

# Data for Event Analysis

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NERC Event Analysis  
NASPI Webinar  
August 28, 2024

**RELIABILITY | ACCOUNTABILITY**





<https://www.nerc.com/pa/rrm/ea/Pages/Major-Event-Reports.aspx>

It all started with...

**NERC**  
NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

## 1,200 MW Fault Induced Solar Photovoltaic Resource Interruption Disturbance Report

Southern California 8/16/2016 Event

June 2017

RELIABILITY | ACCOUNTABILITY



3353 Peachtree Road NE  
Suite 600, North Tower  
Atlanta, GA 30326  
404-446-2560 | [www.nerc.com](http://www.nerc.com)

And the most recent...



## 2023 Southwest Utah Disturbance

Southwestern Utah: April 10, 2023  
Joint NERC and WECC Staff Report

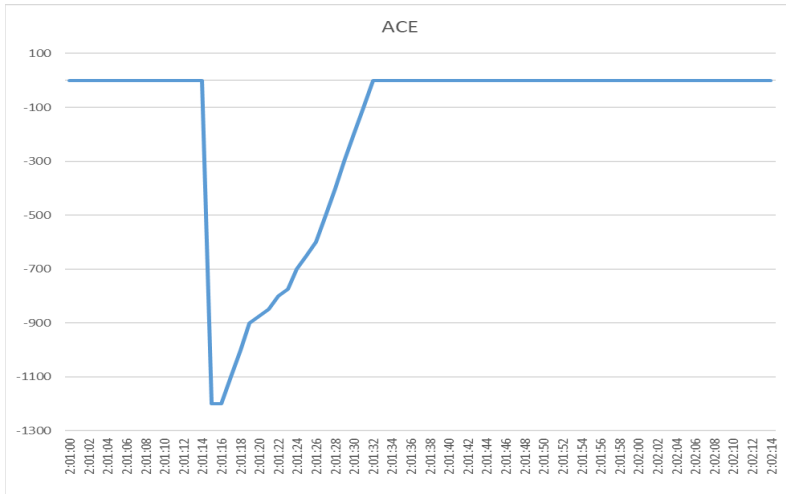
August 2023

RELIABILITY | RESILIENCE | SECURITY

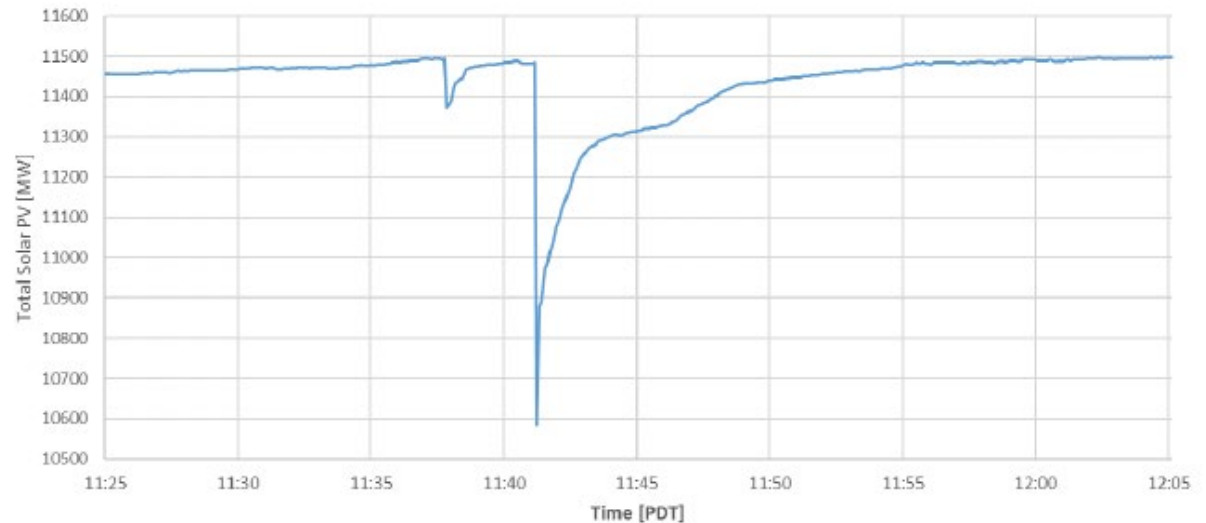


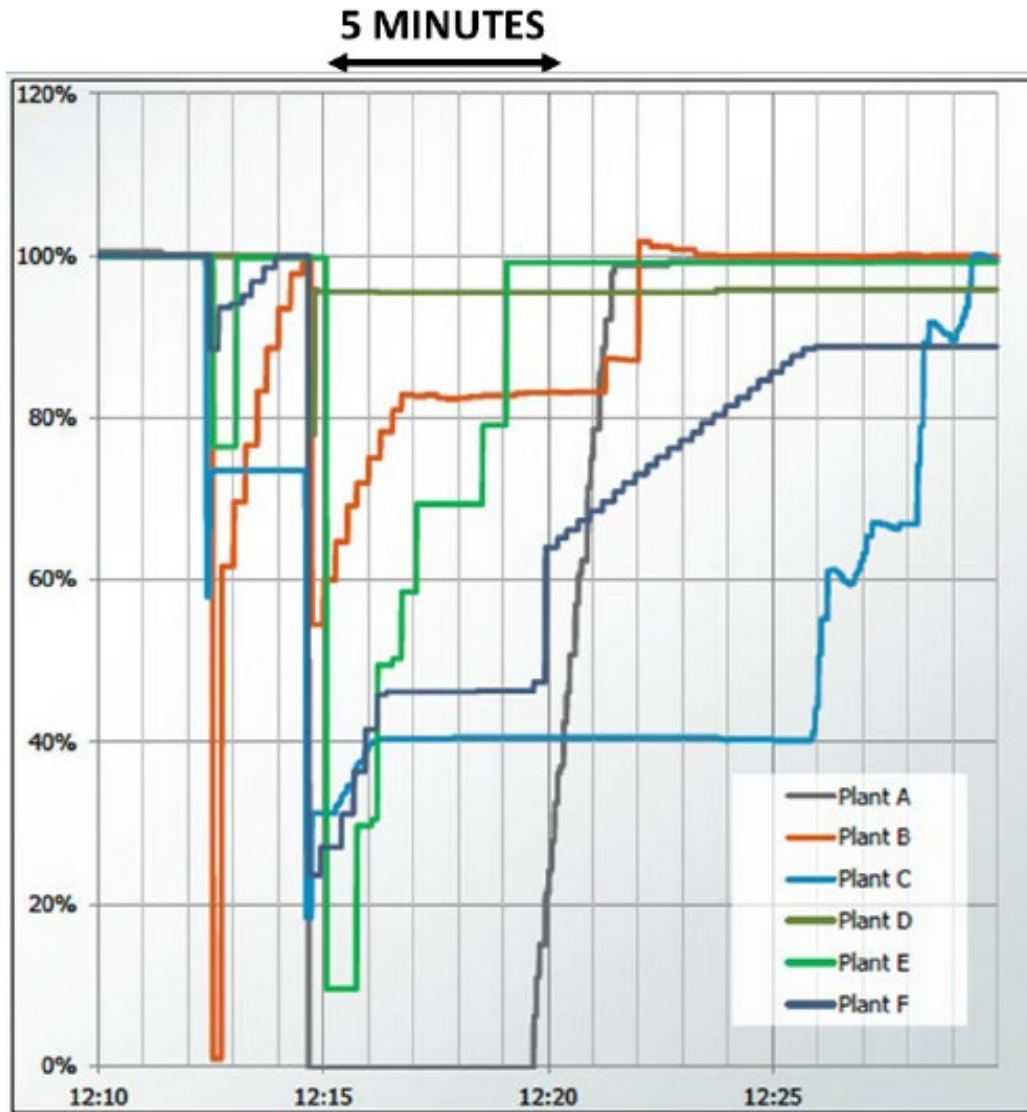
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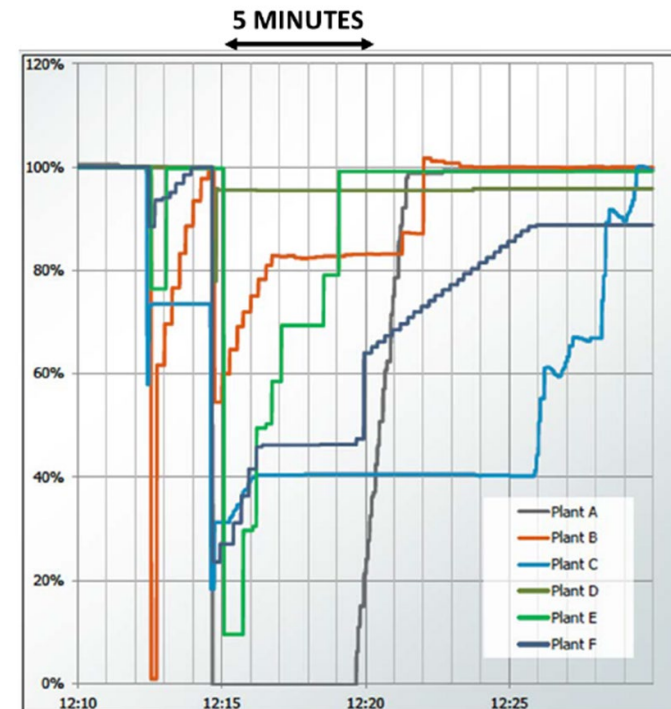
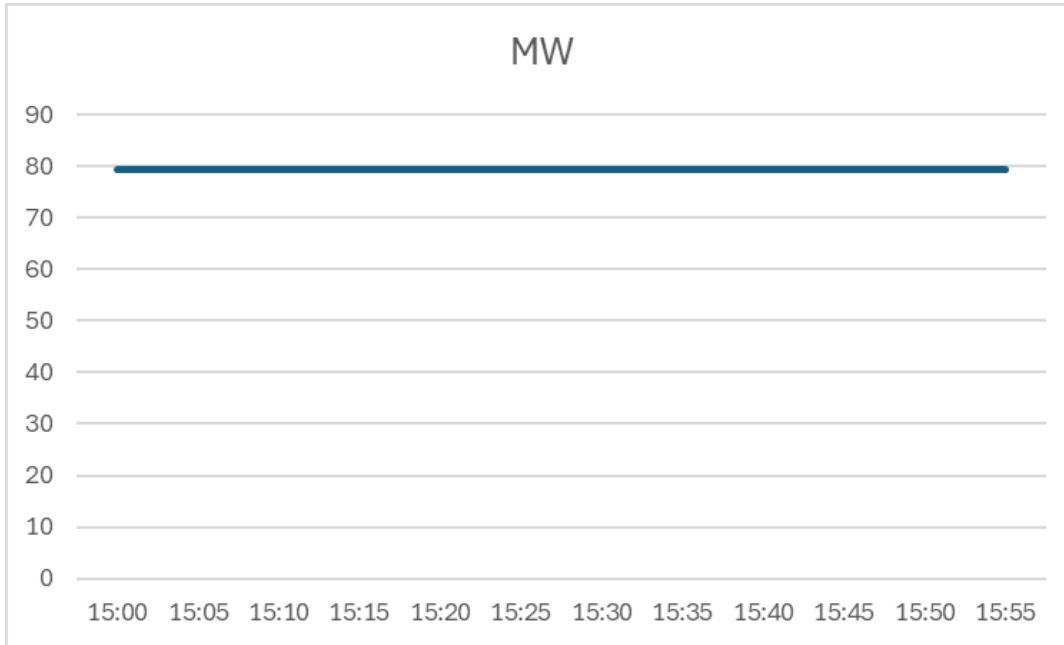
- Change in ACE
- Change in Total Solar Output





