July 22, 2026
Dominion Load Transfer Event

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Operating Committee
August 6, 2026

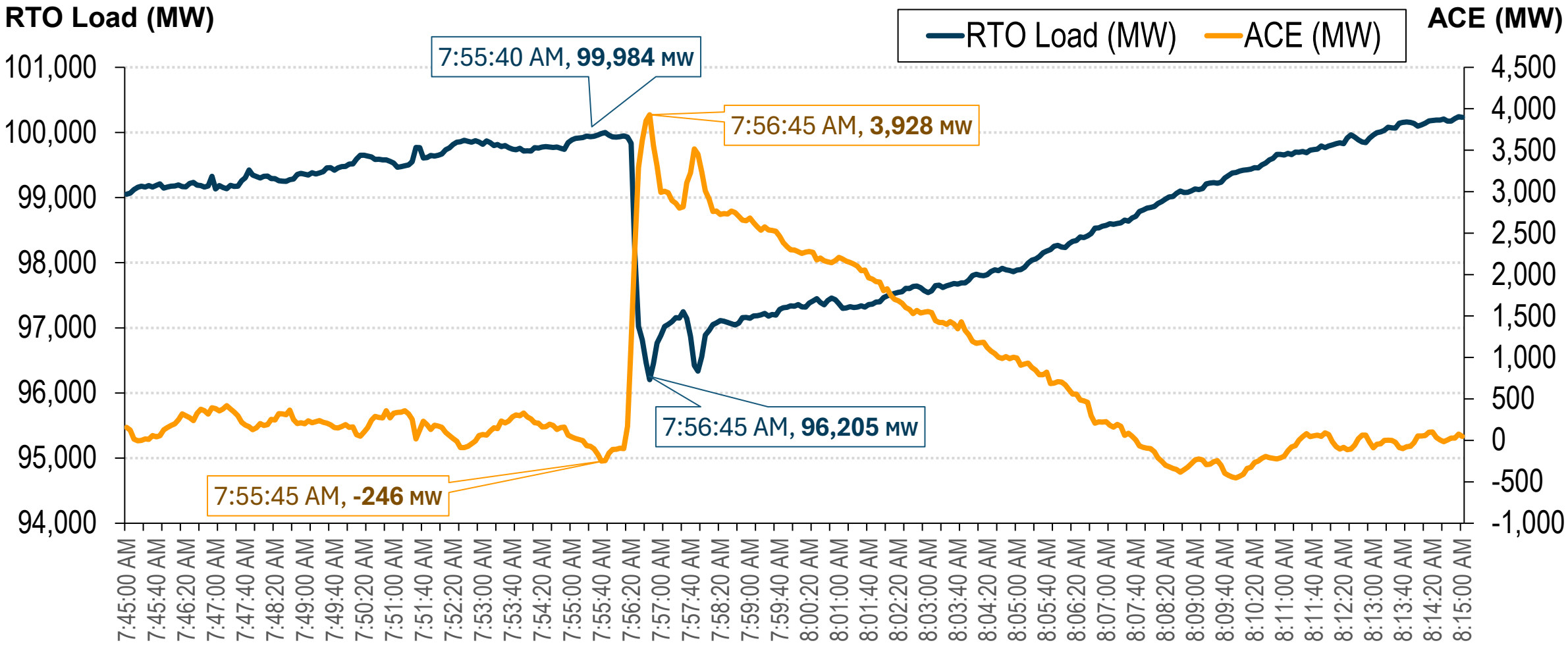
Event Summary

- On Wednesday, July 22, at 07:56 approximately 3,800 MW of load transferred to back-up power when a 230 kV transmission line fault occurred within the Dominion zone
- This event was the largest load transfer PJM has experienced
  - Similar events within PJM occurred on July 10, 2024, and February 17, 2025
    - ESIG – Large Load Workshop
    - NERC Incident Review – Considering Simultaneous Voltage-Sensitive Load Reductions
- The load transfer is likely due to voltage ride-through performance

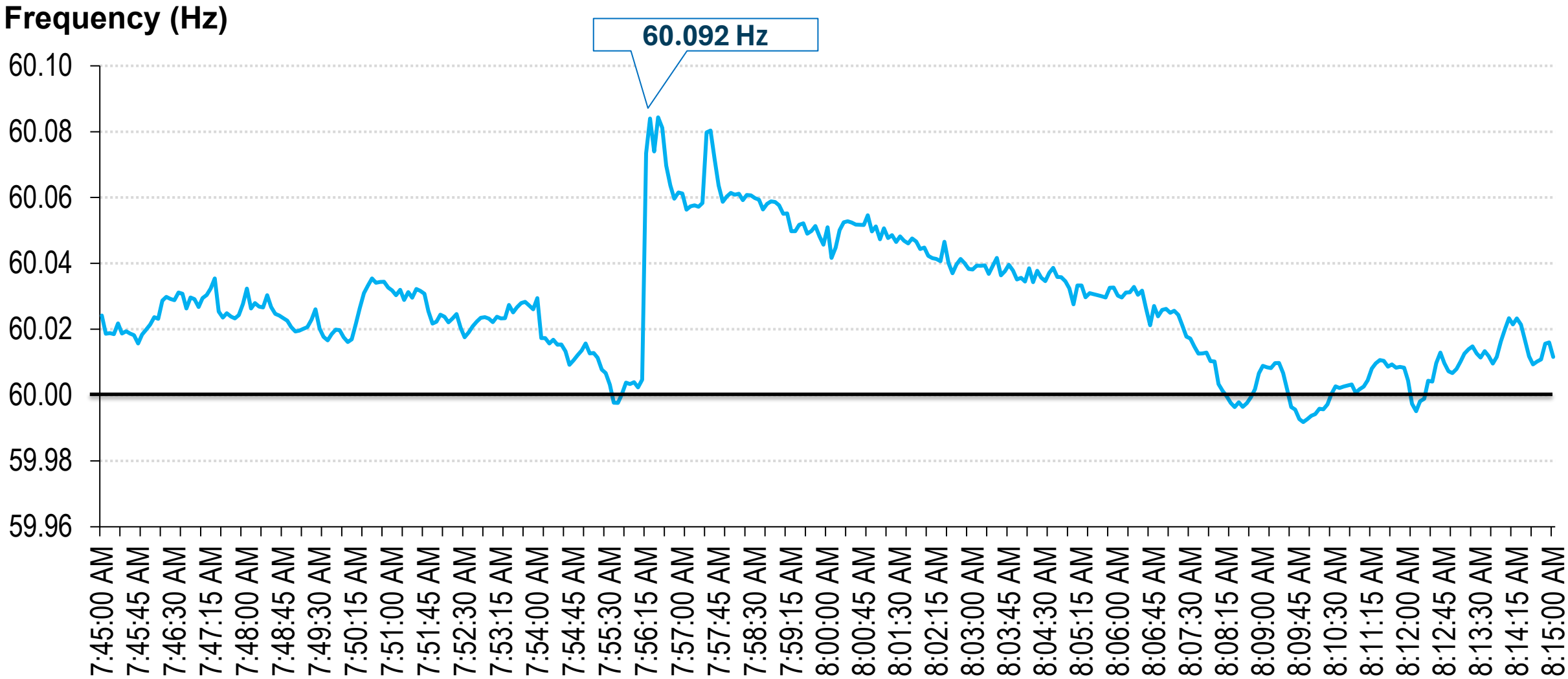
Sequence of Events

- 07:56 Fault occurred on a 230 kV line in Dominion
  - Load transferred to back-up generation
  - The load transfer caused high voltage conditions and triggered the transfer of additional load to back-up generation
  - In total, approximately 3,800 MW of load transferred to back-up generation
  - Fault cleared properly
    - There were no relay misoperations or stuck breakers
- 07:56 Reporting ACE reached +3,928 MWs
- 07:56 Frequency reached 60.092 Hz
- 08:06 Balancing Authority ACE Limit (BAAL) excursion recovered within 9 minutes
  - BAL-001-2 R2 requires recovery within 30 minutes

