Facilities Study Report

For

Physical Interconnection of

PJM Generation Interconnection Request

Project ID AH1-341

ESS-H445 3B 138kV

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 a solar Generating Facility located in Ogle County, Illinois, with a designated PJM Project ID of AH1-314. The installed facilities will have a total Maximum Facility Output (MFO) of 150 MW with 96.6 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 newly constructed 138kV breaker and a half substation, TSS 920 Flagg Road, tapping the TSS 107 Dixon – TSS 176 Stillman Valley 138kV line, L.10721, approximately 20 miles from TSS 107 Dixon and 13.8 miles from TSS 176 Stillman Valley.

The construction of the new interconnection substation will result in the splitting of the existing TSS 107 Dixon – TSS 176 Stillman Valley 138kV line, L.10721 into two lines on the transmission system. The new L.92002 will connect TSS 920 Flagg Road to TSS 176 Stillman Valley and L.10721 will connect TSS 920 Flagg Road to TSS 107 Dixon.

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

3. POINT OF CHANGE IN OWNERSHIP

The Point in Change of Ownership will be located at the first dead-end structure of L.92001 inside the TSS 920 Flagg Road interconnection substation fence line.

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:

- One (1) 138kV gas circuit breaker

- One (1) 138kV disconnect switch
- One (1) 138kV generator lead line, 138kV L.92001, from the Generating Facility to the Point of Interconnection.
- For 138kV line L92001, GIC Project Developer to install standard ComEd 138kV Project Developer interface relaying for the remote end of a DSS G2 station consisting of a dual SEL-411L-1 current differential scheme per GDD1940.
    - Project Developer to send a Transfer Trip to TSS920 Flagg Rd for TR 138kV CB Breaker Failure. Ability to isolate 87L and Direct Transfer Trip (DTT) functions is required. Example scheme/settings can be provided by ComEd.
    - The GIC interface relaying will be the only point of interface with ComEd relaying. Current contributions from all breakers to be combined and wired to 411L for 87L scheme.
- Install three (3) 1200:1 CCVTs on 138kV side of power transformers to be used for System 1 and System 2 relay protection.
- Project Developer to provide transformer test reports for the step-up transformers, to be used for ComEd short circuit modeling. Test reports to include %Z Impedance and load loss.
- At AH1-341 Kyte River collector station, in general, Generation Interconnection to follow section 6.1 (Design F) of the latest version of ComEd Interconnection Guidelines for Generators at Transmission Level (Rev 2: Effective 12/16/2021).
    - New gas circuit breakers to auto trip and isolate for critical gas level.
    - New Tie Line terminal relay types to be the same as ComEd terminal relays. This includes relay firmware versions.
    - ComEd Protection and Control Engineering must review all Project Developer relay protection design drawings and relay settings.
    - Project Developer equipment impedance and/or test data must be provided to ComEd Protection and Control Engineering to model in a short circuit program. Examples include lines, transformers (include percent impedance and load loss), wind turbines, and inverters.
    - Project Developer to include over/under frequency and voltage protection at wind/solar farm collector bus.
    - Suggested settings will be provided by ComEd
    - Dual bus protection for secondary buses.
    - Dual TRFM protection and site protection must be compliant with NERC & PJM requirements.
    - Metering is required to be installed per ComEd & PJM standards.
    - SCADA interface to ComEd will be required.
    - Witness testing by ComEd or a DA will be required and must be pre-scheduled at least 90 days in advance.
- New Gas Circuit breaker control for loss of SF6 gas condition should be as follows (see Engineering practice EP-5206-E):