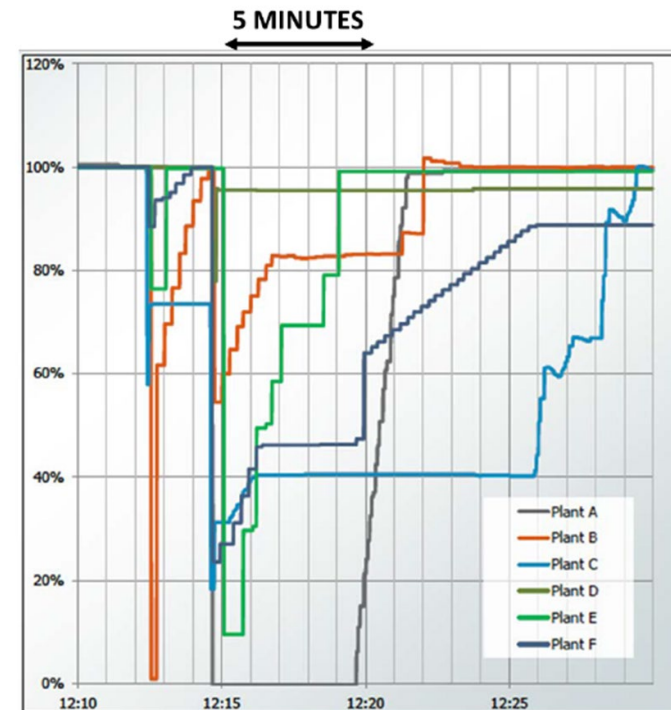
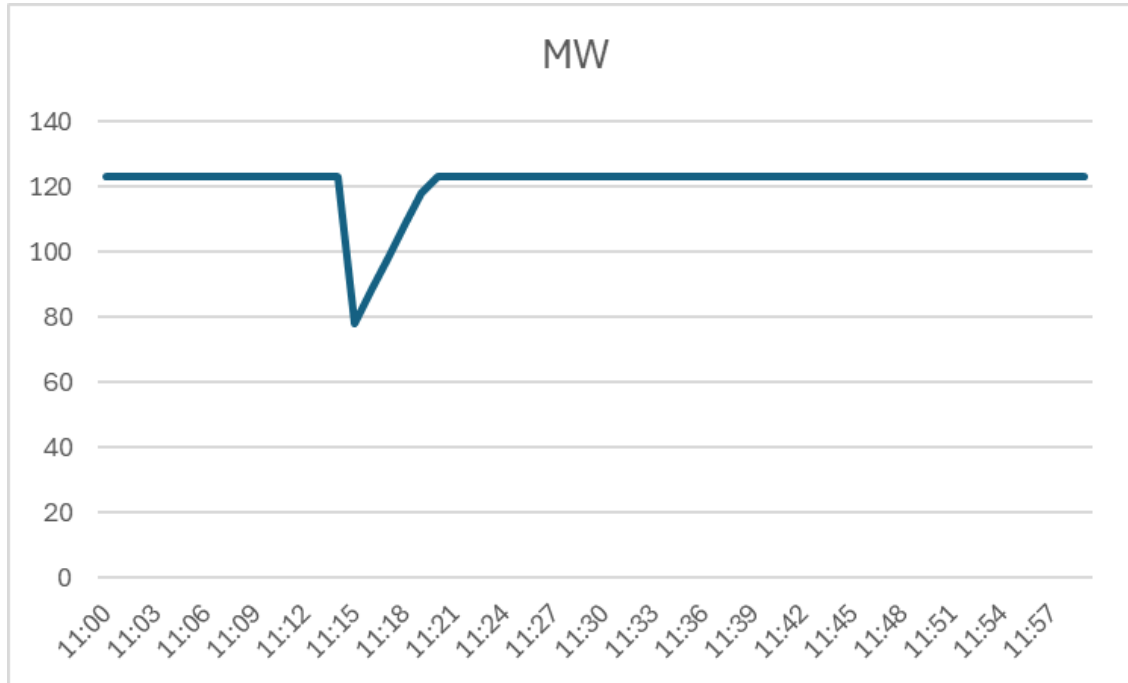
- **Data recording for facility output during disturbance**
  - Highest resolution data available
- **Causes of reductions**
- **Settings for protection that operated during disturbance**