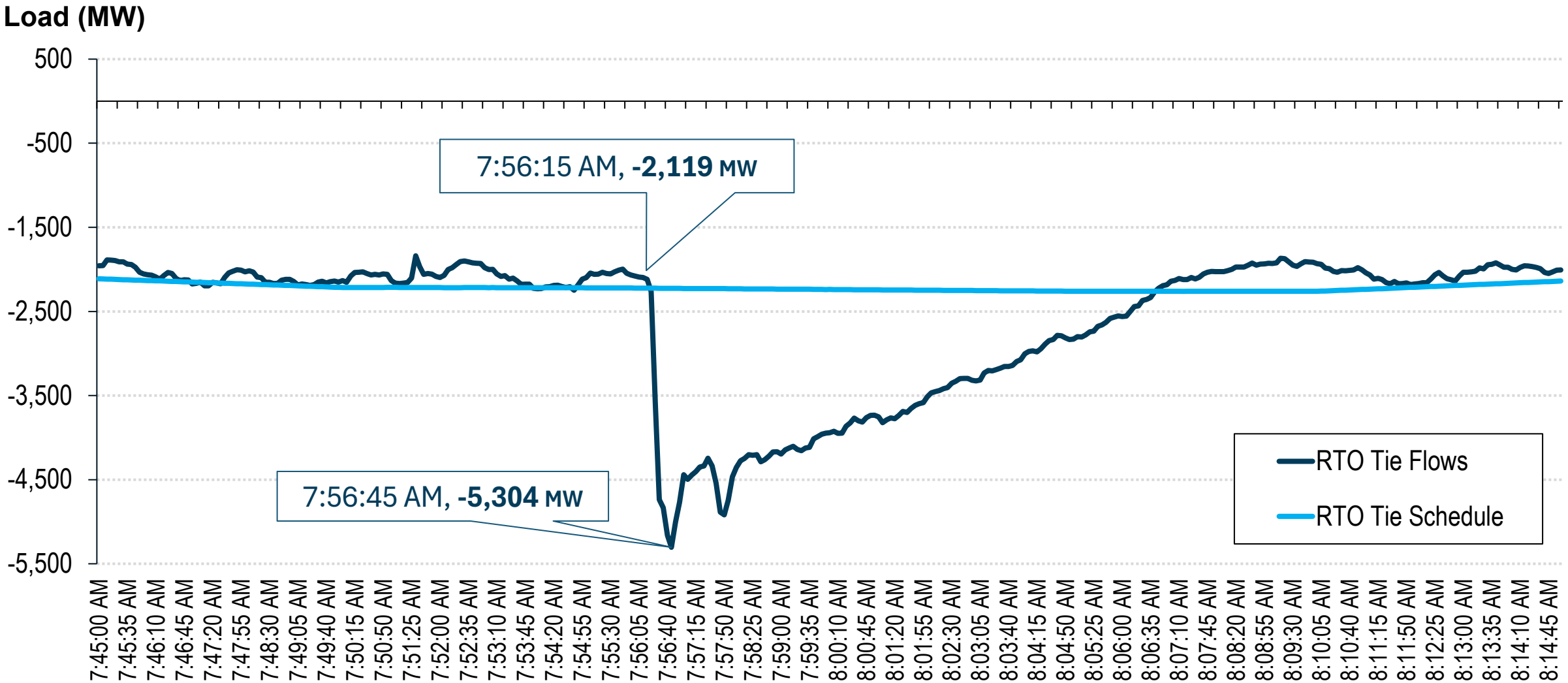
RTO Load vs. ACE



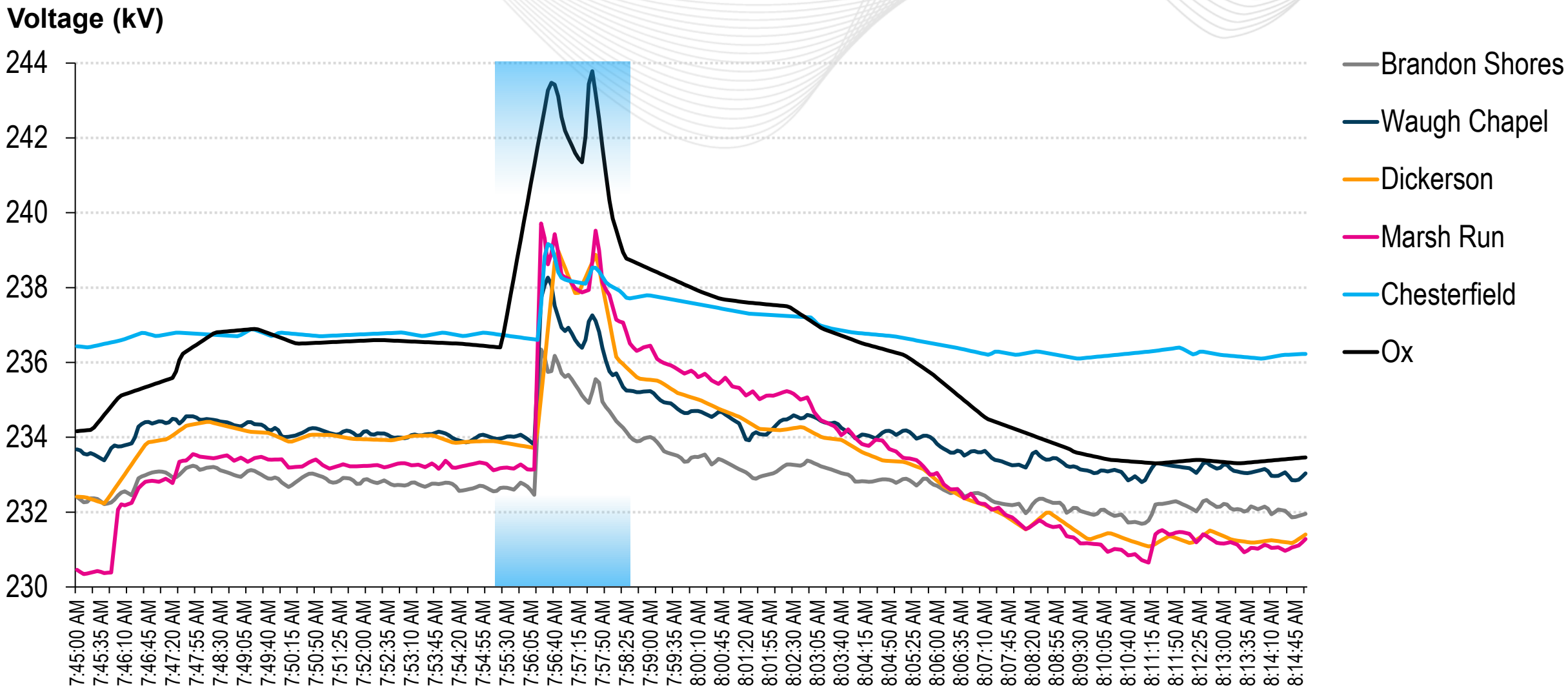
July 22, 2026 – Frequency



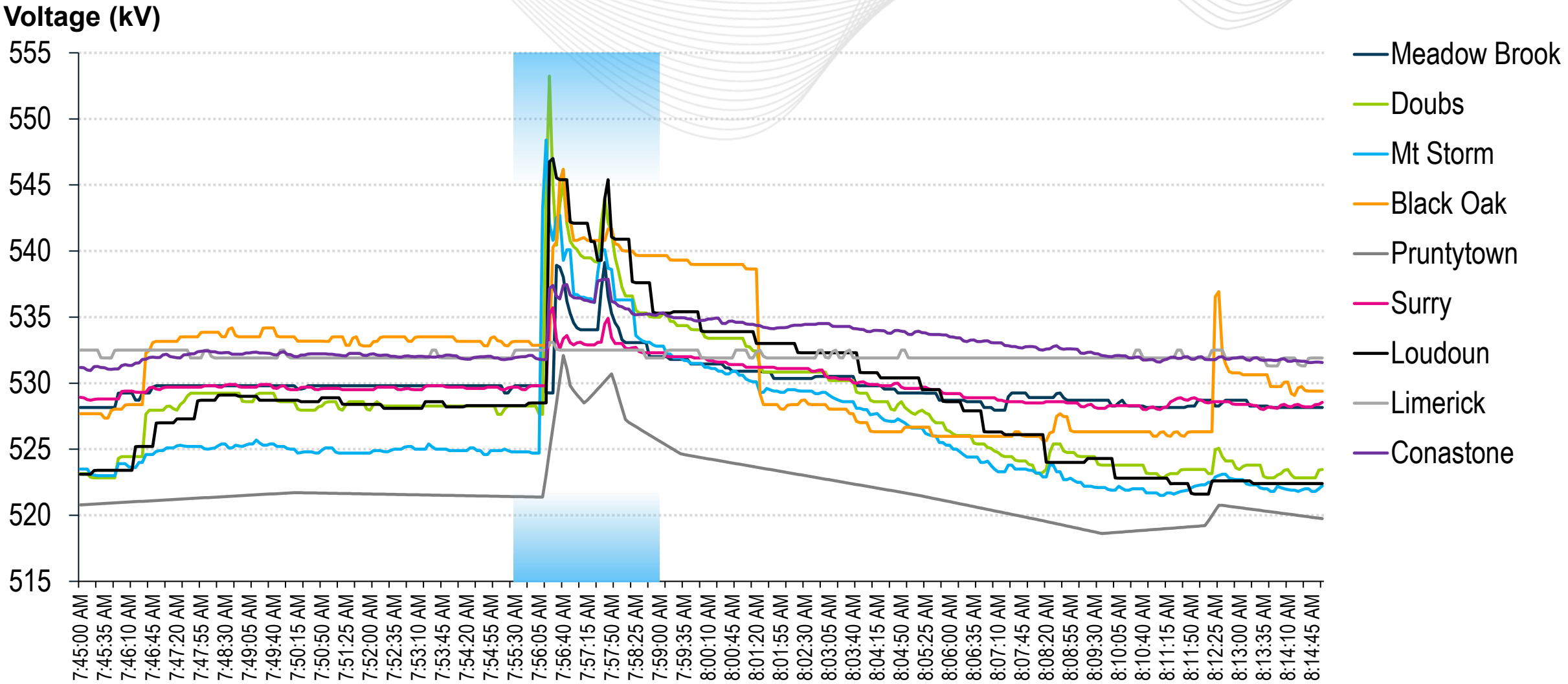
RTO Tie Flows vs. RTO Schedule



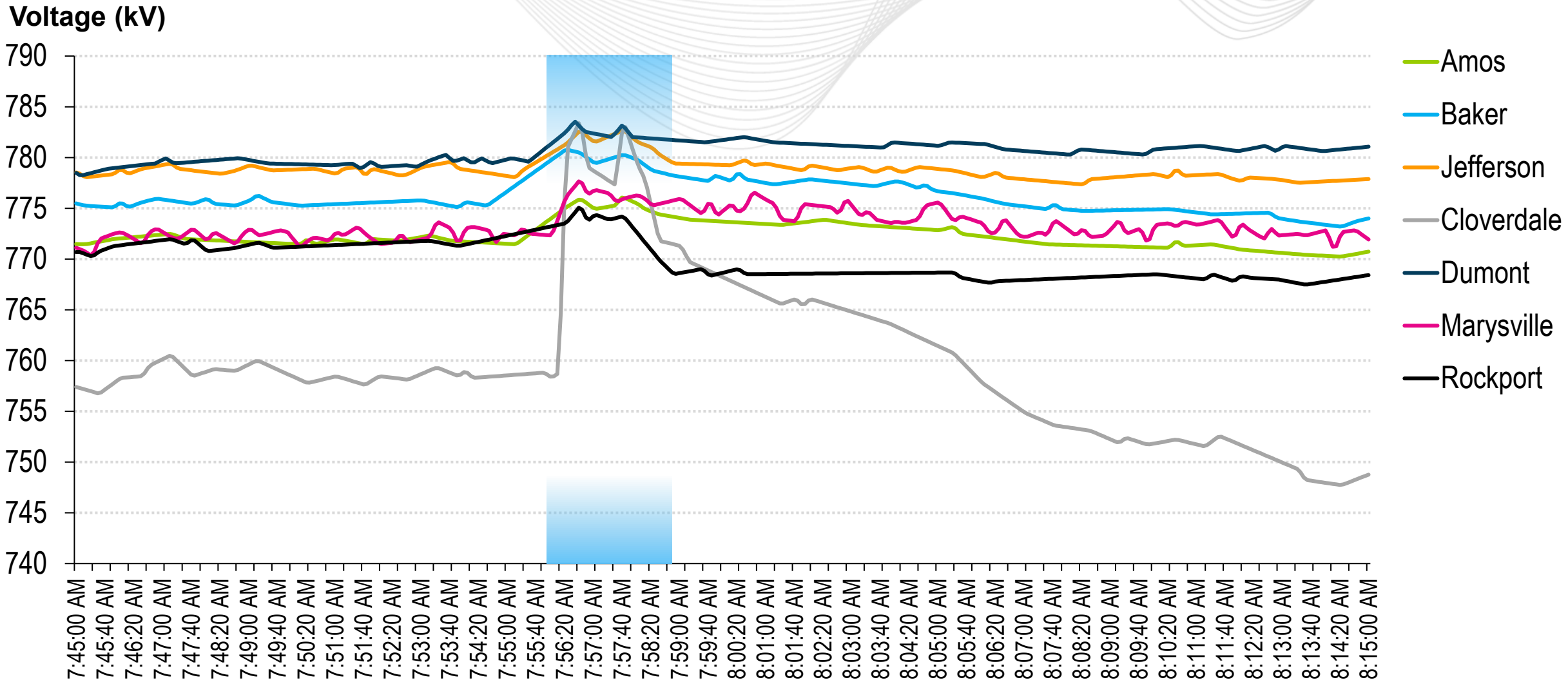
230 kV Voltages



500 kV Voltage



765 kV Voltage



NERC Reliability Standards
Project 2026-02 Computational Loads

Disclaimer: While materials are current at the time of publishing, applicable requirements may change. PJM Governing Documents control.

Project 2026-02 Goals

- Project Goals include developing:

1. Changes to **NERC Glossary to align with Rules of Procedure modifications**
2. Requirements to address **integration of Computational Loads onto the BPS**

- "This drafting team will develop one or more Reliability Standard(s) to address in the near-term **essential actions** entities must take to assure the reliable integration of large loads into the BPS."
- NERC/SDT is on-track to file with FERC by December 31, 2026
  - FERC Docket RD26-7-000 directing NERC to file by December 31, 2026

NERC Project 2026-02 Computational Loads

- **Draft** Standards expected to address **foundational** essential actions:
  - TOs and DPs to have Computational Load Site* interconnection requirements (Similar to FAC-001-4 R1)
  - PCs and TPs to develop steady-state, dynamics, and short circuit modeling data requirements (Similar to MOD-032-1 R1)
    - Data necessary for capabilities related to tripping, ride-through, and Disturbance recovery
- Phase 1 will not address the minimum voltage or frequency ride-through

NERC Draft Rules of Procedures

- **Computational Load Site** - One or more buildings, structures, or installations that:
  - primarily contains information technology infrastructure used for:
    - creating, executing, and delivering software applications and services;
    - artificial intelligences training, deployment, and delivery;
    - cryptocurrency mining; or
    - other computational activities at a data center; and
  - is supplied through electrical equipment that is connected to the Bulk Power System.

- **Computational Load Owner (CLO)*** - The entity that owns and maintains a Computational Load Site.

- **Computational Load Operator (CLOP)*** - The entity that operates a Computational Load Site.

- *Registration only applicable for Computational Load Sites greater than or equal to 50 MW that is connected at a voltage greater than or equal to 100 kV from one or more points of connection.

NERC – Minimum Ride-Through Requirements

- NERC Large Load Working Group (LLWG) has developed a draft whitepaper on Large Load Disturbance Performance
  - Posted for industry comment on July 30
    - 30-day comment period
- Defines a minimum technical capability floor for computational load voltage ride-through and Post Fault Active Power Recovery
  - Allows regional or local modification where system-specific analysis demonstrates a need for more stringent requirements
- Expected to become part of a Reliability Standard in 2027

