040 BAT  | 4.1423             | 50/50 | 4.1423         |
| 940571 | AE2-044 C    | 1.8971             | Adder | 2.23           |
| 940572 | AE2-044 E    | 0.8130             | Adder | 0.96           |
| 940661 | AE2-053 O1   | 1.3003             | Adder | 1.53           |
| 941031 | AE2-094 C    | 21.6524            | 50/50 | 21.6524        |
| 941032 | AE2-094 E    | 9.6976             | 50/50 | 9.6976         |
| 941541 | AE2-151 C    | 0.3965             | Adder | 0.47           |
| 941542 | AE2-151 E    | 0.2135             | Adder | 0.25           |
| 942451 | AE2-258      | 0.8875             | Adder | 1.04           |
| 942471 | AE2-260 C O1 | 13.5157            | 50/50 | 13.5157        |
| 942472 | AE2-260 E O1 | 19.1703            | 50/50 | 19.1703        |
| 942931 | AE2-313 C    | 19.4655            | 50/50 | 19.4655        |
| 942932 | AE2-313 E    | 12.9770            | 50/50 | 12.9770        |
| 943171 | AE2-346 C    | 0.5101             | Adder | 0.6            |
| 943172 | AE2-346 E    | 0.2186             | Adder | 0.26           |
| 943901 | AF1-058 C    | 0.6841             | Adder | 0.8            |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 943902 | AF1-058 E                          | 0.4561             | Adder         | 0.54           |
| 943911 | AF1-059                            | 10.1430            | 50/50         | 10.1430        |
| 944011 | AF1-069 C                          | 7.0746             | 50/50         | 7.0746         |
| 944012 | AF1-069 E                          | 2.7483             | 50/50         | 2.7483         |
| 944141 | AF1-082                            | 1.2196             | Adder         | 1.43           |
| 945811 | AF1-246 C O1                       | 3.0955             | Adder         | 3.64           |
| 945812 | AF1-246 E O1                       | 4.2748             | Adder         | 5.03           |
| 946011 | AF1-266                            | 15.0304            | 50/50         | 15.0304        |
| 946281 | AF1-292 C                          | 1.2035             | 50/50         | 1.2035         |
| 946282 | AF1-292 E                          | 0.8114             | 50/50         | 0.8114         |
| 957481 | AF2-042 C O2                       | 11.7189            | Adder         | 26.01          |
| 957482 | AF2-042 E O2                       | 7.8126             | Adder         | 17.34          |
| 957521 | AF2-046 C                          | 3.1764             | Adder         | 7.05           |
| 957522 | AF2-046 E                          | 1.5978             | Adder         | 3.55           |
| 957861 | AF2-080 C                          | 1.5858             | Adder         | 3.52           |
| 957862 | AF2-080 E                          | 0.7030             | Adder         | 1.56           |
| 958142 | AF2-108 BAT                        | 2.9355             | 50/50         | 2.9355         |
| 959231 | AF2-214 C                          | 2.1725             | Adder         | 4.82           |
| 959232 | AF2-214 E                          | 3.2570             | Adder         | 7.23           |
| 959311 | AF2-222 C                          | 2.7922             | Adder         | 6.2            |
| 959312 | AF2-222 E                          | 1.8708             | Adder         | 4.15           |
| 959511 | AF2-242                            | 1.3876             | Adder         | 3.08           |
| 959731 | AF2-264 C                          | 0.4290             | Adder         | 0.95           |
| 959732 | AF2-264 E                          | 0.2113             | Adder         | 0.47           |
| 959751 | AF2-266 O2                         | 1.9531             | Adder         | 4.34           |
| 960061 | AF2-297 C O2                       | 1.5206             | Adder         | 3.38           |
| 960062 | AF2-297 E O2                       | 1.0137             | Adder         | 2.25           |
| 960081 | AF2-299 C                          | 2.0285             | 50/50         | 2.0285         |
| 960082 | AF2-299 E                          | 1.3523             | 50/50         | 1.3523         |
| 960121 | AF2-303 C O2                       | 4.1612             | Adder         | 9.24           |
| 960122 | AF2-303 E O2                       | 2.7138             | Adder         | 6.02           |
| 960331 | AF2-324 C O2                       | 1.7566             | Adder         | 3.9            |
| 960332 | AF2-324 E O2                       | 0.9431             | Adder         | 2.09           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.5735             | Adder         | 1.27           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1434             | Adder         | 0.32           |
| 960811 | AF2-372 C                          | 0.2527             | Adder         | 0.56           |
| 960812 | AF2-372 E                          | 0.4124             | Adder         | 0.92           |
| 960821 | AF2-373 C                          | 0.1796             | Adder         | 0.4            |
| 960822 | AF2-373 E                          | 0.2695             | Adder         | 0.6            |
| 960831 | AF2-374 C                          | 0.2693             | Adder         | 0.6            |
| 960832 | AF2-374 E                          | 0.4394             | Adder         | 0.98           |
| WEC    | WEC                                | 0.3667             | Confirmed LTF | 0.3667         |
| LGEE   | LGEE                               | 0.6920             | Confirmed LTF | 0.6920         |
| CPL    | CPL                                | 3.8076             | Confirmed LTF | 3.8076         |
| CBM-W2 | CBM-W2                             | 14.7420            | Confirmed LTF | 14.7420        |
| NY     | NY                                 | 0.5176             | Confirmed LTF | 0.5176         |
| CBM-W1 | CBM-W1                             | 13.6859            | Confirmed LTF | 13.6859        |
| TVA    | TVA                                | 3.0996             | Confirmed LTF | 3.0996         |
| O-066  | O-066                              | 7.3450             | Confirmed LTF | 7.3450         |
| CBM-S2 | CBM-S2                             | 25.9522            | Confirmed LTF | 25.9522        |
| CBM-S1 | CBM-S1                             | 17.2786            | Confirmed LTF | 17.2786        |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| G-007   | G-007   | 1.1461             | Confirmed LTF | 1.1461         |
| MADISON | MADISON | 0.8669             | Confirmed LTF | 0.8669         |
| MEC     | MEC     | 2.2214             | Confirmed LTF | 2.2214         |
| AA2-074 | AA2-074 | 2.5952             | LTF           | 2.5952         |

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| 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 |
|----------|-----------|-----------|---------------|---------|--------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706519 | 314287    | 6CHESTF B | DVP           | 314276  | 6BASIN | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 812.0      | 138.48                | 140.16                 | DC    | 30.0      |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                               | 0.2012             | 50/50 | 0.2012         |
| 314435 | 6SAPONY                              | 0.2953             | 50/50 | 0.2953         |
| 314539 | 3UNCAMP                              | 0.7963             | Adder | 0.94           |
| 314541 | 3WATKINS                             | 0.2289             | Adder | 0.27           |
| 315065 | 1CHESTF6 (Deactivation : 31/05/2023) | 172.2577           | 50/50 | 172.2577       |
| 315073 | 1STONECA                             | 4.9609             | 50/50 | 4.9609         |
| 315076 | 1HOPPOLC                             | 1.1833             | 50/50 | 1.1833         |
| 315077 | 1HOPHCF1                             | 1.8496             | 50/50 | 1.8496         |
| 315078 | 1HOPHCF2                             | 1.8496             | 50/50 | 1.8496         |
| 315079 | 1HOPHCF3                             | 1.8496             | 50/50 | 1.8496         |
| 315080 | 1HOPHCF4                             | 2.8078             | 50/50 | 2.8078         |
| 315294 | 1DOMTR10                             | 3.3252             | Adder | 3.91           |
| 315611 | 6Z1-036WIND                          | 1.9200             | Adder | 2.26           |
| 900672 | V4-068 E                             | 0.1014             | Adder | 0.12           |
| 901082 | W1-029 E                             | 8.7895             | Adder | 10.34          |
| 907092 | X1-038 E                             | 1.9909             | Adder | 2.34           |
| 916042 | Z1-036 E (Suspended)                 | 12.8643            | Adder | 15.13          |
| 917332 | Z2-043 E                             | 0.3881             | Adder | 0.46           |
| 917342 | Z2-044 E                             | 0.1883             | Adder | 0.22           |
| 917512 | Z2-088 E OP1                         | 1.2197             | Adder | 1.43           |
| 918492 | AA1-063AE OP                         | 1.4402             | Adder | 1.69           |
| 918512 | AA1-065 E OP                         | 1.3056             | Adder | 1.54           |
| 918532 | AA1-067 E                            | 0.2265             | Adder | 0.27           |
| 919692 | AA2-053 E OP                         | 1.3550             | Adder | 1.59           |
| 919702 | AA2-057 E OP                         | 1.1304             | Adder | 1.33           |
| 920042 | AA2-088 E OP                         | 3.5947             | Adder | 4.23           |
| 920592 | AA2-165 E                            | 0.1554             | Adder | 0.18           |
| 920672 | AA2-174 E OP                         | 0.1566             | Adder | 0.18           |
| 920692 | AA2-178 E                            | 1.2173             | Adder | 1.43           |
| 922922 | AB1-081 C OP                         | 2.8617             | Adder | 3.37           |
| 922923 | AB1-081 E OP                         | 1.2264             | Adder | 1.44           |
| 923262 | AB1-132 C OP (Suspended)             | 5.6913             | Adder | 6.7            |
| 923263 | AB1-132 E OP (Suspended)             | 2.4391             | Adder | 2.87           |
| 923572 | AB1-173 C OP                         | 0.9297             | Adder | 1.09           |
| 923573 | AB1-173 E OP                         | 0.4339             | Adder | 0.51           |
| 923582 | AB1-173AC OP                         | 0.9297             | Adder | 1.09           |
| 923583 | AB1-173AE OP                         | 0.4339             | Adder | 0.51           |
| 923801 | AB2-015 C OP                         | 2.8543             | Adder | 3.36           |
| 923802 | AB2-015 E OP                         | 2.3405             | Adder | 2.75           |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 923852 | AB2-025 E                | 0.7691             | 50/50 | 0.7691         |
| 923911 | AB2-031 C O1             | 0.9228             | Adder | 1.09           |
| 923912 | AB2-031 E O1             | 0.4545             | Adder | 0.53           |
| 923991 | AB2-040 C O1             | 3.0301             | Adder | 3.56           |
| 923992 | AB2-040 E O1             | 2.4792             | Adder | 2.92           |
| 924152 | AB2-059 E OP             | 1.7375             | Adder | 2.04           |
| 924501 | AB2-099 C (Suspended)    | 0.1958             | Adder | 0.23           |
| 924502 | AB2-099 E (Suspended)    | 0.0839             | Adder | 0.1            |
| 924511 | AB2-100 C                | 1.1584             | 50/50 | 1.1584         |
| 924512 | AB2-100 E                | 3.3076             | 50/50 | 3.3076         |
| 924812 | AB2-134 E OP             | 5.9824             | Adder | 7.04           |
| 925051 | AB2-160 C O1 (Suspended) | 3.5452             | 50/50 | 3.5452         |
| 925052 | AB2-160 E O1 (Suspended) | 5.7844             | 50/50 | 5.7844         |
| 925061 | AB2-161 C O1 (Suspended) | 1.6051             | Adder | 1.89           |
| 925062 | AB2-161 E O1 (Suspended) | 2.6189             | Adder | 3.08           |
| 925122 | AB2-169 E                | 1.7850             | Adder | 2.1            |
| 925172 | AB2-174 E O1             | 2.6793             | Adder | 3.15           |
| 925331 | AB2-190 C                | 11.4699            | 50/50 | 11.4699        |
| 925332 | AB2-190 E                | 4.9157             | 50/50 | 4.9157         |
| 925591 | AC1-034 C                | 2.1846             | Adder | 2.57           |
| 925592 | AC1-034 E                | 1.6480             | Adder | 1.94           |
| 925781 | AC1-054 C O1             | 2.1931             | Adder | 2.58           |
| 925782 | AC1-054 E O1             | 1.0103             | Adder | 1.19           |
| 926071 | AC1-086 C                | 8.3811             | Adder | 9.86           |
| 926072 | AC1-086 E                | 3.8145             | Adder | 4.49           |
| 926201 | AC1-098 C                | 2.0819             | Adder | 2.45           |
| 926202 | AC1-098 E                | 1.2403             | Adder | 1.46           |
| 926211 | AC1-099 C                | 0.6976             | Adder | 0.82           |
| 926212 | AC1-099 E                | 0.4097             | Adder | 0.48           |
| 927021 | AC1-189 C                | 2.7052             | Adder | 3.18           |
| 927022 | AC1-189 E                | 1.3476             | Adder | 1.59           |
| 927141 | AC1-208 C                | 3.1013             | Adder | 3.65           |
| 927142 | AC1-208 E                | 1.3771             | Adder | 1.62           |
| 927222 | AC1-216 E O1             | 3.6521             | Adder | 4.3            |
| 932581 | AC2-078 C O1             | 3.0132             | 50/50 | 3.0132         |
| 932582 | AC2-078 E O1             | 4.9164             | 50/50 | 4.9164         |
| 932591 | AC2-079 C O1             | 2.3241             | Adder | 2.73           |
| 932592 | AC2-079 E O1             | 3.7919             | Adder | 4.46           |
| 932631 | AC2-084 C                | 2.9678             | Adder | 3.49           |
| 932632 | AC2-084 E                | 1.4617             | Adder | 1.72           |
| 933991 | AD1-023 C                | 4.0664             | Adder | 4.78           |
| 933992 | AD1-023 E                | 2.2137             | Adder | 2.6            |
| 934011 | AD1-025 C                | 7.9822             | Adder | 9.39           |
| 934012 | AD1-025 E                | 4.7283             | Adder | 5.56           |
| 934331 | AD1-057 C O1             | 3.5880             | Adder | 4.22           |
| 934332 | AD1-057 E O1             | 1.9140             | Adder | 2.25           |
| 934521 | AD1-076 C                | 16.5492            | Adder | 19.47          |
| 934522 | AD1-076 E                | 8.4269             | Adder | 9.91           |
| 934571 | AD1-082 C                | 3.6580             | Adder | 4.3            |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 934572 | AD1-082 E    | 2.0867             | Adder | 2.45           |
| 935111 | AD1-144 C    | 0.4786             | Adder | 0.56           |
| 935112 | AD1-144 E    | 0.2615             | Adder | 0.31           |
| 935161 | AD1-151 C O1 | 9.2169             | 50/50 | 9.2169         |
| 935162 | AD1-151 E O1 | 6.1446             | 50/50 | 6.1446         |
| 936041 | AD2-007 C    | 0.3813             | Adder | 0.45           |
| 936042 | AD2-007 E    | 0.2627             | Adder | 0.31           |
| 936051 | AD2-008 C    | 1.3897             | Adder | 1.63           |
| 936052 | AD2-008 E    | 3.0251             | Adder | 3.56           |
| 936401 | AD2-051 C O1 | 2.8693             | Adder | 3.38           |
| 936402 | AD2-051 E O1 | 1.2320             | Adder | 1.45           |
| 936661 | AD2-085 C    | 1.4056             | Adder | 1.65           |
| 936662 | AD2-085 E    | 2.2934             | Adder | 2.7            |
| 936762 | AD2-097 E    | -12.3121           | Adder | -14.48         |
| 937541 | AD2-215 C    | 0.4836             | Adder | 0.57           |
| 937542 | AD2-215 E    | 0.2566             | Adder | 0.3            |
| 938171 | AE1-026 C O1 | 10.0174            | Adder | 11.79          |
| 938172 | AE1-026 E O1 | 2.6428             | Adder | 3.11           |
| 938221 | AE1-035 C    | 0.7290             | Adder | 0.86           |
| 938222 | AE1-035 E    | 0.3590             | Adder | 0.42           |
| 938491 | AE1-068 C O1 | 19.9452            | Adder | 23.46          |
| 938492 | AE1-068 E O1 | 11.0160            | Adder | 12.96          |
| 938501 | AE1-069 C O1 | 15.5884            | Adder | 18.34          |
| 938502 | AE1-069 E O1 | 8.9120             | Adder | 10.48          |
| 938561 | AE1-075 C    | -0.6325            | Adder | -0.74          |
| 938631 | AE1-085 C O1 | 6.3710             | 50/50 | 6.3710         |
| 938632 | AE1-085 E O1 | 3.1855             | 50/50 | 3.1855         |
| 938771 | AE1-103 C O1 | 1.1945             | Adder | 1.41           |
| 938772 | AE1-103 E O1 | 1.6496             | Adder | 1.94           |
| 939191 | AE1-149 C O1 | 8.2848             | 50/50 | 8.2848         |
| 939192 | AE1-149 E O1 | 5.5232             | 50/50 | 5.5232         |
| 939311 | AE1-162 C    | 0.6913             | Adder | 0.81           |
| 939312 | AE1-162 E    | 0.4608             | Adder | 0.54           |
| 939411 | AE1-173 C    | 27.3523            | Adder | 32.18          |
| 939412 | AE1-173 E    | 18.2349            | Adder | 21.45          |
| 940061 | AE2-000BC O1 | 7.6033             | Adder | 8.95           |
| 940062 | AE2-000BE O1 | 5.0689             | Adder | 5.96           |
| 940431 | AE2-027 C O1 | 3.4884             | Adder | 4.1            |
| 940432 | AE2-027 E O1 | 2.3256             | Adder | 2.74           |
| 940471 | AE2-031 C    | 10.8455            | Adder | 12.76          |
| 940472 | AE2-031 E    | 7.2303             | Adder | 8.51           |
| 940481 | AE2-033 C    | 10.7619            | 50/50 | 10.7619        |
| 940482 | AE2-033 E    | 7.2552             | 50/50 | 7.2552         |
| 940491 | AE2-034 C    | 2.1302             | Adder | 2.51           |
| 940492 | AE2-034 E    | 0.9130             | Adder | 1.07           |
| 940541 | AE2-040 O1   | 1.8309             | 50/50 | 1.8309         |
| 940571 | AE2-044 C    | 1.4309             | Adder | 1.68           |
| 940572 | AE2-044 E    | 0.6132             | Adder | 0.72           |
| 940651 | AE2-052      | 2.7616             | 50/50 | 2.7616         |
| 940891 | AE2-078 C    | 0.7870             | Adder | 0.93           |
| 940892 | AE2-078 E    | 0.4054             | Adder | 0.48           |
| 940901 | AE2-079 C    | 0.7870             | Adder | 0.93           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 940902 | AE2-079 E    | 0.4054             | Adder | 0.48           |
| 941031 | AE2-094 C    | 13.0910            | Adder | 15.4           |
| 941032 | AE2-094 E    | 5.8632             | Adder | 6.9            |
| 941101 | AE2-104 C O1 | 1.0510             | Adder | 1.24           |
| 941102 | AE2-104 E O1 | 1.6709             | Adder | 1.97           |
| 941501 | AE2-147 C    | 4.3704             | Adder | 5.14           |
| 941502 | AE2-147 E    | 2.9136             | Adder | 3.43           |
| 941541 | AE2-151 C    | 0.3607             | Adder | 0.42           |
| 941542 | AE2-151 E    | 0.1942             | Adder | 0.23           |
| 942001 | AE2-212 C    | 2.5464             | 50/50 | 2.5464         |
| 942002 | AE2-212 E    | 1.6976             | 50/50 | 1.6976         |
| 942131 | AE2-225 C    | 0.5847             | Adder | 0.69           |
| 942132 | AE2-225 E    | 0.3898             | Adder | 0.46           |
| 942161 | AE2-228 C    | 2.9190             | 50/50 | 2.9190         |
| 942162 | AE2-228 E    | 1.9460             | 50/50 | 1.9460         |
| 942171 | AE2-229 C    | 0.5847             | Adder | 0.69           |
| 942172 | AE2-229 E    | 0.3898             | Adder | 0.46           |
| 942341 | AE2-247 C    | 0.6113             | Adder | 0.72           |
| 942342 | AE2-247 E    | 0.8441             | Adder | 0.99           |
| 942371 | AE2-250 C O1 | 6.2975             | 50/50 | 6.2975         |
| 942372 | AE2-250 E O1 | 3.3237             | 50/50 | 3.3237         |
| 942471 | AE2-260 C O1 | 8.5007             | 50/50 | 8.5007         |
| 942472 | AE2-260 E O1 | 12.0573            | 50/50 | 12.0573        |
| 942551 | AE2-270      | 12.6786            | Adder | 14.92          |
| 942851 | AE2-304 C    | 0.1758             | Adder | 0.21           |
| 942852 | AE2-304 E    | 0.0684             | Adder | 0.08           |
| 942931 | AE2-313 C    | 11.7431            | Adder | 13.82          |
| 942932 | AE2-313 E    | 7.8287             | Adder | 9.21           |
| 943171 | AE2-346 C    | 0.4698             | Adder | 0.55           |
| 943172 | AE2-346 E    | 0.2013             | Adder | 0.24           |
| 943461 | AF1-017 C    | 0.5530             | Adder | 0.65           |
| 943462 | AF1-017 E    | 0.9023             | Adder | 1.06           |
| 943611 | AF1-032 C    | 0.4775             | Adder | 0.56           |
| 943612 | AF1-032 E    | 0.2534             | Adder | 0.3            |
| 943621 | AF1-033 C    | 0.7870             | Adder | 0.93           |
| 943622 | AF1-033 E    | 0.4054             | Adder | 0.48           |
| 943911 | AF1-059      | 5.6236             | Adder | 6.62           |
| 944011 | AF1-069 C    | 4.2773             | Adder | 5.03           |
| 944012 | AF1-069 E    | 1.6616             | Adder | 1.95           |
| 944141 | AF1-082      | 0.9198             | Adder | 1.08           |
| 944501 | AF1-115 C O1 | 2.3967             | Adder | 2.82           |
| 944502 | AF1-115 E O1 | 1.1805             | Adder | 1.39           |
| 944871 | AF1-152 C    | 1.4568             | Adder | 1.71           |
| 944872 | AF1-152 E    | 0.9712             | Adder | 1.14           |
| 945711 | AF1-236 C O1 | 23.3208            | Adder | 27.44          |
| 945712 | AF1-236 E O1 | 38.0498            | Adder | 44.76          |
| 945811 | AF1-246 C O1 | 2.1420             | Adder | 2.52           |
| 945812 | AF1-246 E O1 | 2.9580             | Adder | 3.48           |
| 946011 | AF1-266      | 9.0085             | 50/50 | 9.0085         |
| 946261 | AF1-291 C    | 2.9454             | 50/50 | 2.9454         |
| 946262 | AF1-291 E    | 1.9636             | 50/50 | 1.9636         |
| 946281 | AF1-292 C    | 0.6661             | Adder | 0.78           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type                  | Full MW Impact |
|--------|------------------------------------|--------------------|-----------------------|----------------|
| 946282 | AF1-292 E                          | 0.4491             | Adder                 | 0.53           |
| 957481 | AF2-042 C O2                       | 8.1090             | Adder                 | 18.0           |
| 957482 | AF2-042 E O2                       | 5.4060             | Adder                 | 12.0           |
| 957491 | AF2-043 C                          | 0.3099             | Adder                 | 0.69           |
| 957492 | AF2-043 E                          | 0.2066             | Adder                 | 0.46           |
| 957521 | AF2-046 C                          | 3.0168             | Adder                 | 6.7            |
| 957522 | AF2-046 E                          | 1.5175             | Adder                 | 3.37           |
| 957531 | AF2-047 C                          | 2.6828             | Adder                 | 5.96           |
| 957532 | AF2-047 E                          | 1.3494             | Adder                 | 3.0            |
| 957711 | AF2-065 C                          | 3.4270             | Adder                 | 7.61           |
| 957712 | AF2-065 E                          | 3.2926             | Adder                 | 7.31           |
| 957791 | AF2-073 C (Withdrawn : 07/02/2020) | 1.4644             | Adder                 | 3.25           |
| 957792 | AF2-073 E (Withdrawn : 07/02/2020) | 0.9363             | Adder                 | 2.08           |
| 957801 | AF2-074 C (Withdrawn : 07/02/2020) | 0.6508             | Adder                 | 1.44           |
| 957802 | AF2-074 E (Withdrawn : 07/02/2020) | 0.4161             | Adder                 | 0.92           |
| 957821 | AF2-076 C O2                       | 0.7744             | Adder                 | 1.72           |
| 957822 | AF2-076 E O2                       | 0.5163             | Adder                 | 1.15           |
| 957861 | AF2-080 C                          | 1.3022             | Adder                 | 2.89           |
| 957862 | AF2-080 E                          | 0.5773             | Adder                 | 1.28           |
| 957912 | AF2-085 BAT                        | 0.9406             | Merchant Transmission | 0.9406         |
| 958141 | AF2-108                            | 3.0980             | 50/50                 | 3.0980         |
| 958161 | AF2-110 C                          | 0.2296             | Adder                 | 0.51           |
| 958162 | AF2-110 E                          | 0.3592             | Adder                 | 0.8            |
| 958503 | AF2-144 BAT                        | 0.3259             | Merchant Transmission | 0.3259         |
| 959231 | AF2-214 C                          | 1.6386             | Adder                 | 3.64           |
| 959232 | AF2-214 E                          | 2.4565             | Adder                 | 5.45           |
| 959511 | AF2-242                            | 1.2912             | Adder                 | 2.87           |
| 959651 | AF2-256 C                          | 0.7297             | 50/50                 | 0.7297         |
| 959652 | AF2-256 E                          | 0.4865             | 50/50                 | 0.4865         |
| 959661 | AF2-257 C                          | 0.7364             | 50/50                 | 0.7364         |
| 959662 | AF2-257 E                          | 0.4909             | 50/50                 | 0.4909         |
| 959671 | AF2-258 C                          | 0.6366             | 50/50                 | 0.6366         |
| 959672 | AF2-258 E                          | 0.4244             | 50/50                 | 0.4244         |
| 959681 | AF2-259 C                          | 2.6555             | 50/50                 | 2.6555         |
| 959682 | AF2-259 E                          | 1.7703             | 50/50                 | 1.7703         |
| 959731 | AF2-264 C                          | 0.4009             | Adder                 | 0.89           |
| 959732 | AF2-264 E                          | 0.1975             | Adder                 | 0.44           |
| 959751 | AF2-266 O2                         | 1.3515             | Adder                 | 3.0            |
| 960081 | AF2-299 C                          | 0.5950             | Adder                 | 1.32           |
| 960082 | AF2-299 E                          | 0.3967             | Adder                 | 0.88           |
| 960101 | AF2-301 C                          | 0.4094             | Adder                 | 0.91           |
| 960102 | AF2-301 E                          | 0.2730             | Adder                 | 0.61           |
| 960121 | AF2-303 C O2                       | 3.1276             | Adder                 | 6.94           |
| 960122 | AF2-303 E O2                       | 2.0398             | Adder                 | 4.53           |
| 960131 | AF2-304 C O2                       | 3.9970             | Adder                 | 8.87           |
| 960132 | AF2-304 E O2                       | 2.7395             | Adder                 | 6.08           |
| 960331 | AF2-324 C O2                       | 1.3261             | Adder                 | 2.94           |
| 960332 | AF2-324 E O2                       | 0.7120             | Adder                 | 1.58           |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 960351  | AF2-326 C (Withdrawn : 07/22/2020) | 0.4329             | Adder         | 0.96           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020) | 0.1082             | Adder         | 0.24           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.7320             | 50/50         | 1.7320         |
| 960362  | AF2-327 E (Withdrawn : 07/22/2020) | 0.4330             | 50/50         | 0.4330         |
| 960831  | AF2-374 C                          | 0.2298             | Adder         | 0.51           |
| 960832  | AF2-374 E                          | 0.3750             | Adder         | 0.83           |
| 961091  | AF2-400 C                          | 0.0817             | Adder         | 0.18           |
| 961092  | AF2-400 E                          | 0.1340             | Adder         | 0.3            |
| 961111  | AF2-402 C O2                       | 0.2750             | Adder         | 0.61           |
| 961112  | AF2-402 E O2                       | 0.4497             | Adder         | 1.0            |
| WEC     | WEC                                | 0.2240             | Confirmed LTF | 0.2240         |
| LGEE    | LGEE                               | 0.4262             | Confirmed LTF | 0.4262         |
| CPL     | CPL                                | 2.7598             | Confirmed LTF | 2.7598         |
| CBM-W2  | CBM-W2                             | 9.7133             | Confirmed LTF | 9.7133         |
| NY      | NY                                 | 0.4678             | Confirmed LTF | 0.4678         |
| CBM-W1  | CBM-W1                             | 8.2441             | Confirmed LTF | 8.2441         |
| TVA     | TVA                                | 2.0916             | Confirmed LTF | 2.0916         |
| O-066   | O-066                              | 6.4512             | Confirmed LTF | 6.4512         |
| CBM-S2  | CBM-S2                             | 18.4960            | Confirmed LTF | 18.4960        |
| CBM-S1  | CBM-S1                             | 11.5446            | Confirmed LTF | 11.5446        |
| G-007   | G-007                              | 1.0057             | Confirmed LTF | 1.0057         |
| MADISON | MADISON                            | 0.6471             | Confirmed LTF | 0.6471         |
| MEC     | MEC                                | 1.4079             | Confirmed LTF | 1.4079         |
| AA2-074 | AA2-074                            | 1.8806             | LTF           | 1.8806         |

