Facilities Study Report

For

Physical Interconnection of

PJM Generation Interconnection Request

Project ID AH1-698

Braidwood 345 kV

Introduction

This Facilities Study has been prepared in accordance with the PJM Open Access Transmission Tariff, as well as the Application and Studies Agreement between the Project Developer and PJM Interconnection, LLC (PJM or Transmission Provider (TP)). The Transmission Owner (TO) is ComEd.

This Facility Study was performed to satisfy the Phase 2 Facility Study requirement of the PJM Tariff. The Facility Study is intended to provide scope, cost and schedule estimates for the project as currently defined and approved for Phase 2 study. In the event project changes are made during DP2 that impact this report, updates will be provided as part of the Phase 3 report. Following execution of the project's final agreement, this report will not be updated to account for other changes made as part of the agreements modification clause and instead the scope change process will be followed.

A. Transmission Owner Facilities Study Summary

1. PROJECT DESCRIPTION

The Project Developer (PD) has proposed an uprate to a planned/existing nuclear Generating Facility located in Will County, IL with a designated PJM Project ID of AH1-698.

This project is an increase to the existing V4-048 and V4-049 projects, and will share the same Point of Change in Ownership.

The AH1-698 project is a 130 MW uprate (57.6 MW Capacity uprate) to the previous projects. The total installed facilities will have a capability of 2584 MW with 2,389.9 MW of this output being recognized by PJM as Capacity.

2. POINT OF INTERCONNECTION (POI)

The Generating Facility will interconnect with the ComEd transmission system via a direct connection into STA 20 Braidwood 345 kV substation.

The proposed generation interconnection is shown on the single line diagram in Attachment #1.

3. POINT OF CHANGE IN OWNERSHIP

The Point of Change in Ownership will be located at the first dead-end structure inside STA20 Braidwood Substation Fenceline.

4. SCOPE OF PROJECT DEVELOPER INTERCONNECTION FACILITIES

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

4.1. The PD is responsible for a 130MW uprate of the existing turbines.

4.2. All changes to topology, including generation, must be modeled during the Phase 1 study for PRC-027 compliance. A protection system coordination study is required for new BES buses or when there is a 15% (or greater) change in the fault current for an existing BES bus. Settings changes may be required per the outcome of this coordination study.

- The PD will be responsible to request and bear the cost of any outages required on existing transmission or distribution lines that may be required for the transport of any large equipment, i.e. turbines, rotors, turbine structures, etc.

B. Transmission Owner Facilities Study Results

The following is a description of the planned Transmission Owner facilities for the physical interconnection of the proposed AH1-698 project to ComEd transmission system. These facilities shall be designed according to ComEd Applicable Technical Requirements and Standards. Once built, ComEd will own, operate, and maintain these Facilities.

1. TRANSMISSION OWNER INTERCONNECTION FACILITIES:

The ComEd Interconnection Facilities will include existing 345 kV dead-end structure and foundation [within the fence of the Interconnection Substation, to terminate the Project Developer's generator lead line.

2. Line conductor from the [dead-end structure to the bus position in the switchyard of the interconnection substation.
3. One (1) Motor Operated Disconnect (MOD) Switch.
4. Foundation and structures
5. CT/PT combination units, meters and associated equipment to meter each unit #1 and #2.

2. STAND ALONE NETWORK UPGRADES

Not applicable.

3. NETWORK UPGRADES

The Network Upgrades will include, but not be limited to, the following.

Expanding existing TO substation:

Sta 20 Braidwood Upgrade

The existing substation Sta 20 Braidwood 345 KV, will be upgraded to interconnect the project with the ComEd transmission system.