    - For an open circuit breaker, when SF6 gas drops to the critical level, the close circuit of breaker shall be opened and motor operated disconnects on both sides of CB shall be opened.
    - For a closed SF6 gas circuit breaker, when SF6 gas drops to the critical level, the circuit breaker shall be opened and motor operated disconnects on both sides of CB shall be opened and the close of the circuit breaker shall be opened.
- For any new equipment connected to the BES (Bulk Electric System rated at 100kV or above) the associated primary/System 1 and secondary/System 2 protective schemes to have a minimum redundant:
    - Connected CTs (where available)
    - PT secondary (where available)
    - DC control circuits
    - Auxiliary trip relays
    - Circuit breaker trip coils (where available)
    - Communication circuitry
- Relay and protective equipment, telecommunications equipment, and Supervisory Control and Data Acquisition (SCADA) to comply with ComEd's Applicable Technical Requirements and Standards. 345kV L.92203 will require two Single Mode Fiber paths from TSS 920 Flagg Rd to the developer substation control building AH1-341. One fiber path will be dedicated for System 1 relays/schemes, and the other will be dedicated for System 2 relays/schemes. These fiber paths will need to be physically diverse from each other, and each should contain a minimum of 48 Single Mode Fibers. Both fiber cables will be owned and maintained by the Project Developer, and the demarcation of ownership will be in an FDP within the TSS 920 Flagg Rd control building
- Power output from the Project Developer site shall be in accordance with the power quality standards contained in the IEEE Standard 519. The generating units and all associated equipment at the Project Developer site shall not introduce any distortion of ComEd's waveform or telephone or carrier interference that is inconsistent or conflicts with such standard.
- 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 fault current for an existing BES bus. Setting changes may be required per the outcome of this coordination study

B. Transmission Owner Facilities Study Results

The following is a description of the planned Transmission Owner facilities for the physical interconnection of the proposed AH1-341 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, but not be limited to, the following:.

- A 138kV dead-end structure and foundation within the fence of the Interconnection Substation, to terminate the Project Developer's generator lead line.
- Line conductor from the dead-end structure to the bus position in the switchyard of the interconnection substation.
- One (1) Motor Operated Disconnect (MOD) switch rated 3000A continuous with ACCC D06.
- Three (3) metering CTs, three metering CCVTs, or a combination unit, meters, and associated equipment to meter L.92001.
    - Install equipment necessary to provide bi-directional revenue metering (kWH, kVARH) and real time data (kW, kVAR, and circuit breaker status and 138kV voltage) for 138kV L.92001, on the ComEd side of the POI per ComEd applicable standards.
- Three (3) surge arrestors
- Foundations and structures

2. STAND ALONE NETWORK UPGRADES

For new interconnection substation:

TSS 920 Flagg Road Interconnection Substation

A new breaker and a half substation, TSS 920 Flagg Road 138kV, will be constructed along the L.10721 138kV transmission line to interconnect the project with the ComEd transmission system.

- Two (2) 138kV transmission line dead-end structures with testing to check proper phase and identification is correct.
- Six (6) 138kV station class surge arrestors.
- Three (3) 138kV circuit breakers breakers rated 3000A continuous, and interrupting capability of 63kA at -40°F. Circuit breaker to be equipped with a motor operated disconnect switch (MOD) on both sides of the breaker. All equipment associated with the breaker termination should meet or exceed the thermal capability of the breaker including CB disconnects, leads, CTs, metering, relays, etc. Nameplates to reflect actual maximum capability of equipment (NOT minimum requirements specified).
- Eight (8) 138kV motor operated breaker disconnect switches: one (1) on each side of the 138kV circuit breakers and one (1) for each 138kV transmission line (L.10721, and L.92002). These disconnect switches shall have the same minimum thermal capability as the circuit breakers above and therefore be rated 3000A continuous, with ACCC D06.
- Nine (9) 138kV CCVT's, 1200:1, without carrier accessories used for System 1 and System 2 relay protection (3 CCVT's for each 138kV Bus).
- One (1) 138kV generator lead line, 138kV L.92001, from the Generating Facility to the Point of Change in Ownership.
- Foundations and structures for all new equipment.

