
Python as Prototyping Tool

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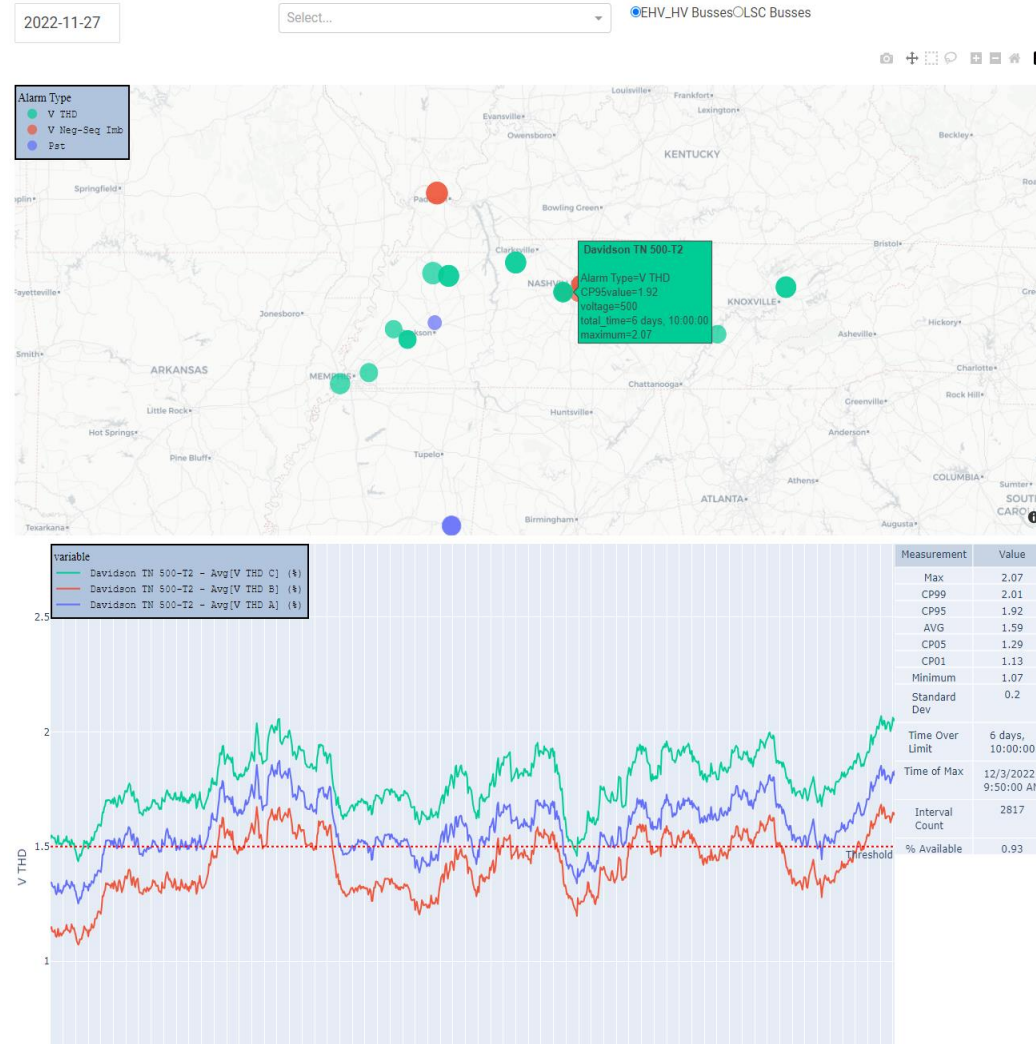
December 14, 2022

ION Meter Dashboard and Reporting

Problem Description

- Identifying EHV/HV TVA stations and Sensitive Customer stations that exceed the IEEE Standard for weekly Harmonics, Unbalance and Flicker in a timely manner.