In the beginning...

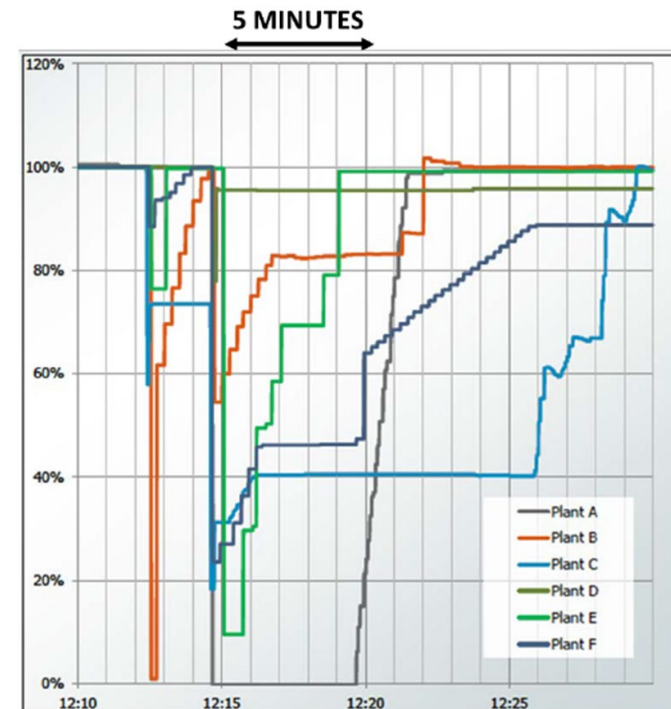
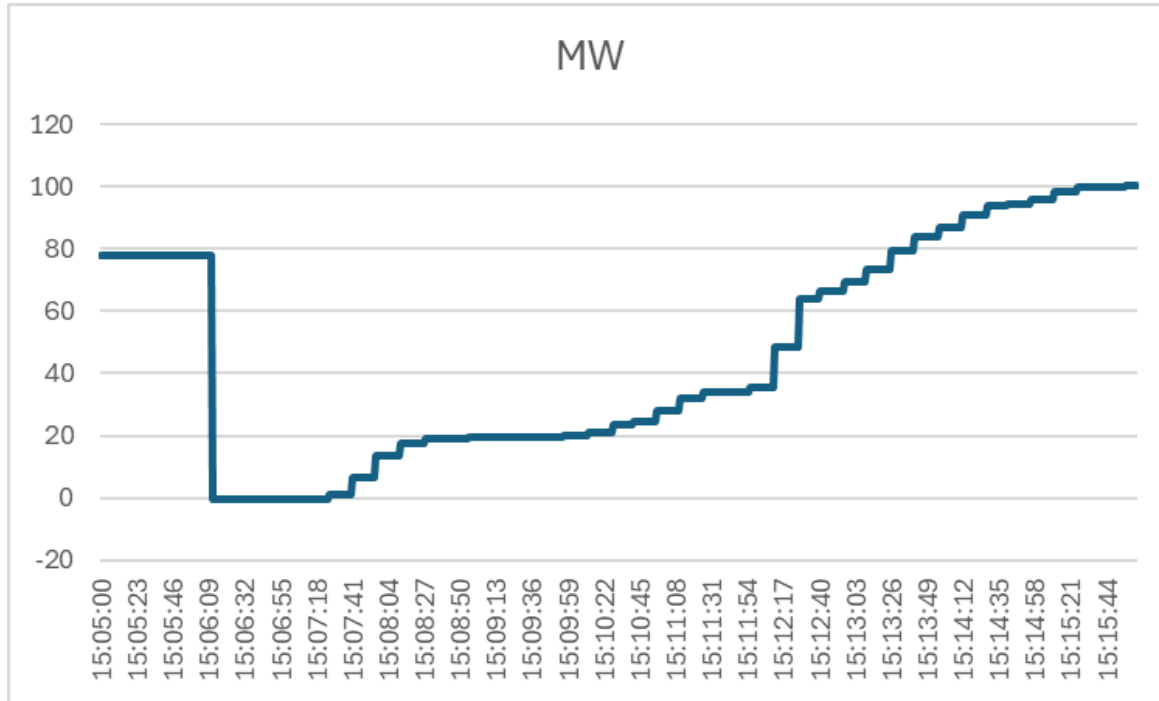