- A 138kV control building to ComEd specifications to accommodate battery chargers, AC/DC panels, protective relaying, communication, SCADA, metering equipment, etc. 125 VDC battery system, DC distribution panels, System 1 and System 2 relay panels, marshalling cabinet, aux AC power panels, building HVAC system, fire/security system, SCADA, metering equipment, and battery monitoring. Building shall be masonry or precast.
- All 138kV circuit breakers are required to have a SEL-2411 relay pre-installed inside of the breaker control cabinet for monitoring. Multimode fiber from the yard to the control building is required.
- The substation relaying will employ IEC 61850 “Generation 2” design using GOOSE tripping (all ComEd schemes) but no Sample Values schemes. During detailed engineering, consult Relay Engineer for latest standards / references.
- For all new outdoor 138kV GCBs, for SCADA controls and 50BF/79/25 functions, use dual SEL-451 relays for S1 and S2. Hardwire Bus pots to SEL-451 for synch closing. Hardwire critical gas trips to breaker MODs. Auto-reclosing will be enabled on all Overhead lines, if applicable. Both relays will be in a relay cabinet to be located near the breaker with MB connection between relays and wired to trip and close the CB. The relays can also be located inside the control building depending on the station layout. Utilize 3000:5 C800 CTs for all new 138kV SF6 gas circuit breakers.
- For 138kV line L.92001, install System 1 87L-1/SEL-411L-1 and a System 2 87L-2/SEL-411L-1 current differential scheme over two direct fiber paths with step distance as a backup. Utilize full 3000:5 CT ratio for both systems of line relaying. DTT will be internal to the relay. In addition, install SEL-2411 for load rejection logic such that transfer trip is initiated on both System 1 and System 2 relaying to PD site if both BT 1-2 and BT 2-3 at TSS 920 are opened. CB status from SEL 451s will be published to SEL-2411.
- For 138kV L.10721, install dual SEL-411Ls performing line current differential (87L) over direct fiber for System 1 and ComEd Rock River Ring network for System 2. Utilize 3000:5 C800 CTs for both line relaying. DTT will be internal to the relays.
- For 138kV L92002 (previously L10721), install dual SEL-411Ls performing line current differential (87L) over direct fiber for System 1 and ComEd Rock River Ring network for System 2. Utilize 3000:5 C800 CTs for both line relaying. DTT will be internal to the relays.
- For all new 138kV SF6 Gas CBs connected to the ComEd system shall auto trip and isolate for critical gas levels. Compliance with ComEd Engineering Practice 5206E (EP-5206E) is required. Specifically, the SF6 Gas CB shall have a set of CB motor operated disconnects (MODs) for auto isolation from both line and bus side.
- Install a control cabinet in the yard located adjacent to the line MODs. Cabinet to contain SEL-2411 relay for Remote Trip, Close, “89a”, “89af”, “89b”, & “89bf’ statuses to be sent to SCADA. Include local FDP in the cabinet with redundant single mode fibers.
- Fiber, All Network devices to be installed with provisions for the future devices.
    - Only Station Bus Fiber to be used consisting of two independent networks (SDN switches).
    - All Station Bus fiber will be run in Panduit covered fiber through and will be OM3 50mm MM Fiber, 12 count jumper.
    - Jumpers will be spliced in a Main FDP Cabinet. One Main FDP for each A & B Network. Main FDP will have LC Connected jumpers to the SDN Switches.
    - Remote end of OM3 fiber jumpers will be spliced into a Corning DIN Rail Mount FDP.

    - Local LC Connectors will be used to go between the Local A or Local B FDP to the S1 and S2 5A & 5B ports respectively.
- Install a Phasor Data Concentrator (PDC) cabinet.

SCADA network will be based on 61850 design.

One (1) SCADA Cabinet:

- One (1) SEL-2731 SCADA WAN Switch (2731#KR58)
- One (1) SEL-3555 RTU RTAC (3555#QP5W)
    - Install one pair of serial fiber connections for each Project Developer RTU data exchange to be coordinated with ComEd SCADA Engineering:
        - Breaker statuses
        - MW, MVAR, MWh and voltage values
- One (1) SEL-3555 ENG RTAC (3555#QP5W)
    - with mouse, keyboard, and monitor on the engineering desk
- One (1) SEL-3555 PDC RTAC (3555#QP5W)
- Two (2) SEL-3555 HMI RTAC (3555#QP5W)
    - with mouse, keyboard, and monitor on the operator desk
- One (1) Omicron Station Scout RBX1
- One (1) Local/Remote Switch, wired to I/O DPAC 1 IN101
- One (1) SEL-3350 Blueframe with DMA
- If a new ComEd-owned revenue meter is required by Metering Group, connect to IP switch architecture.

