# Generation Interconnection Facilities Study Report

# For PJM Generation Interconnection Request Queue Position AC1-171 Powerton

Revision 0: April 2022

Revision 1: May 2022

# TABLE OF CONTENTS

A.	FACILITIES ST	UDY INTRODUCTION		
1.	PROJECT DESC	RIPTION		
2.	AMENDMENTS	TO THE IMPACT STUDY DATA OR IMPACT STUDY RESULTS 3		
3.	INTERCONNECTION CUSTOMER SCHEDULE			
4.	SCOPE OF WOR	RK BY INTERCONNECTION CUSTOMER (IC)		
5.	DESCRIPTION (	OF FACILITIES INCLUDED IN THE FACILITIES STUDY4		
6.	TOTAL COSTS	OF TRANSMISSION OWNER FACILITIES INCLUDE IN FACILITIES STUDY 5		
7.		MILESTONE SCHEDULES FOR COMPLETION OF WORK INCLUDED IN FACILITY		
B.	TRANSMISSION	N OWNER (COMED) FACILITIES STUDY RESULTS6		
1.	NEW SUBSTAT	ION / SWITCHYARD FACILITIES6		
2.	UPGRADES TO	EXISTING SUBSTATION / SWITCHYARD FACILITIES AT CUSTOMER EXPENSE6		
3.	TRANMISSION LINES - NEW			
4.	TRANSMISSION	N LINES - UPGRADES		
5.	METERING	9		
6.	ENVIRONMEN'	FAL, REAL ESTATE, AND PERMITING10		
7.	SUMMARY OF	RESULTS OF STUDY11		
8.	ASSUMPTIONS	IN DEVELOPING COSTS AND SCHEDULES11		
C.	APPENDIX			
	Attachment #1:	High Level Planning Diagram Depicting Interconnection Facilities and Points of Ownership/Demarcation		
	Attachment #2:	General Arrangement, STA 3 Powerton 138kV Yard		
	Attachment #3:	General Arrangement, TSS 74 Kewanee 138kV Yard		
	Attachment #4:	Real Estate Requirements (IC)		
	Attachment #5:	L0321 Plan and Profile (attached separately)		

#### A. FACILITIES STUDY INTRODUCTION

#### 1. PROJECT DESCRIPTION

The Interconnection Customer, Zep Valley Wind, LLC (IC) has proposed a wind generating facility located in Tazewell County, Illinois. The installed facilities will have a total capacity of 79.1 MW (twenty-two (22) 3.6 MW wind turbines) with 10.3 MW of this output being recognized by PJM as Capacity.

The ZEP Valley Wind Farm generation facility will be connected to STA 3 Powerton via construction of new IC 138kV L95405. STA 3 Powerton will be reconfigured and expanded to allow for connection of the new line.

Metering for the wind generating facility will be located at STA 3 Powerton. The proposed generation interconnection is shown on the planning diagram in Attachment #1.

#### 2. AMENDMENTS TO THE IMPACT STUDY DATA OR IMPACT STUDY RESULTS

2.1 Facility Name and In-Service Date

The Customer's facility name is ZEP Valley Wind Farm. The proposed in-service date is 1065 days after the Interconnection Service Agreement (ISA) and Interconnection Construction Service Agreement (ICSA) are fully executed. ComEd will work with the IC in good faith to attempt to meet this date.

#### 3. INTERCONNECTION CUSTOMER SCHEDULE

The below schedule provides estimated days, which is based upon the assumption that a CPCN (Certificate of Public Convenience and Necessity), from the ICC (Illinois Commerce Commission) will not be required:

Description	Schedule
Notice to Proceed (ISA and ICSA signed with security deposit)	Day 1
Construction complete and ready for testing	Day 1000
Testing Complete and Back feed Power Available	Day 1065
Facility Commercial Operation Date	Day 1065

#### 4. SCOPE OF WORK BY INTERCONNECTION CUSTOMER (IC)

- 4.1 The IC is responsible for construction of the 79.1 MW Maximum wind generating facility, which includes the following:
  - 4.1.1 One (1) Step-up transformer 138kV-34.5kV (grounded wye).
  - 4.1.2 One (1) 138kV Circuit Breaker.
  - 4.1.3 One (1) 138kV Motor Operated Disconnect (MOD).
  - 4.1.4 Twenty-two (22) 3.6 MW wind turbines.
  - 4.1.5 One (1) 138kV Line (95405) connecting to STA 3 Powerton Substation (distance 25 miles).
  - 4.2 The IC will be responsible for installation and ownership of fiber between ZEP Valley Wind Farm and STA 3 Powerton. Fiber connection between stations should include two physically diverse routes.

