# *Generation Interconnection Impact Study Report*

# *For*

# *PJM Generation Interconnection Request Queue Position AC2-177*

# *Losantville 345 kV*

**April 2019**

# Preface

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

In some instances 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 or merchant transmission upgrade, may also contribute to the need for the same network reinforcement.

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

# General

Calpine Wind Holdings, LLC proposes to install PJM Project #AC2-177, a 200.0 MW (26.0 MW Capacity) wind generating facility in Losantville, Indiana (see Figure 2). The point of interconnection will be a direct connection to AEP's Losantville 345 kV substation (tap of Desoto- Tanners Creek 345kv line) (see Figure 1).

The requested in service date is 12/31/2019.

# Attachment Facilities

**Point of Interconnection (Losantville 345 kV Substation)**

To accommodate the interconnection at the Losantville 345 kV substation, the substation will have to be expanded requiring the installation of one (1) 345 kV circuit breakers (see Figure 1). Installation of associated protection and control equipment, 345 kV line risers, SCADA, and 345 kV revenue metering will also be required.

Losantville Station Work:

- Expand the Losantville 345 kV substation; install one (1) 345 kV circuit breakers (see Figure 1). Installation of associated protection and control equipment, 345 kV line risers, SCADA, and 345 kV revenue metering will also be required.
    - **Estimated Station Cost: $2,000,000**

## Non-Direct Connection Cost Estimate

The total preliminary cost estimate for Non-Direct Connection work is given in the following tables below:

For AEP building Direct Connection cost estimates:

| Description | Estimated Cost |
|---|---|
| 345 kV Revenue Metering | $350,000 |
| Upgrade line protection and control settings at the Desoto 345 kV substation to coordinate with the expanded Losantville 345 kV substation. | $50,000 |
| Upgrade line protection and control settings at the Tanners Creek 345 kV substation to coordinate with the expanded Losantville 345 kV substation. | $50,000 |
| **Total** | **$450,000** |

**Table 1**

## Interconnection Customer Requirements

It is understood that Calpine Wind Holdings is responsible for all costs associated with this interconnection. The cost of Calpine Wind Holdings' generating plant and the costs for the line connecting the generating plant to the Losantville 345 kV substation are not included in this report; these are assumed to be Calpine Wind Holdings' responsibility.

The Generation Interconnection Agreement does not in or by itself establish a requirement for American Electric Power to provide power for consumption at the developer's facilities. A separate agreement may be reached with the local utility that provides service in the area to ensure that infrastructure is in place to meet this demand and proper metering equipment is installed. It is the responsibility of the developer to contact the local service provider to determine if a local service agreement is required.

Requirement from the PJM Open Access Transmission Tariff:

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 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.

2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

# Revenue Metering and SCADA Requirements

## 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 Sections 24.1 and 24.2.

## AEP Requirements

The Interconnection Customer will be required to comply with all AEP Revenue Metering Requirements for Generation Interconnection Customers. The Revenue Metering Requirements may be found within the "Requirements for Connection of New Facilities or Changes to Existing Facilities Connected to the AEP Transmission System" document located at the following link:

http://www.pjm.com/~/media/planning/plan-standards/private-aep/aep-interconnection-requirements.ashx

## Network Impacts

The Queue Project AC2-177 was evaluated as a 200.0 MW (Capacity 26.0 MW) injection at the Losantville 345 kV substation in the AEP area. Project AC2-177 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AC2-177 was studied with a commercial probability of 100%. Potential network impacts were as follows:

## Base Case Used

Summer Peak Analysis – 2020 Case

## Contingency Descriptions

The following contingencies resulted in overloads:

| Contingency Name | Description |
|---|---|
| '8823' | CONTINGENCY '8823'<br>OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2<br>OPEN BRANCH FROM BUS 243225 TO BUS 243232 CKT 1 / 243225 05KEYSTN 345 243232 05SORENS 345 1<br>END |
| '8713_3' | CONTINGENCY '8713_3'<br>OPEN BRANCH FROM BUS 243218 TO BUS 243233 CKT 1 / 243218 05DESOTO 345 243792 05LOSANTVILL 345 1<br>OPEN BRANCH FROM BUS 926580 TO BUS 243233 CKT 2 / 243233 05TANNER 345 926580 AC1-059 345 1<br>OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2<br>END |
| 6873_1 | CONTINGENCY '6873_1'<br>OPEN BRANCH FROM BUS 243218 TO BUS 243233 CKT 1 / 243218 05DESOTO 345 243233 05TANNER 345 1<br>OPEN BRANCH FROM BUS 243233 TO BUS 926580 CKT 2 / 243233 05TANNER 345 926580 AC1-059 345 1<br>END |
| '349_B2_TOR21' | CONTINGENCY '349_B2_TOR21'<br>OPEN BRANCH FROM BUS 242528 TO BUS 248005 CKT 1 / 242528 05SPORN 345 248005 06KYGER 345 1<br>END |
| '678_B3_05TANNER 345-5' | CONTINGENCY '678_B3_05TANNER 345-5'<br>OPEN BRANCH FROM BUS 243233 TO BUS 249567 CKT 1 / 243233 05TANNER 345 249567 08M.FTHS 345 1<br>OPEN BRANCH FROM BUS 243233 TO BUS 243382 CKT 5 / 243233 05TANNER 345 243382 05TANNER |

| Contingency Name | Description |
|---|---|
| | 138 5<br><br>END |
| 8468_B2 | CONTINGENCY '8468_B2'<br><br>OPEN BRANCH FROM BUS 242528 TO BUS 248005 CKT 2 / 242528 05SPORN 345 248005 06KYGER 345 2<br><br>END |
| '6930_B1_05V4-033 345-2' | CONTINGENCY '6930_B1_05V4-033 345-2'<br><br>OPEN BRANCH FROM BUS 243792 TO BUS 243218 CKT 2<br>END |
| 8702_B2_TOR2543 | CONTINGENCY '8702_B2_TOR2543'<br><br>OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2<br><br>END |
| P1-#..B2 TERMINAL-EAST BEND 4516 | CONTINGENCY 'P1-#B2 TERMINAL-EAST BEND 4516'<br><br>OPEN BRANCH FROM BUS 249575 TO BUS 249565 CKT 1<br><br>END |

**Table 2**

## Generator Deliverability

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

None

## Multiple Facility Contingency

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

| AC2-177 Multiple Facility Contingency | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contingency | | Affected | | Bus | | | | Loading | | Rating | | MW | FG |
| # | Type | Name | Area | Facility Description | From | To | Cir. | PF | Initial | Final | Type | MVA | Con. | App. |
| 1 | DCTL | '8823' | AEP - AEP | 05WESDEL-05DELAWR 138 kV line | 243393 | 243275 | 1 | AC | 94.83 | 100.45 | ER | 167 | 11.04 | |
| 2 | DCTL | '8713_3' | AEP - AEP | 05LOSANTVILL- 05DESOTO 345kV line | 243792 | 243218 | 1 | AC | 85.98 | 103.01 | ER | 1166 | 199.97 | |
| 3 | DCTL | '6873_1' | AEP - AEP | 05LOSANTVILL- 05DESOTO 345kV line | 243792 | 243218 | 1 | AC | 85.71 | 102.77 | ER | 1166 | 199.97 | |

**Table 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)*

| AC2-177 Contribution to previously identified overloads | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contingency | | Affected | | Bus | | | | Loading | | Rating | | MW | FG |
| # | Type | Name | Area | Facility Description | From | To | Cir. | PF | Initial | Final | Type | MVA | Con. | App. |
| 1 | DCTL | '8823' | AEP - AEP | 05DESOTO-05JAY 138 kV line | 243278 | 243319 | 1 | AC | 102.7 | 105.92 | ER | 393 | 14.9 | |

**Table 4**

## Steady-State Voltage Requirements

None

## Short Circuit

*(Summary of impacted circuit breakers)*

New circuit breakers found to be over-duty:

None

## Stability and Reactive Power Requirement

*(Results of the dynamic studies should be inserted here)*

The AC2-177 queue project **does not** meet the 0.95 lagging or leading power factor requirement at the high side of the main transformer. An additional 23.14 Mvar would be required for the plant to meet the 0.95 lagging power factor requirement, and an additional 5.44 Mvar would be required for the plant to meet the 0.95 leading power factor requirement.