### 13.5.18 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 |
|----------|-----------|----------|---------------|---------|---------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706529 | 314299    | 6HARROWG | DVP           | 314263  | 6TYLER1 | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 541.0      | 137.68                | 140.34                 | DC    | 31.91     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                  | 0.3501             | 50/50 | 0.3501         |
| 314539 | 3UNCAMP                  | 0.6872             | Adder | 0.81           |
| 314541 | 3WATKINS                 | 0.2020             | Adder | 0.24           |
| 900672 | V4-068 E                 | 0.0934             | Adder | 0.11           |
| 907092 | X1-038 E                 | 1.7181             | Adder | 2.02           |
| 917332 | Z2-043 E                 | 0.3606             | Adder | 0.42           |
| 917342 | Z2-044 E                 | 0.1895             | Adder | 0.22           |
| 917512 | Z2-088 E OP1             | 1.1777             | Adder | 1.39           |
| 918492 | AA1-063AE OP             | 1.4311             | Adder | 1.68           |
| 918512 | AA1-065 E OP             | 1.1298             | Adder | 1.33           |
| 918532 | AA1-067 E                | 0.2085             | Adder | 0.25           |
| 919692 | AA2-053 E OP             | 1.3707             | Adder | 1.61           |
| 919702 | AA2-057 E OP             | 1.1342             | Adder | 1.33           |
| 920042 | AA2-088 E OP             | 3.3180             | Adder | 3.9            |
| 920592 | AA2-165 E                | 0.1559             | Adder | 0.18           |
| 920672 | AA2-174 E OP             | 0.1584             | Adder | 0.19           |
| 922922 | AB1-081 C OP             | 2.8884             | Adder | 3.4            |
| 922923 | AB1-081 E OP             | 1.2379             | Adder | 1.46           |
| 923262 | AB1-132 C OP (Suspended) | 6.0126             | Adder | 7.07           |
| 923263 | AB1-132 E OP (Suspended) | 2.5768             | Adder | 3.03           |
| 923572 | AB1-173 C OP             | 1.0096             | Adder | 1.19           |
| 923573 | AB1-173 E OP             | 0.4711             | Adder | 0.55           |
| 923582 | AB1-173AC OP             | 1.0096             | Adder | 1.19           |
| 923583 | AB1-173AE OP             | 0.4711             | Adder | 0.55           |
| 923801 | AB2-015 C OP             | 2.4956             | Adder | 2.94           |
| 923802 | AB2-015 E OP             | 2.0464             | Adder | 2.41           |
| 923852 | AB2-025 E                | 0.9118             | 50/50 | 0.9118         |
| 923911 | AB2-031 C O1             | 1.0021             | Adder | 1.18           |
| 923912 | AB2-031 E O1             | 0.4936             | Adder | 0.58           |
| 923991 | AB2-040 C O1             | 3.2905             | Adder | 3.87           |
| 923992 | AB2-040 E O1             | 2.6922             | Adder | 3.17           |
| 924022 | AB2-043 E O1             | 0.7888             | Adder | 0.93           |
| 924152 | AB2-059 E OP             | 1.7537             | Adder | 2.06           |
| 924162 | AB2-060 E OP             | 1.1840             | Adder | 1.39           |
| 924301 | AB2-077 C O1 (Suspended) | 0.5601             | Adder | 0.66           |
| 924302 | AB2-077 E O1 (Suspended) | 0.3734             | Adder | 0.44           |
| 924311 | AB2-078 C O1 (Suspended) | 0.5601             | Adder | 0.66           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924312 | AB2-078 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924501 | AB2-099 C (Suspended)       | 0.1773             | Adder | 0.21           |
| 924502 | AB2-099 E (Suspended)       | 0.0760             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.3143             | 50/50 | 1.3143         |
| 924512 | AB2-100 E                   | 3.7528             | 50/50 | 3.7528         |
| 925061 | AB2-161 C O1<br>(Suspended) | 2.4158             | 50/50 | 2.4158         |
| 925062 | AB2-161 E O1<br>(Suspended) | 3.9416             | 50/50 | 3.9416         |
| 925122 | AB2-169 E                   | 1.5101             | Adder | 1.78           |
| 925172 | AB2-174 E O1                | 2.9357             | Adder | 3.45           |
| 925591 | AC1-034 C                   | 2.2050             | Adder | 2.59           |
| 925592 | AC1-034 E                   | 1.6634             | Adder | 1.96           |
| 925781 | AC1-054 C O1                | 2.3459             | Adder | 2.76           |
| 925782 | AC1-054 E O1                | 1.0807             | Adder | 1.27           |
| 926071 | AC1-086 C                   | 8.8543             | Adder | 10.42          |
| 926072 | AC1-086 E                   | 4.0299             | Adder | 4.74           |
| 926201 | AC1-098 C                   | 2.0384             | Adder | 2.4            |
| 926202 | AC1-098 E                   | 1.2144             | Adder | 1.43           |
| 926211 | AC1-099 C                   | 0.6831             | Adder | 0.8            |
| 926212 | AC1-099 E                   | 0.4012             | Adder | 0.47           |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.4685             | Adder | 1.73           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.7310             | Adder | 0.86           |
| 927021 | AC1-189 C                   | 2.5727             | Adder | 3.03           |
| 927022 | AC1-189 E                   | 1.2815             | Adder | 1.51           |
| 927141 | AC1-208 C                   | 3.1122             | Adder | 3.66           |
| 927142 | AC1-208 E                   | 1.3819             | Adder | 1.63           |
| 932581 | AC2-078 C O1                | 4.5616             | 50/50 | 4.5616         |
| 932582 | AC2-078 E O1                | 7.4426             | 50/50 | 7.4426         |
| 932591 | AC2-079 C O1                | 2.5898             | Adder | 3.05           |
| 932592 | AC2-079 E O1                | 4.2255             | Adder | 4.97           |
| 932631 | AC2-084 C                   | 2.9058             | Adder | 3.42           |
| 932632 | AC2-084 E                   | 1.4312             | Adder | 1.68           |
| 934331 | AD1-057 C O1                | 3.7094             | Adder | 4.36           |
| 934332 | AD1-057 E O1                | 1.9787             | Adder | 2.33           |
| 934571 | AD1-082 C                   | 5.5056             | 50/50 | 5.5056         |
| 934572 | AD1-082 E                   | 3.1406             | 50/50 | 3.1406         |
| 934611 | AD1-087 C O1                | 2.2736             | Adder | 2.67           |
| 934612 | AD1-087 E O1                | 1.0686             | Adder | 1.26           |
| 935171 | AD1-152 C O1                | 2.2595             | Adder | 2.66           |
| 935172 | AD1-152 E O1                | 1.5063             | Adder | 1.77           |
| 936361 | AD2-046 C O1                | 2.6732             | Adder | 3.14           |
| 936362 | AD2-046 E O1                | 1.2293             | Adder | 1.45           |
| 936401 | AD2-051 C O1                | 2.5014             | Adder | 2.94           |
| 936402 | AD2-051 E O1                | 1.0741             | Adder | 1.26           |
| 936481 | AD2-063 C O1                | 3.9604             | Adder | 4.66           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936482 | AD2-063 E O1 | 2.6183             | Adder | 3.08           |
| 936661 | AD2-085 C    | 1.5789             | Adder | 1.86           |
| 936662 | AD2-085 E    | 2.5762             | Adder | 3.03           |
| 936762 | AD2-097 E    | -2.9410            | Adder | -3.46          |
| 937481 | AD2-202 C O1 | 0.6025             | Adder | 0.71           |
| 937482 | AD2-202 E O1 | 0.3389             | Adder | 0.4            |
| 938171 | AE1-026 C O1 | 8.1805             | Adder | 9.62           |
| 938172 | AE1-026 E O1 | 2.1582             | Adder | 2.54           |
| 938221 | AE1-035 C    | 0.6308             | Adder | 0.74           |
| 938222 | AE1-035 E    | 0.3107             | Adder | 0.37           |
| 938491 | AE1-068 C O1 | 20.6407            | Adder | 24.28          |
| 938492 | AE1-068 E O1 | 11.4001            | Adder | 13.41          |
| 938501 | AE1-069 C O1 | 16.1400            | Adder | 18.99          |
| 938502 | AE1-069 E O1 | 9.2274             | Adder | 10.86          |
| 938631 | AE1-085 C O1 | 9.4765             | 50/50 | 9.4765         |
| 938632 | AE1-085 E O1 | 4.7383             | 50/50 | 4.7383         |
| 938771 | AE1-103 C O1 | 1.0308             | Adder | 1.21           |
| 938772 | AE1-103 E O1 | 1.4235             | Adder | 1.67           |
| 939181 | AE1-148 C O1 | 2.6282             | Adder | 3.09           |
| 939182 | AE1-148 E O1 | 1.7522             | Adder | 2.06           |
| 939191 | AE1-149 C O1 | 12.7956            | 50/50 | 12.7956        |
| 939192 | AE1-149 E O1 | 8.5304             | 50/50 | 8.5304         |
| 939411 | AE1-173 C    | 24.2638            | Adder | 28.55          |
| 939412 | AE1-173 E    | 16.1758            | Adder | 19.03          |
| 940061 | AE2-000BC O1 | 11.4435            | 50/50 | 11.4435        |
| 940062 | AE2-000BE O1 | 7.6290             | 50/50 | 7.6290         |
| 940471 | AE2-031 C    | 11.2374            | Adder | 13.22          |
| 940472 | AE2-031 E    | 7.4916             | Adder | 8.81           |
| 940481 | AE2-033 C    | 12.6994            | 50/50 | 12.6994        |
| 940482 | AE2-033 E    | 8.5614             | 50/50 | 8.5614         |
| 940571 | AE2-044 C    | 1.4442             | Adder | 1.7            |
| 940572 | AE2-044 E    | 0.6189             | Adder | 0.73           |
| 940651 | AE2-052      | 4.2652             | 50/50 | 4.2652         |
| 940661 | AE2-053 O1   | 0.9734             | Adder | 1.15           |
| 941031 | AE2-094 C    | 13.5348            | Adder | 15.92          |
| 941032 | AE2-094 E    | 6.0619             | Adder | 7.13           |
| 941101 | AE2-104 C O1 | 0.8265             | Adder | 0.97           |
| 941102 | AE2-104 E O1 | 1.3139             | Adder | 1.55           |
| 941541 | AE2-151 C    | 0.3249             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1749             | Adder | 0.21           |
| 942341 | AE2-247 C    | 0.6889             | Adder | 0.81           |
| 942342 | AE2-247 E    | 0.9513             | Adder | 1.12           |
| 942451 | AE2-258      | 0.6581             | Adder | 0.77           |
| 942471 | AE2-260 C O1 | 9.7098             | 50/50 | 9.7098         |
| 942472 | AE2-260 E O1 | 13.7722            | 50/50 | 13.7722        |
| 942931 | AE2-313 C    | 12.1674            | Adder | 14.31          |
| 942932 | AE2-313 E    | 8.1116             | Adder | 9.54           |
| 943171 | AE2-346 C    | 0.4256             | Adder | 0.5            |
| 943172 | AE2-346 E    | 0.1824             | Adder | 0.21           |
| 943461 | AF1-017 C    | 0.6233             | Adder | 0.73           |
| 943462 | AF1-017 E    | 1.0169             | Adder | 1.2            |
| 943911 | AF1-059      | 6.3283             | Adder | 7.45           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 944011 | AF1-069 C                          | 4.4223             | Adder         | 5.2            |
| 944012 | AF1-069 E                          | 1.7180             | Adder         | 2.02           |
| 944141 | AF1-082                            | 0.9284             | Adder         | 1.09           |
| 945811 | AF1-246 C O1                       | 2.2784             | Adder         | 2.68           |
| 945812 | AF1-246 E O1                       | 3.1463             | Adder         | 3.7            |
| 946011 | AF1-266                            | 10.6304            | 50/50         | 10.6304        |
| 946281 | AF1-292 C                          | 0.7457             | Adder         | 0.88           |
| 946282 | AF1-292 E                          | 0.5027             | Adder         | 0.59           |
| 957481 | AF2-042 C O2                       | 8.6253             | Adder         | 19.15          |
| 957482 | AF2-042 E O2                       | 5.7502             | Adder         | 12.76          |
| 957521 | AF2-046 C                          | 2.7695             | Adder         | 6.15           |
| 957522 | AF2-046 E                          | 1.3931             | Adder         | 3.09           |
| 957861 | AF2-080 C                          | 1.2384             | Adder         | 2.75           |
| 957862 | AF2-080 E                          | 0.5490             | Adder         | 1.22           |
| 958161 | AF2-110 C                          | 0.1806             | Adder         | 0.4            |
| 958162 | AF2-110 E                          | 0.2824             | Adder         | 0.63           |
| 959231 | AF2-214 C                          | 1.6538             | Adder         | 3.67           |
| 959232 | AF2-214 E                          | 2.4794             | Adder         | 5.5            |
| 959511 | AF2-242                            | 1.1275             | Adder         | 2.5            |
| 959731 | AF2-264 C                          | 0.3655             | Adder         | 0.81           |
| 959732 | AF2-264 E                          | 0.1800             | Adder         | 0.4            |
| 959751 | AF2-266 O2                         | 1.4375             | Adder         | 3.19           |
| 960061 | AF2-297 C O2                       | 1.1247             | Adder         | 2.5            |
| 960062 | AF2-297 E O2                       | 0.7498             | Adder         | 1.66           |
| 960081 | AF2-299 C                          | 0.6661             | Adder         | 1.48           |
| 960082 | AF2-299 E                          | 0.4441             | Adder         | 0.99           |
| 960121 | AF2-303 C O2                       | 3.1608             | Adder         | 7.02           |
| 960122 | AF2-303 E O2                       | 2.0614             | Adder         | 4.58           |
| 960331 | AF2-324 C O2                       | 1.3362             | Adder         | 2.97           |
| 960332 | AF2-324 E O2                       | 0.7174             | Adder         | 1.59           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.4368             | Adder         | 0.97           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1092             | Adder         | 0.24           |
| 960361 | AF2-327 C (Withdrawn : 07/22/2020) | 2.3496             | 50/50         | 2.3496         |
| 960362 | AF2-327 E (Withdrawn : 07/22/2020) | 0.5874             | 50/50         | 0.5874         |
| 960811 | AF2-372 C                          | 0.1875             | Adder         | 0.42           |
| 960812 | AF2-372 E                          | 0.3060             | Adder         | 0.68           |
| 960821 | AF2-373 C                          | 0.1331             | Adder         | 0.3            |
| 960822 | AF2-373 E                          | 0.1996             | Adder         | 0.44           |
| 960831 | AF2-374 C                          | 0.2160             | Adder         | 0.48           |
| 960832 | AF2-374 E                          | 0.3524             | Adder         | 0.78           |
| 961091 | AF2-400 C                          | 0.0714             | Adder         | 0.16           |
| 961092 | AF2-400 E                          | 0.1172             | Adder         | 0.26           |
| 961111 | AF2-402 C O2                       | 0.7661             | 50/50         | 0.7661         |
| 961112 | AF2-402 E O2                       | 1.2526             | 50/50         | 1.2526         |
| WEC    | WEC                                | 0.2693             | Confirmed LTF | 0.2693         |
| LGEE   | LGEE                               | 0.5089             | Confirmed LTF | 0.5089         |
| CPL    | CPL                                | 2.8524             | Confirmed LTF | 2.8524         |
| CBM-W2 | CBM-W2                             | 10.9173            | Confirmed LTF | 10.9173        |
| NY     | NY                                 | 0.3971             | Confirmed LTF | 0.3971         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>CBM-W1</b>  | CBM-W1     | 10.0455                   | Confirmed LTF | 10.0455               |
| <b>TVA</b>     | TVA        | 2.3002                    | Confirmed LTF | 2.3002                |
| <b>O-066</b>   | O-066      | 5.6112                    | Confirmed LTF | 5.6112                |
| <b>CBM-S2</b>  | CBM-S2     | 19.3746                   | Confirmed LTF | 19.3746               |
| <b>CBM-S1</b>  | CBM-S1     | 12.8056                   | Confirmed LTF | 12.8056               |
| <b>G-007</b>   | G-007      | 0.8757                    | Confirmed LTF | 0.8757                |
| <b>MADISON</b> | MADISON    | 0.6492                    | Confirmed LTF | 0.6492                |
| <b>MEC</b>     | MEC        | 1.6383                    | Confirmed LTF | 1.6383                |
| <b>AA2-074</b> | AA2-074    | 1.9440                    | LTF           | 1.9440                |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706584 | 314301    | 6HARR205 | DVP           | 314346  | 6TYLER | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 541.0      | 119.93                | 122.77                 | DC    | 34.02     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                      | 0.4484             | 50/50 | 0.4484         |
| 314435 | 6SAPONY                     | 0.3847             | 50/50 | 0.3847         |
| 314572 | 3EMPORIA                    | 0.0441             | 50/50 | 0.0441         |
| 315073 | 1STONECA                    | -2.0407            | Adder | -2.4           |
| 917342 | Z2-044 E                    | 0.1963             | Adder | 0.23           |
| 918492 | AA1-063AE OP                | 1.4180             | Adder | 1.67           |
| 919692 | AA2-053 E OP                | 1.4063             | Adder | 1.65           |
| 919702 | AA2-057 E OP                | 1.1712             | Adder | 1.38           |
| 920592 | AA2-165 E                   | 0.1610             | Adder | 0.19           |
| 920672 | AA2-174 E OP                | 0.1625             | Adder | 0.19           |
| 922922 | AB1-081 C OP                | 3.0031             | Adder | 3.53           |
| 922923 | AB1-081 E OP                | 1.2870             | Adder | 1.51           |
| 923262 | AB1-132 C OP<br>(Suspended) | 6.3446             | Adder | 7.46           |
| 923263 | AB1-132 E OP<br>(Suspended) | 2.7191             | Adder | 3.2            |
| 923572 | AB1-173 C OP                | 1.0681             | Adder | 1.26           |
| 923573 | AB1-173 E OP                | 0.4984             | Adder | 0.59           |
| 923582 | AB1-173AC OP                | 1.0681             | Adder | 1.26           |
| 923583 | AB1-173AE OP                | 0.4984             | Adder | 0.59           |
| 923852 | AB2-025 E                   | 1.0021             | 50/50 | 1.0021         |
| 923911 | AB2-031 C O1                | 1.0602             | Adder | 1.25           |
| 923912 | AB2-031 E O1                | 0.5222             | Adder | 0.61           |
| 923991 | AB2-040 C O1                | 3.4812             | Adder | 4.1            |
| 923992 | AB2-040 E O1                | 2.8482             | Adder | 3.35           |
| 924152 | AB2-059 E OP                | 1.8233             | Adder | 2.15           |
| 924511 | AB2-100 C                   | 1.4223             | 50/50 | 1.4223         |
| 924512 | AB2-100 E                   | 4.0613             | 50/50 | 4.0613         |
| 925051 | AB2-160 C O1<br>(Suspended) | 7.9019             | 50/50 | 7.9019         |
| 925052 | AB2-160 E O1<br>(Suspended) | 12.8925            | 50/50 | 12.8925        |
| 925172 | AB2-174 E O1                | 3.1192             | Adder | 3.67           |
| 925591 | AC1-034 C                   | 2.2925             | Adder | 2.7            |
| 925592 | AC1-034 E                   | 1.7295             | Adder | 2.03           |
| 925781 | AC1-054 C O1                | 2.4514             | Adder | 2.88           |
| 925782 | AC1-054 E O1                | 1.1293             | Adder | 1.33           |
| 926071 | AC1-086 C                   | 9.3432             | Adder | 10.99          |
| 926072 | AC1-086 E                   | 4.2524             | Adder | 5.0            |
| 926201 | AC1-098 C                   | 2.0796             | Adder | 2.45           |
| 926202 | AC1-098 E                   | 1.2389             | Adder | 1.46           |
| 926211 | AC1-099 C                   | 0.6969             | Adder | 0.82           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 926212 | AC1-099 E    | 0.4093             | Adder | 0.48           |
| 927141 | AC1-208 C    | 3.2021             | Adder | 3.77           |
| 927142 | AC1-208 E    | 1.4219             | Adder | 1.67           |
| 932631 | AC2-084 C    | 2.9646             | Adder | 3.49           |
| 932632 | AC2-084 E    | 1.4602             | Adder | 1.72           |
| 934331 | AD1-057 C O1 | 3.8896             | Adder | 4.58           |
| 934332 | AD1-057 E O1 | 2.0749             | Adder | 2.44           |
| 936762 | AD2-097 E    | -3.0883            | Adder | -3.63          |
| 938491 | AE1-068 C O1 | 22.0260            | Adder | 25.91          |
| 938492 | AE1-068 E O1 | 12.1652            | Adder | 14.31          |
| 938501 | AE1-069 C O1 | 17.2195            | Adder | 20.26          |
| 938502 | AE1-069 E O1 | 9.8445             | Adder | 11.58          |
| 939411 | AE1-173 C    | 25.0186            | Adder | 29.43          |
| 939412 | AE1-173 E    | 16.6790            | Adder | 19.62          |
| 940431 | AE2-027 C O1 | 11.7209            | 50/50 | 11.7209        |
| 940432 | AE2-027 E O1 | 7.8139             | 50/50 | 7.8139         |
| 940471 | AE2-031 C    | 11.9947            | Adder | 14.11          |
| 940472 | AE2-031 E    | 7.9965             | Adder | 9.41           |
| 940481 | AE2-033 C    | 13.9347            | 50/50 | 13.9347        |
| 940482 | AE2-033 E    | 9.3942             | 50/50 | 9.3942         |
| 940541 | AE2-040 O1   | 4.0809             | 50/50 | 4.0809         |
| 940571 | AE2-044 C    | 1.5015             | Adder | 1.77           |
| 940572 | AE2-044 E    | 0.6435             | Adder | 0.76           |
| 941031 | AE2-094 C    | 14.4471            | Adder | 17.0           |
| 941032 | AE2-094 E    | 6.4705             | Adder | 7.61           |
| 942001 | AE2-212 C    | 7.6140             | 50/50 | 7.6140         |
| 942002 | AE2-212 E    | 5.0760             | 50/50 | 5.0760         |
| 942371 | AE2-250 C O1 | 14.0362            | 50/50 | 14.0362        |
| 942372 | AE2-250 E O1 | 7.4080             | 50/50 | 7.4080         |
| 942471 | AE2-260 C O1 | 10.5310            | 50/50 | 10.5310        |
| 942472 | AE2-260 E O1 | 14.9370            | 50/50 | 14.9370        |
| 942931 | AE2-313 C    | 12.9874            | Adder | 15.28          |
| 942932 | AE2-313 E    | 8.6582             | Adder | 10.19          |
| 943911 | AF1-059      | 6.7532             | Adder | 7.94           |
| 944011 | AF1-069 C    | 4.7204             | Adder | 5.55           |
| 944012 | AF1-069 E    | 1.8338             | Adder | 2.16           |
| 944141 | AF1-082      | 0.9653             | Adder | 1.14           |
| 945811 | AF1-246 C O1 | 2.4290             | Adder | 2.86           |
| 945812 | AF1-246 E O1 | 3.3544             | Adder | 3.95           |
| 946011 | AF1-266      | 11.6645            | 50/50 | 11.6645        |
| 946281 | AF1-292 C    | 0.9413             | 50/50 | 0.9413         |
| 946282 | AF1-292 E    | 0.6346             | 50/50 | 0.6346         |
| 957481 | AF2-042 C O2 | 9.1956             | Adder | 20.41          |
| 957482 | AF2-042 E O2 | 6.1304             | Adder | 13.61          |
| 958141 | AF2-108      | 7.8655             | 50/50 | 7.8655         |
| 959231 | AF2-214 C    | 1.7195             | Adder | 3.82           |
| 959232 | AF2-214 E    | 2.5779             | Adder | 5.72           |
| 959671 | AF2-258 C    | 1.9035             | 50/50 | 1.9035         |
| 959672 | AF2-258 E    | 1.2690             | 50/50 | 1.2690         |
| 959681 | AF2-259 C    | 6.7419             | 50/50 | 6.7419         |
| 959682 | AF2-259 E    | 4.4946             | 50/50 | 4.4946         |
| 959751 | AF2-266 O2   | 1.5326             | Adder | 3.4            |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 960081  | AF2-299 C                          | 1.5864             | 50/50         | 1.5864         |
| 960082  | AF2-299 E                          | 1.0576             | 50/50         | 1.0576         |
| 960121  | AF2-303 C O2                       | 3.2913             | Adder         | 7.31           |
| 960122  | AF2-303 E O2                       | 2.1465             | Adder         | 4.76           |
| 960331  | AF2-324 C O2                       | 1.3899             | Adder         | 3.09           |
| 960332  | AF2-324 E O2                       | 0.7462             | Adder         | 1.66           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020) | 0.4540             | Adder         | 1.01           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020) | 0.1135             | Adder         | 0.25           |
| 960831  | AF2-374 C                          | 0.2162             | Adder         | 0.48           |
| 960832  | AF2-374 E                          | 0.3528             | Adder         | 0.78           |
| WEC     | WEC                                | 0.2867             | Confirmed LTF | 0.2867         |
| LGEE    | LGEE                               | 0.5408             | Confirmed LTF | 0.5408         |
| CPLE    | CPLE                               | 3.0006             | Confirmed LTF | 3.0006         |
| CBM-W2  | CBM-W2                             | 11.5643            | Confirmed LTF | 11.5643        |
| NY      | NY                                 | 0.4120             | Confirmed LTF | 0.4120         |
| CBM-W1  | CBM-W1                             | 10.6961            | Confirmed LTF | 10.6961        |
| TVA     | TVA                                | 2.4332             | Confirmed LTF | 2.4332         |
| O-066   | O-066                              | 5.8330             | Confirmed LTF | 5.8330         |
| CBM-S2  | CBM-S2                             | 20.4265            | Confirmed LTF | 20.4265        |
| CBM-S1  | CBM-S1                             | 13.5553            | Confirmed LTF | 13.5553        |
| G-007   | G-007                              | 0.9110             | Confirmed LTF | 0.9110         |
| MADISON | MADISON                            | 0.6834             | Confirmed LTF | 0.6834         |
| MEC     | MEC                                | 1.7400             | Confirmed LTF | 1.7400         |
| AA2-074 | AA2-074                            | 2.0452             | LTF           | 2.0452         |