NERC LLWG – Standard Authorization Request Roadmap

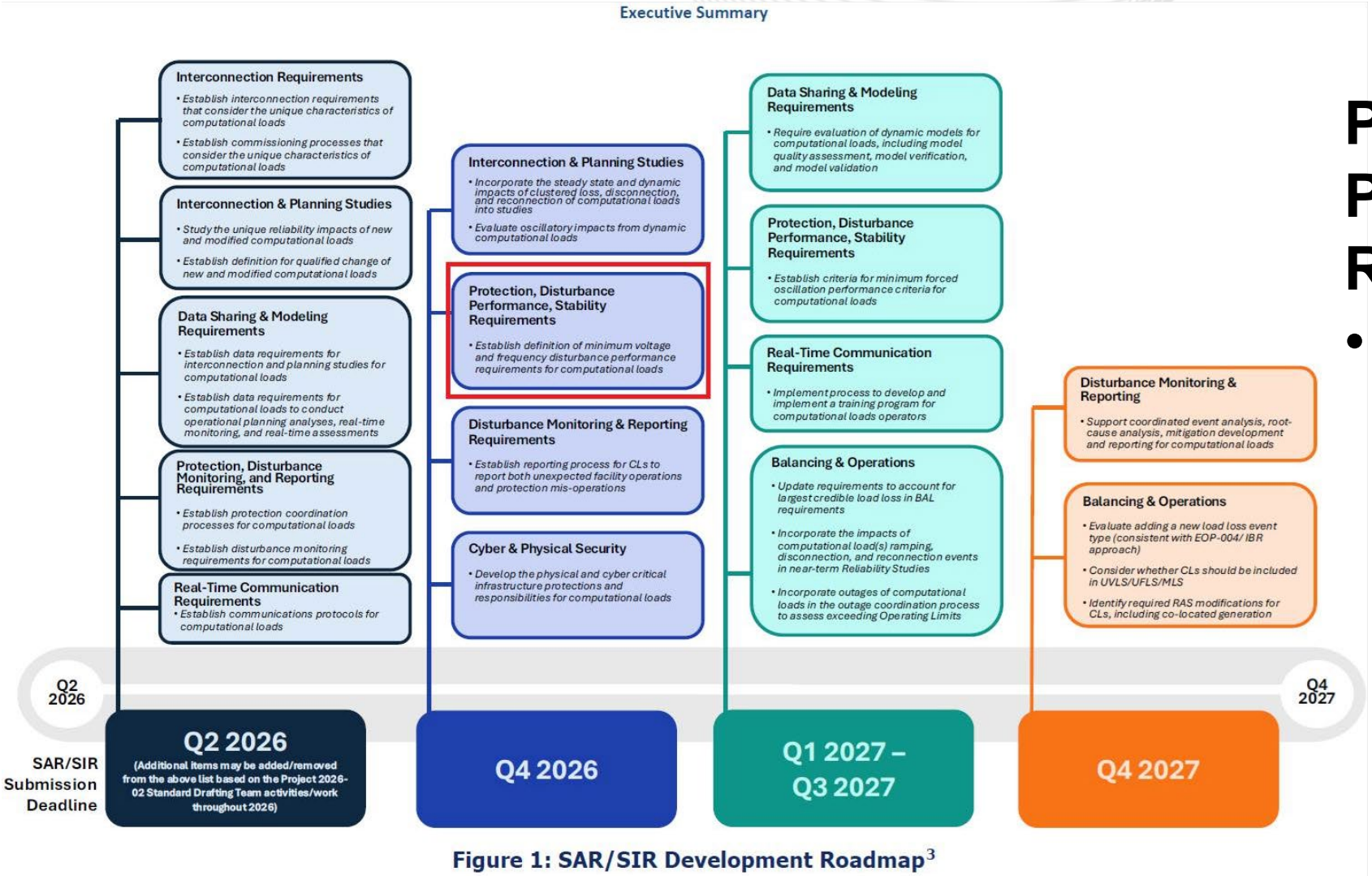
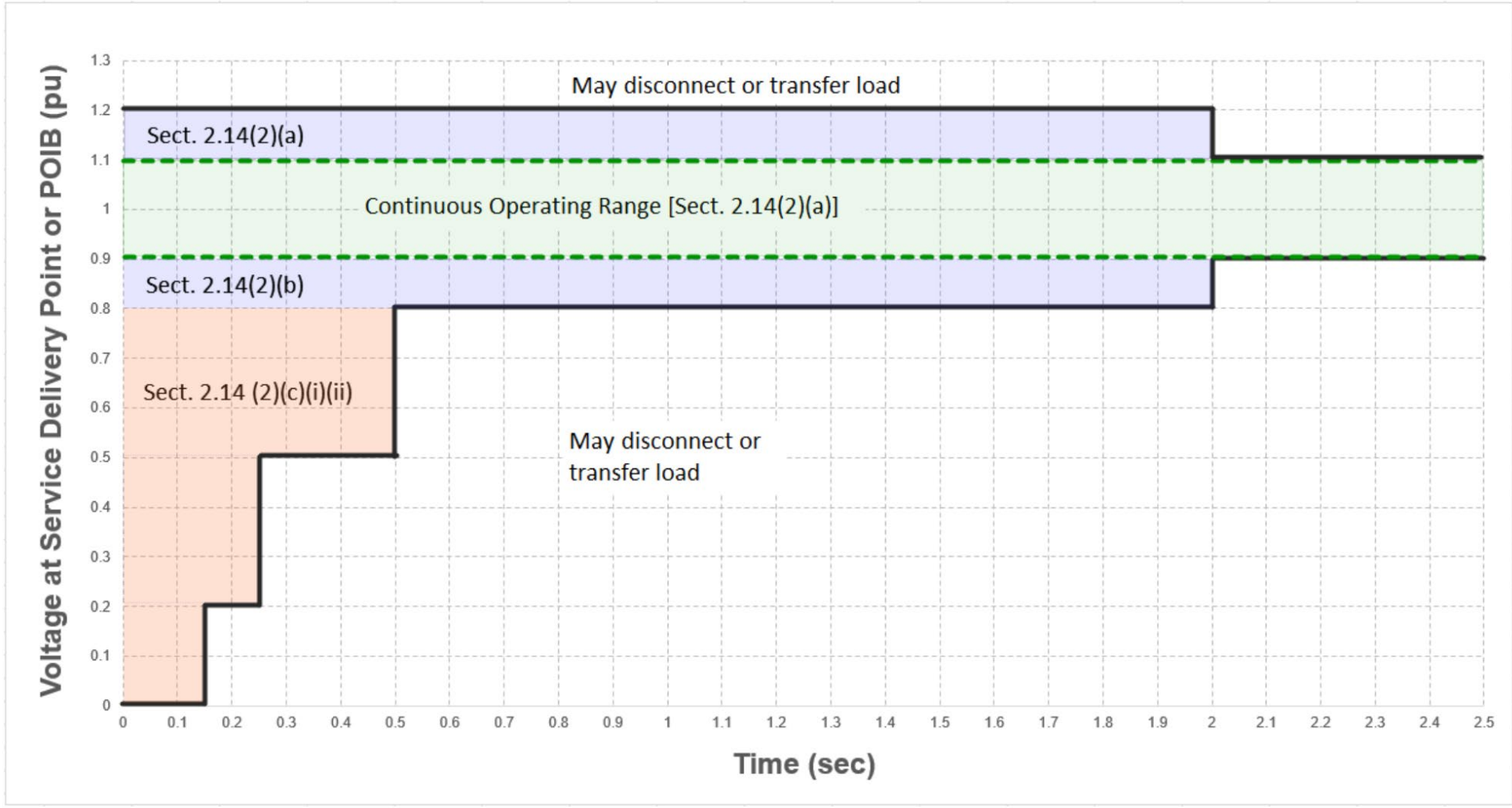


Figure 1: SAR/SIR Development Roadmap[3]

Protection, Disturbance Performance, Stability Requirements

- Establish definition of minimum voltage and frequency disturbance performance requirements for computational loads

ERCOT Voltage Ride-Through Requirements



Next Steps

- PJM and Dominion continue to jointly review the event and its system impacts.
- PJM is evaluating potential enhancements to reliability requirements, including consideration of existing and future industry ride-through standards and practices.
- Additional findings and lessons learned from the joint PJM-Dominion review will be presented at the August 6 Operations Committee Meeting.

Contact

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Dominion Load Transfer Event

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PROTECT THE POWER GRID

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pjm

BE ALERT TO MALICIOUS PHISHING EMAILS

Report suspicious email activity to PJM.

Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

Dominion Energy Large Load Transfer Event

7/22/2026

Preliminary Findings

Presentation Disclaimer

- The conclusions, observations, and recommendations presented herein are preliminary in nature and are based on information available at the time of preparation. Additional data, analysis, and stakeholder input may result in modifications to these findings. As such, the content of this presentation represents our current understanding and should be considered subject to change without notice. No significant business, operational, financial, or strategic decisions should be made solely on the basis of the information contained in this presentation. Independent review and validation of relevant facts and assumptions are recommended prior to taking action.