# Affected System Analysis & Mitigation

### LGEE Impacts:

None

### MISO Impacts:

None

### Duke, Progress & TVA Impacts:

None

**OVEC Impacts:**

None

## Delivery of Energy Portion of Interconnection Request

*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.*

| AC2-177 Delivery of Energy Portion of Interconnection Request | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contingency | | Affected | | Bus | | | | Loading | | Rating | | MW | FG |
| # | Type | Name | Area | Facility Description | From | To | Cir. | PF | Initial | Final | Type | MVA | Con. | App. |
| 1 | N-1 | 8702_B2_TOR2543 | AEP - AEP | 05KEYSTN-05SORENS 345 kV line | 243225 | 243232 | 1 | AC | 101.32 | 106.14 | NR | 897 | 43.3 | |
| 2 | N-1 | P1-#.B2 TERMINAL-EAST BEND 4516 | AEP - DEO&K | 05TANNER-08M.FORT 345 kV line | 243233 | 249567 | 1 | AC | 133.51 | 134.78 | NR | 1409 | 39.85 | |
| 3 | N-1 | 678_B3_05TANNER 345-5 | AEP - AEP | 05LOSANTVILL-05DESOTO 345 kV line | 243792 | 243218 | 2 | AC | 91.79 | 106.75 | NR | 1025 | 152.01 | |
| 4 | N-1 | 8468_B2 | OVEC - AEP | 06KYGER-05SPORN 345 kV line | 248005 | 242528 | 1 | AC | 125.03 | 125.69 | NR | 1017 | 14.64 | |
| 5 | N-1 | 349_B2_TOR21 | OVEC - AEP | 06KYGER-05SPORN 345 kV line | 248005 | 242528 | 2 | AC | 130.95 | 131.64 | NR | 971 | 114.64 | |
| 6 | N-1 | '6930_B1_05V4-033 345-2' | AEP - AEP | AC1-059 TAP-05TANNER 345 kV line | 925800 | 243233 | 2 | AC | 98.33 | 118.01 | NR | 1016 | 199.97 | |

**Table 5**

**Note**: For the Tanner – M.Fort 345kV line, B2831 & B2968 aim to upgrade the normal rating of this line. Final ISD and rating are unknown but after 2020 we aim to get it higher than 2056MVA.

**Note:** For Kyger – Sporn 345kV line, B2832 will make both of these circuits six-wired. This will change topology, contingencies and ratings.

## Contribution to Previously Identified System Reinforcements

*(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)*
*(Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)*

1. To relieve the 05WESDEL-05DELAWR 138 kV line overload:

   A Sag Study will be required on the 2.0 mile section of line to mitigate the overload. Depending on the sag study results, cost for this upgrade is expected to be between

$15,000 (no remediation required just sag study) and $3.0 million (complete line reconductor/rebuild required). PJM Network Upgrade N5587.

The cost allocation is as follows:

| Queue | MW contribution | Percentage of Cost | $ cost ( $15 K) |
|---|---|---|---|
| AC2-090 | 5.5 | 33.27% | 4,991 |
| AC2-177 | 11.0 | 66.73% | 10,009 |

**Table 6**

2. To relieve the Losantville - Desoto 345 kV line #2 overloads (the line becomes overloaded later in the AC2 Queue):

   A Sag Study will be required on the 14.0 mile section of ACAR 2303.5 54/37 conductor section 1 to mitigate the overload. Sag Study: 6 to 12 months. If line rebuild is required: The standard time required for construction differs from state to state. An approximate construction time would be 36 to 48 months after signing an interconnection agreement. Line rebuild cost, if required, will be determined in the Facilities Study. Cost estimate is $56K for the sag study. PJM Network Upgrade N5588.

