Phase 2 Facilities Study Report

For

Physical Interconnection of

PJM Generation Interconnection Request

Combined

Project IDs AF2-173 and AG1-367

"Desoto 345 kV"

December 2024

Introduction

This Facilities Study has been prepared in accordance with the PJM Open Access Transmission Tariff Part VII, and, if applicable, the Application and Studies Agreement between the Project Developer and PJM Interconnection, LLC (PJM or Transmission Provider (TP)). The Transmission Owner (TO) is Indiana Michigan Power Company to be abbreviated in the remainder of this report as IMPCo.

A. Transmission Owner Facilities Study Summary

1. PROJECT DESCRIPTION

The Project Developer (PD) has proposed two (2) Solar Generating Facilities located in Delaware County, Indiana with designated PJM Project IDs of AF2-173 and AG1-367.

The AF2-173 project is a 140 MW Solar uprate (84 MW Capacity) and the AG1-367 project is a 100 MW Solar uprate (60 MW Capacity) to the AE1-209 project, connected to the American Electric Power (AEP) Desoto 345 kV Station. The total installed facilities will have a capability of 440 MW with 170 MW of this output being recognized by PJM as Capacity.

2. POINTS OF INTERCONNECTION AND CHANGE IN OWNERSHIP

The Point of Interconnection (POI) is the point where the risers connect the generation lead circuit to the Desoto 345 kV Station line termination point. The AF2-173 and AG1-367 projects are uprates to the Project Developer's AE1-209 project and will share the same Point of Change in Ownership (PCO).

3. SCOPE OF PROJECT DEVELOPER INTERCONNECTION FACILITIES

The Project Developer will design, build, own, operate, and maintain the Project Developer Interconnection Facilities on the Project Developer's side of the Point of Change in Ownership (PCO). This includes, but is not limited to:

- Main Power Transformer(s) (MPT(s)).
- Circuit breakers and associated equipment located between the high side of the MPT(s) and the Point of Change in Ownership.
- Relay and protective equipment and Telecommunications Equipment including Supervisory Control and Data Acquisition (SCADA) to comply with the TO's Applicable Technical Requirements and Standards.
- Generation lead line conductors from the Generating Facility to the Point of Change in Ownership (shared with AE1-209).
- **Installation of the submetering equipment described below in section B.3.**
- **Instrument transformers required to provide revenue quality metering and settlement between the AF2-173 and AG1-367 projects and any previous/originating projects interconnecting behind the same Point of Change in Ownership.**
- **Additional communications cable connections required between the below-proposed ethernet switch (to be installed at the AF2-173 and AG1-367 projects**

collector stations) and the primary router (either installed or to be installed at the originating project collector station) for metering data transport.

B. Transmission Owner Facilities Study Results

The following is a description of the Transmission Owner facilities required for physical interconnection of the proposed AF2-173 and AG1-367 projects to the AEP transmission system. These facilities shall be designed according to AEP standards. Once built, AEP will own, operate, and maintain these Facilities.

1. INTERCONNECTION SUBSTATION (DESOTO)

- IMPCo will review and revise (as necessary) the protective relay settings at the Desoto 345 kV Station to account for the additional generation.
    - Settings will need to be revised for each generation project unless they share an in-service date.

2. TRANSMISSION LINE TIE-IN

No Transmission Line Tie-In work will be required for this project.

3. TRANSMISSION OWNER INTERCONNECTION FACILITIES:

- IMPCo will procure one (1) meter panel, three (3) primary meters, and two (2) ethernet switches to be installed in the AF2-173 and AG1-367 Project Developer's collector stations.
- IMPCo will procure one (1) connected grid router (CGR) to be installed in the Project Developer's originating project collector station.

4. UPGRADE TO NEIGHBORING STATIONS

No Upgrades will be required at Neighboring AEP Stations.

5. INSTALLATION OF FIBER CABLE CIRCUITS

No new fiber circuits to facilitate communication with existing AEP equipment will be required for this interconnection.

7. MILESTONE SCHEDULES FOR COMPLETION OF AEP WORK

7.1 STANDARD OPTION:

Activity	Number of Days (See Notes)
Project Engagement*	1
Engineering Start	45
Material Ordering	N/A
Construction (Grading & Below Grade)	N/A
Construction (Above Grade)	N/A
Outage Requests Made By	N/A
Outage (Structure Foundations)**	N/A
Outage (Cut-in & Testing)**	N/A
Ready For Back Feed (ITO In-Service Date)	105

***Day 1 will be determined at the PJM construction project kick off meeting.**

The above schedule is based on typical AEP labor timelines. The facilities outlined in this report, as constructed by AEP, are estimated to take 3 months to complete. Given this timeline, the duration of PJM's phase 3 study, the agreement backfeed date for the AE1-209 project, and a typical period for agreement processing, AEP can support a backfeed date of February 26, 2026, subject to change during the tariff defined Final Agreement Negotiation Phase.

8. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

Note - Any materials purchased, or design decisions made by the Project Developer (relative to any facilities to be owned by AEP) prior to coordination with and approval by the executing AEP team (pursuant to an Engineering and Procurement or Generation Interconnection Agreement) are at the developer's risk and may not meet the specifications required for interconnection with the AEP transmission system.

8.1 SCOPE ASSUMPTIONS:

- Protection and Control (P&C) coordination with the Project Developer will be needed throughout the project. The Project Developer will be required to install an AEP-compatible line relaying protection panel at the collector substation using AEP standards to ensure relay coordination and adequate line protection. The AEP design team will ensure that the firmware at the collector

station terminal matches the approved firmware at the AEP terminal. Failure to accept the cost of a matching line relay protection panel may change scoping.

- Scopes provided are based on a table-top process without the benefit of the results of site-specific engineering studies (e.g., soil borings, environmental survey, ground grid, etc.), unless otherwise provided by the Project Developer.
- The Project Developer will have their construction and required checkout complete prior to the energization of the AF2-173 and AG1-367 uprates to the AE1-209 project and any required testing outages.
- The projects will come in service on separate dates. Should the projects come in service at the same time, this scope may change.
- **The additional submetering scope provided assumes that a single submeter per transformer for each interconnection project will be sufficient to provide settlement data for an individually queued project.**
- **Additional submeters may be required depending on the Project Developer's final generation configuration.**
- **The additional submetering scope is intended to provide reliable data for settlement between the uprate and any originating projects and may not be necessary should the Project Developer decide to forego the installation. If in the future the uprate or originating project changes in such a way that requires settlement between the two entities, submetering will be required and may cause additional outages and expenses at that time.**

8.2 SCHEDULE ASSUMPTIONS:

- All transmission outages are subject to PJM and AEP Operations outage scheduling requirements.
- Significant scope of work changes will impact the schedule.
- The above schedule reflects only the work required to interconnect the AF2-173 and AG1-367 projects. The schedules regarding network upgrades associated with this project, if any, are detailed in the documentation related to the specific network upgrade.
- Slippage by the Project Developer in executing the Generation Interconnection Agreement (GIA) does not equate to a "day for day" slippage in the scheduled back feed and in service dates. Depending on the time of year, planned outages, neighboring projects and maintenance of the grid, outage availability has the potential to shift by weeks or months depending on conditions at the time of the fully executed agreement.

8.3 ESTIMATE ASSUMPTIONS:

- Estimates provided are based on a table-top process without the benefit of the results of site-specific engineering studies (e.g., soil borings, environmental survey, ground grid, etc.), unless otherwise provided by the Project Developer.

9. METERING REQUIREMENTS

All metering needed for this interconnection project must meet the metering requirements stated in Appendix 2, section 8 of the AF2-173 and AG1-367 GIAs, and in PJM Manuals M01 and M14D. The

details of applicable metering requirements are provided in the "Connection Requirements for the AEP Transmission System" document, found at: https://www.aep.com/requiredpostings/AEPTransmissionStudies

The primary and backup metering for the combined AF2-173/AG1-367/AE1-209 project will be installed on the Transmission Owner side of the Point of Change in Ownership and will be owned and maintained by the Transmission Owner.

Any additional generation proposed behind an originating project's PCO that differs in either fuel type or corporate entity from the originating project will require the installation of additional submetering for both the originating project and the uprate for the purpose of settlement. Submetering will require additional space within the originating project's facilities. The meters, routers, Ethernet to fiber converters, and telecom switch will be procured and owned by AEP. The revenue quality instrument transformers, fiber-optic cable connecting the submeters, and any other additional hardware for the required submetering will be procured, installed, owned, and maintained by the Project Developer.

