PJM Facilities Study Report

For

Network Upgrade N9101

Cycle TC1

Revision [0]: May 2025

Introduction

This Facilities Study has been prepared in accordance with the PJM Open Access Transmission Tariff and PJM Manuals. The Transmission Owner (TO) is ComEd.

A. Project Description

The System Impact Study for PJM Interconnection Cycle TC1 has identified the need for PJM Network Upgrade N9101. The scope of this Network Upgrade includes the following:

- Perform a sag mitigation study of 22.1 Miles of 345kV transmission line 90907 from Brokaw to TSS 909 Deer Creek.

Upon completion of the Network Upgrade above, the expected final ratings will be 1515 MVA SSTE. In order to achieve 1515 MVA with 2-1277.2 ACAR, the required Sag Temperature will be 168F and the ratings as follows: SN/SLTE/SSTE/SLD (MVA): 1501/1501/1525/1612.

The scope of Network Upgrade is shown in Attachment #1.

B. Transmission Owner Facilities Study Results

1. Detailed Scope of work for Network Upgrade N9101:

The following is a detailed description of Transmission Owner Upgrades for Network Upgrade N9101. These facilities shall be designed according to the Transmission Owner's Applicable Technical Requirements and Standards. Once built, the Transmission Owner will own, operate, and maintain these facilities.

- The required rating on 345kV line 90907 is increasing. As a result, the following structures need to be replaced with new single-circuit suspension steel monopoles:

Structure Number	Existing Structure Type
300, 327, 349	LSV+0
301, 317	LSV+5
314	LSV+10
315	LSV+25
326	LSV+15
341	MS1V+15
342	MS1V+5
347	HS+5
348	MS1V+10

- At TSS909 Deer Creek and Brokaw (AMEREN), retain existing relays and reset 345kV L.90907 relay settings.
- At TSS 188 Mt. Pulaski, retain existing relays and reset 345kV L.18806 relay settings.

2. MILESTONE SCHEDULE FOR COMPLETION OF COMED WORK

Facilities outlined in this report are estimated to take 36 months to construct, from the time of full execution of the Generation Interconnection Agreement and completion of a construction kickoff call. This schedule may be impacted by the timeline for procurement and installation of long lead items and the ability to obtain outages to construct and test the proposed facilities.

Description	Start month	Finish month
Detailed Design	1	15
Permitting	15	30
Construction	31	36

3. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

- 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 2025 rates and do not reflect a potential increase in Labor or Material costs after 2025.
- The Project Developer(s) 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.
- ComEd cost estimate is valid for six (6) months after Facilities Study release by PJM.
- 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 the latest ComEd standards.
- Upgrades are subject to change based on detailed design development.

- ComEd will complete a 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(s). 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 under 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 the corresponding New Service Request Projects being placed in service.

4. LAND REQUIREMENTS

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 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".

5. ENVIRONMENTAL AND PERMITING

- ComEd will be responsible for obtaining all environmental approvals and permitting required. This includes any endangered species studies and monitoring, as required. Costs associated with this permitting are at the expense of the Project Developer(s).
- The Project Developer(s) will be responsible for site restoration required for 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(s).
- The Project Developer(s) 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(s) will be responsible for remediation costs for locations found to have environmental contamination 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(s).

C. APPENDICES

Attachment #1: Single line Diagram for Network Upgrade

Attachment #1