Preliminary Findings

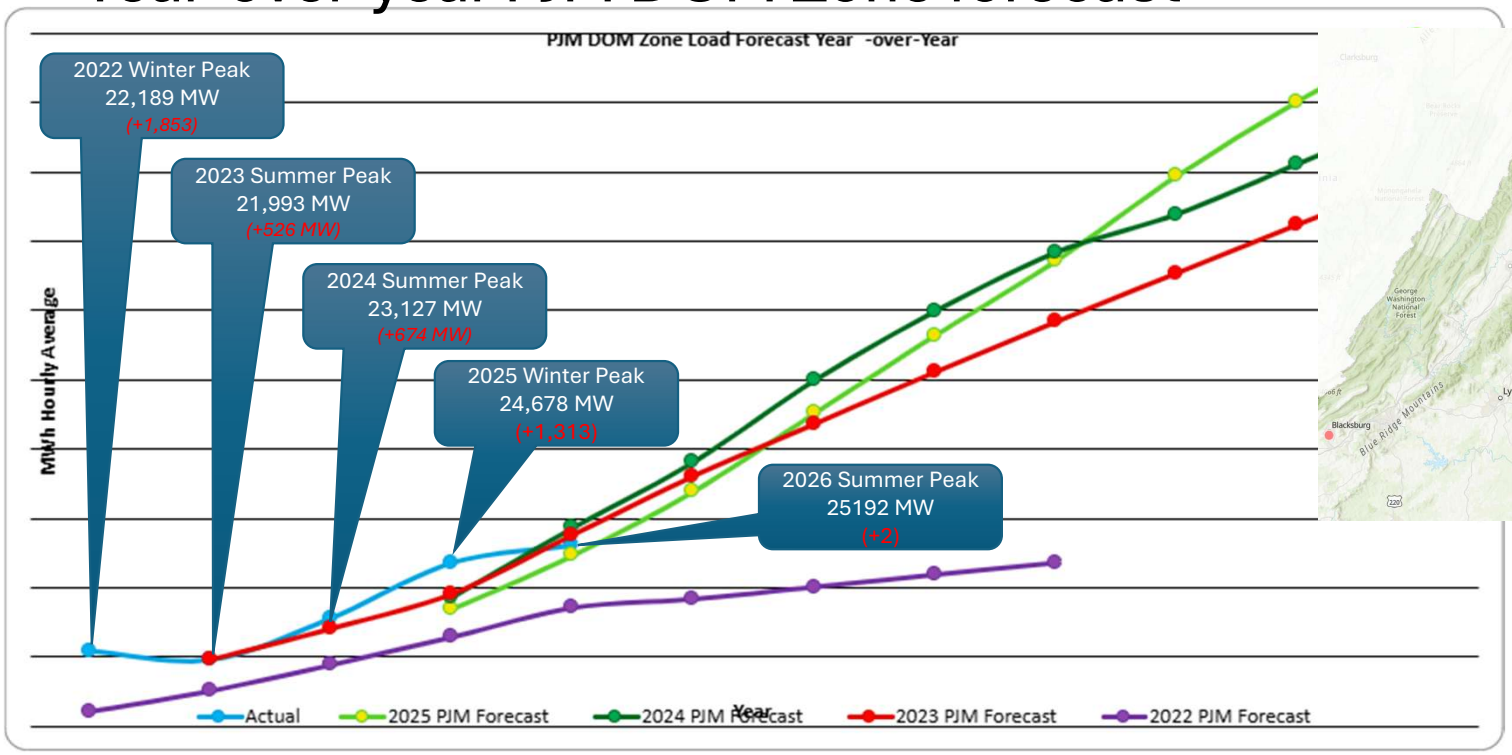
Presentation Agenda

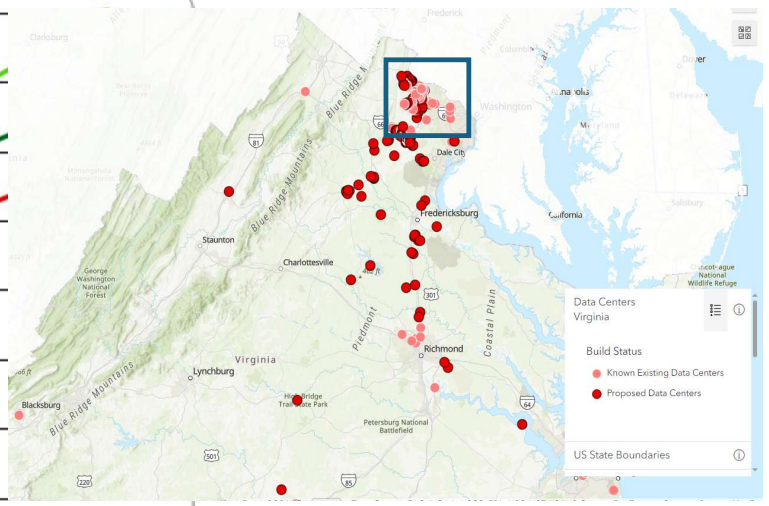
- Dominion's Data Center Growth and Challenges
- Overview of the failed equipment
- Overview of the protection operation
- System Response when large loads transferred to backup generation when still energized
- Voltage and Frequency Response
- Close by Generation AVR Response

Preliminary Findings

Year-over-year PJM DOM Zone forecast

Zonal 10/15 Year Load Growth		
SUMMER	5.6%	4.8%
WINTER	5.1%	4.3%





No.	Date	Temp	Peak
1	7/3/2026	100	25192
2	2/9/2026	13	25168
3	7/2/2026	96	25159
4	7/4/2026	99	24846
5	1/23/2025	9	24678
6	7/1/2026	93	24557
7	2/8/2026	10	24198
8	1/29/2026	11	24196
9	1/30/2026	13	24162
10	12/15/2025	15	24157

Preliminary Findings

Dominion Energy

Data Center Load Pockets

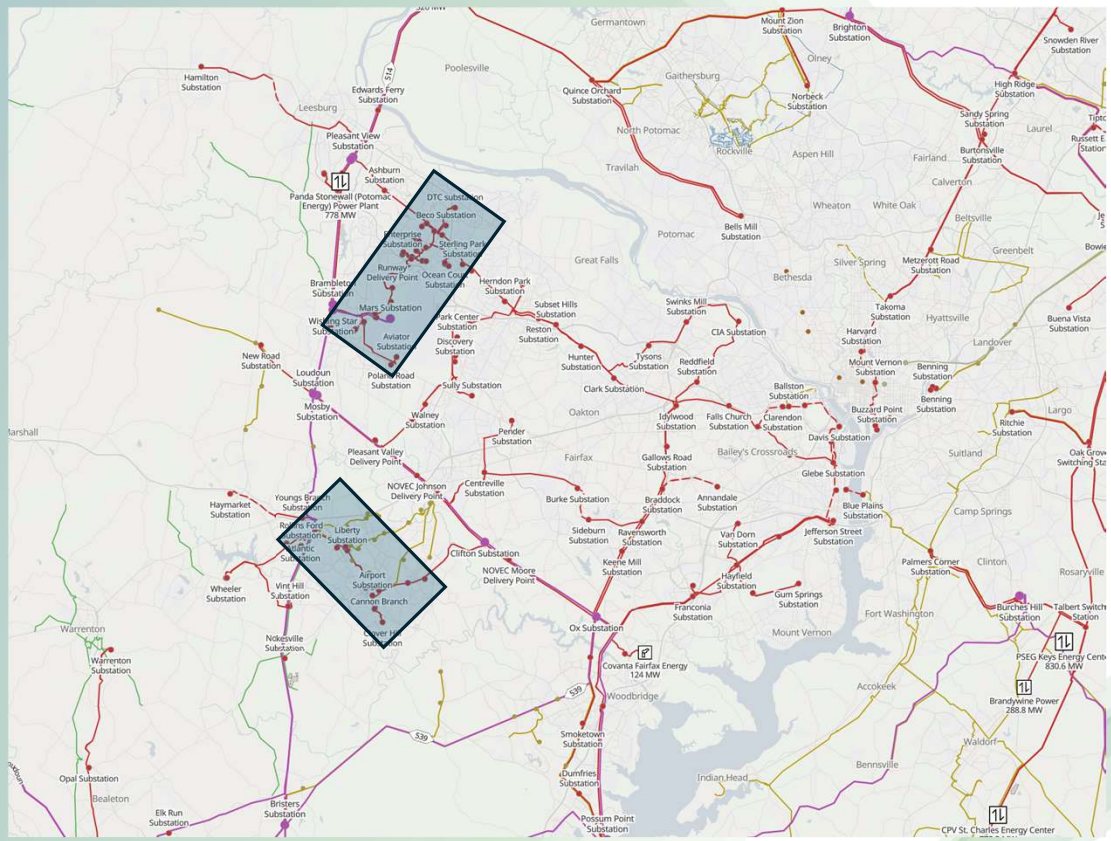
Data Center Load represents 27% of the previous peak load record.

- The two data centers pockets in northern VA, process 70% of the world's internet traffic.
- Loudoun County Pocket has a maximum load of 4247.6MW.
- Prince William Pocket has a maximum load of 2186.2MW.