- STA 20 Braidwood
    - Review and reset relay settings for 345kV L0103, L0104, L2001 & L2003, L2002 and L2004. Retain existing relays.
    - Coordinate as needed with Braidwood Nuclear Generating Facility to review and reset relay settings.
    - Update fault data in CAPE; check for PRC-027 requirements.
    - Modify mimic boards as required and install new panel is needed

Upgrades to neighboring facilities:

- STA 1 Lasalle
    - Review and reset relay settings for 345kV L0103 & L0104. Retain existing relays.
- TSS 66 East Frankfort
    - Review and reset relay settings for 345kV L2001 & L2003. Retain existing relays.
- TSS 905 Essex
    - Review and reset relay settings for 345kV L2002. Retain existing relays.
- TSS 86 Davis Creek
    - Review and reset relay settings for 345kV L2004. Retain existing relays

4. OTHER SCOPE OF WORK

Review and update if required the ComEd-owned AMI metering and revenue grade metering for generator outputs and auxiliary power requirements. Revenue grade metering must meet the requirements established by the published EED interconnection guidelines. The metering equipment will be sized to properly meter the output when the generation is in online as well as metering power supplied from the ComEd system for generator aux. power requirements when the generation is offline. Metering shall include registration of the generator output and auxiliary power usage. Install 345kV standard interconnection metering and telemetry to ComEd TSO including CB Status, MW, MWAR, MWh, and voltage values.

5. MILESTONE SCHEDULE FOR COMPLETION OF COMED WORK

Facilities outlined in this report are estimated to take 12 months to construct, from the time the Generation Interconnection Agreement is fully executed. This schedule is may be impacted by the

timeline for procurement and installation of long lead items, the ability to obtain outages to construct and test the proposed facilities.

Description	Start month	Finish month
Detailed Design	1	6
Construction	7	12

6. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

This study is based on the Phase 2 System Impact Report for PJM Generation Interconnection New Service Request Project AH1-698. The steady-state voltage study for stability analysis will be performed by PJM during the Facility Phase. The PJM study could identify upgrades to the ComEd system that would become part of this project's scope of work. It is assumed that all associated network upgrades, as listed in the above System Impact study, are complete prior to this Queue Position being placed in service.

This cost estimates assume that work will be performed during normal weekdays and with no overtime. Transmission line outages for construction have not been identified, but generally are available from September to May. These outages are controlled by PJM.

Costs are based on 2026 rates and do not reflect a potential increase in Labor or Material costs after 2026.

ComEd cost estimate is valid for six (6) months after Facilities Study release by PJM.

The Project Developer will be responsible to request and bear the cost for relocation of existing transmission or distribution lines (including structures and other facilities) that may be required for transmission line crossings, the transport of any large equipment, such as turbines, rotors, turbine structures, cranes, etc. Formal submittal of this request to ComEd's TSO for ultimate review by PJM can be made 7 months prior to back feed request date.

All upgrades to facilities included in this document will be required to meet latest ComEd standards.

Upgrades are subject to change based on detailed design development.

ComEd will complete pre-design and post construction survey for the transmission and substation upgrades, as required. This includes, but is not limited to, the LIDAR survey and video imaging for transmission lines. Costs associated with this are at the expense of the Project Developer. Pre-design survey must be completed prior to detailed engineering.

This Facilities Study is time dependent. If the project is not into construction within one year of the issuance, the study will be void and the project re-studied, requiring the completion of a new Facilities Study.

It is assumed that all associated network upgrades, as listed in the Phase 1 study, are complete prior to this New Service Request Project being placed in service.

This facilities study report (FSR) assumes that generator output and plant auxiliary power consumption can both be metered with revenue accuracy as described. The final revenue metering configuration and equipment will be confirmed, and may be revised, during detailed engineering following execution of the Generator Interconnection Agreement (GIA).

7. REVENUE METERING REQUIREMENTS

All revenue metering needed for this interconnection project must meet the metering requirements stated in Appendix 2, section 8 of the AH1-698 GIA, and in PJM Manuals M01 and M14D. The details of applicable revenue metering requirements are given in the 'ComEd Interconnection Guidelines" posted on PJM website.

The revenue metering will be installed on the ComEd side of the Point of Change in Ownership, owned and maintained by ComEd.

REVENUE METERING FOR PJM AND COMED

The revenue meter measures the wholesale energy output (Hourly compensated net MWH and Hourly compensated net MVARH) of the Generating Facility.