## 13.5.20 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706539 | 314316    | 6LOCKS   | DVP           | 314301  | 6HARR205 | DVP         | 1      | DVP_P4-2:<br>562T563 | breaker | 541.0      | 134.18                | 137.01                 | DC    | 34.02     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314314 | 3LOCKS                   | 0.4484             | 50/50 | 0.4484         |
| 314435 | 6SAPONY                  | 0.3847             | 50/50 | 0.3847         |
| 314572 | 3EMPORIA                 | 0.0441             | 50/50 | 0.0441         |
| 315073 | 1STONECA                 | -2.0407            | Adder | -2.4           |
| 900672 | V4-068 E                 | 0.0874             | Adder | 0.1            |
| 917332 | Z2-043 E                 | 0.3603             | Adder | 0.42           |
| 917342 | Z2-044 E                 | 0.1963             | Adder | 0.23           |
| 917512 | Z2-088 E OP1             | 1.2083             | Adder | 1.42           |
| 918492 | AA1-063AE OP             | 1.4180             | Adder | 1.67           |
| 918512 | AA1-065 E OP             | 1.1096             | Adder | 1.31           |
| 918532 | AA1-067 E                | 0.2104             | Adder | 0.25           |
| 919692 | AA2-053 E OP             | 1.4063             | Adder | 1.65           |
| 919702 | AA2-057 E OP             | 1.1712             | Adder | 1.38           |
| 920042 | AA2-088 E OP             | 2.9997             | Adder | 3.53           |
| 920592 | AA2-165 E                | 0.1610             | Adder | 0.19           |
| 920672 | AA2-174 E OP             | 0.1625             | Adder | 0.19           |
| 922922 | AB1-081 C OP             | 3.0031             | Adder | 3.53           |
| 922923 | AB1-081 E OP             | 1.2870             | Adder | 1.51           |
| 923262 | AB1-132 C OP (Suspended) | 6.3446             | Adder | 7.46           |
| 923263 | AB1-132 E OP (Suspended) | 2.7191             | Adder | 3.2            |
| 923572 | AB1-173 C OP             | 1.0681             | Adder | 1.26           |
| 923573 | AB1-173 E OP             | 0.4984             | Adder | 0.59           |
| 923582 | AB1-173AC OP             | 1.0681             | Adder | 1.26           |
| 923583 | AB1-173AE OP             | 0.4984             | Adder | 0.59           |
| 923852 | AB2-025 E                | 1.0021             | 50/50 | 1.0021         |
| 923911 | AB2-031 C O1             | 1.0602             | Adder | 1.25           |
| 923912 | AB2-031 E O1             | 0.5222             | Adder | 0.61           |
| 923991 | AB2-040 C O1             | 3.4812             | Adder | 4.1            |
| 923992 | AB2-040 E O1             | 2.8482             | Adder | 3.35           |
| 924022 | AB2-043 E O1             | 0.8350             | Adder | 0.98           |
| 924152 | AB2-059 E OP             | 1.8233             | Adder | 2.15           |
| 924162 | AB2-060 E OP             | 1.2536             | Adder | 1.47           |
| 924301 | AB2-077 C O1 (Suspended) | 0.5927             | Adder | 0.7            |
| 924302 | AB2-077 E O1 (Suspended) | 0.3951             | Adder | 0.46           |
| 924311 | AB2-078 C O1 (Suspended) | 0.5927             | Adder | 0.7            |
| 924312 | AB2-078 E O1 (Suspended) | 0.3951             | Adder | 0.46           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5927             | Adder | 0.7            |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3951             | Adder | 0.46           |
| 924501 | AB2-099 C (Suspended)       | 0.1725             | Adder | 0.2            |
| 924502 | AB2-099 E (Suspended)       | 0.0739             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.4223             | 50/50 | 1.4223         |
| 924512 | AB2-100 E                   | 4.0613             | 50/50 | 4.0613         |
| 925051 | AB2-160 C O1<br>(Suspended) | 7.9019             | 50/50 | 7.9019         |
| 925052 | AB2-160 E O1<br>(Suspended) | 12.8925            | 50/50 | 12.8925        |
| 925172 | AB2-174 E O1                | 3.1192             | Adder | 3.67           |
| 925591 | AC1-034 C                   | 2.2925             | Adder | 2.7            |
| 925592 | AC1-034 E                   | 1.7295             | Adder | 2.03           |
| 925781 | AC1-054 C O1                | 2.4514             | Adder | 2.88           |
| 925782 | AC1-054 E O1                | 1.1293             | Adder | 1.33           |
| 926071 | AC1-086 C                   | 9.3432             | Adder | 10.99          |
| 926072 | AC1-086 E                   | 4.2524             | Adder | 5.0            |
| 926201 | AC1-098 C                   | 2.0796             | Adder | 2.45           |
| 926202 | AC1-098 E                   | 1.2389             | Adder | 1.46           |
| 926211 | AC1-099 C                   | 0.6969             | Adder | 0.82           |
| 926212 | AC1-099 E                   | 0.4093             | Adder | 0.48           |
| 927021 | AC1-189 C                   | 2.6258             | Adder | 3.09           |
| 927022 | AC1-189 E                   | 1.3080             | Adder | 1.54           |
| 927141 | AC1-208 C                   | 3.2021             | Adder | 3.77           |
| 927142 | AC1-208 E                   | 1.4219             | Adder | 1.67           |
| 932581 | AC2-078 C O1                | 1.1238             | Adder | 1.32           |
| 932582 | AC2-078 E O1                | 1.8336             | Adder | 2.16           |
| 932631 | AC2-084 C                   | 2.9646             | Adder | 3.49           |
| 932632 | AC2-084 E                   | 1.4602             | Adder | 1.72           |
| 934331 | AD1-057 C O1                | 3.8896             | Adder | 4.58           |
| 934332 | AD1-057 E O1                | 2.0749             | Adder | 2.44           |
| 934611 | AD1-087 C O1                | 2.4186             | Adder | 2.85           |
| 934612 | AD1-087 E O1                | 1.1367             | Adder | 1.34           |
| 935171 | AD1-152 C O1                | 2.4035             | Adder | 2.83           |
| 935172 | AD1-152 E O1                | 1.6024             | Adder | 1.89           |
| 936361 | AD2-046 C O1                | 2.8106             | Adder | 3.31           |
| 936362 | AD2-046 E O1                | 1.2925             | Adder | 1.52           |
| 936401 | AD2-051 C O1                | 2.4640             | Adder | 2.9            |
| 936402 | AD2-051 E O1                | 1.0580             | Adder | 1.24           |
| 936481 | AD2-063 C O1                | 4.1960             | Adder | 4.94           |
| 936482 | AD2-063 E O1                | 2.7740             | Adder | 3.26           |
| 936762 | AD2-097 E                   | -3.0883            | Adder | -3.63          |
| 937481 | AD2-202 C O1                | 0.6409             | Adder | 0.75           |
| 937482 | AD2-202 E O1                | 0.3605             | Adder | 0.42           |
| 938221 | AE1-035 C                   | 0.6195             | Adder | 0.73           |
| 938222 | AE1-035 E                   | 0.3051             | Adder | 0.36           |
| 938491 | AE1-068 C O1                | 22.0260            | Adder | 25.91          |
| 938492 | AE1-068 E O1                | 12.1652            | Adder | 14.31          |
| 938501 | AE1-069 C O1                | 17.2195            | Adder | 20.26          |
| 938502 | AE1-069 E O1                | 9.8445             | Adder | 11.58          |
| 938631 | AE1-085 C O1                | 2.3847             | Adder | 2.81           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 938632 | AE1-085 E O1 | 1.1923             | Adder | 1.4            |
| 939181 | AE1-148 C O1 | 2.7641             | Adder | 3.25           |
| 939182 | AE1-148 E O1 | 1.8427             | Adder | 2.17           |
| 939191 | AE1-149 C O1 | 3.0779             | Adder | 3.62           |
| 939192 | AE1-149 E O1 | 2.0519             | Adder | 2.41           |
| 939411 | AE1-173 C    | 25.0186            | Adder | 29.43          |
| 939412 | AE1-173 E    | 16.6790            | Adder | 19.62          |
| 940431 | AE2-027 C O1 | 11.7209            | 50/50 | 11.7209        |
| 940432 | AE2-027 E O1 | 7.8139             | 50/50 | 7.8139         |
| 940471 | AE2-031 C    | 11.9947            | Adder | 14.11          |
| 940472 | AE2-031 E    | 7.9965             | Adder | 9.41           |
| 940481 | AE2-033 C    | 13.9347            | 50/50 | 13.9347        |
| 940482 | AE2-033 E    | 9.3942             | 50/50 | 9.3942         |
| 940541 | AE2-040 O1   | 4.0809             | 50/50 | 4.0809         |
| 940571 | AE2-044 C    | 1.5015             | Adder | 1.77           |
| 940572 | AE2-044 E    | 0.6435             | Adder | 0.76           |
| 940651 | AE2-052      | 1.0260             | Adder | 1.21           |
| 940661 | AE2-053 O1   | 1.0237             | Adder | 1.2            |
| 941031 | AE2-094 C    | 14.4471            | Adder | 17.0           |
| 941032 | AE2-094 E    | 6.4705             | Adder | 7.61           |
| 941541 | AE2-151 C    | 0.3203             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1725             | Adder | 0.2            |
| 942371 | AE2-250 C O1 | 14.0362            | 50/50 | 14.0362        |
| 942372 | AE2-250 E O1 | 7.4080             | 50/50 | 7.4080         |
| 942451 | AE2-258      | 0.6967             | Adder | 0.82           |
| 942471 | AE2-260 C O1 | 10.5310            | 50/50 | 10.5310        |
| 942472 | AE2-260 E O1 | 14.9370            | 50/50 | 14.9370        |
| 942931 | AE2-313 C    | 12.9874            | Adder | 15.28          |
| 942932 | AE2-313 E    | 8.6582             | Adder | 10.19          |
| 943171 | AE2-346 C    | 0.4141             | Adder | 0.49           |
| 943172 | AE2-346 E    | 0.1775             | Adder | 0.21           |
| 943911 | AF1-059      | 6.7532             | Adder | 7.94           |
| 944011 | AF1-069 C    | 4.7204             | Adder | 5.55           |
| 944012 | AF1-069 E    | 1.8338             | Adder | 2.16           |
| 944141 | AF1-082      | 0.9653             | Adder | 1.14           |
| 945811 | AF1-246 C O1 | 2.4290             | Adder | 2.86           |
| 945812 | AF1-246 E O1 | 3.3544             | Adder | 3.95           |
| 946011 | AF1-266      | 11.6645            | 50/50 | 11.6645        |
| 946281 | AF1-292 C    | 0.9413             | 50/50 | 0.9413         |
| 946282 | AF1-292 E    | 0.6346             | 50/50 | 0.6346         |
| 957481 | AF2-042 C O2 | 9.1956             | Adder | 20.41          |
| 957482 | AF2-042 E O2 | 6.1304             | Adder | 13.61          |
| 957521 | AF2-046 C    | 2.6117             | Adder | 5.8            |
| 957522 | AF2-046 E    | 1.3137             | Adder | 2.92           |
| 957861 | AF2-080 C    | 1.2640             | Adder | 2.81           |
| 957862 | AF2-080 E    | 0.5603             | Adder | 1.24           |
| 958141 | AF2-108      | 7.8655             | 50/50 | 7.8655         |
| 959231 | AF2-214 C    | 1.7195             | Adder | 3.82           |
| 959232 | AF2-214 E    | 2.5779             | Adder | 5.72           |
| 959681 | AF2-259 C    | 6.7419             | 50/50 | 6.7419         |
| 959682 | AF2-259 E    | 4.4946             | 50/50 | 4.4946         |
| 959731 | AF2-264 C    | 0.3504             | Adder | 0.78           |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 959732  | AF2-264 E                          | 0.1726             | Adder         | 0.38           |
| 959751  | AF2-266 O2                         | 1.5326             | Adder         | 3.4            |
| 960061  | AF2-297 C O2                       | 1.1943             | Adder         | 2.65           |
| 960062  | AF2-297 E O2                       | 0.7962             | Adder         | 1.77           |
| 960081  | AF2-299 C                          | 1.5864             | 50/50         | 1.5864         |
| 960082  | AF2-299 E                          | 1.0576             | 50/50         | 1.0576         |
| 960121  | AF2-303 C O2                       | 3.2913             | Adder         | 7.31           |
| 960122  | AF2-303 E O2                       | 2.1465             | Adder         | 4.76           |
| 960331  | AF2-324 C O2                       | 1.3899             | Adder         | 3.09           |
| 960332  | AF2-324 E O2                       | 0.7462             | Adder         | 1.66           |
| 960351  | AF2-326 C (Withdrawn : 07/22/2020) | 0.4540             | Adder         | 1.01           |
| 960352  | AF2-326 E (Withdrawn : 07/22/2020) | 0.1135             | Adder         | 0.25           |
| 960811  | AF2-372 C                          | 0.1984             | Adder         | 0.44           |
| 960812  | AF2-372 E                          | 0.3238             | Adder         | 0.72           |
| 960821  | AF2-373 C                          | 0.1411             | Adder         | 0.31           |
| 960822  | AF2-373 E                          | 0.2116             | Adder         | 0.47           |
| 960831  | AF2-374 C                          | 0.2162             | Adder         | 0.48           |
| 960832  | AF2-374 E                          | 0.3528             | Adder         | 0.78           |
| WEC     | WEC                                | 0.2867             | Confirmed LTF | 0.2867         |
| LGEE    | LGEE                               | 0.5408             | Confirmed LTF | 0.5408         |
| CPLE    | CPLE                               | 3.0006             | Confirmed LTF | 3.0006         |
| CBM-W2  | CBM-W2                             | 11.5643            | Confirmed LTF | 11.5643        |
| NY      | NY                                 | 0.4120             | Confirmed LTF | 0.4120         |
| CBM-W1  | CBM-W1                             | 10.6961            | Confirmed LTF | 10.6961        |
| TVA     | TVA                                | 2.4332             | Confirmed LTF | 2.4332         |
| O-066   | O-066                              | 5.8330             | Confirmed LTF | 5.8330         |
| CBM-S2  | CBM-S2                             | 20.4265            | Confirmed LTF | 20.4265        |
| CBM-S1  | CBM-S1                             | 13.5553            | Confirmed LTF | 13.5553        |
| G-007   | G-007                              | 0.9110             | Confirmed LTF | 0.9110         |
| MADISON | MADISON                            | 0.6834             | Confirmed LTF | 0.6834         |
| MEC     | MEC                                | 1.7400             | Confirmed LTF | 1.7400         |
| AA2-074 | AA2-074                            | 2.0452             | LTF           | 2.0452         |

### 13.5.21 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706524 | 314331    | 6POE     | DVP           | 314299  | 6HARROWG | DVP         | 1      | DVP_P4-2: 562T563 | breaker | 541.0      | 137.7                 | 140.36                 | DC    | 31.91     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314435 | 6SAPONY                  | 0.3501             | 50/50 | 0.3501         |
| 314539 | 3UNCAMP                  | 0.6872             | Adder | 0.81           |
| 314541 | 3WATKINS                 | 0.2020             | Adder | 0.24           |
| 900672 | V4-068 E                 | 0.0934             | Adder | 0.11           |
| 907092 | X1-038 E                 | 1.7181             | Adder | 2.02           |
| 917332 | Z2-043 E                 | 0.3606             | Adder | 0.42           |
| 917342 | Z2-044 E                 | 0.1895             | Adder | 0.22           |
| 917512 | Z2-088 E OP1             | 1.1777             | Adder | 1.39           |
| 918492 | AA1-063AE OP             | 1.4311             | Adder | 1.68           |
| 918512 | AA1-065 E OP             | 1.1298             | Adder | 1.33           |
| 918532 | AA1-067 E                | 0.2085             | Adder | 0.25           |
| 919692 | AA2-053 E OP             | 1.3707             | Adder | 1.61           |
| 919702 | AA2-057 E OP             | 1.1342             | Adder | 1.33           |
| 920042 | AA2-088 E OP             | 3.3180             | Adder | 3.9            |
| 920592 | AA2-165 E                | 0.1559             | Adder | 0.18           |
| 920672 | AA2-174 E OP             | 0.1584             | Adder | 0.19           |
| 922922 | AB1-081 C OP             | 2.8884             | Adder | 3.4            |
| 922923 | AB1-081 E OP             | 1.2379             | Adder | 1.46           |
| 923262 | AB1-132 C OP (Suspended) | 6.0126             | Adder | 7.07           |
| 923263 | AB1-132 E OP (Suspended) | 2.5768             | Adder | 3.03           |
| 923572 | AB1-173 C OP             | 1.0096             | Adder | 1.19           |
| 923573 | AB1-173 E OP             | 0.4711             | Adder | 0.55           |
| 923582 | AB1-173AC OP             | 1.0096             | Adder | 1.19           |
| 923583 | AB1-173AE OP             | 0.4711             | Adder | 0.55           |
| 923801 | AB2-015 C OP             | 2.4956             | Adder | 2.94           |
| 923802 | AB2-015 E OP             | 2.0464             | Adder | 2.41           |
| 923852 | AB2-025 E                | 0.9118             | 50/50 | 0.9118         |
| 923911 | AB2-031 C O1             | 1.0021             | Adder | 1.18           |
| 923912 | AB2-031 E O1             | 0.4936             | Adder | 0.58           |
| 923991 | AB2-040 C O1             | 3.2905             | Adder | 3.87           |
| 923992 | AB2-040 E O1             | 2.6922             | Adder | 3.17           |
| 924022 | AB2-043 E O1             | 0.7888             | Adder | 0.93           |
| 924152 | AB2-059 E OP             | 1.7537             | Adder | 2.06           |
| 924162 | AB2-060 E OP             | 1.1840             | Adder | 1.39           |
| 924301 | AB2-077 C O1 (Suspended) | 0.5601             | Adder | 0.66           |
| 924302 | AB2-077 E O1 (Suspended) | 0.3734             | Adder | 0.44           |
| 924311 | AB2-078 C O1 (Suspended) | 0.5601             | Adder | 0.66           |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 924312 | AB2-078 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924321 | AB2-079 C O1<br>(Suspended) | 0.5601             | Adder | 0.66           |
| 924322 | AB2-079 E O1<br>(Suspended) | 0.3734             | Adder | 0.44           |
| 924501 | AB2-099 C (Suspended)       | 0.1773             | Adder | 0.21           |
| 924502 | AB2-099 E (Suspended)       | 0.0760             | Adder | 0.09           |
| 924511 | AB2-100 C                   | 1.3143             | 50/50 | 1.3143         |
| 924512 | AB2-100 E                   | 3.7528             | 50/50 | 3.7528         |
| 925061 | AB2-161 C O1<br>(Suspended) | 2.4158             | 50/50 | 2.4158         |
| 925062 | AB2-161 E O1<br>(Suspended) | 3.9416             | 50/50 | 3.9416         |
| 925122 | AB2-169 E                   | 1.5101             | Adder | 1.78           |
| 925172 | AB2-174 E O1                | 2.9357             | Adder | 3.45           |
| 925591 | AC1-034 C                   | 2.2050             | Adder | 2.59           |
| 925592 | AC1-034 E                   | 1.6634             | Adder | 1.96           |
| 925781 | AC1-054 C O1                | 2.3459             | Adder | 2.76           |
| 925782 | AC1-054 E O1                | 1.0807             | Adder | 1.27           |
| 926071 | AC1-086 C                   | 8.8543             | Adder | 10.42          |
| 926072 | AC1-086 E                   | 4.0299             | Adder | 4.74           |
| 926201 | AC1-098 C                   | 2.0384             | Adder | 2.4            |
| 926202 | AC1-098 E                   | 1.2144             | Adder | 1.43           |
| 926211 | AC1-099 C                   | 0.6831             | Adder | 0.8            |
| 926212 | AC1-099 E                   | 0.4012             | Adder | 0.47           |
| 926271 | AC1-105 C O1<br>(Suspended) | 1.4685             | Adder | 1.73           |
| 926272 | AC1-105 E O1<br>(Suspended) | 0.7310             | Adder | 0.86           |
| 927021 | AC1-189 C                   | 2.5727             | Adder | 3.03           |
| 927022 | AC1-189 E                   | 1.2815             | Adder | 1.51           |
| 927141 | AC1-208 C                   | 3.1122             | Adder | 3.66           |
| 927142 | AC1-208 E                   | 1.3819             | Adder | 1.63           |
| 932581 | AC2-078 C O1                | 4.5616             | 50/50 | 4.5616         |
| 932582 | AC2-078 E O1                | 7.4426             | 50/50 | 7.4426         |
| 932591 | AC2-079 C O1                | 2.5898             | Adder | 3.05           |
| 932592 | AC2-079 E O1                | 4.2255             | Adder | 4.97           |
| 932631 | AC2-084 C                   | 2.9058             | Adder | 3.42           |
| 932632 | AC2-084 E                   | 1.4312             | Adder | 1.68           |
| 934331 | AD1-057 C O1                | 3.7094             | Adder | 4.36           |
| 934332 | AD1-057 E O1                | 1.9787             | Adder | 2.33           |
| 934571 | AD1-082 C                   | 5.5056             | 50/50 | 5.5056         |
| 934572 | AD1-082 E                   | 3.1406             | 50/50 | 3.1406         |
| 934611 | AD1-087 C O1                | 2.2736             | Adder | 2.67           |
| 934612 | AD1-087 E O1                | 1.0686             | Adder | 1.26           |
| 935171 | AD1-152 C O1                | 2.2595             | Adder | 2.66           |
| 935172 | AD1-152 E O1                | 1.5063             | Adder | 1.77           |
| 936361 | AD2-046 C O1                | 2.6732             | Adder | 3.14           |
| 936362 | AD2-046 E O1                | 1.2293             | Adder | 1.45           |
| 936401 | AD2-051 C O1                | 2.5014             | Adder | 2.94           |
| 936402 | AD2-051 E O1                | 1.0741             | Adder | 1.26           |
| 936481 | AD2-063 C O1                | 3.9604             | Adder | 4.66           |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 936482 | AD2-063 E O1 | 2.6183             | Adder | 3.08           |
| 936661 | AD2-085 C    | 1.5789             | Adder | 1.86           |
| 936662 | AD2-085 E    | 2.5762             | Adder | 3.03           |
| 936762 | AD2-097 E    | -2.9410            | Adder | -3.46          |
| 937481 | AD2-202 C O1 | 0.6025             | Adder | 0.71           |
| 937482 | AD2-202 E O1 | 0.3389             | Adder | 0.4            |
| 938171 | AE1-026 C O1 | 8.1805             | Adder | 9.62           |
| 938172 | AE1-026 E O1 | 2.1582             | Adder | 2.54           |
| 938221 | AE1-035 C    | 0.6308             | Adder | 0.74           |
| 938222 | AE1-035 E    | 0.3107             | Adder | 0.37           |
| 938491 | AE1-068 C O1 | 20.6407            | Adder | 24.28          |
| 938492 | AE1-068 E O1 | 11.4001            | Adder | 13.41          |
| 938501 | AE1-069 C O1 | 16.1400            | Adder | 18.99          |
| 938502 | AE1-069 E O1 | 9.2274             | Adder | 10.86          |
| 938631 | AE1-085 C O1 | 9.4765             | 50/50 | 9.4765         |
| 938632 | AE1-085 E O1 | 4.7383             | 50/50 | 4.7383         |
| 938771 | AE1-103 C O1 | 1.0308             | Adder | 1.21           |
| 938772 | AE1-103 E O1 | 1.4235             | Adder | 1.67           |
| 939181 | AE1-148 C O1 | 2.6282             | Adder | 3.09           |
| 939182 | AE1-148 E O1 | 1.7522             | Adder | 2.06           |
| 939191 | AE1-149 C O1 | 12.7956            | 50/50 | 12.7956        |
| 939192 | AE1-149 E O1 | 8.5304             | 50/50 | 8.5304         |
| 939411 | AE1-173 C    | 24.2638            | Adder | 28.55          |
| 939412 | AE1-173 E    | 16.1758            | Adder | 19.03          |
| 940061 | AE2-000BC O1 | 11.4435            | 50/50 | 11.4435        |
| 940062 | AE2-000BE O1 | 7.6290             | 50/50 | 7.6290         |
| 940471 | AE2-031 C    | 11.2374            | Adder | 13.22          |
| 940472 | AE2-031 E    | 7.4916             | Adder | 8.81           |
| 940481 | AE2-033 C    | 12.6994            | 50/50 | 12.6994        |
| 940482 | AE2-033 E    | 8.5614             | 50/50 | 8.5614         |
| 940571 | AE2-044 C    | 1.4442             | Adder | 1.7            |
| 940572 | AE2-044 E    | 0.6189             | Adder | 0.73           |
| 940651 | AE2-052      | 4.2652             | 50/50 | 4.2652         |
| 940661 | AE2-053 O1   | 0.9734             | Adder | 1.15           |
| 941031 | AE2-094 C    | 13.5348            | Adder | 15.92          |
| 941032 | AE2-094 E    | 6.0619             | Adder | 7.13           |
| 941101 | AE2-104 C O1 | 0.8265             | Adder | 0.97           |
| 941102 | AE2-104 E O1 | 1.3139             | Adder | 1.55           |
| 941541 | AE2-151 C    | 0.3249             | Adder | 0.38           |
| 941542 | AE2-151 E    | 0.1749             | Adder | 0.21           |
| 942341 | AE2-247 C    | 0.6889             | Adder | 0.81           |
| 942342 | AE2-247 E    | 0.9513             | Adder | 1.12           |
| 942451 | AE2-258      | 0.6581             | Adder | 0.77           |
| 942471 | AE2-260 C O1 | 9.7098             | 50/50 | 9.7098         |
| 942472 | AE2-260 E O1 | 13.7722            | 50/50 | 13.7722        |
| 942931 | AE2-313 C    | 12.1674            | Adder | 14.31          |
| 942932 | AE2-313 E    | 8.1116             | Adder | 9.54           |
| 943171 | AE2-346 C    | 0.4256             | Adder | 0.5            |
| 943172 | AE2-346 E    | 0.1824             | Adder | 0.21           |
| 943461 | AF1-017 C    | 0.6233             | Adder | 0.73           |
| 943462 | AF1-017 E    | 1.0169             | Adder | 1.2            |
| 943911 | AF1-059      | 6.3283             | Adder | 7.45           |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 944011 | AF1-069 C                          | 4.4223             | Adder         | 5.2            |
| 944012 | AF1-069 E                          | 1.7180             | Adder         | 2.02           |
| 944141 | AF1-082                            | 0.9284             | Adder         | 1.09           |
| 945811 | AF1-246 C O1                       | 2.2784             | Adder         | 2.68           |
| 945812 | AF1-246 E O1                       | 3.1463             | Adder         | 3.7            |
| 946011 | AF1-266                            | 10.6304            | 50/50         | 10.6304        |
| 946281 | AF1-292 C                          | 0.7457             | Adder         | 0.88           |
| 946282 | AF1-292 E                          | 0.5027             | Adder         | 0.59           |
| 957481 | AF2-042 C O2                       | 8.6253             | Adder         | 19.15          |
| 957482 | AF2-042 E O2                       | 5.7502             | Adder         | 12.76          |
| 957521 | AF2-046 C                          | 2.7695             | Adder         | 6.15           |
| 957522 | AF2-046 E                          | 1.3931             | Adder         | 3.09           |
| 957861 | AF2-080 C                          | 1.2384             | Adder         | 2.75           |
| 957862 | AF2-080 E                          | 0.5490             | Adder         | 1.22           |
| 958161 | AF2-110 C                          | 0.1806             | Adder         | 0.4            |
| 958162 | AF2-110 E                          | 0.2824             | Adder         | 0.63           |
| 959231 | AF2-214 C                          | 1.6538             | Adder         | 3.67           |
| 959232 | AF2-214 E                          | 2.4794             | Adder         | 5.5            |
| 959511 | AF2-242                            | 1.1275             | Adder         | 2.5            |
| 959731 | AF2-264 C                          | 0.3655             | Adder         | 0.81           |
| 959732 | AF2-264 E                          | 0.1800             | Adder         | 0.4            |
| 959751 | AF2-266 O2                         | 1.4375             | Adder         | 3.19           |
| 960061 | AF2-297 C O2                       | 1.1247             | Adder         | 2.5            |
| 960062 | AF2-297 E O2                       | 0.7498             | Adder         | 1.66           |
| 960081 | AF2-299 C                          | 0.6661             | Adder         | 1.48           |
| 960082 | AF2-299 E                          | 0.4441             | Adder         | 0.99           |
| 960121 | AF2-303 C O2                       | 3.1608             | Adder         | 7.02           |
| 960122 | AF2-303 E O2                       | 2.0614             | Adder         | 4.58           |
| 960331 | AF2-324 C O2                       | 1.3362             | Adder         | 2.97           |
| 960332 | AF2-324 E O2                       | 0.7174             | Adder         | 1.59           |
| 960351 | AF2-326 C (Withdrawn : 07/22/2020) | 0.4368             | Adder         | 0.97           |
| 960352 | AF2-326 E (Withdrawn : 07/22/2020) | 0.1092             | Adder         | 0.24           |
| 960361 | AF2-327 C (Withdrawn : 07/22/2020) | 2.3496             | 50/50         | 2.3496         |
| 960362 | AF2-327 E (Withdrawn : 07/22/2020) | 0.5874             | 50/50         | 0.5874         |
| 960811 | AF2-372 C                          | 0.1875             | Adder         | 0.42           |
| 960812 | AF2-372 E                          | 0.3060             | Adder         | 0.68           |
| 960821 | AF2-373 C                          | 0.1331             | Adder         | 0.3            |
| 960822 | AF2-373 E                          | 0.1996             | Adder         | 0.44           |
| 960831 | AF2-374 C                          | 0.2160             | Adder         | 0.48           |
| 960832 | AF2-374 E                          | 0.3524             | Adder         | 0.78           |
| 961091 | AF2-400 C                          | 0.0714             | Adder         | 0.16           |
| 961092 | AF2-400 E                          | 0.1172             | Adder         | 0.26           |
| 961111 | AF2-402 C O2                       | 0.7661             | 50/50         | 0.7661         |
| 961112 | AF2-402 E O2                       | 1.2526             | 50/50         | 1.2526         |
| WEC    | WEC                                | 0.2693             | Confirmed LTF | 0.2693         |
| LGEE   | LGEE                               | 0.5089             | Confirmed LTF | 0.5089         |
| CPL    | CPL                                | 2.8524             | Confirmed LTF | 2.8524         |
| CBM-W2 | CBM-W2                             | 10.9173            | Confirmed LTF | 10.9173        |
| NY     | NY                                 | 0.3971             | Confirmed LTF | 0.3971         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>CBM-W1</b>  | CBM-W1     | 10.0455                   | Confirmed LTF | 10.0455               |
| <b>TVA</b>     | TVA        | 2.3002                    | Confirmed LTF | 2.3002                |
| <b>O-066</b>   | O-066      | 5.6112                    | Confirmed LTF | 5.6112                |
| <b>CBM-S2</b>  | CBM-S2     | 19.3746                   | Confirmed LTF | 19.3746               |
| <b>CBM-S1</b>  | CBM-S1     | 12.8056                   | Confirmed LTF | 12.8056               |
| <b>G-007</b>   | G-007      | 0.8757                    | Confirmed LTF | 0.8757                |
| <b>MADISON</b> | MADISON    | 0.6492                    | Confirmed LTF | 0.6492                |
| <b>MEC</b>     | MEC        | 1.6383                    | Confirmed LTF | 1.6383                |
| <b>AA2-074</b> | AA2-074    | 1.9440                    | LTF           | 1.9440                |

