Phase 2 Facilities Study Report

For

Physical Interconnection of

PJM Generation Interconnection Request

Combined

Project Identifiers AG1-436 and AG1-447

"Olive – University Park 345 kV"

Revision 0: 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, L.L.C. (PJM or Transmission Provider (TP)). The Transmission Owner (TO) is AEP Indiana Michigan Transmission Company Inc. to be abbreviated in the remainder of this report as IMTCo.

A. Transmission Owner Facilities Study Summary

1. PROJECT DESCRIPTION

The Project Developer (PD) has proposed two (2) uprates to a planned Solar Generation Facility AF2-359 located in LaPorte County, Indiana with designated PJM Project IDs of AG1-436 and AG1-447.

The AG1-436 project is a 125 MW Solar uprate (75 MW Capacity) and the AG1-447 project is a 55 MW Battery uprate (55 MW Capacity) to the AF2-359 project. The AG1-436 and AG1-447 projects will connect to the American Electric Power (AEP) proposed AF2-359 345 kV Station. The total installed facilities will have a capability of 305 MW with 205 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 proposed AF2-359 345 kV Station line termination point. The proposed AG1-436 and AG1-447 projects are uprates to AF2-359 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.
- Generation lead line conductors from the Generation Facility to the Point of Change in Ownership (shared with AF2-359)
- 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
- **Installation of the submetering equipment described below in section B.3.**
- **Instrument transformers required to provide revenue quality metering and settlement between the AG1-436 and AG1-447 project 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 AG1-436 and AG1-447 project**

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 AG1-436 and AG1-447 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 (PROPOSED AF2-359 345 KV)

- IMTCo will review and revise (as necessary) the protective relay settings at the AF2-359 proposed 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:

- IMTCo will procure one (1) metering panel with three (3) primary meters and two (2) ethernet switches to be installed in the AG1-436 and AG1-447 Project Developer's collector stations.
- IMTCo 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 backfeed date for the AF2-359 project, and a typical period for agreement processing, AEP can support a backfeed date of May 6, 2027, 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:

- Equipment specifications (Breaker ratings, conductor size, etc.) are a result of the desktop functional scoping process observed while conducting this facilities study. These specifications are subject to change based on the results of the detailed scoping efforts that will take place post-interconnection or engineering and procurement agreements.
- 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 AG1-436 and AG1-447 uprates to the AF2-359 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.**

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 AG1-436 and AG1-447 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 AG1-436 and AG1-447 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 AG1-436/AG1-447/AF2-359 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

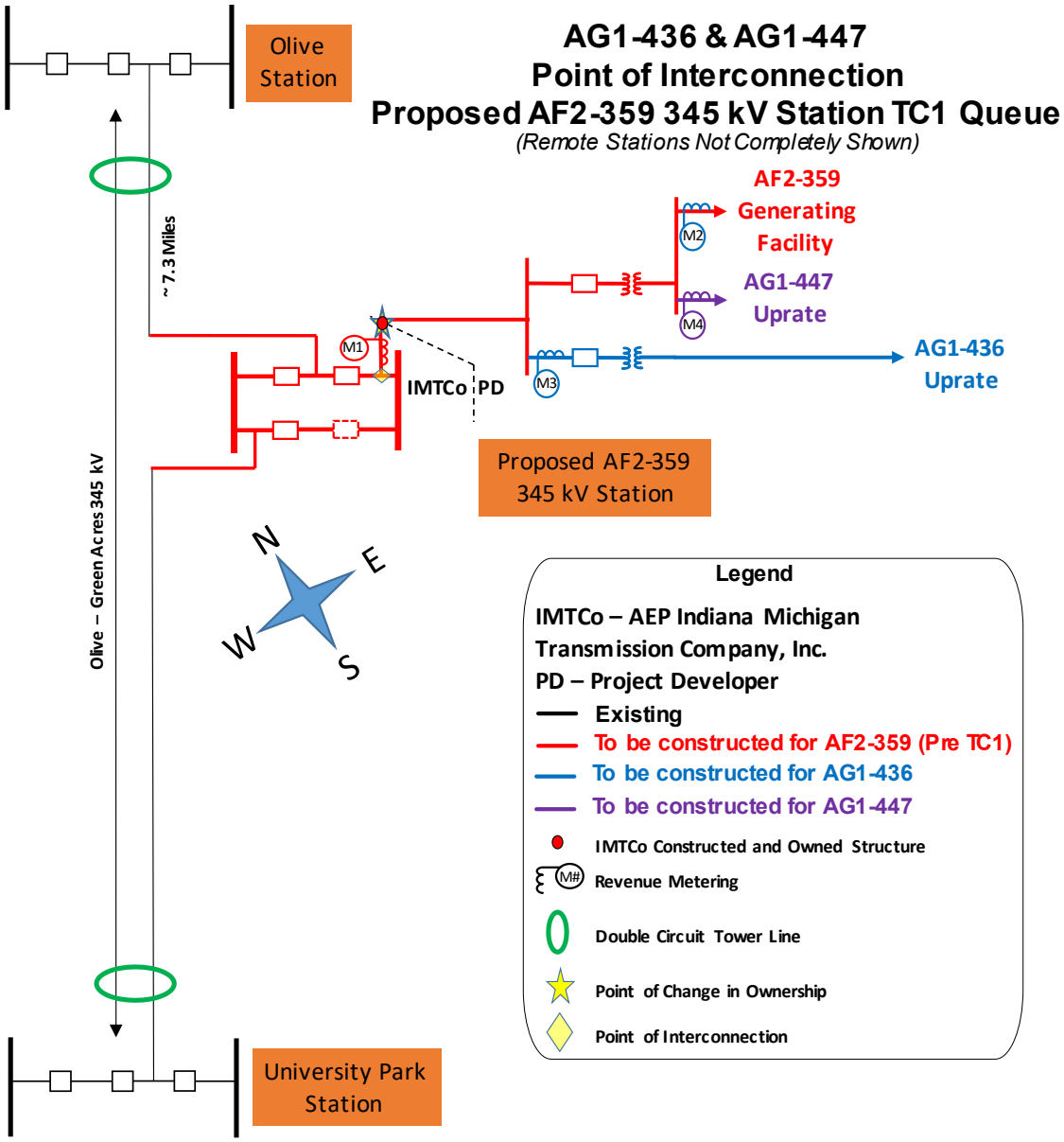
Land requirements for the Interconnection Substation needed for this interconnection project must meet the requirements in the https://www.aep.com/requiredpostings/AEPTransmissionStudies posted on AEP website.

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