The metering equipment, including revenue meter shall be installed, at Project Developer's expense, at the interconnection substation on ComEd side of the Point of Change in Ownership.

ComEd shall own, operate, maintain, inspect, and test all the metering equipment as set forth in 'Testing of Metering Equipment' section of the PJM Tariff, at the Project Developer's expense.

REAL-TIME METERING FOR PJM

The Project Developer shall install, own, operate, maintain, inspect, and test real-time metering equipment to measure and transmit directly to PJM the real time MW, MVAR, voltage and status of electrical equipment such as circuit breakers and Motor Operated Disconnect switches, in conformance with the requirements listed in PJM Manuals M-01 and M-14D, at the Project Developer's expense.

RETAIL METERING FOR COMED

The AMI Meter measures the energy consumption by the Project Developer at transmission level and hence shall be designed to measure low MW flow.

The metering equipment including AMI Meter shall be installed at the interconnection substation on ComEd side of the POI, at the Project Developer's expense.

ComEd shall own, operate, maintain, inspect, and test all the metering equipment as set forth in the 'ComEd Interconnection Guidelines'.

BATTERY CHARGE METER FOR COMED

FERC Order 841 designates inflow to charge battery storage facility as wholesale power. To separately measure the power inflow to charge the battery and bill it at wholesale rate, the Project Developer needs to install the following equipment.

Battery Charge Meter including Current Transformer/Potential Transformer (CT/PT) at the output terminal of the battery storage facility to measure power inflow from transmission system to charge the battery storage facility.

Fiber cable to provide communication link to transmit Battery Charge Meter data to the ComEd SCADA system.

8. LAND REQUIREMENTS FOR INTERCONNECTION SUBSTATION

No additional easements, access rights, or temporary or permanent real property rights or acquisitions were identified as required for network upgrades to the ComEd system or for the project to interconnect at this location within this study. However, as further needs are assessed in detailed engineering, design and/or construction activities, if it is determined that there is a need for easements, access rights, or temporary or permanent real property rights or acquisitions, the developer is fully responsible for the costs to acquire these required land rights. Also, as necessary, the schedule will be adjusted accordingly to account for the necessary time to obtain these required land rights. All easements, access rights, or temporary or permanent real property rights or acquisitions shall comply with all ComEd requirements as detailed in “Land requirements for Interconnection Substations”.

9. APPLICABLE TECHNICAL REQUIREMENTS AND STANDARDS

- ComEd Interconnection Guidelines (For Generators at Transmission Level), Rev. 2, Dated 12/16/2021
- ComEd Guidelines on Land Requirements for Interconnection Substations, Rev. 2, Dated January 2026