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| 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 |
|----------|-----------|----------|---------------|---------|--------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706553 | 314677    | 6BUCKING | DVP           | 314747  | 6BREMO | DVP         | 1      | DVP_P4-2:<br>511T556 | breaker | 699.0      | 112.52                | 132.04                 | DC    | 147.5     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.2225             | 50/50 | 0.2225         |
| 314429 | 3JTRSVLE                    | 0.8900             | 50/50 | 0.8900         |
| 314677 | 6BUCKING                    | 1.6254             | 50/50 | 1.6254         |
| 315153 | 1CLOVER1                    | 22.4668            | 50/50 | 22.4668        |
| 315154 | 1CLOVER2                    | 22.2429            | 50/50 | 22.2429        |
| 924022 | AB2-043 E O1                | 3.2830             | Adder | 3.86           |
| 924032 | AB2-045 E                   | 4.3975             | 50/50 | 4.3975         |
| 924162 | AB2-060 E OP                | 5.0960             | Adder | 6.0            |
| 924301 | AB2-077 C O1<br>(Suspended) | 2.2889             | Adder | 2.69           |
| 924302 | AB2-077 E O1<br>(Suspended) | 1.5259             | Adder | 1.8            |
| 924311 | AB2-078 C O1<br>(Suspended) | 2.2889             | Adder | 2.69           |
| 924312 | AB2-078 E O1<br>(Suspended) | 1.5259             | Adder | 1.8            |
| 924321 | AB2-079 C O1<br>(Suspended) | 2.2889             | Adder | 2.69           |
| 924322 | AB2-079 E O1<br>(Suspended) | 1.5259             | Adder | 1.8            |
| 925611 | AC1-036 C                   | 1.8363             | 50/50 | 1.8363         |
| 925612 | AC1-036 E                   | 2.9961             | 50/50 | 2.9961         |
| 925781 | AC1-054 C O1                | 5.1714             | Adder | 6.08           |
| 925782 | AC1-054 E O1                | 2.3823             | Adder | 2.8            |
| 925831 | AC1-062                     | 0.1321             | 50/50 | 0.1321         |
| 925991 | AC1-075 C                   | 4.2224             | Adder | 4.97           |
| 925992 | AC1-075 E                   | 2.3923             | Adder | 2.81           |
| 926021 | AC1-080 C                   | 1.4111             | Adder | 1.66           |
| 926022 | AC1-080 E                   | 0.7938             | Adder | 0.93           |
| 926271 | AC1-105 C O1<br>(Suspended) | 5.7567             | Adder | 6.77           |
| 926272 | AC1-105 E O1<br>(Suspended) | 2.8657             | Adder | 3.37           |
| 926451 | AC1-116 C                   | -0.3880            | Adder | -0.46          |
| 927251 | AC1-221 C                   | 1.4229             | Adder | 1.67           |
| 927252 | AC1-221 E                   | 1.4229             | Adder | 1.67           |
| 927261 | AC1-222 C                   | 3.4591             | Adder | 4.07           |
| 927262 | AC1-222 E                   | 3.2930             | Adder | 3.87           |
| 932511 | AC2-071 C                   | 9.2835             | 50/50 | 9.2835         |
| 932512 | AC2-071 E                   | 4.6767             | 50/50 | 4.6767         |
| 932761 | AC2-100 C                   | 3.2747             | Adder | 3.85           |
| 932762 | AC2-100 E                   | 1.5984             | Adder | 1.88           |

| Bus #  | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|--------|--------------|--------------------|-----------------------|----------------|
| 934311 | AD1-055 C    | 2.4018             | Adder                 | 2.83           |
| 934312 | AD1-055 E    | 0.6193             | Adder                 | 0.73           |
| 934341 | AD1-058 C    | 3.5671             | Adder                 | 4.2            |
| 934342 | AD1-058 E    | 0.9064             | Adder                 | 1.07           |
| 934611 | AD1-087 C O1 | 10.2490            | Adder                 | 12.06          |
| 934612 | AD1-087 E O1 | 4.8168             | Adder                 | 5.67           |
| 934621 | AD1-088 C    | 35.2759            | 50/50                 | 35.2759        |
| 934622 | AD1-088 E    | 16.6004            | 50/50                 | 16.6004        |
| 934991 | AD1-131 C    | 1.1695             | Adder                 | 1.38           |
| 934992 | AD1-131 E    | 0.7797             | Adder                 | 0.92           |
| 935171 | AD1-152 C O1 | 10.1853            | Adder                 | 11.98          |
| 935172 | AD1-152 E O1 | 6.7902             | Adder                 | 7.99           |
| 935221 | AD1-157 C    | 3.8759             | 50/50                 | 3.8759         |
| 935222 | AD1-157 E    | 2.5840             | 50/50                 | 2.5840         |
| 936261 | AD2-033 C    | 23.8079            | 50/50                 | 23.8079        |
| 936262 | AD2-033 E    | 15.8720            | 50/50                 | 15.8720        |
| 936361 | AD2-046 C O1 | 7.9875             | Adder                 | 9.4            |
| 936362 | AD2-046 E O1 | 3.6731             | Adder                 | 4.32           |
| 936481 | AD2-063 C O1 | 20.2427            | Adder                 | 23.81          |
| 936482 | AD2-063 E O1 | 13.3827            | Adder                 | 15.74          |
| 937481 | AD2-202 C O1 | 2.7161             | Adder                 | 3.2            |
| 937482 | AD2-202 E O1 | 1.5278             | Adder                 | 1.8            |
| 938371 | AE1-056 C    | 16.7096            | 50/50                 | 16.7096        |
| 938372 | AE1-056 E    | 9.1300             | 50/50                 | 9.1300         |
| 939181 | AE1-148 C O1 | 8.0045             | Adder                 | 9.42           |
| 939182 | AE1-148 E O1 | 5.3363             | Adder                 | 6.28           |
| 940241 | AE2-006      | 0.9343             | 50/50                 | 0.9343         |
| 940661 | AE2-053 O1   | 2.9646             | Adder                 | 3.49           |
| 941791 | AE2-182 C    | 5.7311             | 50/50                 | 5.7311         |
| 941792 | AE2-182 E    | 2.6679             | 50/50                 | 2.6679         |
| 942451 | AE2-258      | 2.7391             | Adder                 | 3.22           |
| 942461 | AE2-259 C O1 | 30.4818            | 50/50                 | 30.4818        |
| 942462 | AE2-259 E O1 | 20.3212            | 50/50                 | 20.3212        |
| 942751 | AE2-291 C O1 | 5.6712             | Adder                 | 6.67           |
| 942752 | AE2-291 E O1 | 3.7808             | Adder                 | 4.45           |
| 942761 | AE2-292 C O1 | 7.0612             | Adder                 | 8.31           |
| 942762 | AE2-292 E O1 | 4.7075             | Adder                 | 5.54           |
| 943901 | AF1-058 C    | 1.9498             | Adder                 | 2.29           |
| 943902 | AF1-058 E    | 1.2999             | Adder                 | 1.53           |
| 943911 | AF1-059      | 13.3220            | Adder                 | 15.67          |
| 945811 | AF1-246 C O1 | 10.5311            | Adder                 | 12.39          |
| 945812 | AF1-246 E O1 | 17.1094            | 50/50                 | 17.1094        |
| 946293 | AF1-293 BAT  | 11.0414            | Merchant Transmission | 11.0414        |
| 946301 | AF1-294 C    | 9.9165             | 50/50                 | 9.9165         |
| 946302 | AF1-294 E    | 6.6110             | 50/50                 | 6.6110         |
| 957481 | AF2-042 C O2 | 88.4970            | 50/50                 | 88.4970        |
| 957482 | AF2-042 E O2 | 58.9980            | 50/50                 | 58.9980        |
| 958211 | AF2-115 C    | 6.0467             | 50/50                 | 6.0467         |
| 958212 | AF2-115 E    | 4.0311             | 50/50                 | 4.0311         |
| 958801 | AF2-171 C O2 | 36.7731            | 50/50                 | 36.7731        |
| 958802 | AF2-171 E O2 | 24.5154            | 50/50                 | 24.5154        |
| 959311 | AF2-222 C    | 33.3580            | 50/50                 | 33.3580        |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 959312  | AF2-222 E    | 22.3499            | 50/50                 | 22.3499        |
| 959751  | AF2-266 O2   | 6.6446             | Adder                 | 14.75          |
| 960061  | AF2-297 C O2 | 4.4171             | Adder                 | 9.8            |
| 960062  | AF2-297 E O2 | 2.9448             | Adder                 | 6.54           |
| 960811  | AF2-372 C    | 0.7663             | Adder                 | 1.7            |
| 960812  | AF2-372 E    | 1.2505             | Adder                 | 2.78           |
| 960821  | AF2-373 C    | 0.5309             | Adder                 | 1.18           |
| 960822  | AF2-373 E    | 0.7963             | Adder                 | 1.77           |
| 961063  | AF2-397 BAT  | 4.1525             | Merchant Transmission | 4.1525         |
| 961081  | AF2-399 C    | 0.7802             | 50/50                 | 0.7802         |
| 961082  | AF2-399 E    | 1.3191             | 50/50                 | 1.3191         |
| WEC     | WEC          | 0.2974             | Confirmed LTF         | 0.2974         |
| LGEE    | LGEE         | 0.5619             | Confirmed LTF         | 0.5619         |
| CPL     | CPL          | 3.4934             | Confirmed LTF         | 3.4934         |
| CBM-W2  | CBM-W2       | 12.4079            | Confirmed LTF         | 12.4079        |
| NY      | NY           | 0.3932             | Confirmed LTF         | 0.3932         |
| CBM-W1  | CBM-W1       | 11.0588            | Confirmed LTF         | 11.0588        |
| TVA     | TVA          | 2.6432             | Confirmed LTF         | 2.6432         |
| O-066   | O-066        | 5.4835             | Confirmed LTF         | 5.4835         |
| CBM-S2  | CBM-S2       | 23.4437            | Confirmed LTF         | 23.4437        |
| CBM-S1  | CBM-S1       | 14.6544            | Confirmed LTF         | 14.6544        |
| G-007   | G-007        | 0.8549             | Confirmed LTF         | 0.8549         |
| MADISON | MADISON      | 0.7822             | Confirmed LTF         | 0.7822         |
| MEC     | MEC          | 1.8337             | Confirmed LTF         | 1.8337         |
| AA2-074 | AA2-074      | 2.3805             | LTF                   | 2.3805         |

### 13.5.23 Index 23

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 97706568 | 314692    | 6FARMVIL | DVP           | 314677  | 6BUCKING | DVP         | 1      | DVP_P4-2:<br>556T591 | breaker | 684.0      | 110.85                | 130.8                  | DC    | 147.53    |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.2225             | 50/50 | 0.2225         |
| 314429 | 3JTRSVLE                    | 0.8902             | 50/50 | 0.8902         |
| 315153 | 1CLOVER1                    | 22.4721            | 50/50 | 22.4721        |
| 315154 | 1CLOVER2                    | 22.2481            | 50/50 | 22.2481        |
| 924022 | AB2-043 E O1                | 3.2840             | Adder | 3.86           |
| 924162 | AB2-060 E OP                | 5.0975             | Adder | 6.0            |
| 924301 | AB2-077 C O1<br>(Suspended) | 2.2896             | Adder | 2.69           |
| 924302 | AB2-077 E O1<br>(Suspended) | 1.5264             | Adder | 1.8            |
| 924311 | AB2-078 C O1<br>(Suspended) | 2.2896             | Adder | 2.69           |
| 924312 | AB2-078 E O1<br>(Suspended) | 1.5264             | Adder | 1.8            |
| 924321 | AB2-079 C O1<br>(Suspended) | 2.2896             | Adder | 2.69           |
| 924322 | AB2-079 E O1<br>(Suspended) | 1.5264             | Adder | 1.8            |
| 925611 | AC1-036 C                   | 1.8367             | 50/50 | 1.8367         |
| 925612 | AC1-036 E                   | 2.9967             | 50/50 | 2.9967         |
| 925781 | AC1-054 C O1                | 5.1741             | Adder | 6.09           |
| 925782 | AC1-054 E O1                | 2.3836             | Adder | 2.8            |
| 925831 | AC1-062                     | 0.1321             | 50/50 | 0.1321         |
| 925991 | AC1-075 C                   | 4.2247             | Adder | 4.97           |
| 925992 | AC1-075 E                   | 2.3936             | Adder | 2.82           |
| 926021 | AC1-080 C                   | 1.4119             | Adder | 1.66           |
| 926022 | AC1-080 E                   | 0.7942             | Adder | 0.93           |
| 926271 | AC1-105 C O1<br>(Suspended) | 5.7587             | Adder | 6.77           |
| 926272 | AC1-105 E O1<br>(Suspended) | 2.8667             | Adder | 3.37           |
| 926451 | AC1-116 C                   | -0.3877            | Adder | -0.46          |
| 927251 | AC1-221 C                   | 1.4238             | Adder | 1.68           |
| 927252 | AC1-221 E                   | 1.4238             | Adder | 1.68           |
| 927261 | AC1-222 C                   | 3.4605             | Adder | 4.07           |
| 927262 | AC1-222 E                   | 3.2943             | Adder | 3.88           |
| 932761 | AC2-100 C                   | 3.2767             | Adder | 3.85           |
| 932762 | AC2-100 E                   | 1.5993             | Adder | 1.88           |
| 934311 | AD1-055 C                   | 2.4027             | Adder | 2.83           |
| 934312 | AD1-055 E                   | 0.6196             | Adder | 0.73           |
| 934341 | AD1-058 C                   | 3.5693             | Adder | 4.2            |
| 934342 | AD1-058 E                   | 0.9069             | Adder | 1.07           |

| Bus #  | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|--------|--------------|--------------------|-----------------------|----------------|
| 934611 | AD1-087 C O1 | 10.2518            | Adder                 | 12.06          |
| 934612 | AD1-087 E O1 | 4.8182             | Adder                 | 5.67           |
| 934621 | AD1-088 C    | 35.2809            | 50/50                 | 35.2809        |
| 934622 | AD1-088 E    | 16.6028            | 50/50                 | 16.6028        |
| 934991 | AD1-131 C    | 1.1702             | Adder                 | 1.38           |
| 934992 | AD1-131 E    | 0.7802             | Adder                 | 0.92           |
| 935171 | AD1-152 C O1 | 10.1882            | Adder                 | 11.99          |
| 935172 | AD1-152 E O1 | 6.7921             | Adder                 | 7.99           |
| 935221 | AD1-157 C    | 3.8766             | 50/50                 | 3.8766         |
| 935222 | AD1-157 E    | 2.5844             | 50/50                 | 2.5844         |
| 936261 | AD2-033 C    | 23.8134            | 50/50                 | 23.8134        |
| 936262 | AD2-033 E    | 15.8756            | 50/50                 | 15.8756        |
| 936361 | AD2-046 C O1 | 7.9908             | Adder                 | 9.4            |
| 936362 | AD2-046 E O1 | 3.6746             | Adder                 | 4.32           |
| 936481 | AD2-063 C O1 | 20.2480            | Adder                 | 23.82          |
| 936482 | AD2-063 E O1 | 13.3862            | Adder                 | 15.75          |
| 937481 | AD2-202 C O1 | 2.7168             | Adder                 | 3.2            |
| 937482 | AD2-202 E O1 | 1.5282             | Adder                 | 1.8            |
| 938371 | AE1-056 C    | 16.7123            | 50/50                 | 16.7123        |
| 938372 | AE1-056 E    | 9.1315             | 50/50                 | 9.1315         |
| 938561 | AE1-075 C    | -0.9180            | Adder                 | -1.08          |
| 939181 | AE1-148 C O1 | 8.0077             | Adder                 | 9.42           |
| 939182 | AE1-148 E O1 | 5.3385             | Adder                 | 6.28           |
| 940241 | AE2-006      | 0.9345             | 50/50                 | 0.9345         |
| 940661 | AE2-053 O1   | 2.9658             | Adder                 | 3.49           |
| 941791 | AE2-182 C    | 5.7319             | 50/50                 | 5.7319         |
| 941792 | AE2-182 E    | 2.6683             | 50/50                 | 2.6683         |
| 942451 | AE2-258      | 2.7399             | Adder                 | 3.22           |
| 942461 | AE2-259 C O1 | 30.4860            | 50/50                 | 30.4860        |
| 942462 | AE2-259 E O1 | 20.3240            | 50/50                 | 20.3240        |
| 942751 | AE2-291 C O1 | 5.6749             | Adder                 | 6.68           |
| 942752 | AE2-291 E O1 | 3.7832             | Adder                 | 4.45           |
| 942761 | AE2-292 C O1 | 7.0658             | Adder                 | 8.31           |
| 942762 | AE2-292 E O1 | 4.7105             | Adder                 | 5.54           |
| 943901 | AF1-058 C    | 1.9505             | Adder                 | 2.29           |
| 943902 | AF1-058 E    | 1.3004             | Adder                 | 1.53           |
| 943911 | AF1-059      | 13.3280            | Adder                 | 15.68          |
| 945811 | AF1-246 C O1 | 10.5336            | Adder                 | 12.39          |
| 945812 | AF1-246 E O1 | 17.1135            | 50/50                 | 17.1135        |
| 946293 | AF1-293 BAT  | 11.0357            | Merchant Transmission | 11.0357        |
| 946301 | AF1-294 C    | 9.9182             | 50/50                 | 9.9182         |
| 946302 | AF1-294 E    | 6.6122             | 50/50                 | 6.6122         |
| 957481 | AF2-042 C O2 | 88.5180            | 50/50                 | 88.5180        |
| 957482 | AF2-042 E O2 | 59.0120            | 50/50                 | 59.0120        |
| 958211 | AF2-115 C    | 6.0477             | 50/50                 | 6.0477         |
| 958212 | AF2-115 E    | 4.0318             | 50/50                 | 4.0318         |
| 958503 | AF2-144 BAT  | 0.4731             | Merchant Transmission | 0.4731         |
| 958801 | AF2-171 C O2 | 36.7794            | 50/50                 | 36.7794        |
| 958802 | AF2-171 E O2 | 24.5196            | 50/50                 | 24.5196        |
| 959311 | AF2-222 C    | 33.3650            | 50/50                 | 33.3650        |
| 959312 | AF2-222 E    | 22.3545            | 50/50                 | 22.3545        |
| 959751 | AF2-266 O2   | 6.6462             | Adder                 | 14.75          |

| Bus #   | Bus          | Gendeliv MW Impact | Type                  | Full MW Impact |
|---------|--------------|--------------------|-----------------------|----------------|
| 960061  | AF2-297 C O2 | 4.4186             | Adder                 | 9.81           |
| 960062  | AF2-297 E O2 | 2.9458             | Adder                 | 6.54           |
| 960811  | AF2-372 C    | 0.7665             | Adder                 | 1.7            |
| 960812  | AF2-372 E    | 1.2509             | Adder                 | 2.78           |
| 960821  | AF2-373 C    | 0.5310             | Adder                 | 1.18           |
| 960822  | AF2-373 E    | 0.7965             | Adder                 | 1.77           |
| 961063  | AF2-397 BAT  | 4.1505             | Merchant Transmission | 4.1505         |
| 961081  | AF2-399 C    | 0.7803             | 50/50                 | 0.7803         |
| 961082  | AF2-399 E    | 1.3193             | 50/50                 | 1.3193         |
| WEC     | WEC          | 0.2996             | Confirmed LTF         | 0.2996         |
| LGEE    | LGEE         | 0.5659             | Confirmed LTF         | 0.5659         |
| CPL     | CPL          | 3.4980             | Confirmed LTF         | 3.4980         |
| CBM-W2  | CBM-W2       | 12.4652            | Confirmed LTF         | 12.4652        |
| NY      | NY           | 0.3893             | Confirmed LTF         | 0.3893         |
| CBM-W1  | CBM-W1       | 11.1464            | Confirmed LTF         | 11.1464        |
| TVA     | TVA          | 2.6530             | Confirmed LTF         | 2.6530         |
| O-066   | O-066        | 5.4365             | Confirmed LTF         | 5.4365         |
| CBM-S2  | CBM-S2       | 23.4841            | Confirmed LTF         | 23.4841        |
| CBM-S1  | CBM-S1       | 14.7140            | Confirmed LTF         | 14.7140        |
| G-007   | G-007        | 0.8476             | Confirmed LTF         | 0.8476         |
| MADISON | MADISON      | 0.7822             | Confirmed LTF         | 0.7822         |
| MEC     | MEC          | 1.8448             | Confirmed LTF         | 1.8448         |
| AA2-074 | AA2-074      | 2.3836             | LTF                   | 2.3836         |

### 13.5.24 Index 24

| 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 |
|-----------|-----------|-------------|---------------|---------|-------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 106196954 | 314697    | 6SEDGE HILL | DVP           | 927250  | AC1-221 TAP | DVP         | 1      | DVP_P1-2: LN 556-B | single | 674.92     | 106.2                 | 126.15                 | DC    | 155.36    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.1294             | 80/20 | 0.1294         |
| 314429 | 3JTRSVLE                 | 0.5174             | 80/20 | 0.5174         |
| 314677 | 6BUCKING                 | 0.4258             | 80/20 | 0.4258         |
| 315153 | 1CLOVER1                 | 39.4381            | 80/20 | 39.4381        |
| 315154 | 1CLOVER2                 | 39.0451            | 80/20 | 39.0451        |
| 315156 | 1HALLBR1                 | 1.1309             | 80/20 | 1.1309         |
| 315158 | 1KERR 1                  | 0.3659             | 80/20 | 0.3659         |
| 315159 | 1KERR 2                  | 1.0244             | 80/20 | 1.0244         |
| 315160 | 1KERR 3                  | 1.0244             | 80/20 | 1.0244         |
| 315161 | 1KERR 4                  | 1.0244             | 80/20 | 1.0244         |
| 315162 | 1KERR 5                  | 1.0244             | 80/20 | 1.0244         |
| 315163 | 1KERR 6                  | 1.0244             | 80/20 | 1.0244         |
| 315164 | 1KERR 7                  | 1.0244             | 80/20 | 1.0244         |
| 315192 | 1BEARGRDN G2             | 2.8787             | 80/20 | 2.8787         |
| 315193 | 1BEARGRDN S1             | 5.9246             | 80/20 | 5.9246         |
| 315266 | 1PLYWOOD A               | 3.3432             | 80/20 | 3.3432         |
| 924021 | AB2-043 C O1             | 0.7329             | 80/20 | 0.7329         |
| 924161 | AB2-060 C OP             | 2.1135             | 80/20 | 2.1135         |
| 924301 | AB2-077 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924311 | AB2-078 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924321 | AB2-079 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 925611 | AC1-036 C                | 1.3105             | 80/20 | 1.3105         |
| 925661 | AC1-042 C                | 1.3657             | Adder | 1.61           |
| 925781 | AC1-054 C O1             | 5.0298             | 80/20 | 5.0298         |
| 925831 | AC1-062                  | 0.0768             | 80/20 | 0.0768         |
| 925991 | AC1-075 C                | 11.9864            | 80/20 | 11.9864        |
| 926021 | AC1-080 C                | 4.0059             | 80/20 | 4.0059         |
| 926271 | AC1-105 C O1 (Suspended) | 14.5305            | 80/20 | 14.5305        |
| 926641 | AC1-145 C                | 1.6258             | Adder | 1.91           |
| 927251 | AC1-221 C                | -2.4414            | Adder | -2.87          |
| 927261 | AC1-222 C                | 10.1431            | 80/20 | 10.1431        |
| 932511 | AC2-071 C                | 2.4320             | 80/20 | 2.4320         |
| 934311 | AD1-055 C                | 7.0426             | 80/20 | 7.0426         |
| 934341 | AD1-058 C                | -6.1203            | Adder | -7.2           |
| 934611 | AD1-087 C O1             | 27.0094            | 80/20 | 27.0094        |
| 934621 | AD1-088 C                | 24.0247            | 80/20 | 24.0247        |
| 935171 | AD1-152 C O1             | 26.8416            | 80/20 | 26.8416        |
| 935221 | AD1-157 C                | 2.1223             | 80/20 | 2.1223         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 936261     | AD2-033 C    | 17.8675            | 80/20         | 17.8675        |
| 936361     | AD2-046 C O1 | 8.4639             | 80/20         | 8.4639         |
| 936481     | AD2-063 C O1 | 20.4093            | 80/20         | 20.4093        |
| 937481     | AD2-202 C O1 | 7.1578             | 80/20         | 7.1578         |
| 938371     | AE1-056 C    | 9.1494             | 80/20         | 9.1494         |
| 939181     | AE1-148 C O1 | 8.5347             | 80/20         | 8.5347         |
| 939941     | AE1-230 C    | 0.6161             | Adder         | 0.72           |
| 940241     | AE2-006      | 0.6667             | 80/20         | 0.6667         |
| 940661     | AE2-053 O1   | 3.1610             | 80/20         | 3.1610         |
| 941791     | AE2-182 C    | 3.9032             | 80/20         | 3.9032         |
| 941801     | AE2-185 C    | 3.0805             | Adder         | 3.62           |
| 941821     | AE2-187 C    | 3.0805             | Adder         | 3.62           |
| 942451     | AE2-258      | 3.1698             | 80/20         | 3.1698         |
| 942461     | AE2-259 C O1 | 14.4012            | 80/20         | 14.4012        |
| 942671     | AE2-283 C    | 3.3886             | Adder         | 3.99           |
| 942751     | AE2-291 C O1 | 15.7260            | 80/20         | 15.7260        |
| 942761     | AE2-292 C O1 | 19.5804            | 80/20         | 19.5804        |
| 943901     | AF1-058 C    | 5.7522             | 80/20         | 5.7522         |
| 943911     | AF1-059      | 14.3780            | 80/20         | 14.3780        |
| 945081     | AF1-173      | 1.1937             | Adder         | 1.4            |
| 945811     | AF1-246 C O1 | 21.7505            | 80/20         | 21.7505        |
| 946301     | AF1-294 C    | 5.7653             | 80/20         | 5.7653         |
| 957481     | AF2-042 C O2 | 155.3610           | 80/20         | 155.3610       |
| 958211     | AF2-115 C    | 3.5154             | 80/20         | 3.5154         |
| 958801     | AF2-171 C O2 | 21.1149            | 80/20         | 21.1149        |
| 959311     | AF2-222 C    | 23.0530            | 80/20         | 23.0530        |
| 959751     | AF2-266 O2   | 25.8935            | 80/20         | 25.8935        |
| 960061     | AF2-297 C O2 | 28.8259            | 80/20         | 28.8259        |
| 960811     | AF2-372 C    | 1.7262             | 80/20         | 1.7262         |
| 960821     | AF2-373 C    | 2.1290             | 80/20         | 2.1290         |
| 961081     | AF2-399 C    | 0.4546             | 80/20         | 0.4546         |
| 961121     | AF2-403      | 0.3628             | Adder         | 0.81           |
| NEWTON     | NEWTON       | 1.6150             | Confirmed LTF | 1.6150         |
| FARMERCITY | FARMERCITY   | 0.0953             | Confirmed LTF | 0.0953         |
| G-007A     | G-007A       | 0.4939             | Confirmed LTF | 0.4939         |
| VFT        | VFT          | 1.3094             | Confirmed LTF | 1.3094         |
| CALDERWOOD | CALDERWOOD   | 1.4284             | Confirmed LTF | 1.4284         |
| PRAIRIE    | PRAIRIE      | 4.4893             | Confirmed LTF | 4.4893         |
| AC1-131    | AC1-131      | 5.1015             | LTF           | 5.1015         |
| CHEOAH     | CHEOAH       | 1.4720             | Confirmed LTF | 1.4720         |
| EDWARDS    | EDWARDS      | 0.4816             | Confirmed LTF | 0.4816         |
| TILTON     | TILTON       | 0.8429             | Confirmed LTF | 0.8429         |
| GIBSON     | GIBSON       | 0.7671             | Confirmed LTF | 0.7671         |
| BLUEG      | BLUEG        | 2.3314             | Confirmed LTF | 2.3314         |
| TRIMBLE    | TRIMBLE      | 0.7379             | Confirmed LTF | 0.7379         |
| CATAWBA    | CATAWBA      | 1.6961             | Confirmed LTF | 1.6961         |

