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File #: 202493

May 6, 2024

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Application of PPL Electric Utilities Corporation filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval to Site and Construct a New Single-Circuit 115 kV Transmission Line Between the Williams Grove 230-69 kV Substation and the Allen 115-13 kV Substation Located in Cumberland County, Pennsylvania
Docket No. A-2023-3044071**

Dear Secretary Chiavetta:

Enclosed, on behalf of PPL Electric Utilities Corporation (“PPL Electric”), is information being supplied to the Pennsylvania Public Utility Commission’s (“Commission”) Bureau of Technical Utility Services (“TUS”) in response to TUS Set I Data Requests regarding the above-captioned proceeding.

These responses were served on March 22, 2024, but inadvertently not filed with the Commission as part of that submission. They are enclosed here for filing with the Commission.

Should you have any questions regarding this please do not hesitate to contact me.

Respectfully submitted,



Nicholas A. Stobbe

NAS/dmc
Attachment

Rosemary Chiavetta, Secretary
May 6, 2024
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cc: Jordan Van Order (*via email*)

WITNESS: Joseph B. Lookup

**PPL Electric Utilities Corporation
Response to the Data Request of
The Bureau of Technical Utility Services
Dated March 11, 2024
Docket No. A-2023-3044071**

A-1 Reference the Application, Paragraph 7. Please provide a detailed description of the N-1-1 contingency scenarios.

PPL

Response

The N-1-1 for the loss of the 115kV line Gardners - Hunterstown (PJM contingency: ME_P1-2_ME-115-006_SRT-A) and loss of the 115kV line Cly – Newberry - Round Top (PJM Contingency: ME_P1-2_ME-115-064_SRT-A), in either order, result in voltage violations at multiple MAIT (First Energy) Substations. See attached Tables 1 & 2 on the following page taken from the PJM 2021 Series 2026 RTEP case summary below. The N-1-1 contingencies are part of the NERC required TPL-001 Reliability Standards that PJM and Transmission Owners are required to meet. PJM identified the voltage violations during the 2021 RTEP process and included them in the Proposal Window. Failure to comply with the NERC TPL-001 requirements could result in penalties.

A link to PJM’s 2021 RTEP results is provided below:

<https://pjm.com/-/media/planning/rtep-dev/expand-plan-process/ferc-order-1000/rtep-proposal-windows/2021-window-1-without-analytical-files-v7.ashx>

Table 1:

PJM N-1-1 Voltage Magnitude Results (2026 Summer)										
FG #	Bus #	Bus Name	Base kV	Area	Min Volt Limit	Max Volt Limit	Contingency 1	Contingency 2	Base Volt	Cont Volt
N2-SVM8	204520	27ALLEN	115	227	0.92	1.05	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0131	0.8612
N2-SVM10	204526	27DILLSBRG	115	227	0.92	1.05	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0096	0.8577
N2-SVM12	204528	27GARDNERS	115	227	0.92	1.05	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0144	0.8659
N2-SVM16	204546	27MOUNTAIN	115	227	0.92	1.05	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0174	0.8665
N2-SVM18	204552	27P.P.G.I.	115	227	0.92	1.05	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0167	0.8656
N2-SVM9	204520	27ALLEN	115	227	0.92	1.05	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0057	0.8618
N2-SVM11	204526	27DILLSBRG	115	227	0.92	1.05	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0008	0.8583
N2-SVM13	204528	27GARDNERS	115	227	0.92	1.05	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0028	0.8664
N2-SVM17	204546	27MOUNTAIN	115	227	0.92	1.05	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0103	0.8671
N2-SVM19	204552	27P.P.G.I.	115	227	0.92	1.05	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0095	0.8662

Table 2

PJM N-1-1 Voltage Drop Results (2026 Summer)										
FG #	Bus #	Bus Name	Base kV	Area	%Vdrop Limit	Contingency 1	Contingency 2	Base Volt	Cont Volt	%Vdrop
N2-SVD1	200504	26CARLISLE	115	226	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	0.9899	0.8606	12.174
N2-SVD3	204520	27ALLEN	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0131	0.798	20.764
N2-SVD5	204526	27DILLSBRG	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0096	0.795	20.589
N2-SVD7	204528	27GARDNERS	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0144	0.8057	19.705
N2-SVD9	204546	27MOUNTAIN	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0174	0.8039	20.631
N2-SVD11	204552	27P.P.G.I.	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0167	0.803	20.652
N2-SVD15	204556	27ROUND TP	115	227	10	ME_P1-2_ME-115-006_SRT-A	ME_P1-2_ME-115-064_SRT-A	1.0127	0.7973	20.785
N2-SVD2	200504	26CARLISLE	115	226	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	0.9812	0.8591	13.092
N2-SVD4	204520	27ALLEN	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0035	0.7962	21.8
N2-SVD6	204526	27DILLSBRG	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	0.999	0.7931	21.824
N2-SVD8	204528	27GARDNERS	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0007	0.8039	21.126
N2-SVD10	204546	27MOUNTAIN	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0076	0.8021	21.531
N2-SVD12	204552	27P.P.G.I.	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0069	0.8011	21.562
N2-SVD16	204556	27ROUND TP	115	227	10	ME_P1-2_ME-115-064_SRT-A	ME_P1-2_ME-115-006_SRT-A	1.0035	0.7955	21.952

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A-2 Reference the Application, Paragraph 7. Please provide the specific to voltage criteria and corresponding violations.

PPL Response Violations of First Energy’s Steady State 115kV Voltage limits were identified during the PJM N-1-1 analysis. First Energy’s Steady State Voltage limits are listed under Table 2 of section 4 of First Energy’s Transmission Planning Criteria.

4. Normal and Emergency Voltage Limits and Regulation

4.1. Steady State Voltage Level Limits

4.1.1. The limits for voltages (in per unit of nominal bus voltage) on transmission buses for normal and emergency operating conditions are listed in *Table 2: Voltage Limits*.

- Note: The Normal and Emergency Minimum limits above are values following system adjustments and not the immediate post contingency value.

Table 2: Voltage Limits

Limit	500 kV	230/ 345 kV	138/115 kV		69/46/34.5 kV	25/23 kV
	ALL	ALL	PJM BES	PJM Non-BES	ALL	ALL
Maximum	1.10	1.05	1.05	1.05	1.05	1.075
Normal Minimum	1.00	0.95	0.95	0.95	0.92	0.92
Emergency Minimum	0.97	0.92	0.92	0.90	0.90	0.90
Maximum Deviation * (Pre- to Post-Contingency and On-to-Off Peak)	0.05	0.08	0.10	0.10	0.10	0.10

* Refer to Section 4.3, *Fast-Switched Capacitor Voltage Criteria*.

See Tables 1 & 2 above related to A-1 for the corresponding violations.

First Energy’s Specific TO Voltage Criteria (Section 4) can be found at:
<https://pjm.com/-/media/planning/planning-criteria/fe-planning-criteria.ashx>

WITNESS: Joseph B. Lookup

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A-3 Reference the Application, Paragraph 11. Please define PPGI.

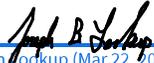
PPL

Response PPGI is the name of the substation that serves the Vitro Glass Facility in Mt.
Holly Springs, PA.

VERIFICATION

I, JOSEPH B. LOOKUP, being the Vice President of T&D Planning and Asset Management at PPL Services Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 03/22/2024


Joseph B. Lookup (Mar 22, 2024 12:53 EDT)

Joseph B. Lookup