- 4.3 The IC will be responsible for cost to purchase real estate and obtain the necessary right-of-way/easements for this project, including the transmission line tie in.
- 4.4 The IC 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.

#### 5. DESCRIPTION OF FACILITIES INCLUDED IN THE FACILITIES STUDY

- 5.1 ComEd, at IC cost, will be responsible for performing the yard expansion, soil remediation, design, procurement, construction, and testing to expand and modify STA 3 Powerton Substation (N8101). This will include the following:
  - 5.1.1 Two new 138kV, three phase, circuit breakers.
  - 5.1.2 Four new 138kV, three phase, Motor Operated Disconnect (MOD) switches.
  - 5.1.3 Move one 138kV NRG TR42 Circuit Breaker.
  - 5.1.4 Foundations for all new/moved equipment.
  - 5.1.5 Three phase 208/120V auxiliary power main and backup sources.
  - 5.1.6 Grounding system for all new/moved substation equipment and structures including the fence.
  - 5.1.7 Substation fencing modifications and other site work.
  - 5.1.8 Schedule and coordinate all transmission line outages necessary to make cut-in interconnect tie point connections.
  - 5.1.9 New control building in the 138kV switchyard including SCADA system, Relay and Metering panels, 125V DC Batteries, Battery Chargers, Inverters, Disconnect Switches, HVAC system, AC and DC Distribution Panels, Lighting, cables and cable tray.
  - 5.1.10 Connect existing 138kV switchyard relay panels in the Powerton 345kV Substation to the relay panels in the new 138kV switchyard control building.
  - 5.1.11 AMI and Revenue metering equipment at STA 3 Powerton Substation.
- 5.2 ComEd, at IC cost, will be responsible for performing the design, procurement, construction, and testing to modify TSS 74 Kewanee Substation (N5008)
  - 5.2.1 Disconnect breaker L94301 from Bus 2 and reconnect to Bus 1.
  - 5.2.2 Disconnect breaker L7423 from Bus 1 and reconnect to Bus 2.
  - 5.2.3 Schedule and coordinate all transmission line outages necessary to make the modifications.
- 5.3 ComEd, at IC cost, will be responsible for performing the design, procurement, and construction to relocate 138 kV L0321 to the new deadend structure at Sta 3 Powerton (N8102).
  - 5.3.1 The new conductor type will be 1113 kcmil ACSR 45/7) "Bluejay". The new shield wire will be 7#6 Alumoweld.
  - 5.3.2 Approximately 0.15 new circuit miles of conductor and shield wire will be installed.
  - 5.3.3 The following structure installations are required for the 138 kV L0321 relocation work.
    - 5.3.1. Replace Anchor+0 with new single-circuit vertical-configuration deadend steel pole at structure #1014.
    - 5.3.2. Reinforce tower members as required at structure #1013.

# 6. TOTAL COSTS OF TRANSMISSION OWNER FACILITIES INCLUDE IN FACILITIES STUDY

NETWORK #	SITE LOCATION	TOTAL COST
N8101	Upgrades at STA 3 Powerton	\$15,318,128
N5008	Upgrades at TSS75 Kewanee	\$1,209,907
N8102	Upgrades at L0321	\$2,217,747
	Gross-up Tax	\$2,583,169
	Total Cost	

# 7. SUMMARY OF MILESTONE SCHEDULES FOR COMPLETION OF WORK INCLUDED IN FACILITY STUDY

Description	Schedule
Notice to Proceed (ISA and CSA signed with security deposit)	Day 1
Construction complete and ready for testing	Day 1000
Testing Complete and Back feed Power Available	Day 1065
Facility Commercial Operation Date	Day 1065