Two (2) Station Bus Cabinets, each with:

- One (1) SEL-2488 GPS Clock
- One (1) SEL-3350 Blueframe with Flow Controller
- SEL-2741 Station Bus Switches
    - Relay Engineering to determine the topology and number of switches
- One (1) SEL-2440 I/O DPAC, 48 Digital Inputs
- One (1) RSG-910C Access Switch

One (1) Desk Hoffman Box with:

- DC to AC Inverter
- One (1) 2x2 Ethernet RJ45 Patch Box with connections to:
    - Station Bus A via RSG-910C
    - Station Bus B via RSG-910C
    - SCADA WAN via SEL-2731
    - Corporate Access via UCOMM patch panel

One (1) Operator Desk with:

- Two (2) 27” Monitors (HMI 1 and HMI 2 RTACs)
- Two (2) Keyboard and Mouse
- One (1) Ergotron LX Dual Mount Stacking Arm

One (1) Engineer Desk with:

- Two (2) 27” Monitors (ENG RTAC and Spare)

- Two (2) Keyboard and Mouse
- One (1) Ergotron LX Dual Mount Stacking Arm

One (1) UCOMM Rack (if designated Low Impact by Transmission Planning)

- One (1) Nokia 7705 SAR-H MPLS Router
- One (1) Check Point 1570R Firewall
- One (1) SEL-2730U Corporate Access Switch
- Connect metering group-provided revenue meter to station IP architecture.
- Witness testing by ComEd is required.
- Install normal and emergency sources to provide three-phase 208Y/120 VAC auxiliary power through local service request process. The normal and emergency sources shall be supplied from diverse 12kV or 34kV sources and approved by local utilities planning group.
- For any new equipment connected to the Bulk Electric System, rated at 100kV or above, ComEd requires the associated System 1 and System 2 protective schemes to have a minimum redundancy; connected CTs, PTs, DC control circuits, auxiliary trip relays, circuit breaker trip coils, and communication circuitry.
- AH1-314 Kyte River Solar Farm switchyard ground grid shall not be tied to TSS 920 Flagg Road ground grid.
- Dedicated site drainage pond shall be provided for the new TSS 920 Flagg Road substation in addition to the substation footprint and to be exclusively used by ComEd.
- Drainage pond property and storm water piping system shall be conveyed to ComEd.
- The PD will be responsible for the cost of security system design and installation. Substation security level and requirements shall be assigned/determined by Exelon Security Operations. All fencing and security design shall be coordinated with and approved by Exelon Security team
- All relaying is to be in accordance with PJM Protection Standards.
- All new or upgraded facilities are to be in accordance with the PJM Transmission 7 Substation Design Subcommittee Technical Requirements.
- It is the responsibility of the PD to obtain any permitting required for this project. See environmental section for details.
- Bus, insulators, supports, and equipment leads shall follow ComEd standards.

Installation of Auxiliary Power Services (3PH – 12kV)

- Normal Source – B646 – Proposed tap location is located South of the intersection of E Flagg Rd & Daysville Rd, Oregon, IL. Scope includes adding approximately 750’ of 3PH primary cable and duct along Daysville Rd. The new duct connection point with the substation can potentially be combined with the required fiber routing to eliminate multiple alignments. Proposed padmount transformer sizing is assumed to be 500KVA
- Emergency Source – B541 – Proposed tap location is located South of Capacitor# 2872622C along Daysville Rd. Due to lack of diversity it in the area, it was assumed that the new primary

extension will take be an underground installation. The proposed distance covers approximately 10,150' of new primary cable and duct. If an overhead solution is desired, a C-Phase extension of B541 to EMC# 287354S1 may be viable. This alternate route would include 6,000' of overhead scope and approximately 4,400' of underground cable and duct. The existing pole line is double circuit and may still be a costly solution pending replacement requirements. There is the potential for overlap in scope between an overhead solution and fiber make-ready requirements. Proposed padmount transformer sizing is assumed to be 500KVA. This route includes a TROW crossing. Capacity Planning input is required to determine best path forward.

3. NETWORK UPGRADES

Transmission Line Tie-in for new interconnection substation:

The L10721 Dixon-Stillman Valley 138kV line will be cut and looped into the new interconnection substation.

The new conductor type will be TP 556.5 kcmil 24/7 Parakeet ACSR and the new shield wire type will be 7#6 Alumoweld. Approximately 1.14 circuit miles of conductor and shield wire will be installed to facilitate the cut-in.