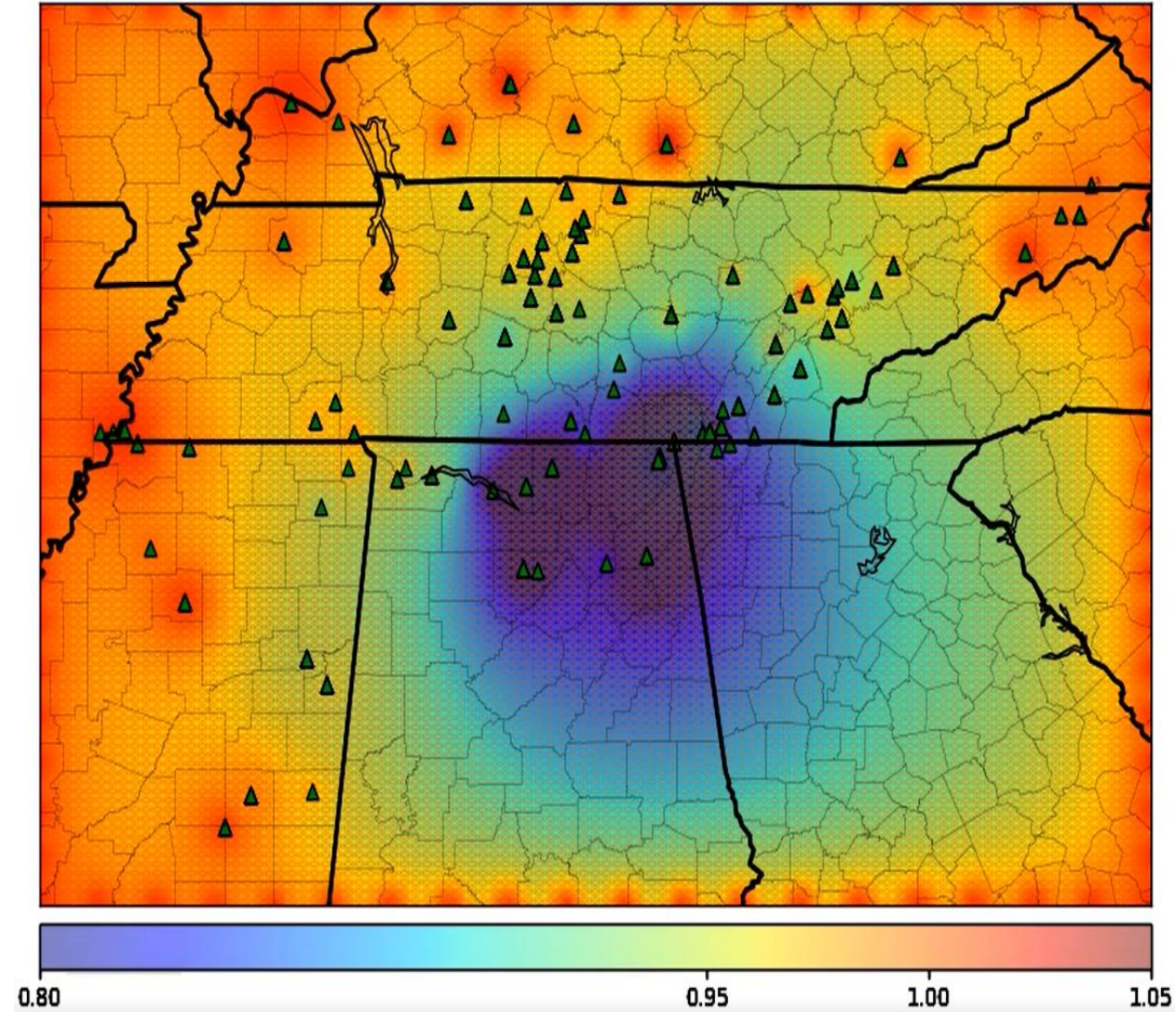
PQ Meter Violation Tables



Station Name	Voltage	VTHD Lim	Time of Maximum	Duration VTHD Exceeded	Maximum CP95	Violation
Fox Hollow KY 161-Total Primary	161	2.5	11/27/2022 10:00:00 PM	0:00:00	1.7	1.45
Freeport TN 161-Miller Line Primary	161	2.5	11/30/2022 12:40:00 AM	0:00:00	1.64	1.47
Freeport TN 161-Total Primary	161	2.5	11/30/2022 12:40:00 AM	0:00:00	1.63	1.46
French Camp MS 500-Reliant Energy Line Pri	500	1.5	11/27/2022 4:40:00 AM	7:30:00	1.93	1.28
French Camp MS 500-Wolf Creek Line Prima	500	1.5	11/27/2022 4:40:00 AM	7:30:00	1.93	1.27
Gallatin FP 161-GT Units 1-4 Primary	161	2.5	12/1/2022 8:50:00 PM	0:00:00	1.13	0.94
Gallatin FP 161-GT Units 5-8 Primary	161	2.5	12/1/2022 4:20:00 AM	0:00:00	0.85	0.76
Gleason TN 500-T1 Primary	500	1.5	12/3/2022 8:00:00 PM	6 days, 16:10:00	2.39	2.16
Gleason TN 500-T2 Primary	500	1.5	12/3/2022 9:10:00 PM	6 days, 18:50:00	2.42	2.18
Goodfield TN 161-Total	161	2.5	11/27/2022 4:30:00 AM	0:00:00	0.9	0.78
Goose Pond AL 161-B944-Cap	161	2.5	11/30/2022 12:10:00 AM	0:00:00	1.74	1.61
Greenville Industrial Park TN 161-Total	161	2.5	None	None	0	0
Guthrie KY 161-T1	161	2.5	12/3/2022 9:00:00 PM	0:00:00	1.63	1.43
Hankook TN 161-Total	161	2.5	12/3/2022 9:00:00 PM	0:00:00	1.58	1.4
Haywood TN 500-T1 Primary	500	1.5	11/28/2022 4:00:00 AM	2 days, 21:00:00	1.72	1.61
Haywood TN 500-T2 Primary	500	1.5	11/28/2022 12:30:00 AM	2 days, 19:10:00	1.72	1.61
Hemlock TN 161-T1	161	2.5	12/2/2022 6:50:00 AM	0:00:00	1.73	1.5
Hiwassee TN 161-T1	161	2.5	12/2/2022 1:40:00 PM	0:00:00	1.9	1.75
Hoeganaes TN 161-Total	161	2.5	12/2/2022 12:30:00 AM	0:00:00	1.19	0.96
Holly Springs MS 161-B1004-Caps	161	2.5	11/29/2022 11:40:00 PM	0:00:00	0.82	0.7
Huntingdon TN 161-B954-Granges	161	2.5	11/30/2022 5:50:00 PM	0:00:00	0.97	0.86
Huntsville TN 161-B1004-Caps	161	2.5	11/27/2022 12:00:00 AM	0:00:00	1.59	1.44
Jackson TN 161-B1004-Ameristeel	161	2.5	12/3/2022 10:30:00 PM	0:00:00	1.24	1.09
Jackson TN 161-Total	161	2.5	12/3/2022 7:00:00 PM	0:00:00	1.28	1.15
Jersey Miniere Zinc TN 161-B20751	161	2.5	12/2/2022 5:50:00 AM	0:00:00	1.51	1.27

Voltage sag due to lighting strike.

161kV Station Measurements @ 8/9/2022 1:54:37.266 PM



Problem Description

- Conveying the impact of a situation using something other than line graphs and excel spreadsheets

Voltage Unbalance for Generation Shutdown.

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- Conveying the impact of a situation using something other than line graphs and excel spreadsheets