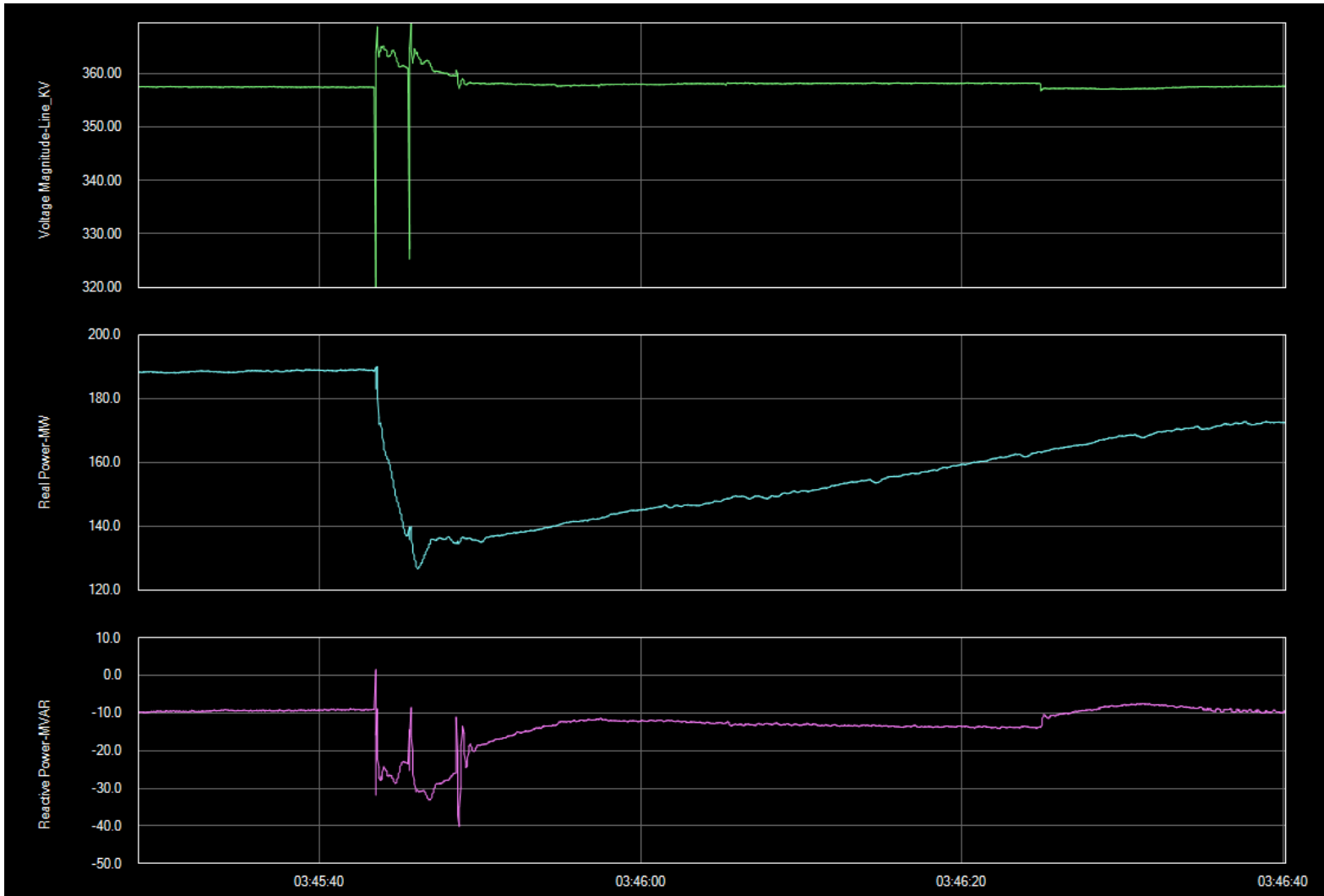
Then...