10. LAND REQUIREMENTS FOR INTERCONNECTION SUBSTATION

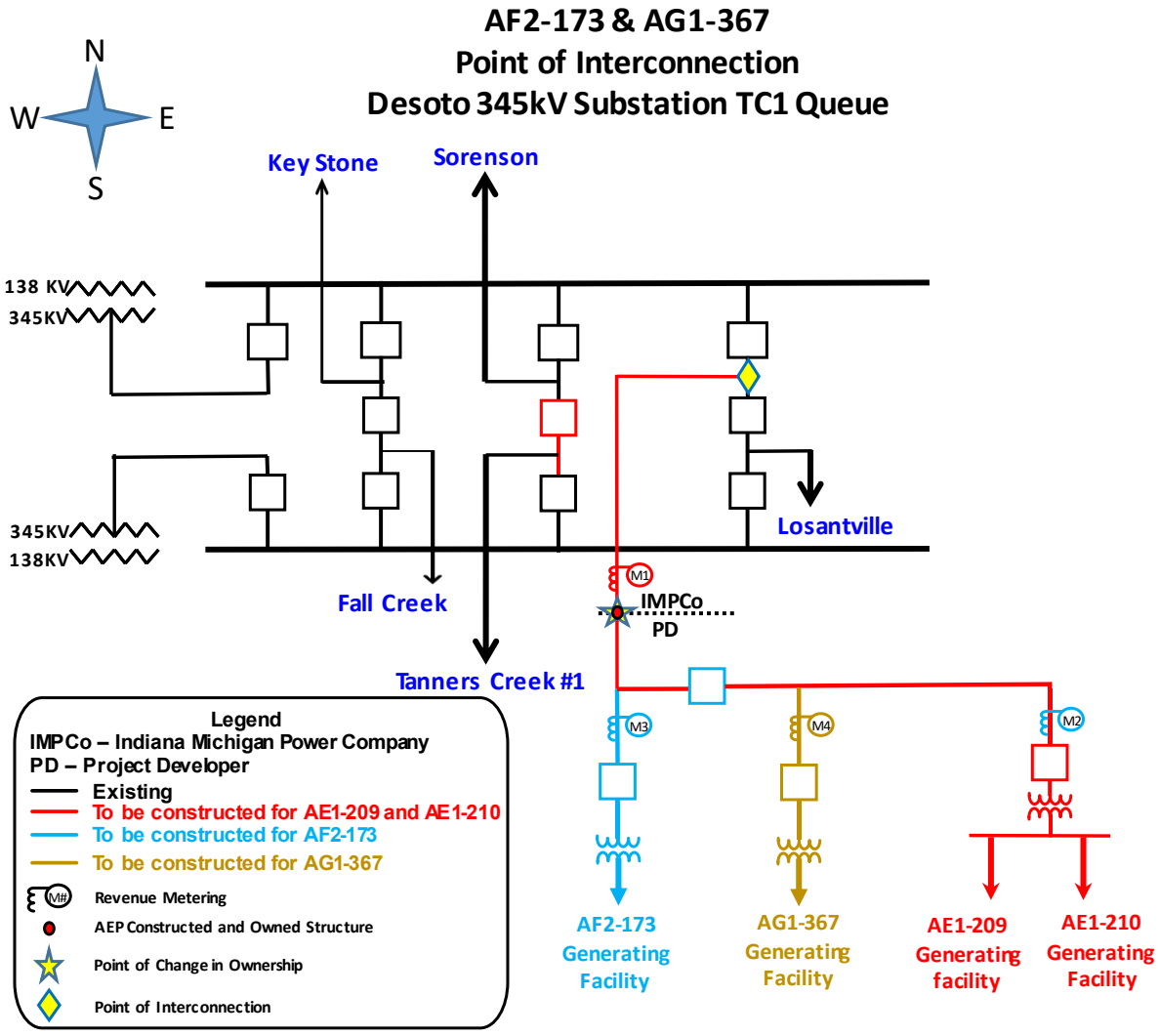
Land requirements for the Interconnection Substation needed for this interconnection project must meet the requirements in the https://www.aep.com/requiredpostings/AEPTransmissionStudies posted on AEP website.

11. ENVIRONMENTAL AND PERMITTING

The Project Developer is expected to obtain, at its cost, all necessary permits and provisions for the facilities to be constructed for this interconnection. AEP requires that the standards provided in the "Standards and Expectations for Siting, Real Estate, Right-Of-Way, and Environmental Permitting for Transmission Interconnection Projects", found at: https://www.aep.com/requiredpostings/AEPTransmissionStudies be adhered to for all facilities interconnecting with the AEP transmission system.

C APPENDICES

Attachment #1: Single line Diagram for the Physical Interconnection



Attachment #2: POI Map