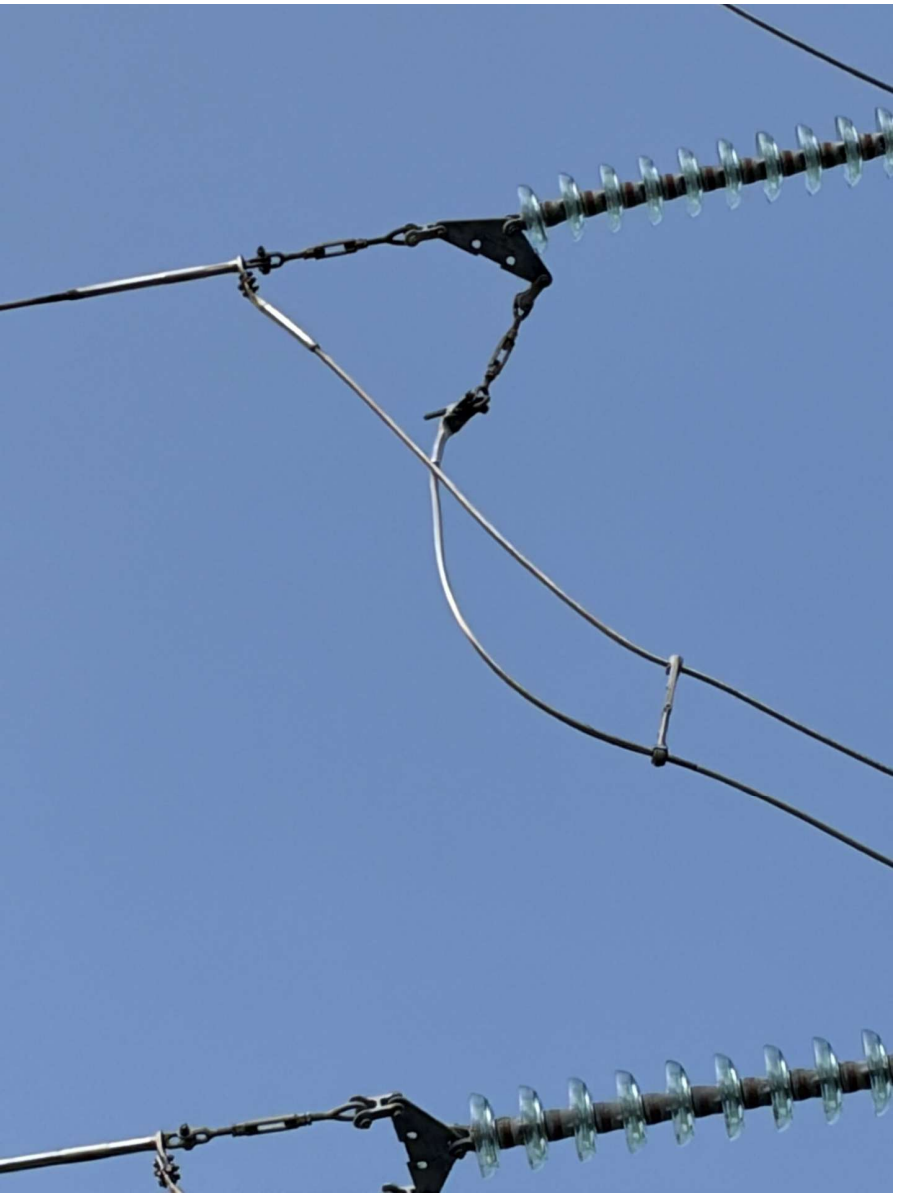
Not Shown in the image:

- East Richmond Pocket has a maximum of 383.8MW
- Mecklenburg Pocket has a peak load of 519MW.
- Data Centers exist outside of these pockets.

- These loads are no co-incidental.



Preliminary Findings



230kV Transmission Line Experienced a Mechanical Failure

- At 07:56 a single sub conductor of a double bundle pulled free from its mechanical compression sleeve on a dead end structure.
- The apparent cause was over-heating on the sleeve due to improperly torqued bolts on the pad to pad connection.
  - The remaining bolts on the line were inspected with no issues found. The sleeves on the remaining phases were X-Rayed to confirm proper installation
  - A formal RCA will be completed in September of 2026.

Preliminary Findings

Protection Analysis

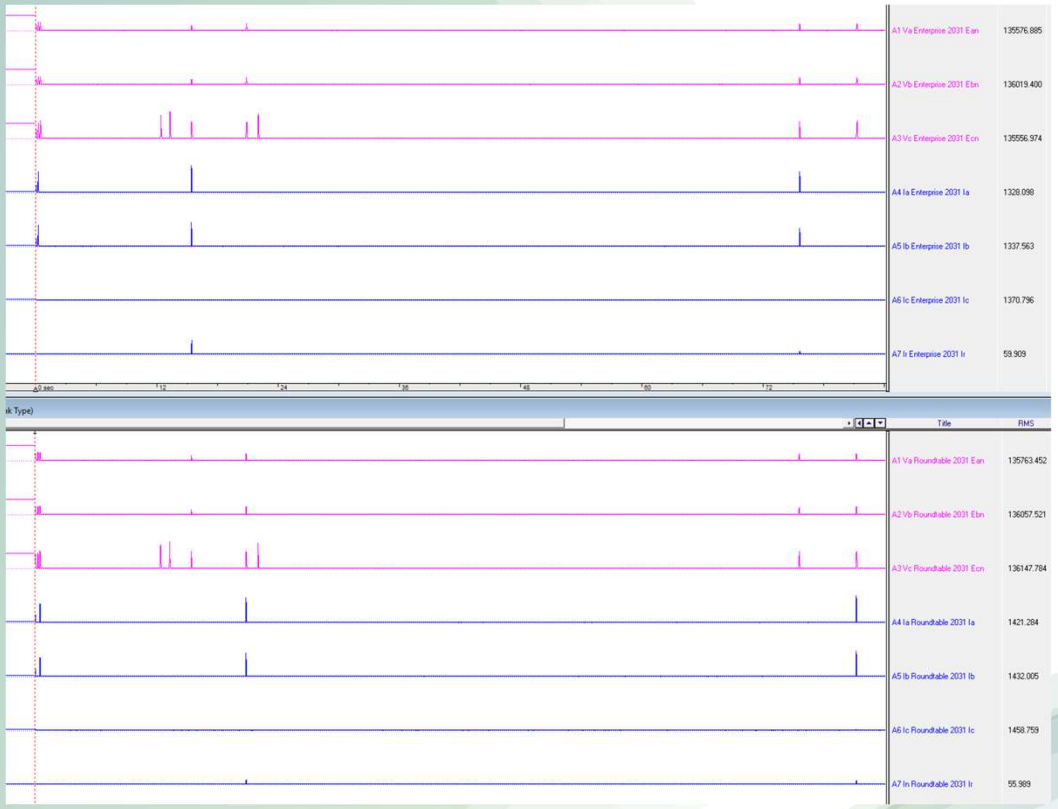
Initial Fault and all reclose attempts cleared in 2-3 cycles as designed.

Close end tripped on Zone 1, Remote end tripped on Zone 2.

Fault currents 28.8kA.

Reclosing operated as designed. Each terminal reclosed high speed, then time delayed as per designed.

One data center back fed the fault during the event, 3 attempts.