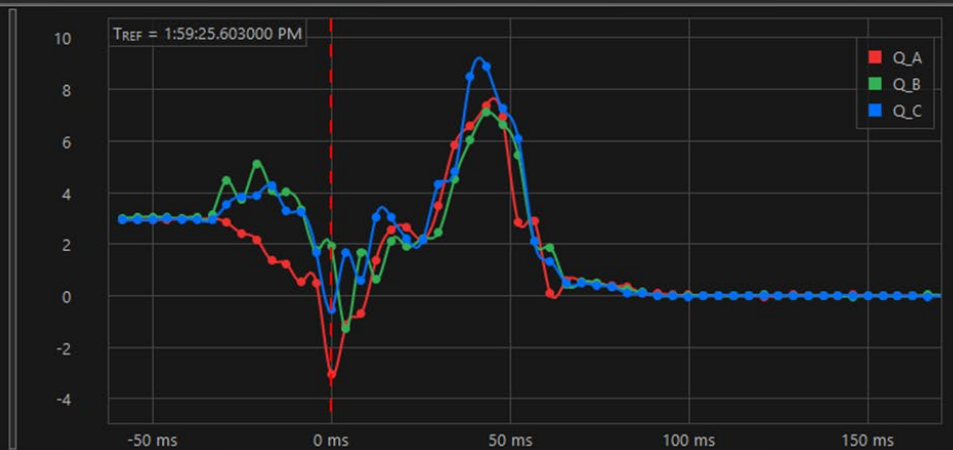
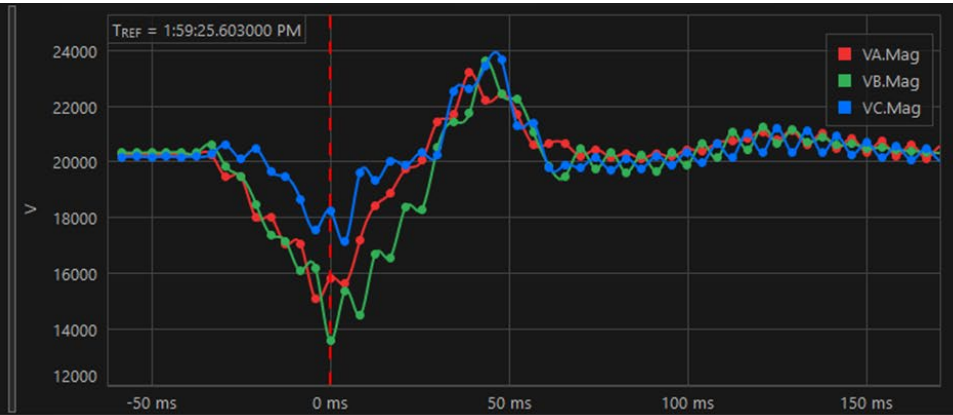
A little better...