   The cost allocation is as follows:

| Queue | MW contribution | Percentage of Cost | $ cost ( $56 K) |
|---|---|---|---|
| AC2-090 | 100.0 | 33.33% | 18.667 |
| AC2-177 | 200.0 | 66.67% | 37.333 |

**Table 7**

3. To resolve the Desoto – Jay 138 kV line overload:

   There is a planned supplemental project, S0737, projected to be in-service by 12-31-2018. The new ratings with S0737 will be 366/468 MVA SN/SE. AC2-177 has no cost responsibility for this upgrade. However, AC2-177 may need this upgrade in-service in order to be fully deliverable to the PJM system. If AC2-177 comes into service prior to the completion of this upgrade, an interim study will be required.

**Schedule**

It is anticipated that the time between receipt of executed agreements and Commercial Operation may range from 12 to 18 months if no line work is required. If line work is required, construction time would be between 24 to 36 months after signing an interconnection agreement.

**Note:** The time provided between anticipated normal completion of System Impact, Facilities Studies, subsequent execution of ISA and ICSA documents, and the proposed Backfeed Date is shorter than usual and may be difficult to achieve.

# Light Load Analysis - 2020

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

None

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

None

**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)*

None

# System Reinforcements

## Light Load Load Flow Analysis Reinforcements

**New System Reinforcements**
*(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)*

None

**Contribution to Previously Identified System Reinforcements**

*(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)*
*(Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)*

None

## Conclusion

Based upon the results of this Impact Study, the construction of the 200.0 MW (26.0 MW Capacity) wind generating facility of Calpine Wind Holdings (PJM Project #AC2-177) will require the following additional interconnection charges. This plan of service will interconnect the proposed wind generating facility in a manner that will provide operational reliability and flexibility to both the AEP system and the Calpine Wind Holdings generating facility.

| Cost Breakdown for Point of Interconnection (Losantville 345 kV Substation) | | | |
|---|---|---|---|
| **Network Upgrade Type** | **Network Upgrade Number** | **Description** | **Estimated Cost** |
| **Attachment Cost** | **n6042** | Expansion of Losantville 345 kV substation and installation of associated protection and control equipment | **$2,000,000** |
| **Attachment Cost** | **n6043** | 345 kV Revenue Metering | **$350,000** |
| **Non Direct Connection Network Upgrades** | **n6044** | Upgrade line protection and control settings at the Desoto 345 kV substation to coordinate with the expanded Losantville 345 kV substation. | **$50,000** |
| | **n6045** | Upgrade line protection and control settings at the Tanners Creek 345 kV substation to coordinate with the expanded Losantville 345 kV substation. | **$50,000** |
| | **n5587** | A Sag Study will be required on the 2.0 mile section of line to mitigate the overload. Depending on the sag study results, cost for this upgrade is expected to be between $15,000 (no remediations required just sag study) and $3.0 million (complete line reconductor/rebuild required). This cost will be allocated | **$15,000** |
| | **n5588** | A Sag Study will be required on the 14.0 mile section of ACAR 2303.5 54/37 conductor section 1 to mitigate the overload. Sag Study: 6 to 12 months. If line rebuild is required: The standard time required for construction differs from state to state. An approximate construction time would be 36 to 48 months after signing an interconnection agreement. **Line rebuild cost, if required, will be determined in the Facilities Study.** Cost estimate is $56K for the sag study. | **$56,000** |

| Cost Breakdown for Point of Interconnection (Losantville 345 kV Substation) | | | |
|---|---|---|---|
| **Network Upgrade Type** | **Network Upgrade Number** | **Description** | **Estimated Cost** |
| | **s0737** | There is a planned supplemental project, S0737, projected to be in-service by 12-31-2018. The new ratings with S0737 will be 366/468 MVA SN/SE. AC2-177 has no cost responsibility for this upgrade. However, AC2-177 may need this upgrade in-service in order to be fully deliverable to the PJM system. If AC2-177 comes into service prior to the completion of this upgrade, an interim study will be required. | **$0** |
| | | **Total** | **$2,521,000** |

**Table 9**

The estimates are preliminary in nature, as they were determined without the benefit of detailed engineering studies. The cost of remediation for sag limited conductors is not included in this estimate. Final estimates will require an on-site review and coordination to determine final construction requirements.