10. ENVIRONMENTAL AND PERMITING

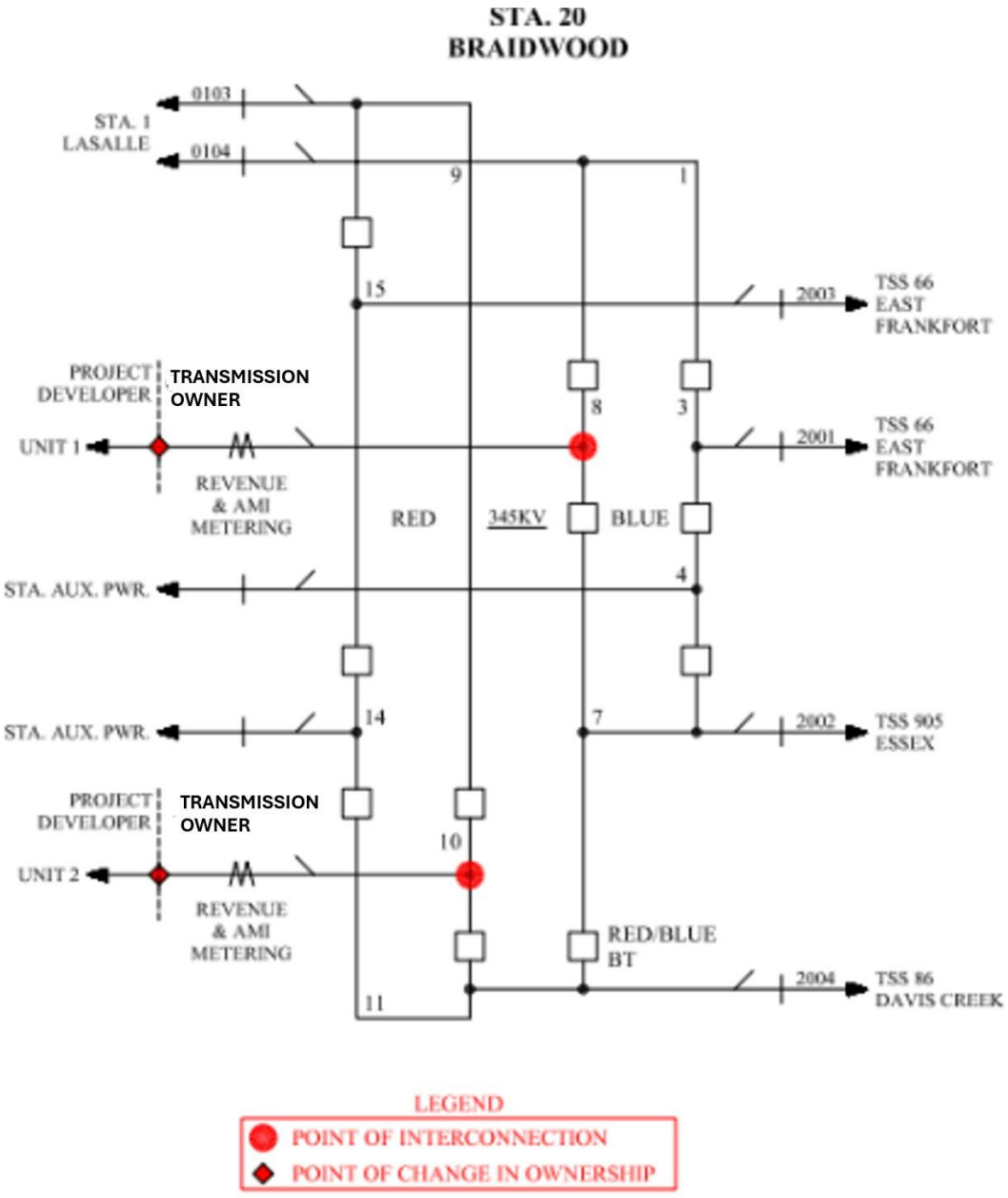
- No environmental concerns and/or permitting requirements were identified as needed by this study. However, should detailed engineering and design and/or construction activities identify the need for an environmental study and/or permit requirements, the developer is fully responsible for the costs related to any environmental study, any actions to address the identified environmental impacts and the permits. Also, the schedule will be adjusted accordingly to account for the necessary time to perform the environmental study, address the identified environmental impacts and to obtain the permits, if applicable. All environmental studies, actions to address environmental impacts and permit actions shall comply with all ComEd requirements as detailed in "ComEd Environmental Requirements for Third Party Developers”, and with all local, city, county, state, and federal requirements.

C. APPENDICES

Attachment #1: Single line Diagram for the Physical Interconnection

Attachment #1:

High Level Planning Diagram Depicting Interconnection Facilities and Points of Ownership/Demarcation


STA. 20
BRAIDWOOD
0103
STA. 1
LASALLE
0104
9
1
15
2003
TSS 66
EAST
FRANKFORT
PROJECT
DEVELOPER
TRANSMISSION
OWNER
8
3
UNIT 1
2001
TSS 66
EAST
FRANKFORT
REVENUE
& AMI
METERING
RED
345KV
BLUE
4
STA. AUX. PWR.
14
7
STA. AUX. PWR.
2002
TSS 905
ESSEX
PROJECT
DEVELOPER
TRANSMISSION
OWNER
10
UNIT 2
REVENUE
& AMI
METERING
RED/BLUE
BT
2004
TSS 86
DAVIS CREEK
11
LEGEND
POINT OF INTERCONNECTION
POINT OF CHANGE IN OWNERSHIP