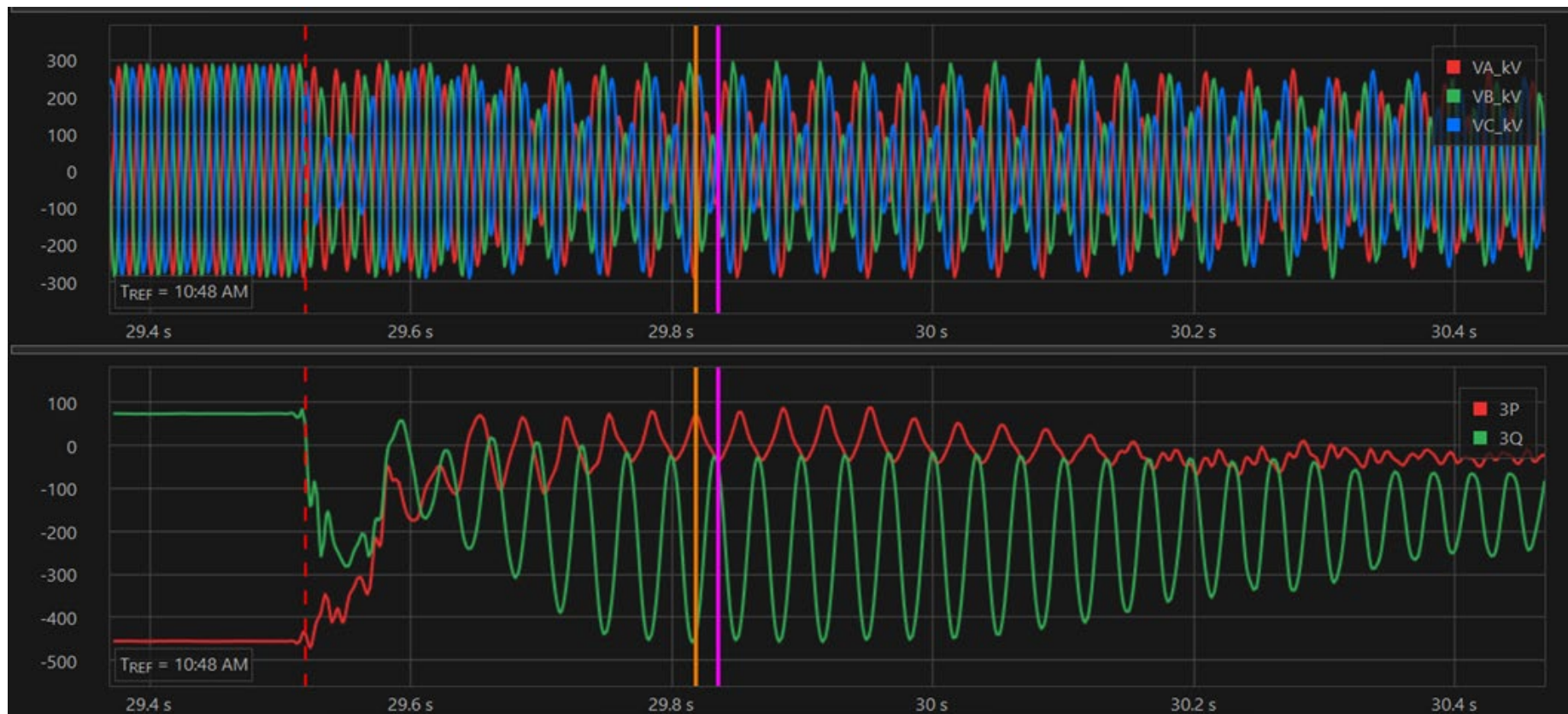
## Now we're talking!