### 13.5.25 Index 25

| 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 |
|----------|-----------|----------|---------------|---------|------------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97887001 | 314747    | 6BREMO   | DVP           | 313867  | 6BREMODIST | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 112.55                | 116.41                 | DC    | 25.52     |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1491             | 80/20 | 0.1491         |
| 314429 | 3JTRSVLE                    | 0.5962             | 80/20 | 0.5962         |
| 314572 | 3EMPORIA                    | 0.0240             | 80/20 | 0.0240         |
| 314677 | 6BUCKING                    | 1.1738             | 80/20 | 1.1738         |
| 314704 | 3LAWRENC                    | 0.1552             | 80/20 | 0.1552         |
| 315153 | 1CLOVER1                    | 8.0124             | 80/20 | 8.0124         |
| 315154 | 1CLOVER2                    | 7.9325             | 80/20 | 7.9325         |
| 315158 | 1KERR 1                     | 0.2616             | 80/20 | 0.2616         |
| 315159 | 1KERR 2                     | 0.7325             | 80/20 | 0.7325         |
| 315160 | 1KERR 3                     | 0.7325             | 80/20 | 0.7325         |
| 315161 | 1KERR 4                     | 0.7325             | 80/20 | 0.7325         |
| 315162 | 1KERR 5                     | 0.7325             | 80/20 | 0.7325         |
| 315163 | 1KERR 6                     | 0.7325             | 80/20 | 0.7325         |
| 315164 | 1KERR 7                     | 0.7325             | 80/20 | 0.7325         |
| 315191 | 1BEARGRDN G1                | 16.5646            | 80/20 | 16.5646        |
| 315192 | 1BEARGRDN G2                | 16.5646            | 80/20 | 16.5646        |
| 315193 | 1BEARGRDN S1                | 34.0910            | 80/20 | 34.0910        |
| 315266 | 1PLYWOOD A                  | 0.7353             | 80/20 | 0.7353         |
| 920291 | AA2-127                     | 3.4412             | 80/20 | 3.4412         |
| 923572 | AB1-173 C OP                | 0.7332             | 80/20 | 0.7332         |
| 923582 | AB1-173AC OP                | 0.7332             | 80/20 | 0.7332         |
| 923911 | AB2-031 C O1                | 0.7278             | 80/20 | 0.7278         |
| 923991 | AB2-040 C O1                | 2.3896             | 80/20 | 2.3896         |
| 924021 | AB2-043 C O1                | 0.4676             | 80/20 | 0.4676         |
| 924161 | AB2-060 C OP                | 1.3842             | 80/20 | 1.3842         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.6795             | 80/20 | 1.6795         |
| 925171 | AB2-174 C O1                | 0.3972             | 80/20 | 0.3972         |
| 925611 | AC1-036 C                   | 1.2045             | 80/20 | 1.2045         |
| 925781 | AC1-054 C O1                | 3.9503             | 80/20 | 3.9503         |
| 925831 | AC1-062                     | 0.0885             | 80/20 | 0.0885         |
| 925991 | AC1-075 C                   | 2.3895             | 80/20 | 2.3895         |
| 926021 | AC1-080 C                   | 0.7986             | 80/20 | 0.7986         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.3692             | 80/20 | 3.3692         |
| 926451 | AC1-116 C                   | -0.7531            | Adder | -0.89          |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 927251 | AC1-221 C    | 0.7912             | 80/20         | 0.7912         |
| 927261 | AC1-222 C    | 1.8753             | 80/20         | 1.8753         |
| 932511 | AC2-071 C    | 6.7040             | 80/20         | 6.7040         |
| 932761 | AC2-100 C    | 1.8208             | 80/20         | 1.8208         |
| 933501 | AC2-165 C    | 35.3138            | 80/20         | 35.3138        |
| 934311 | AD1-055 C    | 1.3021             | 80/20         | 1.3021         |
| 934341 | AD1-058 C    | 1.9834             | 80/20         | 1.9834         |
| 934611 | AD1-087 C O1 | 4.5455             | 80/20         | 4.5455         |
| 934621 | AD1-088 C    | 21.9177            | 80/20         | 21.9177        |
| 934991 | AD1-131 C    | 0.6503             | 80/20         | 0.6503         |
| 935171 | AD1-152 C O1 | 4.5173             | 80/20         | 4.5173         |
| 935221 | AD1-157 C    | 2.6102             | 80/20         | 2.6102         |
| 936261 | AD2-033 C    | 15.5243            | 80/20         | 15.5243        |
| 936361 | AD2-046 C O1 | 5.9036             | 80/20         | 5.9036         |
| 936481 | AD2-063 C O1 | 15.2622            | 80/20         | 15.2622        |
| 937481 | AD2-202 C O1 | 1.2046             | 80/20         | 1.2046         |
| 938371 | AE1-056 C    | 11.2528            | 80/20         | 11.2528        |
| 938821 | AE1-108 C    | 11.6026            | 80/20         | 11.6026        |
| 939181 | AE1-148 C O1 | 5.9157             | 80/20         | 5.9157         |
| 940241 | AE2-006      | 0.6128             | 80/20         | 0.6128         |
| 940661 | AE2-053 O1   | 2.1910             | 80/20         | 2.1910         |
| 941791 | AE2-182 C    | 3.5609             | 80/20         | 3.5609         |
| 942451 | AE2-258      | 2.0222             | 80/20         | 2.0222         |
| 942461 | AE2-259 C O1 | 20.7678            | 80/20         | 20.7678        |
| 942751 | AE2-291 C O1 | 3.3042             | 80/20         | 3.3042         |
| 942761 | AE2-292 C O1 | 4.1140             | 80/20         | 4.1140         |
| 943901 | AF1-058 C    | 1.0482             | 80/20         | 1.0482         |
| 943911 | AF1-059      | 10.4370            | 80/20         | 10.4370        |
| 945811 | AF1-246 C O1 | 3.5725             | 80/20         | 3.5725         |
| 946281 | AF1-292 C    | 0.4998             | 80/20         | 0.4998         |
| 946291 | AF1-293 C O1 | 6.7728             | 80/20         | 6.7728         |
| 946301 | AF1-294 C    | 6.6427             | 80/20         | 6.6427         |
| 946591 | AF1-323 C    | 3.7326             | 80/20         | 3.7326         |
| 957481 | AF2-042 C O2 | 25.5180            | 80/20         | 25.5180        |
| 958131 | AF2-107 C    | 2.0323             | 80/20         | 2.0323         |
| 958211 | AF2-115 C    | 4.0505             | 80/20         | 4.0505         |
| 958801 | AF2-171 C O2 | 24.6609            | 80/20         | 24.6609        |
| 959311 | AF2-222 C    | 21.9610            | 80/20         | 21.9610        |
| 959751 | AF2-266 O2   | 4.2530             | 80/20         | 4.2530         |
| 960061 | AF2-297 C O2 | 3.9840             | 80/20         | 3.9840         |
| 960081 | AF2-299 C    | 0.8424             | 80/20         | 0.8424         |
| 960111 | AF2-302 C    | 1.3573             | 80/20         | 1.3573         |
| 960811 | AF2-372 C    | 1.0609             | 80/20         | 1.0609         |
| 960821 | AF2-373 C    | 0.6309             | 80/20         | 0.6309         |
| 961061 | AF2-397 C O2 | 12.2920            | 80/20         | 12.2920        |
| 961081 | AF2-399 C    | 0.5225             | 80/20         | 0.5225         |
| WEC    | WEC          | 0.0636             | Confirmed LTF | 0.0636         |
| LGEE   | LGEE         | 0.1278             | Confirmed LTF | 0.1278         |
| CPL    | CPL          | 2.2326             | Confirmed LTF | 2.2326         |
| CBM-W2 | CBM-W2       | 5.0614             | Confirmed LTF | 5.0614         |
| NY     | NY           | 0.4015             | Confirmed LTF | 0.4015         |
| CBM-W1 | CBM-W1       | 2.0391             | Confirmed LTF | 2.0391         |

| <b>Bus #</b>   | <b>Bus</b> | <b>Gendeliv MW Impact</b> | <b>Type</b>   | <b>Full MW Impact</b> |
|----------------|------------|---------------------------|---------------|-----------------------|
| <b>TVA</b>     | TVA        | 1.2404                    | Confirmed LTF | 1.2404                |
| <b>CBM-S2</b>  | CBM-S2     | 14.2882                   | Confirmed LTF | 14.2882               |
| <b>CBM-S1</b>  | CBM-S1     | 6.5008                    | Confirmed LTF | 6.5008                |
| <b>MADISON</b> | MADISON    | 0.5786                    | Confirmed LTF | 0.5786                |
| <b>MEC</b>     | MEC        | 0.5641                    | Confirmed LTF | 0.5641                |
| <b>AA2-074</b> | AA2-074    | 1.5188                    | LTF           | 1.5188                |

### 13.5.26 Index 26

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|----------------------------------------------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 97886954 | 314765    | 6MTEAGLE | DVP           | 314749  | 6CHARLVL | DVP         | 1      | 314333<br>6POWHATN<br>230 933500<br>AC2-165<br>TAP 230 1 | single | 661.76     | 106.02                | 109.54                 | DC    | 23.3      |

| Bus #  | Bus                         | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-----------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                   | 0.1363             | 80/20 | 0.1363         |
| 314429 | 3JTRSVLE                    | 0.5452             | 80/20 | 0.5452         |
| 314572 | 3EMPORIA                    | 0.0219             | 80/20 | 0.0219         |
| 314677 | 6BUCKING                    | 1.0694             | 80/20 | 1.0694         |
| 314704 | 3LAWRENC                    | 0.1423             | 80/20 | 0.1423         |
| 315153 | 1CLOVER1                    | 7.3430             | 80/20 | 7.3430         |
| 315154 | 1CLOVER2                    | 7.2698             | 80/20 | 7.2698         |
| 315158 | 1KERR 1                     | 0.2422             | 80/20 | 0.2422         |
| 315159 | 1KERR 2                     | 0.6782             | 80/20 | 0.6782         |
| 315160 | 1KERR 3                     | 0.6782             | 80/20 | 0.6782         |
| 315161 | 1KERR 4                     | 0.6782             | 80/20 | 0.6782         |
| 315162 | 1KERR 5                     | 0.6782             | 80/20 | 0.6782         |
| 315163 | 1KERR 6                     | 0.6782             | 80/20 | 0.6782         |
| 315164 | 1KERR 7                     | 0.6782             | 80/20 | 0.6782         |
| 315191 | 1BEARGRDN G1                | 15.0842            | 80/20 | 15.0842        |
| 315192 | 1BEARGRDN G2                | 15.0842            | 80/20 | 15.0842        |
| 315193 | 1BEARGRDN S1                | 31.0443            | 80/20 | 31.0443        |
| 315266 | 1PLYWOOD A                  | 0.6953             | 80/20 | 0.6953         |
| 920291 | AA2-127                     | 3.1336             | 80/20 | 3.1336         |
| 924021 | AB2-043 C O1                | 0.4312             | 80/20 | 0.4312         |
| 924161 | AB2-060 C OP                | 1.2758             | 80/20 | 1.2758         |
| 924301 | AB2-077 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924311 | AB2-078 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 924321 | AB2-079 C O1<br>(Suspended) | 1.5499             | 80/20 | 1.5499         |
| 925171 | AB2-174 C O1                | 0.3622             | 80/20 | 0.3622         |
| 925611 | AC1-036 C                   | 1.1045             | 80/20 | 1.1045         |
| 925781 | AC1-054 C O1                | 3.6512             | 80/20 | 3.6512         |
| 925831 | AC1-062                     | 0.0809             | 80/20 | 0.0809         |
| 925991 | AC1-075 C                   | 2.5684             | 80/20 | 2.5684         |
| 926021 | AC1-080 C                   | 0.8584             | 80/20 | 0.8584         |
| 926271 | AC1-105 C O1<br>(Suspended) | 3.1786             | 80/20 | 3.1786         |
| 926451 | AC1-116 C                   | 3.6384             | 80/20 | 3.6384         |
| 927251 | AC1-221 C                   | 0.7555             | 80/20 | 0.7555         |
| 927261 | AC1-222 C                   | 1.8244             | 80/20 | 1.8244         |
| 932511 | AC2-071 C                   | 6.1076             | 80/20 | 6.1076         |
| 932761 | AC2-100 C                   | 1.7388             | 80/20 | 1.7388         |

| Bus #  | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|--------------|--------------------|---------------|----------------|
| 933501 | AC2-165 C    | 32.1571            | 80/20         | 32.1571        |
| 934311 | AD1-055 C    | 1.2668             | 80/20         | 1.2668         |
| 934341 | AD1-058 C    | 1.8940             | 80/20         | 1.8940         |
| 934611 | AD1-087 C O1 | 4.2050             | 80/20         | 4.2050         |
| 934621 | AD1-088 C    | 19.9913            | 80/20         | 19.9913        |
| 934991 | AD1-131 C    | 0.6210             | 80/20         | 0.6210         |
| 935171 | AD1-152 C O1 | 4.1789             | 80/20         | 4.1789         |
| 935221 | AD1-157 C    | 2.3854             | 80/20         | 2.3854         |
| 936261 | AD2-033 C    | 14.2459            | 80/20         | 14.2459        |
| 936361 | AD2-046 C O1 | 5.4614             | 80/20         | 5.4614         |
| 936481 | AD2-063 C O1 | 14.0364            | 80/20         | 14.0364        |
| 937481 | AD2-202 C O1 | 1.1144             | 80/20         | 1.1144         |
| 938371 | AE1-056 C    | 10.2839            | 80/20         | 10.2839        |
| 938821 | AE1-108 C    | 35.7983            | 80/20         | 35.7983        |
| 939181 | AE1-148 C O1 | 5.4713             | 80/20         | 5.4713         |
| 940241 | AE2-006      | 0.5619             | 80/20         | 0.5619         |
| 940661 | AE2-053 O1   | 2.0264             | 80/20         | 2.0264         |
| 941011 | AE2-092 C    | 29.1911            | 80/20         | 29.1911        |
| 941791 | AE2-182 C    | 3.2479             | 80/20         | 3.2479         |
| 942451 | AE2-258      | 1.8649             | 80/20         | 1.8649         |
| 942461 | AE2-259 C O1 | 18.9528            | 80/20         | 18.9528        |
| 942751 | AE2-291 C O1 | 3.7718             | 80/20         | 3.7718         |
| 942761 | AE2-292 C O1 | 4.6962             | 80/20         | 4.6962         |
| 943901 | AF1-058 C    | 0.9984             | 80/20         | 0.9984         |
| 943911 | AF1-059      | 9.5960             | 80/20         | 9.5960         |
| 945811 | AF1-246 C O1 | 3.2617             | 80/20         | 3.2617         |
| 946281 | AF1-292 C    | 0.4551             | 80/20         | 0.4551         |
| 946291 | AF1-293 C O1 | 47.0478            | 80/20         | 47.0478        |
| 946301 | AF1-294 C    | 6.0747             | 80/20         | 6.0747         |
| 946591 | AF1-323 C    | 11.4715            | 80/20         | 11.4715        |
| 957481 | AF2-042 C O2 | 23.2980            | 80/20         | 23.2980        |
| 958131 | AF2-107 C    | 6.0592             | 80/20         | 6.0592         |
| 958211 | AF2-115 C    | 3.7041             | 80/20         | 3.7041         |
| 958801 | AF2-171 C O2 | 22.5495            | 80/20         | 22.5495        |
| 959311 | AF2-222 C    | 20.1270            | 80/20         | 20.1270        |
| 959751 | AF2-266 O2   | 3.8830             | 80/20         | 3.8830         |
| 960061 | AF2-297 C O2 | 3.7296             | 80/20         | 3.7296         |
| 960081 | AF2-299 C    | 0.7671             | 80/20         | 0.7671         |
| 960111 | AF2-302 C    | 4.1714             | 80/20         | 4.1714         |
| 960811 | AF2-372 C    | 0.9790             | 80/20         | 0.9790         |
| 960821 | AF2-373 C    | 0.5906             | 80/20         | 0.5906         |
| 961061 | AF2-397 C O2 | 38.1787            | 80/20         | 38.1787        |
| 961081 | AF2-399 C    | 0.4779             | 80/20         | 0.4779         |
| WEC    | WEC          | 0.1254             | Confirmed LTF | 0.1254         |
| LGEE   | LGEE         | 0.2482             | Confirmed LTF | 0.2482         |
| CPL    | CPL          | 2.1704             | Confirmed LTF | 2.1704         |
| CBM-W2 | CBM-W2       | 6.5766             | Confirmed LTF | 6.5766         |
| NY     | NY           | 0.4302             | Confirmed LTF | 0.4302         |
| CBM-W1 | CBM-W1       | 4.4035             | Confirmed LTF | 4.4035         |
| TVA    | TVA          | 1.4980             | Confirmed LTF | 1.4980         |
| CBM-S2 | CBM-S2       | 14.4558            | Confirmed LTF | 14.4558        |
| CBM-S1 | CBM-S1       | 8.1110             | Confirmed LTF | 8.1110         |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MADISON | MADISON | 0.5443             | Confirmed LTF | 0.5443         |
| MEC     | MEC     | 0.8692             | Confirmed LTF | 0.8692         |
| AA2-074 | AA2-074 | 1.4778             | LTF           | 1.4778         |

### 13.5.27 Index 27

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|-------------------|---------|------------|-----------------------|------------------------|-------|-----------|
| 96825661 | 314902    | 8CARSON  | DVP           | 314914  | 8MDLTHAN | DVP         | 1      | DVP_P4-2: 557T574 | breaker | 3938.0     | 133.52                | 135.9                  | DC    | 153.82    |

| Bus #  | Bus                    | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK              | 0.0788             | 50/50 | 0.0788         |
| 314491 | 3PENDLTN               | 0.5875             | 50/50 | 0.5875         |
| 314947 | 8GREENSVILLE           | 102.0684           | 50/50 | 102.0684       |
| 315102 | 1BRUNSWICKG1           | 16.7135            | 50/50 | 16.7135        |
| 315103 | 1BRUNSWICKG2           | 16.7135            | 50/50 | 16.7135        |
| 315104 | 1BRUNSWICKG3           | 16.7135            | 50/50 | 16.7135        |
| 315105 | 1BRUNSWICKS1           | 34.7221            | 50/50 | 34.7221        |
| 315108 | 1ELIZAR1               | 5.7339             | 50/50 | 5.7339         |
| 315109 | 1ELIZAR2               | 5.6343             | 50/50 | 5.6343         |
| 315110 | 1ELIZAR3               | 5.8073             | 50/50 | 5.8073         |
| 315233 | 1SURRY 2               | 45.2544            | 50/50 | 45.2544        |
| 315603 | 6AA1-139SOLA           | 4.3963             | 50/50 | 4.3963         |
| 916192 | Z1-068 E               | 3.1959             | 50/50 | 3.1959         |
| 919152 | AA1-139 E              | 10.9228            | 50/50 | 10.9228        |
| 924241 | AB2-068 OP             | 329.5010           | 50/50 | 329.5010       |
| 925522 | AC1-027 E              | 1.9463             | 50/50 | 1.9463         |
| 926291 | AC1-107 O1 (Suspended) | 497.3600           | 50/50 | 497.3600       |
| 926751 | AC1-161 C O1           | 54.9190            | 50/50 | 54.9190        |
| 926752 | AC1-161 E O1           | 23.4434            | 50/50 | 23.4434        |
| 933291 | AC2-141 C              | 54.9190            | 50/50 | 54.9190        |
| 933292 | AC2-141 E              | 23.4434            | 50/50 | 23.4434        |
| 933731 | AC2-196 C              | 3.0625             | 50/50 | 3.0625         |
| 933732 | AC2-196 E              | 2.0396             | 50/50 | 2.0396         |
| 934061 | AD1-033 C              | 12.8516            | 50/50 | 12.8516        |
| 934062 | AD1-033 E              | 8.5677             | 50/50 | 8.5677         |
| 937221 | AD2-160 C O1           | 9.9787             | 50/50 | 9.9787         |
| 937222 | AD2-160 E O1           | 5.2328             | 50/50 | 5.2328         |
| 938491 | AE1-068 C O1           | 118.2687           | 50/50 | 118.2687       |
| 938492 | AE1-068 E O1           | 65.3213            | 50/50 | 65.3213        |
| 938501 | AE1-069 C O1           | 92.3886            | 50/50 | 92.3886        |
| 938502 | AE1-069 E O1           | 52.8194            | 50/50 | 52.8194        |
| 939411 | AE1-173 C              | 173.7120           | 50/50 | 173.7120       |
| 939412 | AE1-173 E              | 115.8080           | 50/50 | 115.8080       |
| 940251 | AE2-007 O1             | 293.8408           | 50/50 | 293.8408       |
| 940471 | AE2-031 C              | 64.4722            | 50/50 | 64.4722        |
| 940472 | AE2-031 E              | 42.9815            | 50/50 | 42.9815        |
| 940641 | AE2-051 C O1           | 34.2000            | 50/50 | 34.2000        |
| 940642 | AE2-051 E O1           | 22.8000            | 50/50 | 22.8000        |
| 941031 | AE2-094 C              | 77.6917            | 50/50 | 77.6917        |
| 941032 | AE2-094 E              | 34.7963            | 50/50 | 34.7963        |
| 941281 | AE2-122 C O1           | 48.3851            | 50/50 | 48.3851        |

| Bus #   | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|--------------|--------------------|---------------|----------------|
| 941282  | AE2-122 E O1 | 195.2454           | 50/50         | 195.2454       |
| 941291  | AE2-123 C O1 | 49.7249            | 50/50         | 49.7249        |
| 941292  | AE2-123 E O1 | 193.9056           | 50/50         | 193.9056       |
| 941301  | AE2-124 C O1 | 45.2479            | 50/50         | 45.2479        |
| 941302  | AE2-124 E O1 | 198.5425           | 50/50         | 198.5425       |
| 942401  | AE2-253 C    | 10.4959            | 50/50         | 10.4959        |
| 942402  | AE2-253 E    | 4.7156             | 50/50         | 4.7156         |
| 942931  | AE2-313 C    | 69.8079            | 50/50         | 69.8079        |
| 942932  | AE2-313 E    | 46.5386            | 50/50         | 46.5386        |
| 944011  | AF1-069 C    | 25.3848            | 50/50         | 25.3848        |
| 944012  | AF1-069 E    | 9.8614             | 50/50         | 9.8614         |
| 944581  | AF1-123 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944582  | AF1-123 E O1 | 191.4798           | 50/50         | 191.4798       |
| 944591  | AF1-124 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944592  | AF1-124 E O1 | 191.4798           | 50/50         | 191.4798       |
| 944601  | AF1-125 C O1 | 83.6259            | 50/50         | 83.6259        |
| 944602  | AF1-125 E O1 | 191.4798           | 50/50         | 191.4798       |
| 945811  | AF1-246 C O1 | 12.9209            | 50/50         | 12.9209        |
| 945812  | AF1-246 E O1 | 17.8431            | 50/50         | 17.8431        |
| 957481  | AF2-042 C O2 | 92.2920            | 50/50         | 92.2920        |
| 957482  | AF2-042 E O2 | 61.5280            | 50/50         | 61.5280        |
| 957871  | AF2-081 C O2 | 16.9949            | 50/50         | 16.9949        |
| 957872  | AF2-081 E O2 | 7.2835             | 50/50         | 7.2835         |
| 959751  | AF2-266 O2   | 15.3820            | 50/50         | 15.3820        |
| WEC     | WEC          | 1.2109             | Confirmed LTF | 1.2109         |
| LGEE    | LGEE         | 2.3168             | Confirmed LTF | 2.3168         |
| CPL     | CPL          | 12.8920            | Confirmed LTF | 12.8920        |
| CBM-W2  | CBM-W2       | 49.9508            | Confirmed LTF | 49.9508        |
| NY      | NY           | 2.6173             | Confirmed LTF | 2.6173         |
| CBM-W1  | CBM-W1       | 44.7233            | Confirmed LTF | 44.7233        |
| TVA     | TVA          | 10.6106            | Confirmed LTF | 10.6106        |
| O-066   | O-066        | 36.4022            | Confirmed LTF | 36.4022        |
| CBM-S2  | CBM-S2       | 88.5265            | Confirmed LTF | 88.5265        |
| CBM-S1  | CBM-S1       | 59.0010            | Confirmed LTF | 59.0010        |
| G-007   | G-007        | 5.6774             | Confirmed LTF | 5.6774         |
| MADISON | MADISON      | 3.0200             | Confirmed LTF | 3.0200         |
| MEC     | MEC          | 7.4302             | Confirmed LTF | 7.4302         |
| AA2-074 | AA2-074      | 8.7867             | LTF           | 8.7867         |