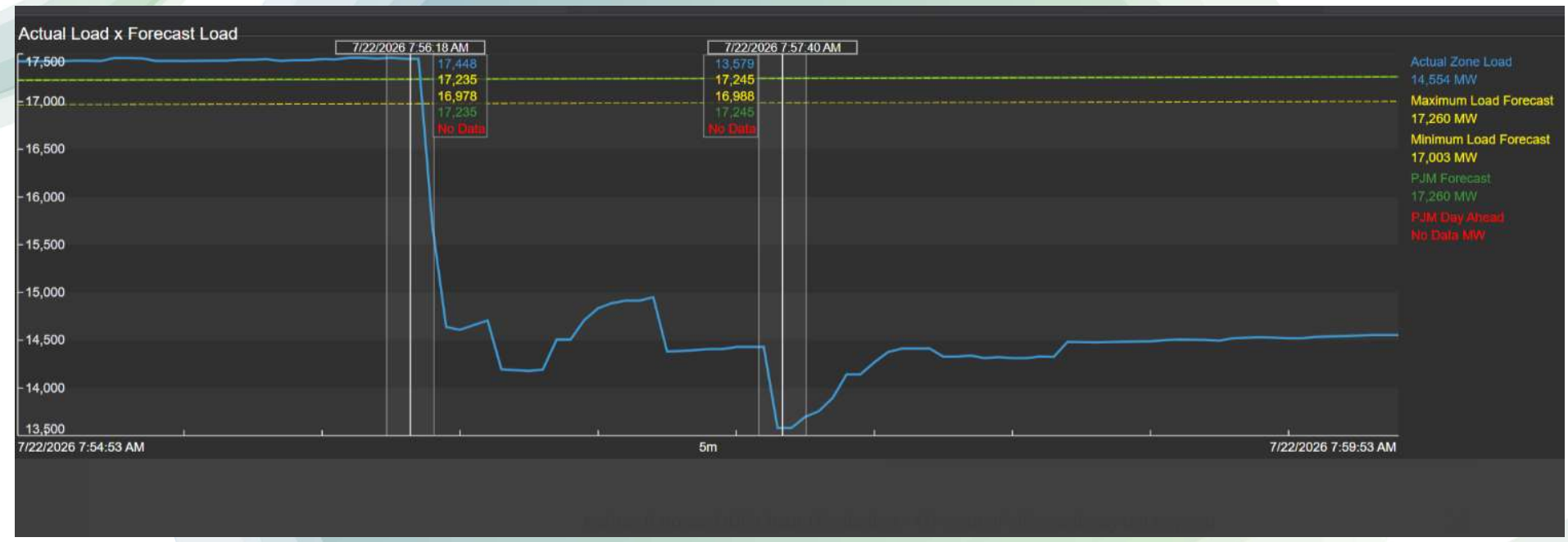
Preliminary Findings

Timeline of Events

- 07:56:09 – 2031 line opened and initiated instantaneous reclose and retripped
- 07:56:10 – Shellhorn SC 5 and 6, and Liberty SC1
- 07:56:15 – Received Abnormal Voltage alarms
- 07:56:25 – Round Table 2031 circuit breaker reclosed and opened
- 07:56:30 – Enterprise 2031 circuit breaker reclosed and opened
- 07:56:33 – Initial Load Loss [2,970 MW]
- 07:57:25 – Round Table 2031 circuit breaker reclosed and locked out
- 07:57:30 – Enterprise 2031 circuit breaker reclosed and locked out
- 07:57:40 – Ashburn SC3 opened
- 07:57:40 – Secondary Load Loss [1,099 MW]
- 07:57:54 – Dranesville SC5 opened
- 07:58:14 – Clifton SC1 opened
- 07:59:05 – Valley Reactor #1 closed
- 07:59:55 – Dooms Reactor #1 closed

Preliminary Findings

Load Transfer Approximation (MW)

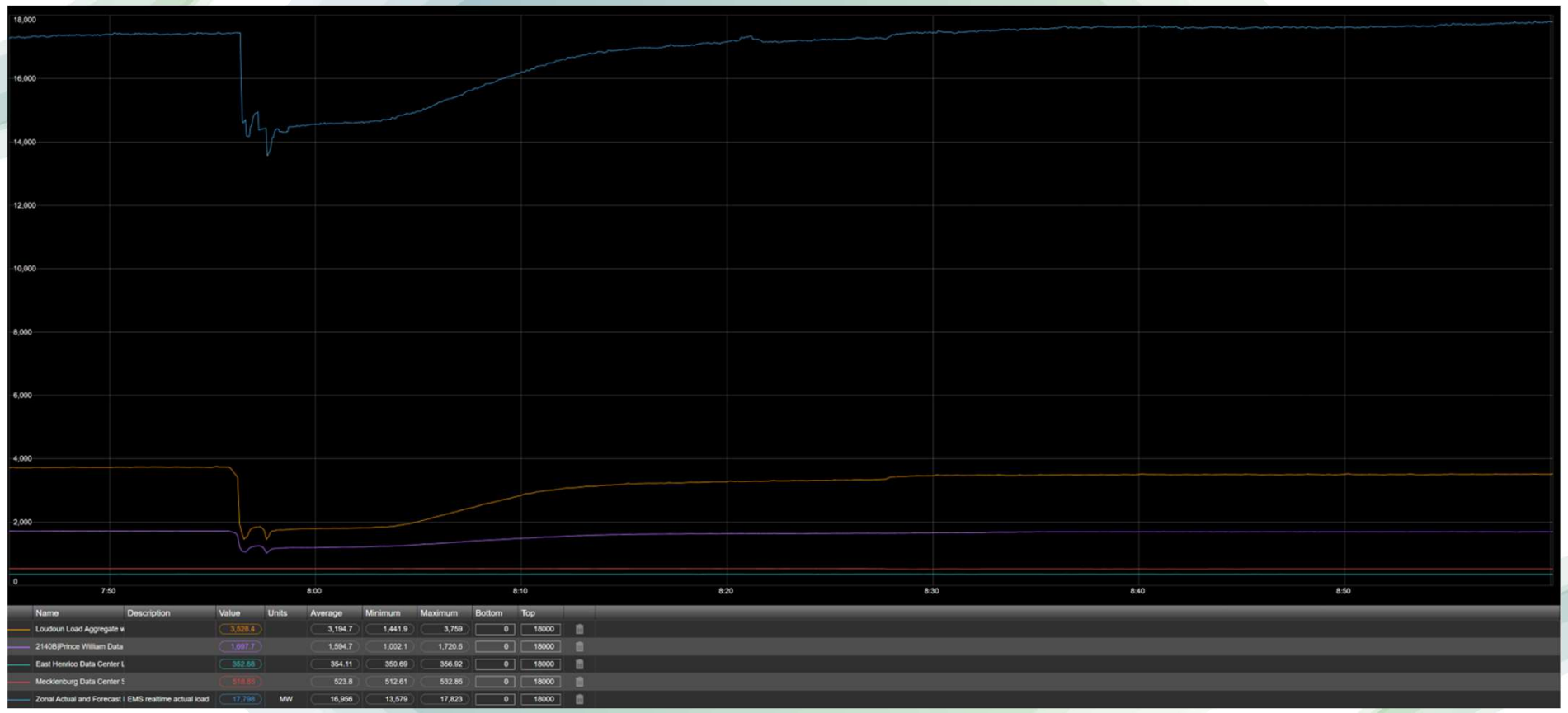


7/22/2026 07:56 – 17,448 MW
7/22/2026 07:57 – 13,579 MW

Preliminary Findings

Approximate Load Transferred: 3,869 MW

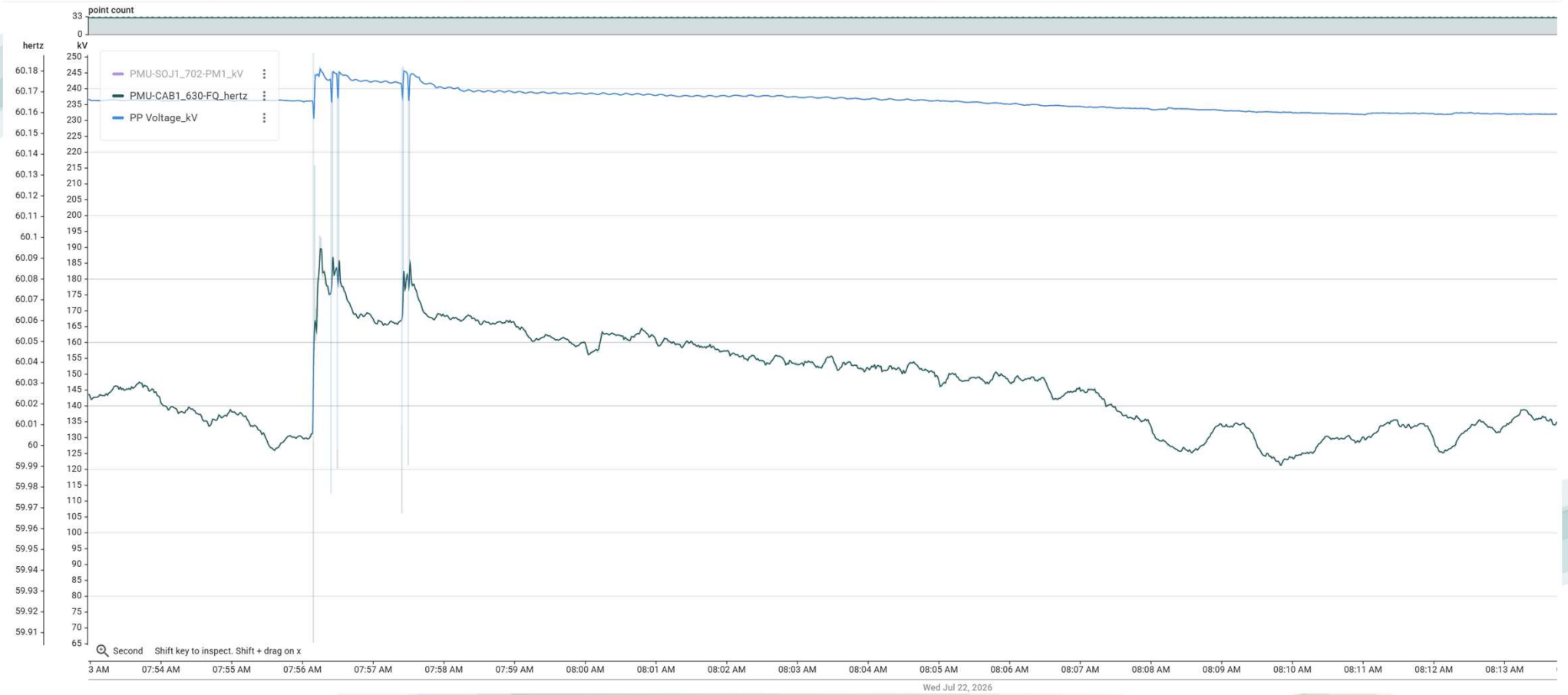
Load Drop off and Recovery (MW)