## Figure 1: Point of Interconnection (Losantville 345 kV Substation)

## Single-Line Diagram

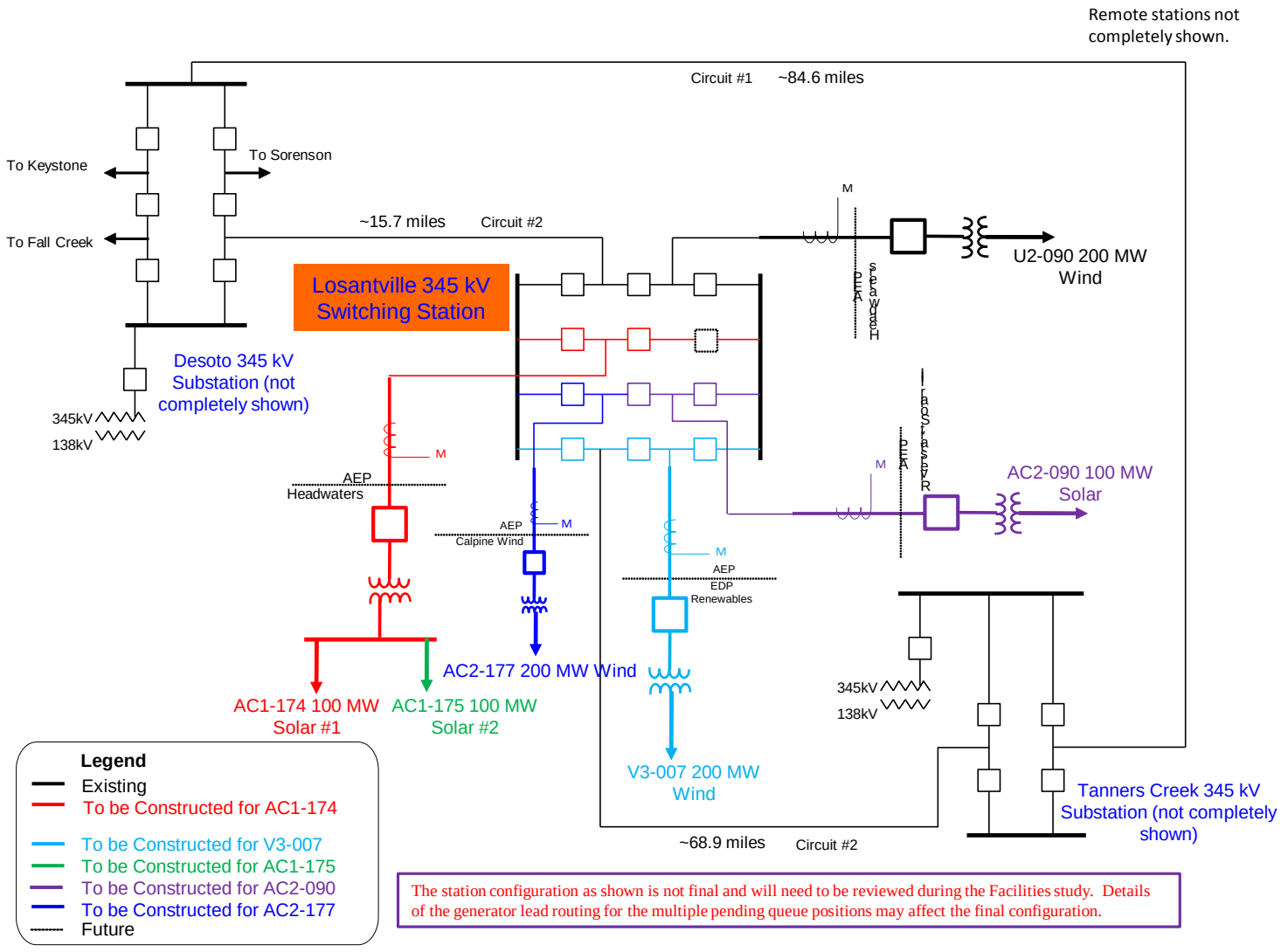
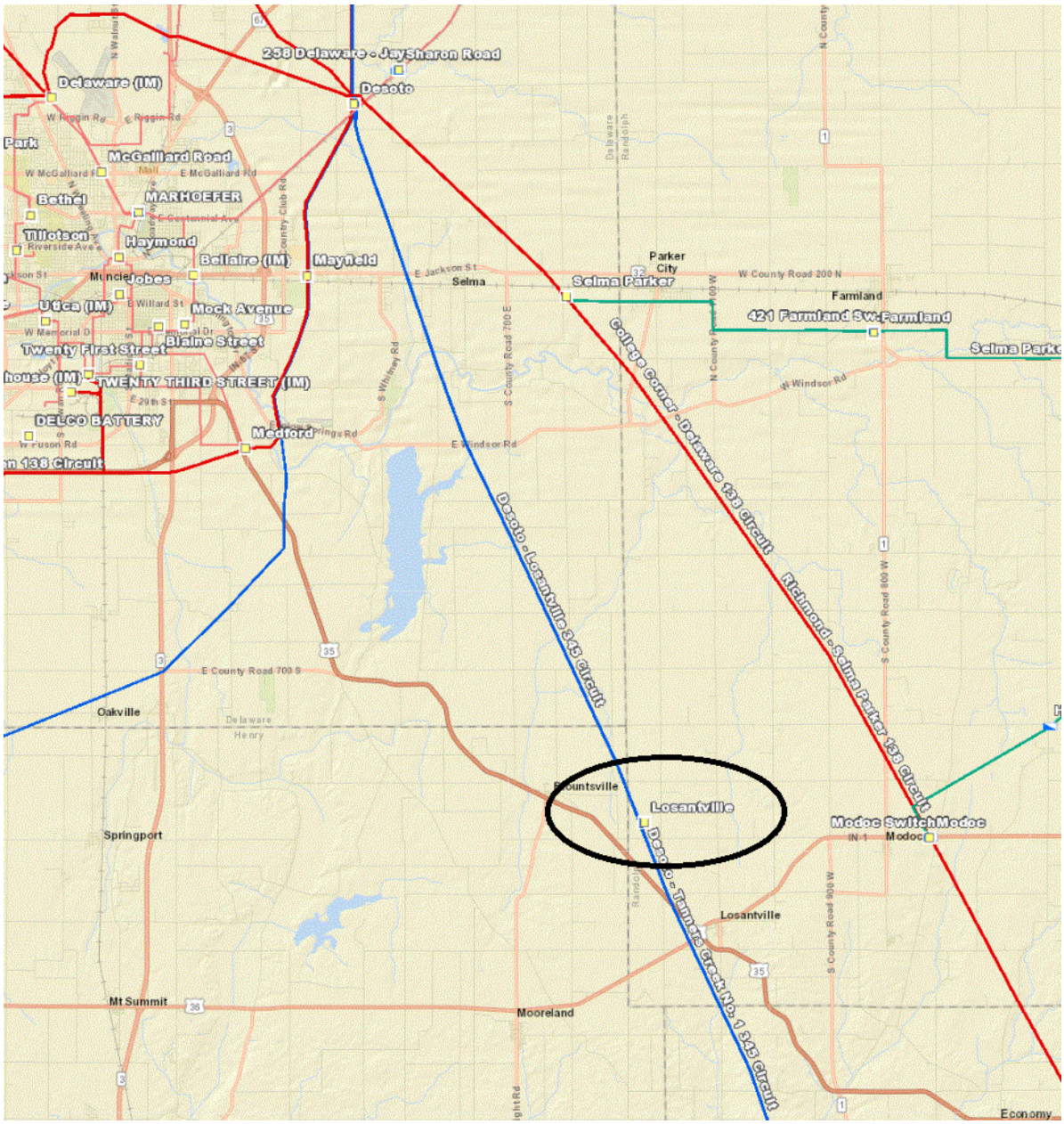