### 13.5.28 Index 28

| 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 |
|----------|-----------|----------|---------------|---------|---------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825770 | 314903    | 8CHCKAHM | DVP           | 314908  | 8ELMONT | DVP         | 1      | DVP_P1-2: LN 563 | single | 2442.12    | 163.45                | 163.63                 | DC    | 65.81     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0813             | 80/20 | 0.0813         |
| 314421 | 6WINCHST                             | 0.2482             | 80/20 | 0.2482         |
| 314491 | 3PENDLTN                             | 0.6068             | 80/20 | 0.6068         |
| 314507 | 3THOMPSN                             | 0.6099             | 80/20 | 0.6099         |
| 315092 | 1YORKTN3                             | 44.1974            | 80/20 | 44.1974        |
| 315098 | 1CHESPKA                             | 0.8066             | 80/20 | 0.8066         |
| 315099 | 1CHESPKB (Deactivation : 31/05/2019) | 5.2288             | 80/20 | 5.2288         |
| 315108 | 1ELIZAR1                             | 5.9415             | 80/20 | 5.9415         |
| 315109 | 1ELIZAR2                             | 5.8383             | 80/20 | 5.8383         |
| 315110 | 1ELIZAR3                             | 6.0175             | 80/20 | 6.0175         |
| 315233 | 1SURRY 2                             | 53.8009            | 80/20 | 53.8009        |
| 315260 | 1GOSPORTA                            | 0.6439             | 80/20 | 0.6439         |
| 315261 | 1GOSPORTB                            | 0.8224             | 80/20 | 0.8224         |
| 315262 | 1GOSPORTC                            | 0.6980             | 80/20 | 0.6980         |
| 315294 | 1DOMTR10                             | 13.7739            | Adder | 16.2           |
| 315603 | 6AA1-139SOLA                         | 4.4977             | 80/20 | 4.4977         |
| 315611 | 6Z1-036WIND                          | 9.5313             | Adder | 11.21          |
| 923801 | AB2-015 C OP                         | 11.2140            | Adder | 13.19          |
| 923831 | AB2-022 C                            | 3.3523             | Adder | 3.94           |
| 924241 | AB2-068 OP                           | 611.1006           | 80/20 | 611.1006       |
| 924501 | AB2-099 C (Suspended)                | 0.7143             | Adder | 0.84           |
| 925061 | AB2-161 C O1 (Suspended)             | 4.1804             | Adder | 4.92           |
| 925331 | AB2-190 C                            | 23.2754            | Adder | 27.38          |
| 925861 | AC1-065 C                            | 4.3238             | Adder | 5.09           |
| 926291 | AC1-107 O1 (Suspended)               | 922.4160           | 80/20 | 922.4160       |
| 926661 | AC1-147 C                            | 3.9544             | 80/20 | 3.9544         |
| 926751 | AC1-161 C O1                         | 57.6606            | 80/20 | 57.6606        |
| 926781 | AC1-164 C                            | 54.9677            | Adder | 64.67          |
| 932041 | AC2-012 C                            | 17.8889            | 80/20 | 17.8889        |
| 932581 | AC2-078 C O1                         | 4.3793             | Adder | 5.15           |
| 932591 | AC2-079 C O1                         | 7.5131             | Adder | 8.84           |
| 932831 | AC2-110 C                            | 1.7295             | Adder | 2.03           |
| 933261 | AC2-137 C                            | 2.2815             | Adder | 2.68           |
| 933291 | AC2-141 C                            | 57.6606            | 80/20 | 57.6606        |
| 933731 | AC2-196 C                            | 3.1486             | 80/20 | 3.1486         |
| 933991 | AD1-023 C                            | 16.9234            | Adder | 19.91          |
| 934011 | AD1-025 C                            | 19.8686            | Adder | 23.37          |
| 934061 | AD1-033 C                            | 13.2199            | 80/20 | 13.2199        |
| 934141 | AD1-041 C                            | 6.8442             | Adder | 8.05           |
| 934521 | AD1-076 C                            | 70.8965            | Adder | 83.41          |

| Bus #  | Bus                                   | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------------------------|--------------------|-------|----------------|
| 934571 | AD1-082 C                             | 9.5270             | Adder | 11.21          |
| 935111 | AD1-144 C                             | 2.4996             | Adder | 2.94           |
| 935161 | AD1-151 C O1                          | 18.7035            | Adder | 22.0           |
| 936041 | AD2-007 C                             | 0.9491             | Adder | 1.12           |
| 936051 | AD2-008 C                             | 3.4591             | Adder | 4.07           |
| 936151 | AD2-021                               | 0.2602             | Adder | 0.31           |
| 936301 | AD2-039 C                             | 1.7295             | Adder | 2.03           |
| 936401 | AD2-051 C O1                          | 10.8936            | Adder | 12.82          |
| 936591 | AD2-074 C                             | 0.3395             | Adder | 0.4            |
| 936661 | AD2-085 C                             | 4.4965             | Adder | 5.29           |
| 937221 | AD2-160 C O1                          | 10.2234            | 80/20 | 10.2234        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020)   | 8.5333             | 80/20 | 8.5333         |
| 937541 | AD2-215 C                             | 2.5253             | Adder | 2.97           |
| 938031 | AE1-004 C                             | 1.7295             | Adder | 2.03           |
| 938171 | AE1-026 C O1                          | 41.0026            | Adder | 48.24          |
| 938221 | AE1-035 C                             | 2.7948             | Adder | 3.29           |
| 938491 | AE1-068 C O1                          | 70.7597            | Adder | 83.25          |
| 938501 | AE1-069 C O1                          | 55.3100            | Adder | 65.07          |
| 938531 | AE1-072 C O1                          | 30.4743            | 80/20 | 30.4743        |
| 938631 | AE1-085 C O1                          | 9.8056             | Adder | 11.54          |
| 938771 | AE1-103 C O1                          | 4.7784             | Adder | 5.62           |
| 939191 | AE1-149 C O1                          | 11.2210            | Adder | 13.2           |
| 939311 | AE1-162 C                             | 2.9920             | Adder | 3.52           |
| 939411 | AE1-173 C                             | 120.2294           | Adder | 141.45         |
| 939421 | AE1-174 C (Withdrawn :<br>06/16/2020) | 0.6390             | 80/20 | 0.6390         |
| 939431 | AE1-175 C                             | 4.2491             | 80/20 | 4.2491         |
| 939611 | AE1-191 C                             | 13.6884            | Adder | 16.1           |
| 940061 | AE2-000BC O1                          | 19.8020            | Adder | 23.3           |
| 940231 | AE2-005 C                             | 1.7295             | Adder | 2.03           |
| 940251 | AE2-007 O1                            | 304.5231           | 80/20 | 304.5231       |
| 940471 | AE2-031 C                             | 38.5649            | Adder | 45.37          |
| 940481 | AE2-033 C                             | 16.5492            | Adder | 19.47          |
| 940491 | AE2-034 C                             | 9.6494             | Adder | 11.35          |
| 940551 | AE2-041 O1                            | 9.4340             | Adder | 11.1           |
| 940641 | AE2-051 C O1                          | 21.9991            | Adder | 25.88          |
| 940651 | AE2-052                               | 3.7403             | Adder | 4.4            |
| 940891 | AE2-078 C                             | 3.2115             | Adder | 3.78           |
| 940901 | AE2-079 C                             | 3.2115             | Adder | 3.78           |
| 941031 | AE2-094 C                             | 46.4323            | Adder | 54.63          |
| 941101 | AE2-104 C O1                          | 4.7122             | Adder | 5.54           |
| 941281 | AE2-122 C O1                          | 49.9327            | 80/20 | 49.9327        |
| 941291 | AE2-123 C O1                          | 51.3154            | 80/20 | 51.3154        |
| 941301 | AE2-124 C O1                          | 46.6691            | 80/20 | 46.6691        |
| 941501 | AE2-147 C                             | 22.7029            | Adder | 26.71          |
| 941541 | AE2-151 C                             | 1.3213             | Adder | 1.55           |
| 941591 | AE2-156 O1                            | 31.4270            | 80/20 | 31.4270        |
| 942131 | AE2-225 C                             | 3.1125             | Adder | 3.66           |
| 942171 | AE2-229 C                             | 3.1125             | Adder | 3.66           |
| 942341 | AE2-247 C                             | 1.9469             | Adder | 2.29           |
| 942401 | AE2-253 C                             | 10.7533            | 80/20 | 10.7533        |
| 942551 | AE2-270                               | 31.6799            | Adder | 37.27          |

| Bus #  | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|--------|------------------------------------|--------------------|---------------|----------------|
| 942851 | AE2-304 C                          | 0.8943             | Adder         | 1.05           |
| 942931 | AE2-313 C                          | 41.7565            | Adder         | 49.13          |
| 943171 | AE2-346 C                          | 1.7143             | Adder         | 2.02           |
| 943431 | AF1-014 C                          | 1.6385             | Adder         | 1.93           |
| 943461 | AF1-017 C                          | 1.7615             | Adder         | 2.07           |
| 943471 | AF1-018                            | 9.4340             | Adder         | 11.1           |
| 943611 | AF1-032 C                          | 2.5419             | Adder         | 2.99           |
| 943621 | AF1-033 C                          | 3.2115             | Adder         | 3.78           |
| 943741 | AF1-042 C                          | 3.1599             | Adder         | 3.72           |
| 944011 | AF1-069 C                          | 15.1712            | Adder         | 17.85          |
| 944501 | AF1-115 C O1                       | 9.7805             | Adder         | 11.51          |
| 944581 | AF1-123 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944591 | AF1-124 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944601 | AF1-125 C O1                       | 85.7552            | 80/20         | 85.7552        |
| 944871 | AF1-152 C                          | 7.5676             | Adder         | 8.9            |
| 945361 | AF1-201 C O1                       | 23.5046            | Adder         | 27.65          |
| 945711 | AF1-236 C O1                       | 105.6374           | Adder         | 124.28         |
| 945811 | AF1-246 C O1                       | 7.8319             | Adder         | 9.21           |
| 946011 | AF1-266                            | 13.8530            | Adder         | 16.3           |
| 957481 | AF2-042 C O2                       | 29.6492            | Adder         | 65.81          |
| 957491 | AF2-043 C                          | 1.6496             | Adder         | 3.66           |
| 957521 | AF2-046 C                          | 10.9010            | Adder         | 24.2           |
| 957531 | AF2-047 C                          | 12.1522            | Adder         | 26.97          |
| 957601 | AF2-054 C                          | 1.4483             | Adder         | 3.21           |
| 957631 | AF2-057                            | 6.2768             | 80/20         | 6.2768         |
| 957711 | AF2-065 C                          | 8.5631             | Adder         | 19.01          |
| 957791 | AF2-073 C (Withdrawn : 07/02/2020) | 7.1284             | Adder         | 15.82          |
| 957801 | AF2-074 C (Withdrawn : 07/02/2020) | 3.1682             | Adder         | 7.03           |
| 957821 | AF2-076 C O2                       | 4.1095             | Adder         | 9.12           |
| 957831 | AF2-077 C                          | 1.6126             | Adder         | 3.58           |
| 957871 | AF2-081 C O2                       | 17.3886            | 80/20         | 17.3886        |
| 958161 | AF2-110 C                          | 1.0296             | Adder         | 2.29           |
| 959511 | AF2-242                            | 4.9841             | Adder         | 11.06          |
| 959731 | AF2-264 C                          | 1.4561             | Adder         | 3.23           |
| 959751 | AF2-266 O2                         | 4.9415             | Adder         | 10.97          |
| 960101 | AF2-301 C                          | 2.0041             | Adder         | 4.45           |
| 960131 | AF2-304 C O2                       | 9.9490             | Adder         | 22.08          |
| 960361 | AF2-327 C (Withdrawn : 07/22/2020) | 1.8017             | Adder         | 4.0            |
| 960831 | AF2-374 C                          | 0.7953             | Adder         | 1.77           |
| 961091 | AF2-400 C                          | 0.3209             | Adder         | 0.71           |
| 961111 | AF2-402 C O2                       | 0.7418             | Adder         | 1.65           |
| WEC    | WEC                                | 0.5887             | Confirmed LTF | 0.5887         |
| LGEE   | LGEE                               | 1.1313             | Confirmed LTF | 1.1313         |
| CPL    | CPL                                | 9.4138             | Confirmed LTF | 9.4138         |
| CBM-W2 | CBM-W2                             | 29.0417            | Confirmed LTF | 29.0417        |
| NY     | NY                                 | 1.8221             | Confirmed LTF | 1.8221         |
| CBM-W1 | CBM-W1                             | 21.1669            | Confirmed LTF | 21.1669        |
| TVA    | TVA                                | 6.4848             | Confirmed LTF | 6.4848         |
| CBM-S2 | CBM-S2                             | 62.0599            | Confirmed LTF | 62.0599        |
| CBM-S1 | CBM-S1                             | 35.2728            | Confirmed LTF | 35.2728        |

| Bus #   | Bus     | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|---------|--------------------|---------------|----------------|
| MADISON | MADISON | 2.3023             | Confirmed LTF | 2.3023         |
| MEC     | MEC     | 3.9503             | Confirmed LTF | 3.9503         |
| AA2-074 | AA2-074 | 6.4107             | LTF           | 6.4107         |

### 13.5.29 Index 29

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825782 | 314914    | 8MDLTHAN | DVP           | 314918  | 8NO ANNA | DVP         | 1      | DVP_P1-2: LN 574 | single | 2442.12    | 149.52                | 150.04                 | DC    | 83.6      |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0726             | 80/20 | 0.0726         |
| 314491 | 3PENDLTN                             | 0.5418             | 80/20 | 0.5418         |
| 314507 | 3THOMPSN                             | 0.5451             | 80/20 | 0.5451         |
| 314947 | 8GREENSVILLE                         | 87.0542            | 80/20 | 87.0542        |
| 315060 | 1CHESTF5 (Deactivation : 31/05/2023) | 69.3084            | Adder | 81.54          |
| 315065 | 1CHESTF6 (Deactivation : 31/05/2023) | 146.9609           | Adder | 172.9          |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 13.2114            | Adder | 15.54          |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 13.2114            | Adder | 15.54          |
| 315098 | 1CHESPKA                             | 0.7204             | 80/20 | 0.7204         |
| 315099 | 1CHESPKB (Deactivation : 31/05/2019) | 4.6698             | 80/20 | 4.6698         |
| 315102 | 1BRUNSWICKG1                         | 14.2990            | 80/20 | 14.2990        |
| 315103 | 1BRUNSWICKG2                         | 14.2990            | 80/20 | 14.2990        |
| 315104 | 1BRUNSWICKG3                         | 14.2990            | 80/20 | 14.2990        |
| 315105 | 1BRUNSWICKS1                         | 29.7062            | 80/20 | 29.7062        |
| 315108 | 1ELIZAR1                             | 5.2967             | 80/20 | 5.2967         |
| 315109 | 1ELIZAR2                             | 5.2047             | 80/20 | 5.2047         |
| 315110 | 1ELIZAR3                             | 5.3644             | 80/20 | 5.3644         |
| 315260 | 1GOSPORTA                            | 0.5752             | 80/20 | 0.5752         |
| 315261 | 1GOSPORTB                            | 0.7348             | 80/20 | 0.7348         |
| 315262 | 1GOSPORTC                            | 0.6236             | 80/20 | 0.6236         |
| 315294 | 1DOMTR10                             | 13.9892            | Adder | 16.46          |
| 315603 | 6AA1-139SOLA                         | 4.0434             | 80/20 | 4.0434         |
| 315611 | 6Z1-036WIND                          | 8.9548             | Adder | 10.54          |
| 923262 | AB1-132 C OP (Suspended)             | 17.9107            | Adder | 21.07          |
| 923572 | AB1-173 C OP                         | 2.8821             | Adder | 3.39           |
| 923582 | AB1-173AC OP                         | 2.8821             | Adder | 3.39           |
| 923801 | AB2-015 C OP                         | 11.2353            | Adder | 13.22          |
| 923831 | AB2-022 C                            | 3.0540             | Adder | 3.59           |
| 923911 | AB2-031 C O1                         | 2.8607             | Adder | 3.37           |
| 923991 | AB2-040 C O1                         | 9.3934             | Adder | 11.05          |
| 924501 | AB2-099 C (Suspended)                | 0.7533             | Adder | 0.89           |
| 925051 | AB2-160 C O1 (Suspended)             | 6.7647             | Adder | 7.96           |
| 925061 | AB2-161 C O1 (Suspended)             | 4.4017             | Adder | 5.18           |
| 925331 | AB2-190 C                            | 24.7625            | Adder | 29.13          |

| Bus #  | Bus                                | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|------------------------------------|--------------------|-------|----------------|
| 926071 | AC1-086 C                          | 26.3756            | Adder | 31.03          |
| 926201 | AC1-098 C                          | 7.7123             | Adder | 9.07           |
| 926211 | AC1-099 C                          | 2.5844             | Adder | 3.04           |
| 926661 | AC1-147 C                          | 3.5317             | 80/20 | 3.5317         |
| 926751 | AC1-161 C O1                       | 47.9555            | 80/20 | 47.9555        |
| 926781 | AC1-164 C                          | 1.9284             | Adder | 2.27           |
| 927021 | AC1-189 C                          | 10.6067            | Adder | 12.48          |
| 927141 | AC1-208 C                          | 11.2696            | Adder | 13.26          |
| 932041 | AC2-012 C                          | 15.9765            | 80/20 | 15.9765        |
| 932581 | AC2-078 C O1                       | 5.2283             | Adder | 6.15           |
| 932591 | AC2-079 C O1                       | 7.5172             | Adder | 8.84           |
| 932631 | AC2-084 C                          | 10.9941            | Adder | 12.93          |
| 933261 | AC2-137 C                          | 2.2372             | Adder | 2.63           |
| 933291 | AC2-141 C                          | 47.9555            | 80/20 | 47.9555        |
| 933501 | AC2-165 C                          | 12.0834            | Adder | 14.22          |
| 933731 | AC2-196 C                          | 2.8076             | 80/20 | 2.8076         |
| 933991 | AD1-023 C                          | 17.0211            | Adder | 20.02          |
| 934011 | AD1-025 C                          | 20.8815            | Adder | 24.57          |
| 934061 | AD1-033 C                          | 11.7902            | 80/20 | 11.7902        |
| 934331 | AD1-057 C O1                       | 12.3833            | Adder | 14.57          |
| 934521 | AD1-076 C                          | 70.5939            | Adder | 83.05          |
| 934571 | AD1-082 C                          | 10.0312            | Adder | 11.8           |
| 934611 | AD1-087 C O1                       | 10.1365            | Adder | 11.93          |
| 935111 | AD1-144 C                          | 2.2639             | Adder | 2.66           |
| 935161 | AD1-151 C O1                       | 19.8984            | Adder | 23.41          |
| 935171 | AD1-152 C O1                       | 10.0735            | Adder | 11.85          |
| 936041 | AD2-007 C                          | 0.9975             | Adder | 1.17           |
| 936051 | AD2-008 C                          | 3.6354             | Adder | 4.28           |
| 936151 | AD2-021                            | 0.2551             | Adder | 0.3            |
| 936401 | AD2-051 C O1                       | 11.3172            | Adder | 13.31          |
| 936661 | AD2-085 C                          | 4.5093             | Adder | 5.31           |
| 937221 | AD2-160 C O1                       | 9.1692             | 80/20 | 9.1692         |
| 937251 | AD2-164 (Withdrawn : 06/30/2020)   | 5.9277             | Adder | 6.97           |
| 937481 | AD2-202 C O1                       | 2.6863             | Adder | 3.16           |
| 937541 | AD2-215 C                          | 2.2873             | Adder | 2.69           |
| 938171 | AE1-026 C O1                       | 41.4837            | Adder | 48.8           |
| 938221 | AE1-035 C                          | 2.8952             | Adder | 3.41           |
| 938491 | AE1-068 C O1                       | 100.6401           | 80/20 | 100.6401       |
| 938501 | AE1-069 C O1                       | 78.7983            | 80/20 | 78.7983        |
| 938531 | AE1-072 C O1                       | 27.4650            | 80/20 | 27.4650        |
| 938551 | AE1-074 C                          | 3.8930             | 80/20 | 3.8930         |
| 938561 | AE1-075 C                          | 2.7423             | Adder | 3.23           |
| 938631 | AE1-085 C O1                       | 11.4826            | Adder | 13.51          |
| 938771 | AE1-103 C O1                       | 4.7449             | Adder | 5.58           |
| 939191 | AE1-149 C O1                       | 13.7333            | Adder | 16.16          |
| 939311 | AE1-162 C                          | 2.7747             | Adder | 3.26           |
| 939411 | AE1-173 C                          | 149.3664           | 80/20 | 149.3664       |
| 939421 | AE1-174 C (Withdrawn : 06/16/2020) | 0.4234             | Adder | 0.5            |
| 939431 | AE1-175 C                          | 2.8157             | Adder | 3.31           |
| 940061 | AE2-000BC O1                       | 20.8501            | Adder | 24.53          |
| 940251 | AE2-007 O1                         | 271.5376           | 80/20 | 271.5376       |

| Bus #  | Bus          | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------|--------------------|-------|----------------|
| 940431 | AE2-027 C O1 | 15.5613            | Adder | 18.31          |
| 940471 | AE2-031 C    | 54.8831            | 80/20 | 54.8831        |
| 940481 | AE2-033 C    | 20.8408            | Adder | 24.52          |
| 940491 | AE2-034 C    | 9.3934             | Adder | 11.05          |
| 940541 | AE2-040 O1   | 3.4936             | Adder | 4.11           |
| 940641 | AE2-051 C O1 | 28.9125            | 80/20 | 28.9125        |
| 940651 | AE2-052      | 4.5778             | Adder | 5.39           |
| 940891 | AE2-078 C    | 2.9818             | Adder | 3.51           |
| 940901 | AE2-079 C    | 2.9818             | Adder | 3.51           |
| 941031 | AE2-094 C    | 65.8378            | 80/20 | 65.8378        |
| 941101 | AE2-104 C O1 | 4.4295             | Adder | 5.21           |
| 941281 | AE2-122 C O1 | 44.5730            | 80/20 | 44.5730        |
| 941291 | AE2-123 C O1 | 45.8073            | 80/20 | 45.8073        |
| 941301 | AE2-124 C O1 | 41.6587            | 80/20 | 41.6587        |
| 941501 | AE2-147 C    | 20.9564            | Adder | 24.65          |
| 941541 | AE2-151 C    | 1.3946             | Adder | 1.64           |
| 941591 | AE2-156 O1   | 28.0450            | 80/20 | 28.0450        |
| 942001 | AE2-212 C    | 2.6820             | Adder | 3.16           |
| 942131 | AE2-225 C    | 2.8329             | Adder | 3.33           |
| 942151 | AE2-227 C    | 2.4906             | Adder | 2.93           |
| 942161 | AE2-228 C    | 2.6217             | Adder | 3.08           |
| 942171 | AE2-229 C    | 2.8329             | Adder | 3.33           |
| 942341 | AE2-247 C    | 1.9544             | Adder | 2.3            |
| 942371 | AE2-250 C O1 | 12.0162            | Adder | 14.14          |
| 942401 | AE2-253 C    | 9.6445             | 80/20 | 9.6445         |
| 942471 | AE2-260 C O1 | 18.5888            | Adder | 21.87          |
| 942551 | AE2-270      | 33.2584            | Adder | 39.13          |
| 942851 | AE2-304 C    | 0.8325             | Adder | 0.98           |
| 942931 | AE2-313 C    | 59.4251            | 80/20 | 59.4251        |
| 943171 | AE2-346 C    | 1.8079             | Adder | 2.13           |
| 943461 | AF1-017 C    | 1.7682             | Adder | 2.08           |
| 943611 | AF1-032 C    | 2.3136             | Adder | 2.72           |
| 943621 | AF1-033 C    | 2.9818             | Adder | 3.51           |
| 943911 | AF1-059      | 20.1459            | Adder | 23.7           |
| 944011 | AF1-069 C    | 21.5117            | 80/20 | 21.5117        |
| 944501 | AF1-115 C O1 | 9.0810             | Adder | 10.68          |
| 944581 | AF1-123 C O1 | 75.6758            | 80/20 | 75.6758        |
| 944591 | AF1-124 C O1 | 75.6758            | 80/20 | 75.6758        |
| 944601 | AF1-125 C O1 | 75.6758            | 80/20 | 75.6758        |
| 944631 | AF1-128 O1   | 53.9362            | Adder | 63.45          |
| 944871 | AF1-152 C    | 6.9855             | Adder | 8.22           |
| 945361 | AF1-201 C O1 | 18.7020            | Adder | 22.0           |
| 945711 | AF1-236 C O1 | 102.8352           | Adder | 120.98         |
| 945811 | AF1-246 C O1 | 11.7046            | 80/20 | 11.7046        |
| 946011 | AF1-266      | 17.4454            | Adder | 20.52          |
| 946261 | AF1-291 C    | 2.6208             | Adder | 3.08           |
| 946281 | AF1-292 C    | 1.9260             | Adder | 2.27           |
| 957481 | AF2-042 C O2 | 83.6040            | 80/20 | 83.6040        |
| 957491 | AF2-043 C    | 1.5015             | Adder | 3.33           |
| 957521 | AF2-046 C    | 11.4733            | Adder | 25.47          |
| 957531 | AF2-047 C    | 11.8298            | Adder | 26.26          |
| 957631 | AF2-057      | 5.6058             | 80/20 | 5.6058         |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 957711  | AF2-065 C                          | 8.9897             | Adder         | 19.95          |
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 6.7042             | Adder         | 14.88          |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 2.9797             | Adder         | 6.61           |
| 957821  | AF2-076 C O2                       | 3.7470             | Adder         | 8.32           |
| 957831  | AF2-077 C                          | 1.2826             | Adder         | 2.85           |
| 957861  | AF2-080 C                          | 5.1057             | Adder         | 11.33          |
| 957871  | AF2-081 C O2                       | 15.6296            | 80/20         | 15.6296        |
| 957911  | AF2-085                            | 6.6342             | 80/20         | 6.6342         |
| 958141  | AF2-108                            | 2.1259             | Adder         | 4.72           |
| 958161  | AF2-110 C                          | 0.9678             | Adder         | 2.15           |
| 958501  | AF2-144 C                          | 1.2252             | Adder         | 2.72           |
| 959511  | AF2-242                            | 5.2814             | Adder         | 11.72          |
| 959531  | AF2-244 C                          | 1.1291             | Adder         | 2.51           |
| 959641  | AF2-255 C                          | 0.3300             | Adder         | 0.73           |
| 959651  | AF2-256 C                          | 0.3474             | Adder         | 0.77           |
| 959661  | AF2-257 C                          | 0.3473             | Adder         | 0.77           |
| 959671  | AF2-258 C                          | 0.3554             | Adder         | 0.79           |
| 959681  | AF2-259 C                          | 1.8222             | Adder         | 4.04           |
| 959731  | AF2-264 C                          | 1.5342             | Adder         | 3.41           |
| 959751  | AF2-266 O2                         | 13.9340            | 80/20         | 13.9340        |
| 960061  | AF2-297 C O2                       | 4.9757             | Adder         | 11.04          |
| 960081  | AF2-299 C                          | 1.7205             | Adder         | 3.82           |
| 960101  | AF2-301 C                          | 1.7837             | Adder         | 3.96           |
| 960131  | AF2-304 C O2                       | 10.4562            | Adder         | 23.21          |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.9591             | Adder         | 4.35           |
| 960831  | AF2-374 C                          | 0.8589             | Adder         | 1.91           |
| 961091  | AF2-400 C                          | 0.3216             | Adder         | 0.71           |
| 961111  | AF2-402 C O2                       | 0.7741             | Adder         | 1.72           |
| WEC     | WEC                                | 1.4084             | Confirmed LTF | 1.4084         |
| LGEE    | LGEE                               | 2.7116             | Confirmed LTF | 2.7116         |
| CPL     | CPL                                | 12.2708            | Confirmed LTF | 12.2708        |
| CBM-W2  | CBM-W2                             | 54.2096            | Confirmed LTF | 54.2096        |
| NY      | NY                                 | 3.1001             | Confirmed LTF | 3.1001         |
| CBM-W1  | CBM-W1                             | 52.2543            | Confirmed LTF | 52.2543        |
| TVA     | TVA                                | 11.2714            | Confirmed LTF | 11.2714        |
| CBM-S2  | CBM-S2                             | 86.3821            | Confirmed LTF | 86.3821        |
| CBM-S1  | CBM-S1                             | 63.3718            | Confirmed LTF | 63.3718        |
| MADISON | MADISON                            | 2.7861             | Confirmed LTF | 2.7861         |
| MEC     | MEC                                | 8.3693             | Confirmed LTF | 8.3693         |
| AA2-074 | AA2-074                            | 8.3677             | LTF           | 8.3677         |