#### B. TRANSMISSION OWNER (COMED) FACILITIES STUDY RESULTS

#### 1. NEW SUBSTATION / SWITCHYARD FACILITIES

- 1.1 IC will design, construct, and test the new substation AC1-171 TSS 954 ZEP Valley Wind Farm having the following equipment (per ComEd Interconnection Guideline):
  - 1.1.1 ComEd Relay and Protection Engineering will review all customer relay protection design drawings and relay settings.
  - 1.1.2 Customer equipment impedance and test data must be provided to ComEd Relay and Protection Engineering for all lines, transformers, and generators.
  - 1.1.3 A SCADA interface over fiber must be included to provide ComEd with customer BES (Bulk Electric System) equipment status. This will be done through serial protocol between Sta 3 Powerton & TSS 954 ZEP Valley Wind Farm.
  - 1.1.4 The System 1 and System 2 communication system shall be designed per ComEd fiber requirements. The System 1 and System 2 fiber connections from Sta 3 Powerton TSS 954 ZEP Valley Wind Farm are two different single mode fiber cables that are routed in physically diverse paths. At a minimum, 48 single mode fibers will be required for each cable.
  - 1.1.5 The IC will be responsible for the maintenance of the two single mode fiber paths between Sta 3 Powerton and TSS 954 ZEP Valley Wind Farm, including all terminations in the fiber distribution panels (FDP's). ComEd will own the maintenance for the fiber jumpers from the FDP to the relay panels at Sta 3 Powerton.
  - 1.1.6 Witness testing by ComEd is required.
  - 1.1.7 Protective relaying for 138 kV L95405:
    - Install 87L-1 SEL-411L current differential scheme and a secondary 87L-2 SEL-311L-1 current
      differential scheme over direct fiber with DTT. Primary and secondary relay scheme fiber must be installed
      in two physically diverse paths. Dual OPGW statics are acceptable, but one OPGW and a second path via
      burial or distribution poles is preferred.
  - 1.1.8 For each 138 kV circuit breaker:
    - Breaker Failure Protection: Install breaker failure protection, manual close supervision, and critical gas conditions.
  - 1.1.9 For any new equipment connected to the Bulk Electric System, rated at 100 kV or above, ComEd requires the associated primary and secondary protective schemes to have a minimum redundant; connected CTs, PT secondary control circuits, auxiliary trip relays, and circuit breaker trip coils.

## 2. UPGRADES TO EXISTING SUBSTATION / SWITCHYARD FACILITIES AT CUSTOMER EXPENSE

## 2.1 STA 3 Powerton (N8101)

ComEd, at IC cost, will be responsible for expansion of the existing substation and performing the design, procurement, construction and testing of modifications to STA 3 Powerton including the following (per ComEd Interconnection Guideline):

- 2.1.1 One (1) new 138kV line dead end structure with testing to check proper phase and identification is correct.
- 2.1.2 One (1) moved 138kV line dead end structure with testing to check proper phase and identification is correct.
- 2.1.3 Demolish existing 138kV control building (including foundation).