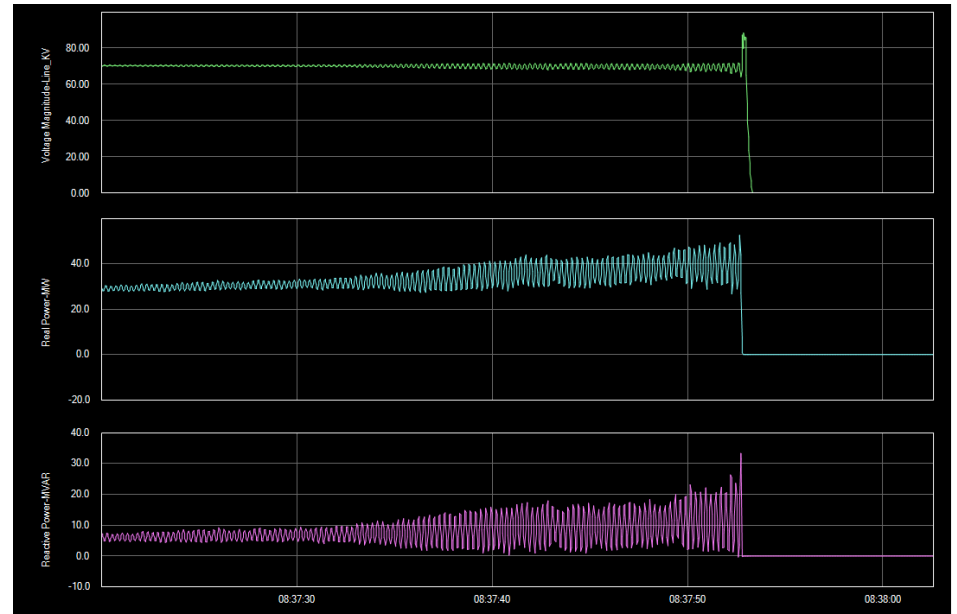
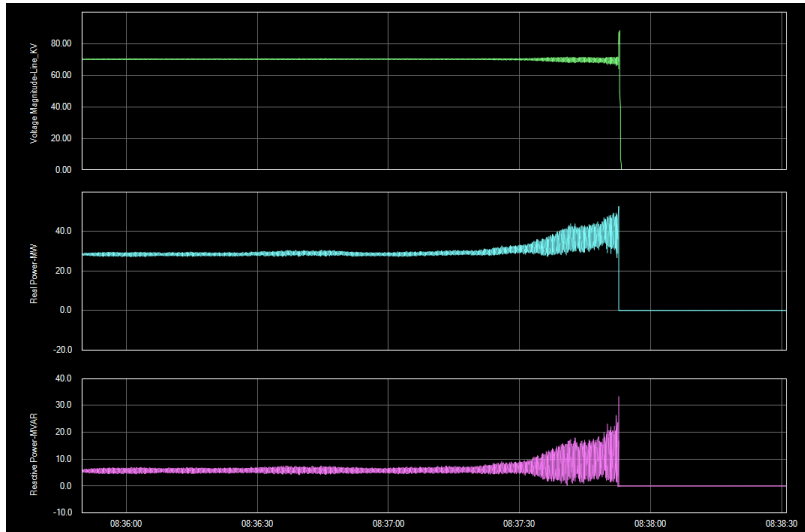
**Wow!**



## More Wow!



And finally...





## Standards Announcement

Project 2021-04 Modifications to PRC-002  
– Phase II | PRC-028-1

### Additional Ballots and Non-binding Poll Results

[Now Available](#)

Additional ballots and non-binding poll of the associated Violation Risk Factors and Violation Severity Levels for **Project 2021-04 Modifications to PRC-002 - Phase II** concluded at **8 p.m. Eastern, August 12, 2024**.

The voting statistics are listed below, and the details can be accessed on the [Ballot Results](#) page.

	<b>Ballot</b>	<b>Non-binding Poll</b>
<b>Standard</b>	<b>Quorum / Approval</b>	<b>Quorum / Supportive Opinions</b>
PRC-028-1	87.04% / 80.70%	86.59% / 77.51%
Implementation Plan	85.04% / 84.55%	N/A

• **8/12/2024**

## **PRC-028-1 – Disturbance Monitoring and Reporting Requirements for Inverter-Based Resources**

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- R4.** Each Generator Owner shall have continuous dynamic disturbance recording (DDR) data and storage to determine the following electrical quantities for each main power transformer(s) it owns: *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*
- 4.1.** One phase-to-neutral or positive sequence voltage on high-side of the main power transformer(s).
  - 4.2.** The phase current for the same phase at the same voltage corresponding to the voltage in Requirement R4, Part 4.1, or the positive sequence current.
  - 4.3.** Real Power and Reactive Power flows expressed on a three-phase basis corresponding to each main power transformer(s) where current measurements are required.
  - 4.4.** Frequency of any one of the voltage(s) in Requirement R4, Part 4.1.

- R5.** Each Generator Owner responsible for DDR data for the electrical quantities identified in Requirement R4 shall have DDR data that meet the following: *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*
- 5.1.** Input sampling rate of at least 960 samples per second.
  - 5.2.** Output recording rate of electrical quantities of at least 60 times per second.

- R6.** Each Generator Owner shall time synchronize all SER, FR, and DDR data to meet the following: *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*
- 6.1.** Synchronization to Coordinated Universal Time (UTC) with or without a local time offset.
  - 6.2.** Synchronized device clock accuracy within  $\pm 1$  milliseconds of UTC. The IBR units shall have synchronized device clock accuracy within  $\pm 100$  milliseconds of UTC.

A stylized map of North America, including the United States, Canada, and Mexico. The map is rendered in shades of blue and grey, with the United States and Canada in a darker blue and Mexico in a lighter grey. The word "Questions" is overlaid on the map in a large, bold, black font.

# Questions

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