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| 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 |
|----------|-----------|----------|---------------|---------|------------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825868 | 314918    | 8NO ANNA | DVP           | 314911  | 8LADYSMITH | DVP         | 1      | DVP_P1-2: LN 594 | single | 3218.56    | 113.42                | 114.88                 | DC    | 49.34     |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 314333 | 6POWHATN                 | 0.4041             | 80/20 | 0.4041         |
| 314435 | 6SAPONY                  | 0.3302             | 80/20 | 0.3302         |
| 314677 | 6BUCKING                 | 0.3113             | 80/20 | 0.3113         |
| 314947 | 8GREENSVILLE             | 51.0735            | 80/20 | 51.0735        |
| 315102 | 1BRUNSWICKG1             | 8.3810             | 80/20 | 8.3810         |
| 315103 | 1BRUNSWICKG2             | 8.3810             | 80/20 | 8.3810         |
| 315104 | 1BRUNSWICKG3             | 8.3810             | 80/20 | 8.3810         |
| 315105 | 1BRUNSWICKS1             | 17.4116            | 80/20 | 17.4116        |
| 315153 | 1CLOVER1                 | 11.8773            | 80/20 | 11.8773        |
| 315154 | 1CLOVER2                 | 11.7589            | 80/20 | 11.7589        |
| 315172 | 1LOISA A                 | 3.2295             | 80/20 | 3.2295         |
| 315173 | 1LOISA B                 | 3.2462             | 80/20 | 3.2462         |
| 315174 | 1LOISA C                 | 3.2462             | 80/20 | 3.2462         |
| 315175 | 1LOISA D                 | 3.2462             | 80/20 | 3.2462         |
| 315176 | 1LOISA E                 | 6.6181             | 80/20 | 6.6181         |
| 315177 | 1S ANNAG1                | 2.3097             | 80/20 | 2.3097         |
| 315178 | 1S ANNAS1                | 1.1870             | 80/20 | 1.1870         |
| 315179 | 1S ANNAG2                | 2.3097             | 80/20 | 2.3097         |
| 315180 | 1S ANNAS2                | 1.1870             | 80/20 | 1.1870         |
| 315225 | 1N ANNA1                 | 109.6270           | 80/20 | 109.6270       |
| 315226 | 1N ANNA2                 | 109.6732           | 80/20 | 109.6732       |
| 315294 | 1DOMTR10                 | 6.8222             | Adder | 8.03           |
| 315611 | 6Z1-036WIND              | 4.2207             | Adder | 4.97           |
| 923262 | AB1-132 C OP (Suspended) | 9.0457             | Adder | 10.64          |
| 923572 | AB1-173 C OP             | 1.4733             | Adder | 1.73           |
| 923582 | AB1-173AC OP             | 1.4733             | Adder | 1.73           |
| 923801 | AB2-015 C OP             | 5.3762             | Adder | 6.32           |
| 923831 | AB2-022 C                | 1.4218             | Adder | 1.67           |
| 923911 | AB2-031 C O1             | 1.4624             | Adder | 1.72           |
| 923991 | AB2-040 C O1             | 4.8018             | Adder | 5.65           |
| 924301 | AB2-077 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924311 | AB2-078 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924321 | AB2-079 C O1 (Suspended) | 1.2872             | Adder | 1.51           |
| 924501 | AB2-099 C (Suspended)    | 0.3713             | Adder | 0.44           |
| 924511 | AB2-100 C                | 1.5315             | 80/20 | 1.5315         |
| 925021 | AB2-158 C                | 4.3137             | 80/20 | 4.3137         |
| 925061 | AB2-161 C O1 (Suspended) | 1.9813             | Adder | 2.33           |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 925611 | AC1-036 C                | 0.6257             | Adder | 0.74           |
| 925671 | AC1-043 C (Suspended)    | 6.1176             | 80/20 | 6.1176         |
| 925781 | AC1-054 C O1             | 4.6755             | Adder | 5.5            |
| 926001 | AC1-076 C (Suspended)    | 6.4522             | 80/20 | 6.4522         |
| 926071 | AC1-086 C                | 13.3208            | Adder | 15.67          |
| 926201 | AC1-098 C                | 3.9103             | Adder | 4.6            |
| 926211 | AC1-099 C                | 1.3104             | Adder | 1.54           |
| 926271 | AC1-105 C O1 (Suspended) | 3.6088             | Adder | 4.25           |
| 926481 | AC1-120 C O1             | 7.6784             | 80/20 | 7.6784         |
| 926501 | AC1-121 C O1             | 2.6370             | 80/20 | 2.6370         |
| 926661 | AC1-147 C                | 1.3751             | Adder | 1.62           |
| 926731 | AC1-158 C                | 39.0561            | 80/20 | 39.0561        |
| 926751 | AC1-161 C O1             | 18.6762            | Adder | 21.97          |
| 927141 | AC1-208 C                | 5.7544             | Adder | 6.77           |
| 932041 | AC2-012 C                | 6.2205             | Adder | 7.32           |
| 932511 | AC2-071 C                | 1.7779             | 80/20 | 1.7779         |
| 932591 | AC2-079 C O1             | 3.4236             | Adder | 4.03           |
| 932631 | AC2-084 C                | 5.5743             | Adder | 6.56           |
| 933291 | AC2-141 C                | 18.6762            | Adder | 21.97          |
| 933501 | AC2-165 C                | 9.2745             | 80/20 | 9.2745         |
| 933731 | AC2-196 C                | 1.1026             | Adder | 1.3            |
| 933991 | AD1-023 C                | 8.2543             | Adder | 9.71           |
| 934061 | AD1-033 C                | 4.6281             | Adder | 5.44           |
| 934331 | AD1-057 C O1             | 6.3433             | Adder | 7.46           |
| 934521 | AD1-076 C                | 34.1071            | Adder | 40.13          |
| 934571 | AD1-082 C                | 4.5152             | Adder | 5.31           |
| 934611 | AD1-087 C O1             | 6.9595             | 80/20 | 6.9595         |
| 934621 | AD1-088 C                | 10.2416            | 80/20 | 10.2416        |
| 934861 | AD1-115 C                | 3.0588             | 80/20 | 3.0588         |
| 935111 | AD1-144 C                | 1.0177             | Adder | 1.2            |
| 935171 | AD1-152 C O1             | 6.9163             | 80/20 | 6.9163         |
| 935221 | AD1-157 C                | 1.1909             | 80/20 | 1.1909         |
| 936261 | AD2-033 C                | 8.5295             | Adder | 10.03          |
| 936361 | AD2-046 C O1             | 5.7508             | Adder | 6.77           |
| 936401 | AD2-051 C O1             | 5.5506             | Adder | 6.53           |
| 936481 | AD2-063 C O1             | 9.7515             | Adder | 11.47          |
| 936661 | AD2-085 C                | 2.0525             | Adder | 2.41           |
| 937221 | AD2-160 C O1             | 3.6085             | Adder | 4.25           |
| 937481 | AD2-202 C O1             | 1.8444             | 80/20 | 1.8444         |
| 937541 | AD2-215 C                | 1.0282             | Adder | 1.21           |
| 938171 | AE1-026 C O1             | 20.1591            | Adder | 23.72          |
| 938221 | AE1-035 C                | 1.4187             | Adder | 1.67           |
| 938371 | AE1-056 C                | 5.1340             | 80/20 | 5.1340         |
| 938491 | AE1-068 C O1             | 59.0892            | 80/20 | 59.0892        |
| 938501 | AE1-069 C O1             | 46.2299            | 80/20 | 46.2299        |
| 938531 | AE1-072 C O1             | 10.8274            | Adder | 12.74          |
| 938551 | AE1-074 C                | 1.9211             | 80/20 | 1.9211         |
| 938561 | AE1-075 C                | 2.0539             | 80/20 | 2.0539         |
| 938771 | AE1-103 C O1             | 2.2600             | Adder | 2.66           |
| 939181 | AE1-148 C O1             | 5.6737             | Adder | 6.67           |
| 939221 | AE1-153 C O1             | 12.0985            | 80/20 | 12.0985        |
| 939231 | AE1-154 C                | 4.0997             | 80/20 | 4.0997         |

| Bus #  | Bus                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------|--------------------|-------|----------------|
| 939411 | AE1-173 C           | 81.2976            | 80/20 | 81.2976        |
| 940061 | AE2-000BC O1        | 9.3850             | Adder | 11.04          |
| 940241 | AE2-006             | 0.3184             | Adder | 0.37           |
| 940251 | AE2-007 O1          | 105.8753           | Adder | 124.56         |
| 940471 | AE2-031 C           | 32.2909            | 80/20 | 32.2909        |
| 940481 | AE2-033 C           | 12.2749            | 80/20 | 12.2749        |
| 940491 | AE2-034 C           | 4.4961             | Adder | 5.29           |
| 940641 | AE2-051 C O1        | 16.4250            | 80/20 | 16.4250        |
| 940661 | AE2-053 O1          | 2.1014             | Adder | 2.47           |
| 941031 | AE2-094 C           | 38.7091            | 80/20 | 38.7091        |
| 941101 | AE2-104 C O1        | 2.0477             | Adder | 2.41           |
| 941281 | AE2-122 C O1        | 17.4436            | Adder | 20.52          |
| 941291 | AE2-123 C O1        | 17.9267            | Adder | 21.09          |
| 941301 | AE2-124 C O1        | 16.3108            | Adder | 19.19          |
| 941381 | AE2-134 (Suspended) | 4.4460             | 80/20 | 4.4460         |
| 941501 | AE2-147 C           | 9.7943             | Adder | 11.52          |
| 941541 | AE2-151 C           | 0.6882             | Adder | 0.81           |
| 941591 | AE2-156 O1          | 10.9250            | Adder | 12.85          |
| 941791 | AE2-182 C           | 1.6639             | 80/20 | 1.6639         |
| 942131 | AE2-225 C           | 1.3109             | Adder | 1.54           |
| 942171 | AE2-229 C           | 1.3109             | Adder | 1.54           |
| 942341 | AE2-247 C           | 0.8894             | Adder | 1.05           |
| 942401 | AE2-253 C           | 3.7955             | Adder | 4.47           |
| 942451 | AE2-258             | 1.5151             | Adder | 1.78           |
| 942461 | AE2-259 C O1        | 8.0742             | 80/20 | 8.0742         |
| 942471 | AE2-260 C O1        | 11.0189            | 80/20 | 11.0189        |
| 942851 | AE2-304 C           | 0.3907             | Adder | 0.46           |
| 942931 | AE2-313 C           | 34.9633            | 80/20 | 34.9633        |
| 943171 | AE2-346 C           | 0.8911             | Adder | 1.05           |
| 943461 | AF1-017 C           | 0.8047             | Adder | 0.95           |
| 943611 | AF1-032 C           | 1.0706             | Adder | 1.26           |
| 943901 | AF1-058 C           | 1.2672             | Adder | 1.49           |
| 943911 | AF1-059             | 10.9004            | Adder | 12.82          |
| 944011 | AF1-069 C           | 12.6477            | 80/20 | 12.6477        |
| 944111 | AF1-079 C           | 7.7894             | 80/20 | 7.7894         |
| 944581 | AF1-123 C O1        | 29.8452            | Adder | 35.11          |
| 944591 | AF1-124 C O1        | 29.8452            | Adder | 35.11          |
| 944601 | AF1-125 C O1        | 29.8452            | Adder | 35.11          |
| 944871 | AF1-152 C           | 3.2648             | Adder | 3.84           |
| 945711 | AF1-236 C O1        | 49.2211            | Adder | 57.91          |
| 945811 | AF1-246 C O1        | 6.9069             | 80/20 | 6.9069         |
| 946011 | AF1-266             | 10.2750            | 80/20 | 10.2750        |
| 946281 | AF1-292 C           | 0.9871             | Adder | 1.16           |
| 946301 | AF1-294 C           | 2.7499             | Adder | 3.24           |
| 946371 | AF1-301 C           | 31.5932            | 80/20 | 31.5932        |
| 957431 | AF2-037 C           | 27.5012            | 80/20 | 27.5012        |
| 957481 | AF2-042 C O2        | 49.3350            | 80/20 | 49.3350        |
| 957491 | AF2-043 C           | 0.6948             | Adder | 1.54           |
| 957521 | AF2-046 C           | 5.6371             | Adder | 12.51          |
| 957531 | AF2-047 C           | 5.6622             | Adder | 12.57          |
| 957631 | AF2-057             | 1.1568             | Adder | 2.57           |
| 957691 | AF2-063 C           | 43.8849            | 80/20 | 43.8849        |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 3.1509             | Adder         | 6.99           |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 1.4004             | Adder         | 3.11           |
| 957821  | AF2-076 C O2                       | 1.7361             | Adder         | 3.85           |
| 957871  | AF2-081 C O2                       | 3.2627             | Adder         | 7.24           |
| 957911  | AF2-085                            | 3.9264             | 80/20         | 3.9264         |
| 958161  | AF2-110 C                          | 0.4474             | Adder         | 0.99           |
| 958211  | AF2-115 C                          | 0.8887             | Adder         | 1.97           |
| 958501  | AF2-144 C                          | 1.7313             | 80/20         | 1.7313         |
| 958801  | AF2-171 C O2                       | 11.8503            | 80/20         | 11.8503        |
| 959311  | AF2-222 C                          | 5.8331             | Adder         | 12.95          |
| 959531  | AF2-244 C                          | 1.5956             | 80/20         | 1.5956         |
| 959731  | AF2-264 C                          | 0.7550             | Adder         | 1.68           |
| 959751  | AF2-266 O2                         | 8.2225             | 80/20         | 8.2225         |
| 960061  | AF2-297 C O2                       | 6.3466             | 80/20         | 6.3466         |
| 960081  | AF2-299 C                          | 0.8817             | Adder         | 1.96           |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 0.8756             | Adder         | 1.94           |
| 960811  | AF2-372 C                          | 0.4309             | Adder         | 0.96           |
| 960821  | AF2-373 C                          | 0.3213             | Adder         | 0.71           |
| 960831  | AF2-374 C                          | 0.4276             | Adder         | 0.95           |
| 961081  | AF2-399 C                          | 0.1149             | Adder         | 0.26           |
| 961091  | AF2-400 C                          | 0.1539             | Adder         | 0.34           |
| 961101  | AF2-401 C                          | 0.1955             | Adder         | 0.43           |
| 961111  | AF2-402 C O2                       | 0.3491             | Adder         | 0.77           |
| WEC     | WEC                                | 0.5204             | Confirmed LTF | 0.5204         |
| LGEE    | LGEE                               | 1.0286             | Confirmed LTF | 1.0286         |
| CPL     | CPL                                | 6.6011             | Confirmed LTF | 6.6011         |
| CBM-W2  | CBM-W2                             | 23.7920            | Confirmed LTF | 23.7920        |
| NY      | NY                                 | 2.2690             | Confirmed LTF | 2.2690         |
| CBM-W1  | CBM-W1                             | 18.5899            | Confirmed LTF | 18.5899        |
| TVA     | TVA                                | 5.2318             | Confirmed LTF | 5.2318         |
| CBM-S2  | CBM-S2                             | 45.3152            | Confirmed LTF | 45.3152        |
| CBM-S1  | CBM-S1                             | 28.7806            | Confirmed LTF | 28.7806        |
| MADISON | MADISON                            | 1.6410             | Confirmed LTF | 1.6410         |
| MEC     | MEC                                | 3.3623             | Confirmed LTF | 3.3623         |
| AA2-074 | AA2-074                            | 4.4973             | LTF           | 4.4973         |

### 13.5.31 Index 31

| 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 |
|----------|-----------|----------|---------------|---------|----------|-------------|--------|------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825852 | 314934    | 8SPOTSYL | DVP           | 314916  | 8MORRSVL | DVP         | 1      | DVP_P1-2: LN 575 | single | 3218.56    | 121.31                | 121.75                 | DC    | 53.97     |

| Bus #  | Bus                                  | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------------------|--------------------|-------|----------------|
| 314295 | 6BIRDNECK                            | 0.0427             | 80/20 | 0.0427         |
| 314333 | 6POWHATN                             | 0.4427             | 80/20 | 0.4427         |
| 314435 | 6SAPONY                              | 0.4013             | 80/20 | 0.4013         |
| 314491 | 3PENDLTN                             | 0.3185             | 80/20 | 0.3185         |
| 314947 | 8GREENSVILLE                         | 55.6059            | 80/20 | 55.6059        |
| 315083 | 1SPRUNCA (Deactivation : 12/01/2021) | 7.7150             | Adder | 9.08           |
| 315084 | 1SPRUNCB (Deactivation : 12/01/2021) | 7.7150             | Adder | 9.08           |
| 315102 | 1BRUNSWICKG1                         | 9.1308             | 80/20 | 9.1308         |
| 315103 | 1BRUNSWICKG2                         | 9.1308             | 80/20 | 9.1308         |
| 315104 | 1BRUNSWICKG3                         | 9.1308             | 80/20 | 9.1308         |
| 315105 | 1BRUNSWICKS1                         | 18.9693            | 80/20 | 18.9693        |
| 315108 | 1ELIZAR1                             | 3.1110             | 80/20 | 3.1110         |
| 315109 | 1ELIZAR2                             | 3.0570             | 80/20 | 3.0570         |
| 315110 | 1ELIZAR3                             | 3.1509             | 80/20 | 3.1509         |
| 315153 | 1CLOVER1                             | 13.0303            | 80/20 | 13.0303        |
| 315154 | 1CLOVER2                             | 12.9004            | 80/20 | 12.9004        |
| 315172 | 1LOISA A                             | 2.6507             | 80/20 | 2.6507         |
| 315173 | 1LOISA B                             | 2.6644             | 80/20 | 2.6644         |
| 315174 | 1LOISA C                             | 2.6644             | 80/20 | 2.6644         |
| 315175 | 1LOISA D                             | 2.6644             | 80/20 | 2.6644         |
| 315176 | 1LOISA E                             | 5.4320             | 80/20 | 5.4320         |
| 315177 | 1S ANNAG1                            | 1.9036             | 80/20 | 1.9036         |
| 315178 | 1S ANNAS1                            | 0.9782             | 80/20 | 0.9782         |
| 315179 | 1S ANNAG2                            | 1.9036             | 80/20 | 1.9036         |
| 315180 | 1S ANNAS2                            | 0.9782             | 80/20 | 0.9782         |
| 315225 | 1N ANNA1                             | 94.3965            | 80/20 | 94.3965        |
| 315226 | 1N ANNA2                             | 94.4363            | 80/20 | 94.4363        |
| 315294 | 1DOMTR10                             | 8.3766             | Adder | 9.85           |
| 315611 | 6Z1-036WIND                          | 5.3050             | Adder | 6.24           |
| 923262 | AB1-132 C OP (Suspended)             | 10.8849            | Adder | 12.81          |
| 923572 | AB1-173 C OP                         | 1.7649             | Adder | 2.08           |
| 923582 | AB1-173AC OP                         | 1.7649             | Adder | 2.08           |
| 923801 | AB2-015 C OP                         | 6.7031             | Adder | 7.89           |
| 923831 | AB2-022 C                            | 1.8019             | Adder | 2.12           |
| 923911 | AB2-031 C O1                         | 1.7518             | Adder | 2.06           |
| 923991 | AB2-040 C O1                         | 5.7521             | Adder | 6.77           |
| 924501 | AB2-099 C (Suspended)                | 0.4534             | Adder | 0.53           |
| 925021 | AB2-158 C                            | 3.6518             | 80/20 | 3.6518         |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 925051 | AB2-160 C O1<br>(Suspended)         | 3.8923             | Adder | 4.58           |
| 925061 | AB2-161 C O1<br>(Suspended)         | 2.5837             | Adder | 3.04           |
| 925331 | AB2-190 C                           | 14.0201            | Adder | 16.49          |
| 926001 | AC1-076 C (Suspended)               | 6.6859             | 80/20 | 6.6859         |
| 926071 | AC1-086 C                           | 16.0294            | Adder | 18.86          |
| 926201 | AC1-098 C                           | 4.6850             | Adder | 5.51           |
| 926211 | AC1-099 C                           | 1.5700             | Adder | 1.85           |
| 926481 | AC1-120 C O1                        | 7.0706             | 80/20 | 7.0706         |
| 926501 | AC1-121 C O1                        | 2.4283             | 80/20 | 2.4283         |
| 926661 | AC1-147 C                           | 1.7625             | Adder | 2.07           |
| 926731 | AC1-158 C                           | 41.1073            | 80/20 | 41.1073        |
| 926751 | AC1-161 C O1                        | 28.0860            | 80/20 | 28.0860        |
| 927141 | AC1-208 C                           | 1.0526             | Adder | 1.24           |
| 932041 | AC2-012 C                           | 7.9734             | Adder | 9.38           |
| 932581 | AC2-078 C O1                        | 3.0556             | Adder | 3.59           |
| 932591 | AC2-079 C O1                        | 4.4208             | Adder | 5.2            |
| 932631 | AC2-084 C                           | 6.6786             | Adder | 7.86           |
| 933291 | AC2-141 C                           | 28.0860            | 80/20 | 28.0860        |
| 933501 | AC2-165 C                           | 10.1420            | 80/20 | 10.1420        |
| 933731 | AC2-196 C                           | 1.6522             | 80/20 | 1.6522         |
| 933991 | AD1-023 C                           | 10.1782            | Adder | 11.97          |
| 934011 | AD1-025 C                           | 11.8375            | Adder | 13.93          |
| 934061 | AD1-033 C                           | 6.9376             | 80/20 | 6.9376         |
| 934521 | AD1-076 C                           | 42.1568            | Adder | 49.6           |
| 934571 | AD1-082 C                           | 5.8881             | Adder | 6.93           |
| 934611 | AD1-087 C O1                        | 6.5298             | Adder | 7.68           |
| 934621 | AD1-088 C                           | 9.5283             | Adder | 11.21          |
| 935111 | AD1-144 C                           | 1.3232             | Adder | 1.56           |
| 935161 | AD1-151 C O1                        | 11.2662            | Adder | 13.25          |
| 935171 | AD1-152 C O1                        | 6.4892             | Adder | 7.63           |
| 935221 | AD1-157 C                           | 1.1268             | Adder | 1.33           |
| 936041 | AD2-007 C                           | 0.5655             | Adder | 0.67           |
| 936051 | AD2-008 C                           | 2.0609             | Adder | 2.42           |
| 936401 | AD2-051 C O1                        | 6.7955             | Adder | 7.99           |
| 936661 | AD2-085 C                           | 2.6517             | Adder | 3.12           |
| 937221 | AD2-160 C O1                        | 5.3999             | 80/20 | 5.3999         |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | 3.3373             | Adder | 3.93           |
| 937481 | AD2-202 C O1                        | 1.7305             | Adder | 2.04           |
| 937541 | AD2-215 C                           | 1.3369             | Adder | 1.57           |
| 938171 | AE1-026 C O1                        | 24.8240            | Adder | 29.2           |
| 938221 | AE1-035 C                           | 1.7378             | Adder | 2.04           |
| 938371 | AE1-056 C                           | 4.8580             | Adder | 5.72           |
| 938491 | AE1-068 C O1                        | 64.2976            | 80/20 | 64.2976        |
| 938501 | AE1-069 C O1                        | 50.3325            | 80/20 | 50.3325        |
| 938531 | AE1-072 C O1                        | 13.7566            | Adder | 16.18          |
| 938551 | AE1-074 C                           | 2.3903             | 80/20 | 2.3903         |
| 938561 | AE1-075 C                           | 2.2502             | 80/20 | 2.2502         |
| 938631 | AE1-085 C O1                        | 6.7150             | Adder | 7.9            |
| 938771 | AE1-103 C O1                        | 2.8264             | Adder | 3.33           |
| 939191 | AE1-149 C O1                        | 8.0198             | Adder | 9.44           |

| Bus #  | Bus                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|---------------------|--------------------|-------|----------------|
| 939231 | AE1-154 C           | 3.4706             | 80/20 | 3.4706         |
| 939311 | AE1-162 C           | 1.6054             | Adder | 1.89           |
| 939411 | AE1-173 C           | 92.7984            | 80/20 | 92.7984        |
| 940061 | AE2-000BC O1        | 12.2385            | Adder | 14.4           |
| 940251 | AE2-007 O1          | 159.4798           | 80/20 | 159.4798       |
| 940471 | AE2-031 C           | 35.1132            | 80/20 | 35.1132        |
| 940481 | AE2-033 C           | 14.9057            | 80/20 | 14.9057        |
| 940491 | AE2-034 C           | 5.5924             | Adder | 6.58           |
| 940541 | AE2-040 O1          | 2.0102             | Adder | 2.36           |
| 940641 | AE2-051 C O1        | 18.2385            | 80/20 | 18.2385        |
| 940651 | AE2-052             | 2.6733             | Adder | 3.15           |
| 940891 | AE2-078 C           | 1.7031             | Adder | 2.0            |
| 940901 | AE2-079 C           | 1.7031             | Adder | 2.0            |
| 941031 | AE2-094 C           | 42.0802            | 80/20 | 42.0802        |
| 941101 | AE2-104 C O1        | 2.6116             | Adder | 3.07           |
| 941281 | AE2-122 C O1        | 26.2058            | 80/20 | 26.2058        |
| 941291 | AE2-123 C O1        | 26.9314            | 80/20 | 26.9314        |
| 941301 | AE2-124 C O1        | 24.4966            | 80/20 | 24.4966        |
| 941381 | AE2-134 (Suspended) | 4.6071             | 80/20 | 4.6071         |
| 941501 | AE2-147 C           | 12.3823            | Adder | 14.57          |
| 941541 | AE2-151 C           | 0.8396             | Adder | 0.99           |
| 941591 | AE2-156 O1          | 16.4680            | 80/20 | 16.4680        |
| 941791 | AE2-182 C           | 1.5480             | Adder | 1.82           |
| 942001 | AE2-212 C           | 1.5470             | Adder | 1.82           |
| 942131 | AE2-225 C           | 1.6690             | Adder | 1.96           |
| 942161 | AE2-228 C           | 1.4898             | Adder | 1.75           |
| 942171 | AE2-229 C           | 1.6690             | Adder | 1.96           |
| 942341 | AE2-247 C           | 1.1492             | Adder | 1.35           |
| 942371 | AE2-250 C O1        | 6.9139             | Adder | 8.13           |
| 942401 | AE2-253 C           | 5.6797             | 80/20 | 5.6797         |
| 942461 | AE2-259 C O1        | 7.5740             | Adder | 8.91           |
| 942471 | AE2-260 C O1        | 11.3175            | Adder | 13.31          |
| 942551 | AE2-270             | 18.8560            | Adder | 22.18          |
| 942851 | AE2-304 C           | 0.4925             | Adder | 0.58           |
| 942931 | AE2-313 C           | 38.0191            | 80/20 | 38.0191        |
| 943171 | AE2-346 C           | 1.0883             | Adder | 1.28           |
| 943461 | AF1-017 C           | 1.0397             | Adder | 1.22           |
| 943611 | AF1-032 C           | 1.3630             | Adder | 1.6            |
| 943621 | AF1-033 C           | 1.7031             | Adder | 2.0            |
| 943911 | AF1-059             | 12.7118            | Adder | 14.96          |
| 944011 | AF1-069 C           | 13.7492            | 80/20 | 13.7492        |
| 944111 | AF1-079 C           | 6.5941             | 80/20 | 6.5941         |
| 944501 | AF1-115 C O1        | 5.1867             | Adder | 6.1            |
| 944581 | AF1-123 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944591 | AF1-124 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944601 | AF1-125 C O1        | 44.5735            | 80/20 | 44.5735        |
| 944871 | AF1-152 C           | 4.1274             | Adder | 4.86           |
| 945711 | AF1-236 C O1        | 61.2235            | Adder | 72.03          |
| 945811 | AF1-246 C O1        | 7.5562             | 80/20 | 7.5562         |
| 946011 | AF1-266             | 12.4773            | 80/20 | 12.4773        |
| 946261 | AF1-291 C           | 1.4890             | Adder | 1.75           |
| 946281 | AF1-292 C           | 1.1819             | Adder | 1.39           |

| Bus #   | Bus                                | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|------------------------------------|--------------------|---------------|----------------|
| 946301  | AF1-294 C                          | 3.0711             | Adder         | 3.61           |
| 946371  | AF1-301 C                          | 26.7611            | 80/20         | 26.7611        |
| 957431  | AF2-037 C                          | 23.4449            | 80/20         | 23.4449        |
| 957481  | AF2-042 C O2                       | 53.9730            | 80/20         | 53.9730        |
| 957491  | AF2-043 C                          | 0.8846             | Adder         | 1.96           |
| 957521  | AF2-046 C                          | 6.9040             | Adder         | 15.33          |
| 957531  | AF2-047 C                          | 7.0430             | Adder         | 15.63          |
| 957631  | AF2-057                            | 1.4828             | Adder         | 3.29           |
| 957691  | AF2-063 C                          | 37.4121            | 80/20         | 37.4121        |
| 957711  | AF2-065 C                          | 5.0968             | Adder         | 11.31          |
| 957791  | AF2-073 C (Withdrawn : 07/02/2020) | 3.9696             | Adder         | 8.81           |
| 957801  | AF2-074 C (Withdrawn : 07/02/2020) | 1.7642             | Adder         | 3.92           |
| 957821  | AF2-076 C O2                       | 2.2084             | Adder         | 4.9            |
| 957871  | AF2-081 C O2                       | 4.1477             | Adder         | 9.21           |
| 957911  | AF2-085                            | 4.3264             | 80/20         | 4.3264         |
| 958141  | AF2-108                            | 1.2458             | Adder         | 2.77           |
| 958161  | AF2-110 C                          | 0.5706             | Adder         | 1.27           |
| 958211  | AF2-115 C                          | 0.9925             | Adder         | 2.2            |
| 958501  | AF2-144 C                          | 1.8969             | 80/20         | 1.8969         |
| 958801  | AF2-171 C O2                       | 5.9581             | Adder         | 13.23          |
| 959311  | AF2-222 C                          | 6.5674             | Adder         | 14.58          |
| 959511  | AF2-242                            | 3.1800             | Adder         | 7.06           |
| 959531  | AF2-244 C                          | 1.7481             | 80/20         | 1.7481         |
| 959651  | AF2-256 C                          | 0.1974             | Adder         | 0.44           |
| 959661  | AF2-257 C                          | 0.1973             | Adder         | 0.44           |
| 959671  | AF2-258 C                          | 0.2050             | Adder         | 0.46           |
| 959681  | AF2-259 C                          | 1.0678             | Adder         | 2.37           |
| 959731  | AF2-264 C                          | 0.9233             | Adder         | 2.05           |
| 959751  | AF2-266 O2                         | 8.9955             | 80/20         | 8.9955         |
| 960061  | AF2-297 C O2                       | 3.1789             | Adder         | 7.06           |
| 960081  | AF2-299 C                          | 1.0557             | Adder         | 2.34           |
| 960101  | AF2-301 C                          | 1.0129             | Adder         | 2.25           |
| 960131  | AF2-304 C O2                       | 5.9276             | Adder         | 13.16          |
| 960361  | AF2-327 C (Withdrawn : 07/22/2020) | 1.1487             | Adder         | 2.55           |
| 960831  | AF2-374 C                          | 0.5191             | Adder         | 1.15           |
| 961081  | AF2-399 C                          | 0.1283             | Adder         | 0.28           |
| 961091  | AF2-400 C                          | 0.1918             | Adder         | 0.43           |
| 961111  | AF2-402 C O2                       | 0.4546             | Adder         | 1.01           |
| WEC     | WEC                                | 0.5856             | Confirmed LTF | 0.5856         |
| LGEE    | LGEE                               | 1.1724             | Confirmed LTF | 1.1724         |
| CPLE    | CPLE                               | 7.5107             | Confirmed LTF | 7.5107         |
| CBM-W2  | CBM-W2                             | 27.1908            | Confirmed LTF | 27.1908        |
| NY      | NY                                 | 2.5676             | Confirmed LTF | 2.5676         |
| CBM-W1  | CBM-W1                             | 20.7541            | Confirmed LTF | 20.7541        |
| TVA     | TVA                                | 6.0144             | Confirmed LTF | 6.0144         |
| CBM-S2  | CBM-S2                             | 51.7194            | Confirmed LTF | 51.7194        |
| CBM-S1  | CBM-S1                             | 33.0576            | Confirmed LTF | 33.0576        |
| MADISON | MADISON                            | 1.8930             | Confirmed LTF | 1.8930         |
| MEC     | MEC                                | 3.8152             | Confirmed LTF | 3.8152         |
| AA2-074 | AA2-074                            | 5.1170             | LTF           | 5.1170         |