- 2.1.4 Demolish existing structures as required for the new/moved breakers and control building.
- 2.1.5 Install additional control and instrumentation cables, fiber and conduit between the relay panels in the 345kV control building and the new relay panels in the 138kV Control House. Install 138kV cables running to the 345kV control building.
- 2.1.6 One (1) new 138kV control building to ComEd specifications to accommodate System 1 and System 2 batteries, battery chargers, AC/DC panels, protective relaying, communication, SCADA, metering equipment, etc. 125VDC battery system, DC distribution panels, relay panels, marshalling cabinet, aux AC power panels, building HVAC system, fire/security system, SCADA, metering equipment, battery monitoring and MUX equipment.
- 2.1.7 One (1) moved 138kV NRG circuit breaker, disconnect switch, and combined current and voltage transformer.
- 2.1.8 Remove existing Line Tuner and Wave Trap from existing line 0321 and install new at the new line 0321 connection.
- 2.1.9 All new series and terminal equipment shall meet or exceed a minimal thermal capability of 3126/3366/3501/4806A (747/805/837/1149MVA) SN/SE/SLTE/SLD. This includes leads, CTs, metering, relays, etc. Nameplates will indicate the maximum capability of the equipment (NOT the minimum requirements specified.
- 2.1.10 Two (2) new 138kV circuit breakers with a minimum nameplate capability of 3126/3366/4023/4806A (747/805/962/1149MVA) SN/SLTE/SSTE/SLD continuous and interrupting capability of 63kA at -40°F. Each circuit breaker shall be provided with 2 sets of bushing CTs on each side. CTs shall be multi-ratio 2000:5A with standard taps and C800 class. All equipment associated with the breaker termination shall meet or exceed the thermal capability of the breaker including CB disconnects, leads, CTs, metering, relays, etc. Nameplates to reflect the actual maximum capability of the equipment (NOT minimum requirements specified).
- 2.1.11 Four (4) 138kV motor operated disconnect switches (on both sides of both new circuit breakers).
- 2.1.12 The new circuit breakers shall have a 451 breaker failure relay installed per GDD2303. New gas circuit breaker control for loss of SF6 gas condition should be as follows (See Engineering Practice EP-5206E and relay specifications):
  - a) For an open circuit breaker, when SF6 gas drops to the critical level, the close circuit of breaker shall be opened and both CB motor operated disconnects shall be opened.
  - b) All new CBs shall have a SEL 2441 for CB monitoring. A local FDP will be installed and a fiber cable run into the new control building to an OCEF panel.
- 2.1.13 For L0321, remove system 1 relay SEL311C-0 and system 2 relay P443 from the cabinet moved from the 345kV control building. Install a SEL421 set up in a DCB scheme for pilot protection and a SEL311C-1 set up in a step distance scheme for back up protection. Communication will be over power line carrier. Relaying communications to use A phase. Reclose mode to be reclose dead RD2 which require 3 phase line side and bus side voltage sensing.
- 2.1.14 For L0321, install dual bus differential protective relaying for Buses 1 and 2 using an SEL-487 for 87B-1, System 1 and SEL-487 for 87B-2, System 2. Each LOR relay shall trip sources including adjacent CB.
- 2.1.15 For L95405, reuse existing line side CCVTs for backup line distance protection.
- 2.1.16 For L95405, the existing current transformers on the line side of the CB shall be connected to new System 1 and System 2 SEL-487B bus relays. The existing 138kV Bus differential CO-2 relays shall be removed.
- 2.1.17 For L95405, install standard 138kV IPP interface relaying consisting of a primary SEL-411L current differential scheme and secondary SEL-311L current differential scheme over direct fiber. Current transformers on the bus side of the CB shall be connected to the new L95405 relays. In order to meet ComEd's requirements for redundant System 1 and System 2 CTs, additional line CTs will be required on both sides of the Line 95405 breaker.

- 2.1.18 Six (6) 3-phase 138kV CCVTs including three new CCVTs on the line side of line 0321.
- 2.1.19 Foundations and structures for all new and moved equipment.
- 2.1.20 Substation Yard soil remediation.
- 2.1.21 Lighting for all new equipment.
- 2.1.22 Three phase 120/208V auxiliary power from one 12kV-208/120V 75kVA transformer. This connection will come from a 12kV CILCO pole line just outside of the 138kV Substation. A pole mounted disconnect switch and watt-hour meter will also be required.
- 2.1.23 A 75kVA emergency generator, 400A transfer switch and propane tank for emergency 120/208VAC three (3) phase auxiliary power.
- 2.1.24 One 400A automatic transfer switch.
- 2.1.25 Ground cables including extension of existing grounds to the new equipment.
- 2.1.26 Control cables, fiber cables, conduit and wiring to connect new and existing equipment.
- 2.1.27 An OSE cabinet is required for all fiber run from the yard to the control building. This fiber will be run from a local fiber distribution panel installed at each 138kV circuit breaker in the yard, through the OSE cabinet, and to a fiber distribution panel installed in a rack inside of the control building. A switch will be installed to collect the status of all equipment. Inside of the control building a Panduit tray shall be installed for local multimode fiber.
- 2.1.28 Schedule and coordinate all transmission line outages necessary to make the modifications.

#### 2.2 TSS 74 Kewanee 138kV Switchyard (N5008)

ComEd at IC cost, will be responsible for performing the design, procurement, construction and testing of the following modifications to TSS 74 Kewanee:

- 2.2.1 Disconnect Line 94301 circuit breaker from Bus 2 and connect to Bus 1. All new equipment and connections shall meet or exceed a minimum thermal capability of 1468/1879/1922/2083A (351/449/459/498 MVA) SN/SE/SSTE/SLD.
- 2.2.2 Disconnect Line 7423 circuit breaker from Bus 1 and connect to Bus 2. All new equipment and connections shall meet or exceed a minimum thermal capability of 1468/1879/1922/2083A (351/449/459/498 MVA) SN/SE/SSTE/SLD.
- 2.2.3 Rewire trip and close inputs, breaker failure logic, and bus differential signals for breakers L94301 and L7423 as required for proper interlocks and control.
- 2.2.4 Schedule and coordinate all transmission line outages necessary to make the modifications.