The following structure replacements and installations are required for the cut-in to TSS 920 Flagg Rd substation:

Structure Number	Line Number	Existing Structure Type	Comments
74-NEW	L10721	1-95'-3H 2-100'-1	Replace with new single-circuit horizontal configuration dead-end steel pole.
74D-NEW	L10721	n/a	Install new single-circuit vertical configuration dead-end steel pole.
75D-NEW	L92002	n/a	Install new single-circuit vertical configuration dead-end steel pole.
75-NEW	L92002	2-110'-1 "A"	Install new single-circuit vertical configuration dead-end steel pole.

Upgrades to neighboring facilities:

TSS 107 Dixon

- For 138kV L.10721, a preceding project shall install dual SEL-411Ls performing line current differential (87L) over direct fiber with step distance as a backup. DTT will be internal to the relays. Modify and reset settings for existing relays.
- Install new SEL-3350 Transmission RTAC. Install new dual RST2228 aux switches for new

IP relays

- Update remote end destinations to TSS 920 Flagg Road.

TSS 176 Stillman Valley

- For 138kV L.92002, a preceding project shall install dual SEL-411Ls performing line current differential (87L) over direct fiber with step distance as a backup. DTT will be internal to the relays. Modify and reset settings for existing relays.
- Install new SEL-3350 RTAC. Install RST2228 Master Switch (replacing existing Magnum 6K25) and dual RST2228 aux switches for new IP relays. Replace SEL-2407 GPS clock with SEL-2488
- Update remote end destinations to TSS 920 Flagg Road.

Installation of fiber cable circuits

- Build Fiber path from TSS 920 Flagg Rd to existing Fiber to TSS 176 Stillman Valley, consisting of approximately 150' of new underground fiber. No major crossings expected due to proximity to new station. Existing fiber runs along pole line on West side of Daysville Rd. Use this fiber path for L.92002 System 1 and System 2 relays, and this fiber would be Single Mode, minimum 48-ct. The path between TSS 920 and TSS 176 shall be physically diverse from the fiber path to TSS 107 and will be owned and maintained by ComEd. It is proposed to utilize portions of existing fiber ring TBON37 to reduce the installation of new facilities between TSS 920 and TSS 107. This item is pending UComm approval and may impact overall distances if unable to use.
- Build Fiber path from TSS 920 Flagg Rd to existing Fiber to TSS 107 Dixon, consisting of approximately 8,200' of new overhead fiber, and 300' of new underground/bore fiber. As the existing facilities are strand & lash, it is assumed the new fiber tap can be lashed to the existing line. Use this fiber path for L.10721 System 1 and System 2 relays, and this fiber would be Single Mode, minimum 48-ct. The path between TSS 920 and TSS 107 shall be physical diverse from the fiber path to TSS 176 and will be owned and maintained by ComEd.
- Project Developer to install, own, and maintain two (2) Single Mode Fiber paths between TSS 920 Flagg Road and Project Developer AH1-341 Kyte River Solar Farm that are physically diverse from each other. One path will be for Primary Relays, and the other path will be for Secondary Relays. Each fiber path should be a minimum of 48 fibers in each cable. IPP fiber demarcation will be FDP within the Substation control building.

4. OTHER SCOPE OF WORK

This section is not applicable.

5. MILESTONE SCHEDULE FOR COMPLETION OF COMED WORK

Facilities outlined in this report are estimated to take 48 months to construct, from the time the Generation Interconnection Agreement is fully executed. This schedule 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	16
Permitting	16	36
Construction	36	48

6. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

- ComEd estimate assumes that TSS 920 Flagg Road is a low impact site (low security requirements). Chain link fencing, non-motorized gate, and no cameras.
- 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.
- This study assumes that pursuant to PJM's site control requirements, the Project Developer is responsible for the acquisition of any land rights required for construction of a new substation.
- 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.
- Foundation design assumes typical soil conditions at locations and will be subject to change after soil boring tests.
- 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 study assumes that there will be no additional right-of-way and/or easement work required.
- This Facilities Study is time-dependent. If the project is not into construction within one year of 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.
- It is assumed no underground conflict exists in the area of the new substation. Survey of the property will be acquired. The Project Developer will be responsible for the cost of the survey.
- It is assumed that ComEd facilities included in this document will not require a sound study.
- TSS 920 Flagg Road shall be designed for a 100-year BFE (base flood elevation) + 3ft at minimum. A flood study should be done early on to determine if any flood mitigations are needed such as elevating foundations.
- This study assumes the Project Developer will remove any trees and mitigate any wetlands present in the property that would restrict the cut-in to new TSS 920.
- Project Developer to upload as-built drawings to ComEd drawing system (Meridian).
- This document assumes that the Project Developer has completed, tested, and conveyed to ComEd the new TSS 920 substation (per ComEd guidelines) and transmission line tie-in up to the existing ComEd right of way to allow for the 138kV line energization and back feed.
- All real property conveyed in fee to ComEd must be remediated to and all real property to which real property rights are transferred to ComEd (as determined in ComEd's discretion) must be remediated to IEPA's Tiered Approach to Corrective Action.
- ComEd estimate does not include costs of design and construction of AH1-341 Kyte River Solar substation, and transmission as described in Project Developer scope of work. ComEd estimated schedule is based on GIA/CSA contract being executed by all parties