### 13.5.32 Index 32

| 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 |
|-----------|-----------|-------------|---------------|---------|--------------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 107174538 | 927250    | AC1-221 TAP | DVP           | 304070  | 6PERSON230 T | CPL         | 1      | DVP_P1-2: LN 556-B | single | 718.0      | 111.83                | 129.36                 | DC    | 155.36    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.1294             | 80/20 | 0.1294         |
| 314429 | 3JTRSVLE                 | 0.5174             | 80/20 | 0.5174         |
| 314677 | 6BUCKING                 | 0.4258             | 80/20 | 0.4258         |
| 315153 | 1CLOVER1                 | 39.4381            | 80/20 | 39.4381        |
| 315154 | 1CLOVER2                 | 39.0451            | 80/20 | 39.0451        |
| 315156 | 1HALLBR1                 | 1.1309             | 80/20 | 1.1309         |
| 315158 | 1KERR 1                  | 0.3659             | 80/20 | 0.3659         |
| 315159 | 1KERR 2                  | 1.0244             | 80/20 | 1.0244         |
| 315160 | 1KERR 3                  | 1.0244             | 80/20 | 1.0244         |
| 315161 | 1KERR 4                  | 1.0244             | 80/20 | 1.0244         |
| 315162 | 1KERR 5                  | 1.0244             | 80/20 | 1.0244         |
| 315163 | 1KERR 6                  | 1.0244             | 80/20 | 1.0244         |
| 315164 | 1KERR 7                  | 1.0244             | 80/20 | 1.0244         |
| 315192 | 1BEARGRDN G2             | 2.8787             | 80/20 | 2.8787         |
| 315193 | 1BEARGRDN S1             | 5.9246             | 80/20 | 5.9246         |
| 315266 | 1PLYWOOD A               | 3.3432             | 80/20 | 3.3432         |
| 924021 | AB2-043 C O1             | 0.7329             | 80/20 | 0.7329         |
| 924161 | AB2-060 C OP             | 2.1135             | 80/20 | 2.1135         |
| 924301 | AB2-077 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924311 | AB2-078 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 924321 | AB2-079 C O1 (Suspended) | 2.7328             | 80/20 | 2.7328         |
| 925611 | AC1-036 C                | 1.3105             | 80/20 | 1.3105         |
| 925781 | AC1-054 C O1             | 5.0298             | 80/20 | 5.0298         |
| 925831 | AC1-062                  | 0.0768             | 80/20 | 0.0768         |
| 925991 | AC1-075 C                | 11.9864            | 80/20 | 11.9864        |
| 926021 | AC1-080 C                | 4.0059             | 80/20 | 4.0059         |
| 926271 | AC1-105 C O1 (Suspended) | 14.5305            | 80/20 | 14.5305        |
| 927251 | AC1-221 C                | 11.7277            | 80/20 | 11.7277        |
| 927261 | AC1-222 C                | 10.1431            | 80/20 | 10.1431        |
| 932511 | AC2-071 C                | 2.4320             | 80/20 | 2.4320         |
| 932761 | AC2-100 C                | 26.9899            | 80/20 | 26.9899        |
| 934311 | AD1-055 C                | 7.0426             | 80/20 | 7.0426         |
| 934341 | AD1-058 C                | 29.3997            | 80/20 | 29.3997        |
| 934611 | AD1-087 C O1             | 27.0094            | 80/20 | 27.0094        |
| 934621 | AD1-088 C                | 24.0247            | 80/20 | 24.0247        |
| 934991 | AD1-131 C                | 9.6392             | 80/20 | 9.6392         |
| 935171 | AD1-152 C O1             | 26.8416            | 80/20 | 26.8416        |
| 935221 | AD1-157 C                | 2.1223             | 80/20 | 2.1223         |

| Bus #      | Bus          | Gendeliv MW Impact | Type          | Full MW Impact |
|------------|--------------|--------------------|---------------|----------------|
| 936261     | AD2-033 C    | 17.8675            | 80/20         | 17.8675        |
| 936361     | AD2-046 C O1 | 8.4639             | 80/20         | 8.4639         |
| 936481     | AD2-063 C O1 | 20.4093            | 80/20         | 20.4093        |
| 937481     | AD2-202 C O1 | 7.1578             | 80/20         | 7.1578         |
| 938371     | AE1-056 C    | 9.1494             | 80/20         | 9.1494         |
| 939181     | AE1-148 C O1 | 8.5347             | 80/20         | 8.5347         |
| 940241     | AE2-006      | 0.6667             | 80/20         | 0.6667         |
| 940661     | AE2-053 O1   | 3.1610             | 80/20         | 3.1610         |
| 941791     | AE2-182 C    | 3.9032             | 80/20         | 3.9032         |
| 942451     | AE2-258      | 3.1698             | 80/20         | 3.1698         |
| 942461     | AE2-259 C O1 | 14.4012            | 80/20         | 14.4012        |
| 942751     | AE2-291 C O1 | 15.7260            | 80/20         | 15.7260        |
| 942761     | AE2-292 C O1 | 19.5804            | 80/20         | 19.5804        |
| 943901     | AF1-058 C    | 5.7522             | 80/20         | 5.7522         |
| 943911     | AF1-059      | 14.3780            | 80/20         | 14.3780        |
| 945811     | AF1-246 C O1 | 21.7505            | 80/20         | 21.7505        |
| 946301     | AF1-294 C    | 5.7653             | 80/20         | 5.7653         |
| 957481     | AF2-042 C O2 | 155.3610           | 80/20         | 155.3610       |
| 958211     | AF2-115 C    | 3.5154             | 80/20         | 3.5154         |
| 958801     | AF2-171 C O2 | 21.1149            | 80/20         | 21.1149        |
| 959311     | AF2-222 C    | 23.0530            | 80/20         | 23.0530        |
| 959751     | AF2-266 O2   | 25.8935            | 80/20         | 25.8935        |
| 960061     | AF2-297 C O2 | 28.8259            | 80/20         | 28.8259        |
| 960811     | AF2-372 C    | 1.7262             | 80/20         | 1.7262         |
| 960821     | AF2-373 C    | 2.1290             | 80/20         | 2.1290         |
| 961081     | AF2-399 C    | 0.4546             | 80/20         | 0.4546         |
| NEWTON     | NEWTON       | 1.6150             | Confirmed LTF | 1.6150         |
| FARMERCITY | FARMERCITY   | 0.0953             | Confirmed LTF | 0.0953         |
| G-007A     | G-007A       | 0.4939             | Confirmed LTF | 0.4939         |
| VFT        | VFT          | 1.3094             | Confirmed LTF | 1.3094         |
| CALDERWOOD | CALDERWOOD   | 1.4284             | Confirmed LTF | 1.4284         |
| PRAIRIE    | PRAIRIE      | 4.4893             | Confirmed LTF | 4.4893         |
| AC1-131    | AC1-131      | 5.1015             | LTF           | 5.1015         |
| CHEOAH     | CHEOAH       | 1.4720             | Confirmed LTF | 1.4720         |
| EDWARDS    | EDWARDS      | 0.4816             | Confirmed LTF | 0.4816         |
| TILTON     | TILTON       | 0.8429             | Confirmed LTF | 0.8429         |
| GIBSON     | GIBSON       | 0.7671             | Confirmed LTF | 0.7671         |
| BLUEG      | BLUEG        | 2.3314             | Confirmed LTF | 2.3314         |
| TRIMBLE    | TRIMBLE      | 0.7379             | Confirmed LTF | 0.7379         |
| CATAWBA    | CATAWBA      | 1.6961             | Confirmed LTF | 1.6961         |

### 13.5.33 Index 33

| 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 |
|----------|-----------|-------------|---------------|---------|---------|-------------|--------|--------------------|--------|------------|-----------------------|------------------------|-------|-----------|
| 96825863 | 940470    | AE2-031 TAP | DVP           | 314902  | 8CARSON | DVP         | 1      | DVP_P1-2: LN 585-A | single | 4070.2     | 107.33                | 111.12                 | DC    | 154.07    |

| Bus #  | Bus                      | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|--------------------------|--------------------|-------|----------------|
| 313853 | 3PONTONDP                | 0.0933             | 80/20 | 0.0933         |
| 314429 | 3JTRSVLE                 | 0.3731             | 80/20 | 0.3731         |
| 314947 | 8GREENSVILLE             | 165.8983           | 80/20 | 165.8983       |
| 315102 | 1BRUNSWICKG1             | 27.5832            | 80/20 | 27.5832        |
| 315103 | 1BRUNSWICKG2             | 27.5832            | 80/20 | 27.5832        |
| 315104 | 1BRUNSWICKG3             | 27.5832            | 80/20 | 27.5832        |
| 315105 | 1BRUNSWICKS1             | 57.3040            | 80/20 | 57.3040        |
| 315153 | 1CLOVER1                 | 34.7979            | 80/20 | 34.7979        |
| 315154 | 1CLOVER2                 | 34.4511            | 80/20 | 34.4511        |
| 315158 | 1KERR 1                  | 0.3886             | 80/20 | 0.3886         |
| 315159 | 1KERR 2                  | 1.0879             | 80/20 | 1.0879         |
| 315160 | 1KERR 3                  | 1.0879             | 80/20 | 1.0879         |
| 315161 | 1KERR 4                  | 1.0879             | 80/20 | 1.0879         |
| 315162 | 1KERR 5                  | 1.0879             | 80/20 | 1.0879         |
| 315163 | 1KERR 6                  | 1.0879             | 80/20 | 1.0879         |
| 315164 | 1KERR 7                  | 1.0879             | 80/20 | 1.0879         |
| 315266 | 1PLYWOOD A               | 2.1042             | 80/20 | 2.1042         |
| 923831 | AB2-022 C                | -1.7098            | Adder | -2.01          |
| 924021 | AB2-043 C O1             | 0.5442             | 80/20 | 0.5442         |
| 924161 | AB2-060 C OP             | 1.5677             | 80/20 | 1.5677         |
| 924301 | AB2-077 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924311 | AB2-078 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 924321 | AB2-079 C O1 (Suspended) | 2.0339             | 80/20 | 2.0339         |
| 925331 | AB2-190 C                | -15.2463           | Adder | -17.94         |
| 925611 | AC1-036 C                | 0.9578             | 80/20 | 0.9578         |
| 925831 | AC1-062                  | 0.0554             | 80/20 | 0.0554         |
| 925861 | AC1-065 C                | -2.4191            | Adder | -2.85          |
| 925991 | AC1-075 C                | 8.3954             | 80/20 | 8.3954         |
| 926021 | AC1-080 C                | 2.8058             | 80/20 | 2.8058         |
| 926051 | AC1-083 C O1             | 5.2478             | 80/20 | 5.2478         |
| 926271 | AC1-105 C O1 (Suspended) | 9.0580             | 80/20 | 9.0580         |
| 926661 | AC1-147 C                | -1.9228            | Adder | -2.26          |
| 926781 | AC1-164 C                | -27.3619           | Adder | -32.19         |
| 927251 | AC1-221 C                | 4.0131             | 80/20 | 4.0131         |
| 927261 | AC1-222 C                | 6.3188             | 80/20 | 6.3188         |
| 932761 | AC2-100 C                | 9.2356             | 80/20 | 9.2356         |
| 932831 | AC2-110 C                | -0.9676            | Adder | -1.14          |
| 933261 | AC2-137 C                | -1.3882            | Adder | -1.63          |

| Bus #  | Bus                                 | Gendeliv MW Impact | Type  | Full MW Impact |
|--------|-------------------------------------|--------------------|-------|----------------|
| 933731 | AC2-196 C                           | -1.5059            | Adder | -1.77          |
| 933941 | AD1-017 C                           | 1.0496             | 80/20 | 1.0496         |
| 934311 | AD1-055 C                           | 4.3873             | 80/20 | 4.3873         |
| 934341 | AD1-058 C                           | 10.0602            | 80/20 | 10.0602        |
| 934611 | AD1-087 C O1                        | 19.4205            | 80/20 | 19.4205        |
| 934621 | AD1-088 C                           | 19.0767            | 80/20 | 19.0767        |
| 934991 | AD1-131 C                           | 3.2984             | 80/20 | 3.2984         |
| 935111 | AD1-144 C                           | -1.3609            | Adder | -1.6           |
| 935171 | AD1-152 C O1                        | 19.2998            | 80/20 | 19.2998        |
| 935221 | AD1-157 C                           | 1.5236             | 80/20 | 1.5236         |
| 936151 | AD2-021                             | -0.1583            | Adder | -0.19          |
| 936161 | AD2-022 C O1                        | 13.3614            | 80/20 | 13.3614        |
| 936171 | AD2-023 C O1                        | 7.7942             | 80/20 | 7.7942         |
| 936261 | AD2-033 C                           | 13.0946            | 80/20 | 13.0946        |
| 936301 | AD2-039 C                           | -0.9676            | Adder | -1.14          |
| 936361 | AD2-046 C O1                        | 8.3729             | 80/20 | 8.3729         |
| 936481 | AD2-063 C O1                        | 15.0615            | 80/20 | 15.0615        |
| 937251 | AD2-164 (Withdrawn :<br>06/30/2020) | -3.8227            | Adder | -4.5           |
| 937481 | AD2-202 C O1                        | 5.1466             | 80/20 | 5.1466         |
| 937541 | AD2-215 C                           | -1.3749            | Adder | -1.62          |
| 938031 | AE1-004 C                           | -0.9676            | Adder | -1.14          |
| 938371 | AE1-056 C                           | 6.5685             | 80/20 | 6.5685         |
| 938491 | AE1-068 C O1                        | 190.0454           | 80/20 | 190.0454       |
| 938501 | AE1-069 C O1                        | 150.1652           | 80/20 | 150.1652       |
| 939181 | AE1-148 C O1                        | 8.2901             | 80/20 | 8.2901         |
| 939311 | AE1-162 C                           | -1.7547            | Adder | -2.06          |
| 940081 | AE1-250 C                           | 14.1417            | 80/20 | 14.1417        |
| 940241 | AE2-006                             | 0.4873             | 80/20 | 0.4873         |
| 940471 | AE2-031 C                           | 115.6856           | 80/20 | 115.6856       |
| 940601 | AE2-047 C O1                        | 4.5937             | 80/20 | 4.5937         |
| 940661 | AE2-053 O1                          | 3.0704             | 80/20 | 3.0704         |
| 941031 | AE2-094 C                           | 122.2418           | 80/20 | 122.2418       |
| 941431 | AE2-140 C O1                        | 16.8321            | 80/20 | 16.8321        |
| 941791 | AE2-182 C                           | 3.0993             | 80/20 | 3.0993         |
| 942131 | AE2-225 C                           | -1.6759            | Adder | -1.97          |
| 942171 | AE2-229 C                           | -1.6759            | Adder | -1.97          |
| 942451 | AE2-258                             | 2.3537             | 80/20 | 2.3537         |
| 942461 | AE2-259 C O1                        | 10.2120            | 80/20 | 10.2120        |
| 942751 | AE2-291 C O1                        | 11.9193            | 80/20 | 11.9193        |
| 942761 | AE2-292 C O1                        | 14.8407            | 80/20 | 14.8407        |
| 942931 | AE2-313 C                           | 125.2596           | 80/20 | 125.2596       |
| 943811 | AF1-049 C O1                        | 11.8350            | 80/20 | 11.8350        |
| 943901 | AF1-058 C                           | 3.5020             | 80/20 | 3.5020         |
| 944011 | AF1-069 C                           | 39.9410            | 80/20 | 39.9410        |
| 945811 | AF1-246 C O1                        | 21.5695            | 80/20 | 21.5695        |
| 946301 | AF1-294 C                           | 4.1574             | 80/20 | 4.1574         |
| 957481 | AF2-042 C O2                        | 154.0680           | 80/20 | 154.0680       |
| 958211 | AF2-115 C                           | 2.5350             | 80/20 | 2.5350         |
| 958801 | AF2-171 C O2                        | 15.2127            | 80/20 | 15.2127        |
| 959311 | AF2-222 C                           | 16.8160            | 80/20 | 16.8160        |
| 959751 | AF2-266 O2                          | 25.6780            | 80/20 | 25.6780        |
| 960061 | AF2-297 C O2                        | 16.6670            | 80/20 | 16.6670        |

| Bus #   | Bus       | Gendeliv MW Impact | Type          | Full MW Impact |
|---------|-----------|--------------------|---------------|----------------|
| 960811  | AF2-372 C | 1.2847             | 80/20         | 1.2847         |
| 960821  | AF2-373 C | 1.3675             | 80/20         | 1.3675         |
| 961081  | AF2-399 C | 0.3278             | 80/20         | 0.3278         |
| WEC     | WEC       | 1.5536             | Confirmed LTF | 1.5536         |
| LGEE    | LGEE      | 2.9312             | Confirmed LTF | 2.9312         |
| CPL     | CPL       | 14.6172            | Confirmed LTF | 14.6172        |
| CBM-W2  | CBM-W2    | 61.6052            | Confirmed LTF | 61.6052        |
| NY      | NY        | 2.0832             | Confirmed LTF | 2.0832         |
| CBM-W1  | CBM-W1    | 58.0964            | Confirmed LTF | 58.0964        |
| TVA     | TVA       | 12.8968            | Confirmed LTF | 12.8968        |
| CBM-S2  | CBM-S2    | 104.4562           | Confirmed LTF | 104.4562       |
| CBM-S1  | CBM-S1    | 72.0366            | Confirmed LTF | 72.0366        |
| MADISON | MADISON   | 3.5220             | Confirmed LTF | 3.5220         |
| MEC     | MEC       | 9.3529             | Confirmed LTF | 9.3529         |
| AA2-074 | AA2-074   | 9.9648             | LTF           | 9.9648         |

## 13.6 Contingency Descriptions - Secondary POI

| Contingency Name                                        | Contingency Definition                                                                                                                                                                                                                                |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DVP_P1-2: LN 563</b>                                 | CONTINGENCY 'DVP_P1-2: LN 563'<br>OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 -<br>8MDLTHAN 500.00<br>END                                                                                                                       |
| <b>DVP_P4-2: 562T563</b>                                | CONTINGENCY 'DVP_P4-2: 562T563' /* CARSON 500 KV<br>OPEN BRANCH FROM BUS 314902 TO BUS 940640 CKT 1 /* 8CARSON 500.00 - AE2-<br>051 TAP 500.00<br>OPEN BRANCH FROM BUS 314902 TO BUS 314914 CKT 1 /* 8CARSON 500.00 -<br>8MDLTHAN 500.00<br>END       |
| <b>DVP_P4-2: 568T575</b>                                | CONTINGENCY 'DVP_P4-2: 568T575' /* LADYSMITH 500 KV<br>OPEN BRANCH FROM BUS 314911 TO BUS 314922 CKT 1 /* 8LADYSMITH 500.00 -<br>8POSSUM 500.00<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>END   |
| <b>DVP_P4-2: H1T575</b>                                 | CONTINGENCY 'DVP_P4-2: H1T575' /* LADYSMITH 500 KV<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>OPEN BRANCH FROM BUS 314196 TO BUS 314911 CKT 1 /* 6LADYSMITH 230.00 -<br>8LADYSMITH 500.00<br>END |
| <b>314333 6POWHATN 230 933500<br/>AC2-165 TAP 230 1</b> | CONTINGENCY '314333 6POWHATN 230 933500 AC2-165 TAP 230 1'<br>OPEN BRANCH FROM BUS 314333 TO BUS 933500 CKT 1<br>END                                                                                                                                  |
| <b>DVP_P1-2: LN 594</b>                                 | CONTINGENCY 'DVP_P1-2: LN 594'<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                      |

| Contingency Name                     | Contingency Definition                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DVP_P1-2: LN 2027-B</b>           | CONTINGENCY 'DVP_P1-2: LN 2027-B'<br>OPEN BRANCH FROM BUS 933500 TO BUS 314333 CKT 1 /* AC2-165 TAP 230.00 - 6POWHATN 230.00<br>OPEN BRANCH FROM BUS 314310 TO BUS 314322 CKT 1 /* 6JUDES F 230.00 - 6MDLTHAN 230.00<br>OPEN BRANCH FROM BUS 314310 TO BUS 314333 CKT 1 /* 6JUDES F 230.00 - 6POWHATN 230.00<br>OPEN BUS 314310 /* ISLAND: 6JUDES F 230.00<br>OPEN BUS 314333 /* ISLAND: 6POWHATN 230.00<br>OPEN BUS 923862 /* ISLAND: AB2-026 E 230.00<br>END |
| <b>DVP_P1-2: LN 511-B</b>            | CONTINGENCY 'DVP_P1-2: LN 511-B'<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00<br>END                                                                                                                                                                                                                                                                                                                            |
| <b>DVP_P1-2: LN 511-A</b>            | CONTINGENCY 'DVP_P1-2: LN 511-A'<br>OPEN BRANCH FROM BUS 314902 TO BUS 940470 CKT 1 /* 8CARSON 500.00 - AE2-031 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                              |
| <b>DVP_P1-2: LN 570</b>              | CONTINGENCY 'DVP_P1-2: LN 570'<br>OPEN BRANCH FROM BUS 304183 TO BUS 314935 CKT 1 /* 8WAKE 500 TT500.00 - 8HERITAGE 500.00<br>END                                                                                                                                                                                                                                                                                                                              |
| <b>DVP_P4-2: 511T591</b>             | CONTINGENCY 'DVP_P4-2: 511T591' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 - 8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 - 8RAWLINGS 500.00<br>END                                                                                                                                                                                                                |
| <b>DVP_P1-2: LN 557</b>              | CONTINGENCY 'DVP_P1-2: LN 557'<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 - 8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 - 8ELMONT 500.00<br>END                                                                                                                                                                                                                                           |
| <b>AEP_P4_#11111_05J.FERR 765_B1</b> | CONTINGENCY 'AEP_P4_#11111_05J.FERR 765_B1'<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765 242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242514 TO BUS 242684 CKT 2 / 242514 05J.FERR 765 242684 05J.FERR 138 2<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500 306719 8ANTIOCH 500 1<br>END                                                                                                                |

| Contingency Name  | Contingency Definition                                                                                                                                                                                                                                                                                                                   |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DVP_P1-2: LN 575  | CONTINGENCY 'DVP_P1-2: LN 575'<br>OPEN BRANCH FROM BUS 314911 TO BUS 314918 CKT 1 /* 8LADYSMITH 500.00 -<br>8NO ANNA 500.00<br>END                                                                                                                                                                                                       |
| DVP_P1-2: LN 573  | CONTINGENCY 'DVP_P1-2: LN 573'<br>OPEN BRANCH FROM BUS 314918 TO BUS 314934 CKT 1 /* 8NO ANNA 500.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                                                                                                         |
| AEP_P1-2_#1377    | CONTINGENCY 'AEP_P1-2_#1377'<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765<br>242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500<br>306719 8ANTIOCH 500 1<br>END                                                                                                  |
| DVP_P4-2: 556T591 | CONTINGENCY 'DVP_P4-2: 556T591' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 314935 TO BUS 314936 CKT 1 /* 8HERITAGE 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                    |
| DVP_P1-2: LN 574  | CONTINGENCY 'DVP_P1-2: LN 574'<br>OPEN BRANCH FROM BUS 314908 TO BUS 314911 CKT 1 /* 8ELMONT 500.00 -<br>8LADYSMITH 500.00<br>END                                                                                                                                                                                                        |
| DVP_P4-2: 557T574 | CONTINGENCY 'DVP_P4-2: 557T574' /* ELMONT 500 KV<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 -<br>8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 -<br>8ELMONT 500.00<br>OPEN BRANCH FROM BUS 314908 TO BUS 314911 CKT 1 /* 8ELMONT 500.00 -<br>8LADYSMITH 500.00<br>END |
| Base Case         |                                                                                                                                                                                                                                                                                                                                          |
| DVP_P4-2: H2T557  | CONTINGENCY 'DVP_P4-2: H2T557' /* ELMONT 500 KV<br>OPEN BRANCH FROM BUS 314214 TO BUS 314903 CKT 1 /* 6CHCKAHM 230.00 -<br>8CHCKAHM 500.00<br>OPEN BRANCH FROM BUS 314903 TO BUS 314908 CKT 1 /* 8CHCKAHM 500.00 -<br>8ELMONT 500.00<br>OPEN BRANCH FROM BUS 314218 TO BUS 314908 CKT 2 /* 6ELMONT 230.00 -<br>8ELMONT 500.00<br>END     |

| Contingency Name              | Contingency Definition                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DVP_P1-2: LN 556-B            | CONTINGENCY 'DVP_P1-2: LN 556-B'<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                                                                                                                                                                                                                                       |
| DVP_P1-2: LN 585-A            | CONTINGENCY 'DVP_P1-2: LN 585-A'<br>OPEN BRANCH FROM BUS 314902 TO BUS 941030 CKT 1 /* 8CARSON 500.00 - AE2-<br>094 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                        |
| DVP_P1-2: LN 585-B            | CONTINGENCY 'DVP_P1-2: LN 585-B'<br>OPEN BRANCH FROM BUS 941030 TO BUS 938490 CKT 1 /* AE2-094 TAP 500.00 -<br>AE1-068 TAP 500.00<br>END                                                                                                                                                                                                                                                                                                                     |
| DVP_P4-2: 511T556             | CONTINGENCY 'DVP_P4-2: 511T556' /* RAWLINGS 500 KV<br>OPEN BRANCH FROM BUS 940470 TO BUS 314936 CKT 1 /* AE2-031 TAP 500.00 -<br>8RAWLINGS 500.00<br>OPEN BRANCH FROM BUS 945810 TO BUS 314936 CKT 1 /* AF1-246 TAP 500.00 -<br>8RAWLINGS 500.00<br>END                                                                                                                                                                                                      |
| DVP_P4-2: H1T594              | CONTINGENCY 'DVP_P4-2: H1T594' /* MORRISVILLE 500 KV<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>OPEN BRANCH FROM BUS 314063 TO BUS 314916 CKT 1 /* 6MORRSVL 230.00 -<br>8MORRSVL 500.00<br>OPEN BUS 314897 /* 8MORRS_1 500.00 KV<br>END                                                                                                                                                                   |
| AEP_P4_#11112_05J.FERR 765_A1 | CONTINGENCY 'AEP_P4_#11112_05J.FERR 765_A1'<br>OPEN BRANCH FROM BUS 242511 TO BUS 242514 CKT 1 / 242511 05BROADF 765<br>242514 05J.FERR 765 1<br>OPEN BRANCH FROM BUS 242514 TO BUS 242520 CKT 1 / 242514 05J.FERR 765<br>242520 05J.FERR 500 1<br>OPEN BRANCH FROM BUS 242520 TO BUS 306719 CKT 1 / 242520 05J.FERR 500<br>306719 8ANTIOCH 500 1<br>OPEN BRANCH FROM BUS 242566 TO BUS 242567 CKT ZB / 242566 05BROADF 138<br>242567 05BROADX 138 ZB<br>END |
| DVP_P4-2: SPOTS H1T594        | CONTINGENCY 'DVP_P4-2: SPOTS H1T594' /* SPOTSYLVANIA 500 KV<br>OPEN BRANCH FROM BUS 314916 TO BUS 314934 CKT 1 /* 8MORRSVL 500.00 -<br>8SPOTSYL 500.00<br>OPEN BRANCH FROM BUS 314755 TO BUS 314934 CKT 1 /* 3SPOTSYL 115.00 -<br>8SPOTSYL 500.00<br>END                                                                                                                                                                                                     |

## **14 Affected Systems**

### **14.1 TVA**

TVA Impacts to be determined during later study phases (as applicable).

### **14.2 Duke Energy Progress**

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

## 15 Attachment 1: One Line Diagram