#### 3. TRANMISSION LINES - NEW

- 3.1 IC will design and construct and own 138kV L95405 up to new dead-end structures at STA 3 Powerton. For the purpose of coordination, the IC will provide design drawings of their proposed generator lead lines, 138kV L95405, to ComEd for review prior to construction.
- 3.2 See section 8.6 regarding raising transmission lines for the proposed generator lead route. Costs for relocating and/or raising transmission or distribution lines for the proposed L95405 are not included in this cost estimate.

#### 4. TRANSMISSION LINES - UPGRADES

- 4.1 ComEd 138 kV L0321 (N8102)
  - 4.1.1 ComEd will be performing the design, procurement, and construction to relocate 138 kV line 0321 to the new deadend structure at Sta 3 Powerton.
  - 4.1.2 The new conductor type will be 1113 kcmil ACSR 45/7) "Bluejay". The new shield wire will be 7#6 Alumoweld.
  - 4.1.3 Approximately 0.15 new circuit miles of conductor and shield wire will be installed.
  - 4.1.4 The following structure installations are required for the 138 kV L0321 relocation work.

Structure #	<b>Existing Structure Type</b>	Comments	
1014	Anchor+0	Replace with new single-circuit vertical-configuration deadend steel pole	

4.1.5 The following structure modifications are required for the 138 kV L0321 relocation work.

Structure # Existing Structure Type		Comments		
1013	Anchor+20	Reinforce tower members as required		

#### 5. METERING

#### 5.1 For PJM:

ComEd at IC cost will install equipment necessary to provide Revenue Metering (kWH, kVARH) and real time data (kW, kVAR) for interconnection customer's generating resource at ComEd side of Point-of-interconnect (POI) at STA 3 Powerton. See PJM Manuals M-01 & M-14D, and PJM tariff.

#### 5.2 For IC:

The IC is required to submit new customer request 18 months prior to the project completion.

#### 5.3 For ComEd:

ComEd at IC cost will 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 IC's generating resource, at ComEd side of POI at STA 3 Powerton. See ComEd applicable standards available on the PJM website (TO Standards). Optical metering will be installed. Optical metering has the ability to record both the large outflow of power generation and the small inflow of auxiliary power requirements. It is assumed that required analog and digital communication circuits will be available and obtainable from the Local Telecommunication Provider to meet the Milestone Schedule.

ComEd, at IC cost will procure, install, own and maintain the AMI meter at ComEd side of POI at STA 3 Powerton for retail metering.

#### 6. ENVIRONMENTAL, REAL ESTATE, AND PERMITING

- 6.1 IC will be responsible to obtain all environmental approvals and permitting required for the construction of 138kV TSS 954 ZEP Valley Wind Farm and L95405.
- 6.2 ComEd will be responsible to obtain all environmental approvals and permitting required for the construction at TSS74 Kewanee & Sta 3 Powerton. In addition, ComEd will be responsible for all environmental approvals and permitting required for L0321 upgrades. This includes any endangered species studies and monitoring, as required. Costs associated with this permitting are at the expense of the IC.
- 6.3 ComEd 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 field restoration/crop damage. Costs associated with this are at the expense of the IC.
- 6.4 The IC 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.
- 6.5 IC 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.
- 6.6 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.
- 6.7 It is assumed that conveyance of property and rights will be obtained to support the PJM Transmission Outage Schedule.
- 6.8 It is assumed that the required Environmental Study will yield no impediments to the development of the site.
- 6.9 The work at STA 3 Powerton requires an expansion with additional property of approximately 3400 square feet to be obtained by NRG, as well as additional transmission line easement for L0321 re-route. The estimate in this report includes a high-level cost for this expansion.

#### 7. SUMMARY OF RESULTS OF STUDY

#### 7.1 Cost Estimate

NETWORK #	SITE LOCATION	Direct Material	Indirect Material	Direct Labor	Indirect Labor	TOTAL COST
N8101	Upgrades at STA 3 Powerton	\$3,044,131	\$183,622	\$8,931,102	\$3,159,273	\$15,318,128
N5008	Upgrades at TSS75 Kewanee	\$290,864	\$17,545	\$665,932	\$235,566	\$1,209,907
N8102	Upgrades at L0321	\$338,876	\$20,441	\$1,372,814	\$485,617	\$2,217,747
	Gross up Tax			\$2,583,169		
	Total Cost			\$21,328,951		