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 AH1-341 GIA, and in PJM Manuals M01 and M14D. The details of applicable revenue metering requirements are given in the 'ComEd Interconnection Guidelines' posted on the 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 and CT/PT 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 and CT/PT 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'.

8. LAND REQUIREMENTS FOR INTERCONNECTION SUBSTATION

Land requirements for the Interconnection Substation needed for this interconnection project must meet the requirements in the 'ComEd Interconnection Guidelines' and 'ComEd Guidelines on Land Requirements for Interconnection Substations' posted on PJM website.

Upon completion of the construction and installation of the interconnection substation, the tie-line, access road, stormwater detention facility and related improvements and facilities, and the satisfactory completion of testing of the interconnection substation acceptable to ComEd, the Project Developer shall transfer all the Property Rights and Permits to ComEd, at no cost or expense to ComEd, pursuant to documentation that is acceptable to ComEd, including (without limitation) the Property Transfer Documents in fee simple.

All real property conveyed in fee to ComEd must be remediated to and all real property to which real property rights are transferred to ComEd (as determined in ComEd's discretion) must be remediated to IEPA's Tiered Approach to Corrective Action Objectives (TACO) Tier 1 residential remediation standards.

Pursuant to PJM's site control requirements, the Project Developer is responsible for the acquisition of any land rights required for construction of a new substation. As such, the estimated total cost and schedule contemplated by this Facilities Study Report does not include the estimated cost and time necessary for the acquisition of any such land rights.

The total assumed fiber route is approximately 3 miles and traverses approximately 32 land parcels. The estimated total cost for acquiring required easements is $20,000

The fiber route identified in this study is preliminary and may change. The acquisition of easement necessary for the assumed fiber route is contingent upon landowner consent, and easement rights for fiber installation cannot be assured. Easement acquisition costs may vary by landowner

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

- The Project Developer will be responsible to obtain all environmental approvals and permitting required to construct TSS 920 Flagg Road substation and 138kV L.92001. This includes any endangered species studies and monitoring, as required. Costs associated with this permitting are at the expense of the Project Developer.
- ComEd will be responsible to obtain all environmental approvals and permitting required for L.10721 and L.92002 work. This includes any endangered species studies and monitoring, as required. Costs associated with this permitting are at the expense of the Project Developer.
- The Project Developer will be responsible for site restoration required for substation and transmission upgrades. This includes, but is not limited to road restoration/improvements, wetland restoration, and farm field restoration/crop damage. Costs associated with this are at the expense of the Project Developer.
- The Project Developer will be responsible for the cost to purchase real estate or obtain the necessary right-of-way easement for all upgrades associated with this project. These associated upgrades are not included in the costs listed in this study.
- The Project Developer will be responsible for remediation costs for locations found to have environmental contaminations and remediation. This may require contaminated soil disposal as well as lead paint removal for existing structure work.
- It is assumed that all necessary permits will be obtained in a timely manner to allow engineering and construction to proceed according to the Milestone Schedule.
- It is assumed that conveyance of property and rights will be obtained to support the PJM Transmission Outage Schedule.
- It is assumed that the required Environmental Study will yield no impediments to the development of the site.
- ComEd will complete geotechnical soil borings, resistivity study, and analysis for substation and transmission upgrades. Costs associated with this are at the expense of the Project Developer.

C. APPENDICES

Attachment #1: Single line Diagram for the Physical Interconnection