Name	Description	Value	Units	Average	Minimum	Maximum	Bottom	Top
Loudoun Load Aggregate w		3,528.4		3,194.7	1,441.9	3,759	0	18000
21408|Prince William Data		1,697.7		1,594.7	1,002.1	1,720.6	0	18000
East Henrico Data Center L		352.68		354.11	350.69	356.92	0	18000
Mecklenburg Data Center S		518.89		523.8	512.61	532.86	0	18000
Zonal Actual and Forecast | EMS realtime actual load		17,798	MW	16,956	13,579	17,823	0	18000

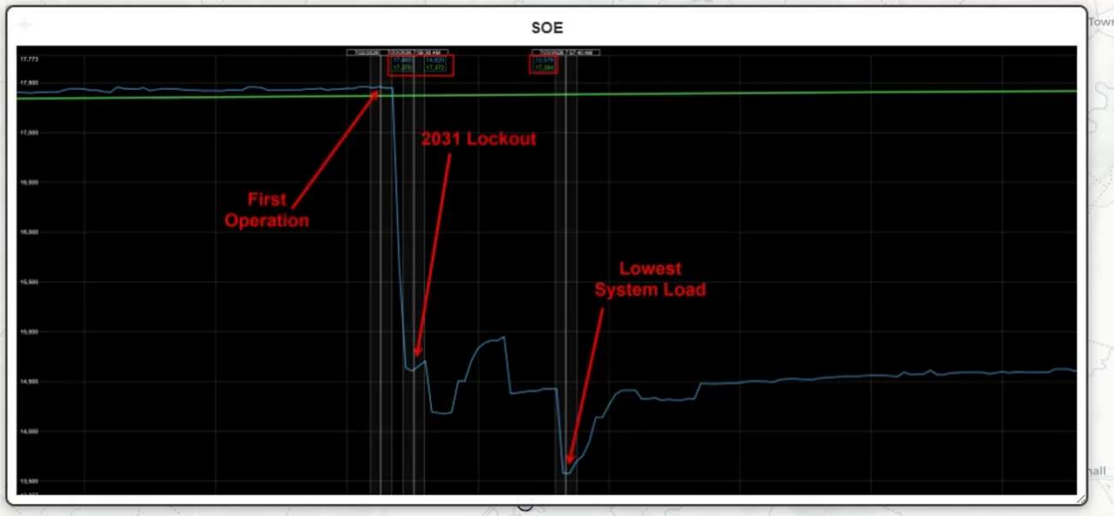
Preliminary Findings

Frequency (Hz) and Voltage Profile (kV)



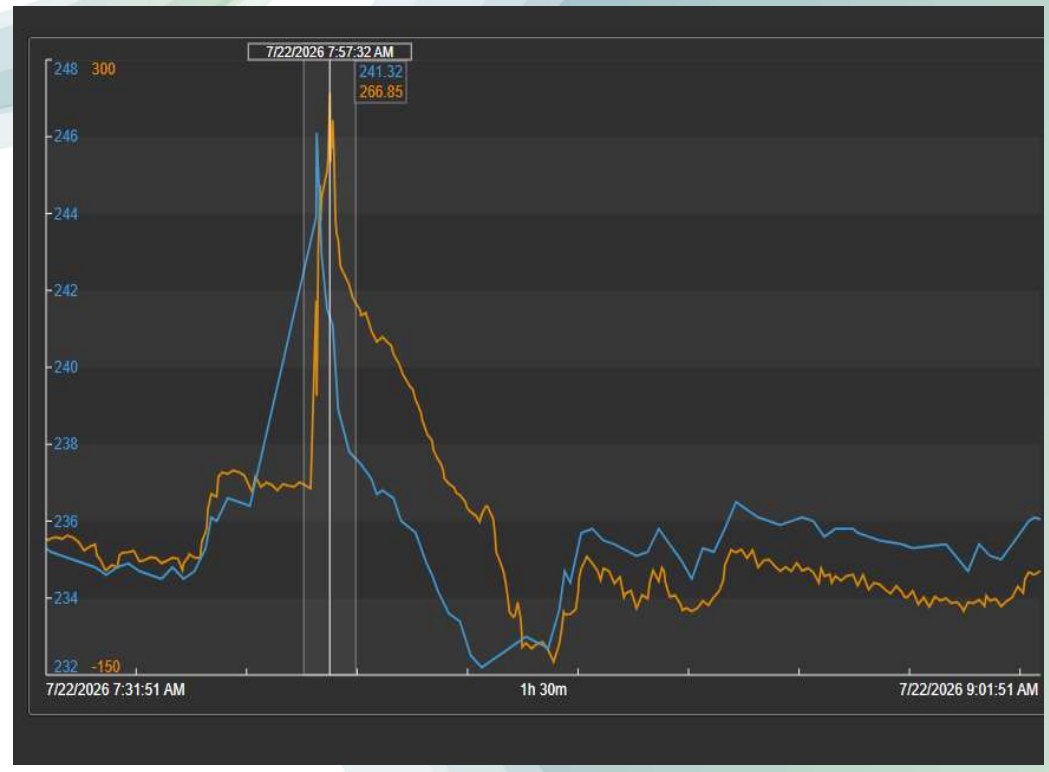
Preliminary Findings

Voltage Profile

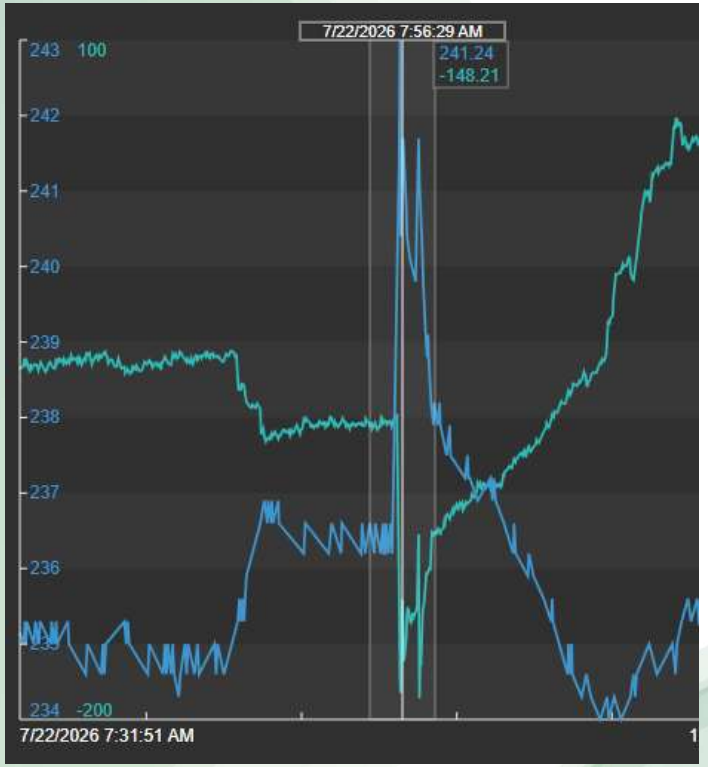


Preliminary Findings

Generator Response Examples:



Close by generation
(-266 MVAR)



Generation further away
(-150 MVAR)

Preliminary Findings

Preliminary Conclusions

- At 07:56 a phase to phase fault occurred on line 2031 right outside of Roundtable substation.
- All protection systems worked as designed, isolating the faulted line.
- Data Center load transferred away from the grid during the reclosing events in both Loudoun and Prince William load pockets.
- The high voltage caused by the large load transfer was corrected via overvoltage capacitor bank tripping and operator action.
- Load transferred back to the grid by the customers within 30 minutes.