#### 7.2 Milestone Schedule

Description	Schedule
Notice to Proceed (ISA and CSA signed with security deposit)	Day 1
Construction complete and ready for testing	Day 1000
Testing Complete and Back feed Power Available	Day 1065
Facility Commercial Operation Date	Day 1065

## 8. ASSUMPTIONS IN DEVELOPING COSTS AND SCHEDULES

- 8.1 ComEd estimate does not include costs of design and construction of AC1-171 ZEP Valley Wind Farm substation & transmission line as described in IC scope of work. ComEd estimated schedule is based on ISA/CSA contract being executed by all parties.
- 8.2 ComEd cost estimates assume that work will be performed during normal weekdays and with no overtime.
- 8.3 ComEd cost estimate and this report is valid for one (1) year after Facility Study release by ComEd to PJM.
- 8.4 Transmission line outages for construction have not been identified, but generally are available from September to May. These outages are controlled by PJM.
- 8.5 Foundation design assumes typical soil conditions at locations and will be subject to change after soil boring tests.
- 8.6 The IC 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. This includes the entire proposed generator lead line to the point of interconnect. The generator lead connection at the substation must be completed overhead. Underground easement within a ComEd substation fence is not permitted.

- 8.7 Formal submittal of this request to ComEd's TSO for ultimate review by PJM can be made 7 months prior to backfeed request date.
- 8.8 This study assumes that there will be no additional right-of-way and/or easement work required.
- 8.9 This Facility Study is time dependent. If the project is not into construction within one year of the issuance, the FS will be void and the project re-studied, requiring completion of a new FS.
- 8.10 All upgrades to facilities included in this document will be required to meet latest ComEd standards.
- 8.11 Upgrades are subject to change based on detailed design development.
- 8.12 It is assumed that ComEd facilities included in this document will not require a sound study or flood mitigation.
- 8.13 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 IC.
- 8.14 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 IC.
- 8.15 This study is based on the 'System Impact Study Report For PJM Generation Interconnection Request Queue Position AC1-171 Powerton 138kV per PJM impact study issued June 2020.

# C. APPENDIX

Attachment #1: High Level Planning Diagram Depicting Interconnection Facilities and Points of

Ownership/Demarcation

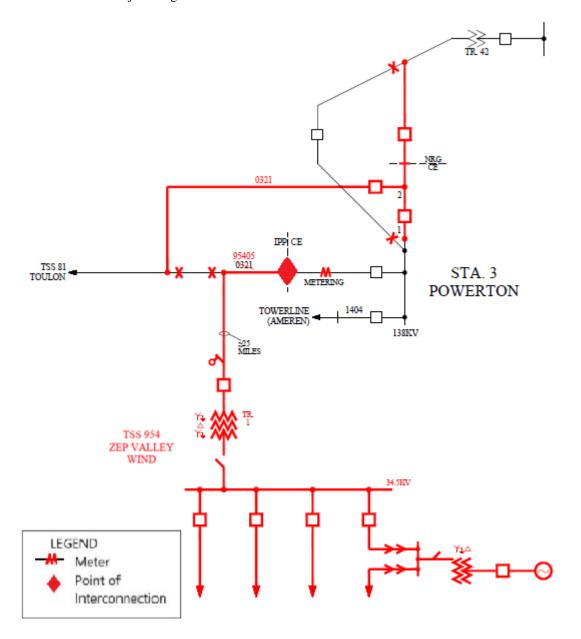
Attachment #2: General Arrangement, STA 3 Powerton 138kV Yard

Attachment #3: General Arrangement, TSS 74 Kewanee 138kV Yard

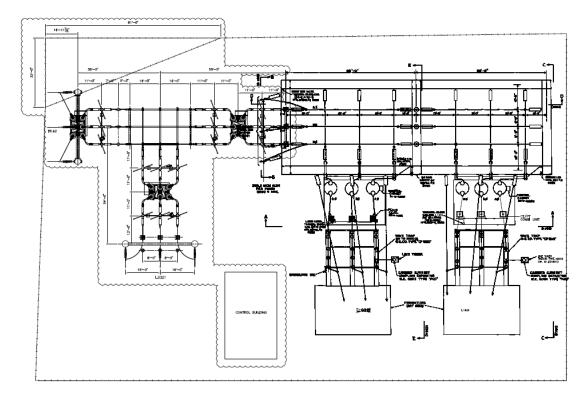
Attachment #4: Real Estate Requirements (IC)

