PJM Facilities Study Report

For

Network Upgrade n9371.0

Cycle TC1

PECO Circuit 22085

Edge Moor - Linwood

Revision [0]: June 2025

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 Philadelphia Electric Company (PECO).

A. Project Description

The System Impact Study for PJM Interconnection Cycle TC1 has identified the need for PJM Network Upgrade n9371.0. The scope of this Network Upgrade includes the following:

The existing PECO-owned portion of the 230kV circuit between the Edge Moor (owned by DPL) and Linwood (owned by PECO) Substations is approximately 0.5 miles in length and consists of six (6) total structures located on the Amtrak owned railway.

The existing poles in this section are located in Amtrack Right of Way (ROW) and any work on this portion of the line will require significant coordination with Amtrak during planning, design, and construction of the circuit rebuild. A permit from Amtrak will also be required for any work in the ROW. This coordination and permitting requirement must be considered in both the project schedule and estimated cost.

The structures within this section will not be replaced as part of this project. The only work on this PECO-owned portion of circuit 22085 being performed will be the upgrade of the existing shield wire leading into Linwood Substation. The shield wire will be replaced with DNO-12650 OPGW. The existing structures on this portion of the circuit will remain as is.

The existing conductor is 1590 ACSR “LAPWING” 45/7 and the existing shield wire is 7#8 Alumoweld.

The existing line does not have any distribution to be accounted for in the design. The PECO-owned portion of circuit 22085 does not cross any roads or waterways, but the circuit does cross an Amtrak owned railway outside of Linwood Substation. A splice location is assumed to be near the Pennsylvania-Delaware state line on the Pennsylvania portion of the circuit.

Upon completion of the Network Upgrade above, the expected final ratings will be:

- Summer Normal Rating: 712 MVA (1787 Amps)
- Summer Emergency Rating: 885 MVA (2222 Amps)
- Winter Normal Rating: 822 MVA (2063 Amps)
- Winter Emergency Rating: 978 MVA (2455 Amps)

The Scope of Network Upgrade is shown in Appendix #1.

B. Transmission Owner Facilities Study Results

1. Detailed Scope of work for Network Upgrade n9371.0:

The following is a detailed description of Transmission Owner Upgrades for Network Upgrade n9371.0. 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.

- Remove approximately 3,000 linear feet of existing 7#8 Alumoweld shield wire
- Install approximately 3,000 linear feet of new DNO-12650 OPGW
    - Assume (2) pulling locations
    - Assumed (2) splice locations utilizing PECO standards S-7403 through S-7405 for Splice Point Assembly
- Approximately 0.2 miles of matting will be needed for construction
- Because the existing circuit is located within Amtrak ROW, significant coordination will be required for all clearance evaluations, access, and any other design details
    - Detailed design will evaluate any blowout or edge of ROW concerns

2. MILESTONE SCHEDULE FOR COMPLETION OF PECO WORK

Facilities outlined in this report are estimated to take 26 months to construct, from the time the Generation Interconnection Agreement is fully executed. This schedule is based on the ability to obtain outages to construct and test the proposed facilities.

PECO's construction of the OPGW upgrade will need to be coordinated with the outage and construction work in the DPL region. The months noted in the schedule below correspond with the expected project timeline for DPL's portion of the work.

Description	Start Month	Finish Month
Design	1	6
Permitting	11	23
Construction	25	26

3. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE

- No additional ROW will be required. However, the existing circuit is located within Amtrak ROW, and significant coordination will be required for all clearance evaluations, access, and any other details. All work within the Amtrak ROW will require a permit from Amtrak. Detailed design will evaluate any blowout or edge of ROW concerns.
- It is assumed that the existing 1590 ACSR "Lapwing" conductor will not be replaced for this portion of the project.
- There is no existing distribution on the existing structures.
- No new structures will be constructed for this portion of the design. Only the existing shield wire will be replaced with new OPGW.
- The OPGW will need to be tied into the control houses at each substation. As such, associated fiber entrance projects will be required for this project.
- Matting is assumed to be required for one third (1/3) of the total project length.
- The following studies will be completed as part of this project, and associated assumptions for each are listed (if applicable):
    - Traffic study
    - Wetland Delineation
    - RTE Plant/Animal Surveys
        - Includes Raptor Nest Survey

4. LAND REQUIREMENTS

Acquisition of land associated with network upgrade n9371.0 is the responsibility of the Transmission Owner (TO), PECO.

5. ENVIRONMENTAL AND PERMITING

All work for network upgrade n9371.0 is dependent upon the Transmission Owner, PECO, obtaining all necessary permits. Moreover, the TO shall be responsible for acquiring all necessary real property rights and acquisitions, including but not limited to rights of way, easements, and fee simple. Any setbacks in obtaining the necessary real property rights, acquisitions and permits required for this interconnection may delay the construction schedule.

C. APPENDICES

Appendix #1: Single Line Diagram for Network Upgrade n9371.0_rev.1

Appendix #2: Line Rating Drawing – n9371.0

Appendix #3: 220-85 Transmission Map