**Figure 2: Point of Interconnection (Losantville 345 kV Substation)**



# Appendices

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact.

It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

# Appendix 1

(AEP - AEP) The 05WESDEL-05DELAWR 138 kV line (from bus 243393 to bus 243275 ckt 1) loads from 94.83% to 100.45% (AC power flow) of its emergency rating (167 MVA) for the tower line contingency outage of '8823'. This project contributes approximately 11.04 MW to the thermal violation.

CONTINGENCY '8823'
OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2
OPEN BRANCH FROM BUS 243225 TO BUS 243232 CKT 1 / 243225 05KEYSTN 345 243232 05SORENS 345 1
END

| *Bus Number* | *Bus Name* | *Full Contribution* |
|---|---|---|
| *247967* | *05HDWTR1G E* | *9.6* |
| *932681* | *AC2-090 C* | *2.1* |
| *932682* | *AC2-090 E* | *3.42* |
| *933601* | *AC2-177 C O1* | *1.43* |
| *933602* | *AC2-177 E O1* | *9.6* |
| *247543* | *V3-007 C* | *1.43* |
| *247935* | *V3-007 E* | *9.6* |
| *247568* | *V3-015 C* | *2.5* |
| *247949* | *V3-015 E* | *16.74* |
| *926872* | *AC1-088 C* | *1.7* |
| *927851* | *AC1-175 C* | *4.19* |
| *927852* | *AC1-175 E* | *6.84* |

# Appendix 2

(AEP - AEP) The 05LOSANTVILL-05DESOTO 345 kV line (from bus 243792 to bus 243218 ckt 2) loads from 85.98% to 103.01% (AC power flow) of its emergency rating (1166 MVA) for the tower line contingency outage of '8713_3'. This project contributes approximately 199.97 MW to the thermal violation.

CONTINGENCY '8713_3'
OPEN BRANCH FROM BUS 243218 TO BUS 243233 CKT 1 / 243218 05DESOTO 345 243792 05LOSANTVILL 345 1
OPEN BRANCH FROM BUS 926580 TO BUS 243233 CKT 2 / 243218 05DESOTO 345 243792 05LOSANTVILL 345 2
OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2
END

| *Bus Number* | *Bus Name* | *Full Contribution* |
|---|---|---|
| *243795* | *05HDWTR1G C* | *5.02* |
| *247967* | *05HDWTR1G E* | *173.98* |
| *932681* | *AC2-090 C* | *38.* |
| *932682* | *AC2-090 E* | *61.99* |
| *933601* | *AC2-177 C O1* | *26.* |
| *933602* | *AC2-177 E O1* | *173.98* |
| *247543* | *V3-007 C* | *26.* |
| *247935* | *V3-007 E* | *173.98* |
| *926581* | *AC1-059 C* | *38.99* |
| *926582* | *AC1-059 E* | *260.97* |
| *927851* | *AC1-175 C* | *75.99* |
| *927852* | *AC1-175 E* | *123.98* |

# Appendix 3

(AEP - AEP) The 05DESOTO-05JAY 138 kV line (from bus 243278 to bus 243319 ckt 1) loads from 102.7% to 105.92% (AC power flow) of its emergency rating (393 MVA) for the tower line contingency outage of '8823'. This project contributes approximately 14.9 MW to the thermal violation.

CONTINGENCY '8823'
OPEN BRANCH FROM BUS 243218 TO BUS 243232 CKT 2 / 243218 05DESOTO 345 243232 05SORENS 345 2
OPEN BRANCH FROM BUS 243225 TO BUS 243232 CKT 1 / 243225 05KEYSTN 345 243232 05SORENS 345 1
END

| *Bus Number* | *Bus Name* | *Full Contribution* |
|---|---|---|
| *247967* | *05HDWTR1G E* | *12.96* |
| *932681* | *AC2-090 C* | *2.83* |
| *932682* | *AC2-090 E* | *4.62* |
| *933601* | *AC2-177 C O1* | *1.94* |
| *933602* | *AC2-177 E O1* | *12.96* |
| *247543* | *V3-007 C* | *1.94* |
| *247935* | *V3-007 E* | *12.96* |
| *247568* | *V3-015 C* | *3.32* |
| *247949* | *V3-015 E* | *22.24* |
| *923881* | *AB2-028 C* | *1.63* |
| *923882* | *AB2-028 E* | *10.88* |
| *927851* | *AC1-175 C* | *5.66* |
| *927852* | *AC1-175 E* | *9.24* |
| *928231* | *AC1-212 C* | *1.47* |