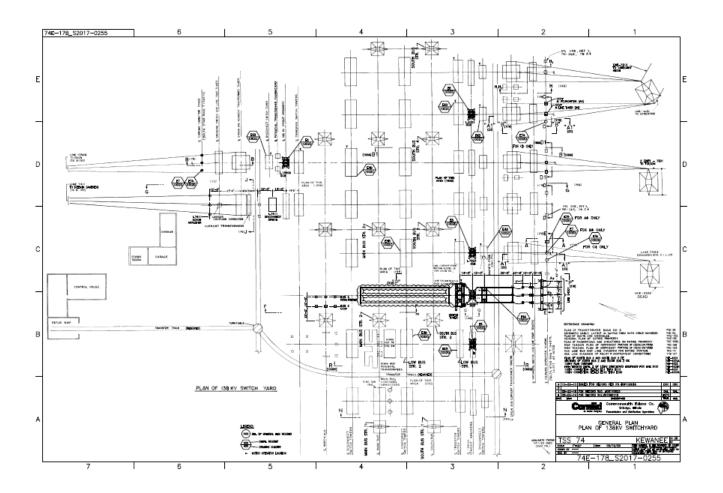
Attachment #5: L0321 Plan and Profile (attached separately)

# Attachment #1 - Project Diagram



Attachment #2 - General Arrangement, STA 3 Powerton 138kV Yard





### **Attachment #4 - Real Estate Requirements (IC)**

It is the IC's responsibility to purchase property, acquire rights, and obtain any required permits for the transmission, distribution, and or communication lines required to interconnect its generation. In addition, the IC will grant to COMED such rights and interests as may be reasonably necessary to interconnect the generation facilities and associated network upgrades to the COMED system. Real estate transactions will be determined by the type of interconnection configuration employed, which may include:

Conveyance of fee simple ownership to COMED for a switchyard.

Conveyance of perpetual easements (exclusive and nonexclusive) associated with the switchyard including, but not limited to, access, drainage, and such overhead and underground facilities as COMED may reasonably require for the construction, use, maintenance, and operation of the switchyard.

Conveyance and or acquisition of perpetual easements (exclusive and nonexclusive) and or other property rights for all purposes of interconnecting the generation facilities and associated network upgrades with the COMED transmission, distribution and communication systems, including such overhead and underground electrical and related communications, transmission and distribution facilities.

In each of the three transaction scenarios outlined above, or any combination thereof, the IC will be responsible for executing and delivering all documentation requested by ComEd, which may include deeds, easements, purchase agreements, assignments, affidavits, certifications, statements and releases, and for providing a title policy, with the appropriate endorsements, covering the rights and interests conveyed.

ComEd will grant to the IC, subject to engineering review and approval, easement rights or consents, as applicable, for:

Perpendicular crossings of ComEd transmission / distribution right of way to accommodate facilities such as roadways and various utilities.

## **ComEd Scope**

ComEd will provide the following:

Real estate forms of agreement, which incorporate terms and conditions that reflect ComEd's standard business practices.

Engineering review of proposed IC facilities that involve real estate and/or right of way in which ComEd has an interest.

# IC Scope

It is imperative, when the IC is required by the scope of a project to provide information, that the deliverables itemized below be received by COMED as soon as possible. This will facilitate a timely review and will allow COMED to address the real estate aspects of the project in a timely manner.

The IC is responsible for providing the following:

The following current information covering all interests and rights to be conveyed to COMED:

- Title Policy/Commitment.
- Copies of all recorded documents listed in above-mentioned Title Policy/Commitment.
- ALTA/ACSM Land Title Survey, which will include adjoining Exelon property, if applicable.
- Phase I Environmental Assessment Report (Phase 2 also if there is a fee conveyance to COMED) and any other
  environmental reports, notifications and documents as required. IC to utilize only contractors approved by ComEd
  Environmental department for this work.
- Wetland Delineation reports. IC to utilize only contractors approved by ComEd Environmental department for this work
- Annexation Agreement(s), zoning changes or other governmental agreements or approvals entered into or proposed for the Project.
- All jurisdictional permits, such as special use and building permits, that have been issued for the project or copies
  of pending applications that relate to or affect property in which COMED has or will have a right or interest.
- Detailed civil engineering drawings showing the proposed site plan, layout, drainage, access and facilities.

Additional information may also be required, depending on specific project requirements. Requests for such information will be transmitted to the IC during project development.