

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# NERC Update – And IEEE P2800 Standard on Inverter Resources

NASPI Meeting – Richmond, VA  
29-30 October 2019

**RELIABILITY | ACCOUNTABILITY**





# **Inverters and IEEE P2800 Update**

NERC is working closely with IEEE on Inverter-related standards and guidelines:

- IEEE 1547-2018 Standard applies to inverters connected to distribution systems
- IEEE P2800 Inverter Based Resource Performance Standard – for inverters connected above distribution voltage (including transmission voltages)
- IEEE DER Managements System Guideline (P2030.11)
- Regulator education workshops – IEEE Standards are not enforceable unless:
  - Adopted by regulators
  - Included in interconnection agreements (SGIA and LGIA)

## Summary of Activities: BPS-Connected Inverter-Based Resources and Distributed Energy Resources

[https://www.nerc.com/comm/PC/Documents/Summary\\_of\\_Activities\\_BPS-Connected\\_IBR\\_and\\_DER.pdf](https://www.nerc.com/comm/PC/Documents/Summary_of_Activities_BPS-Connected_IBR_and_DER.pdf)

## Blue Cut Fire Disturbance Report:

<http://www.nerc.com/pa/rrm/ea/Pages/1200-MW-Fault-Induced-Solar-Photovoltaic-Resource-Interruption-Disturbance-Report.aspx>

## Canyon 2 Fire Disturbance Report:

<http://www.nerc.com/pa/rrm/ea/Pages/1200-MW-Fault-Induced-Solar-Photovoltaic-Resource-Interruption-Disturbance-Report.aspx>

## ● Webinar on Both Disturbances:

Webinar on first two disturbances:

<http://www.nerc.com/pa/rrm/ea/Pages/1200-MW-Fault-Induced-Solar-Photovoltaic-Resource-Interruption-Disturbance-Report.aspx>

NERC Events Analysis:

<http://www.nerc.com/pa/rrm/ea/Pages/default.aspx>

NERC Alerts:

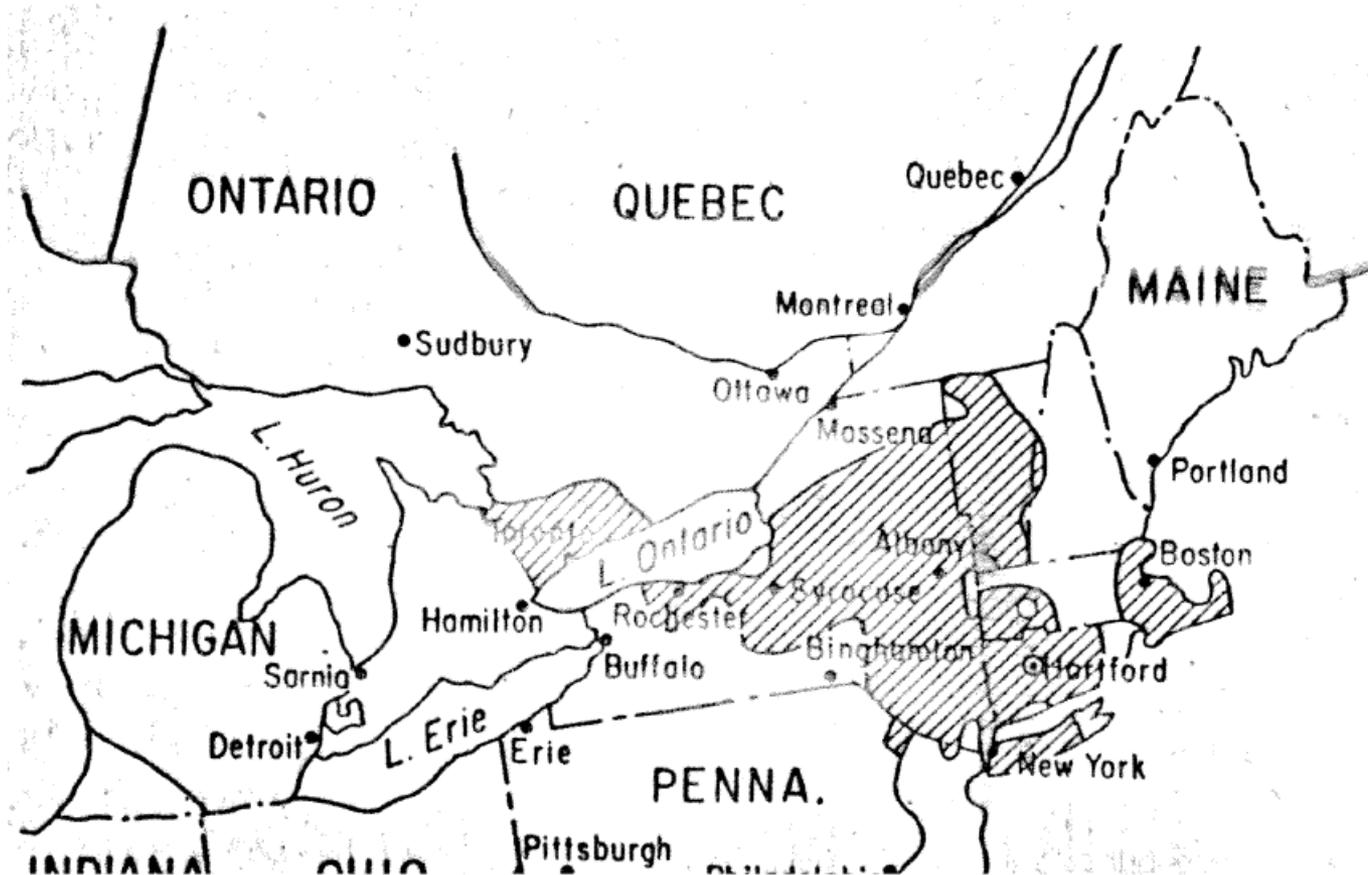
<http://www.nerc.com/pa/rrm/bpsa/Pages/Alerts.aspx>

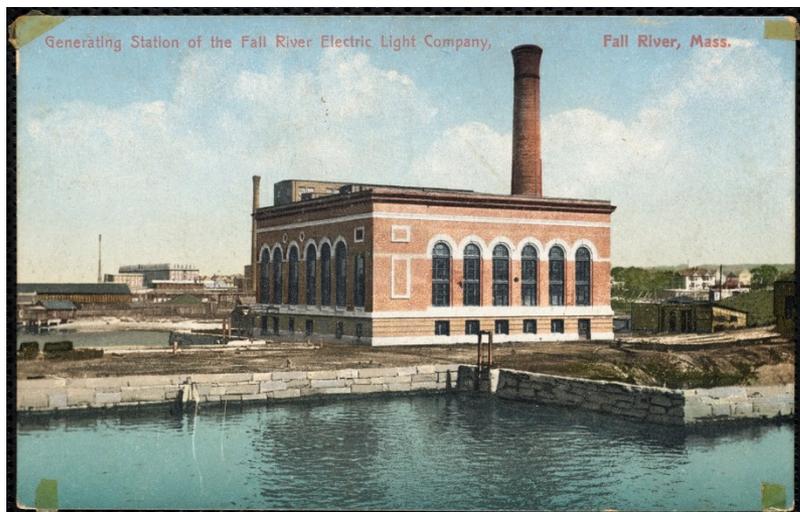
NERC IRPTF Page:

<http://www.nerc.com/comm/PC/Pages/Inverter-Based-Resource-Performance-Task-Force.aspx>

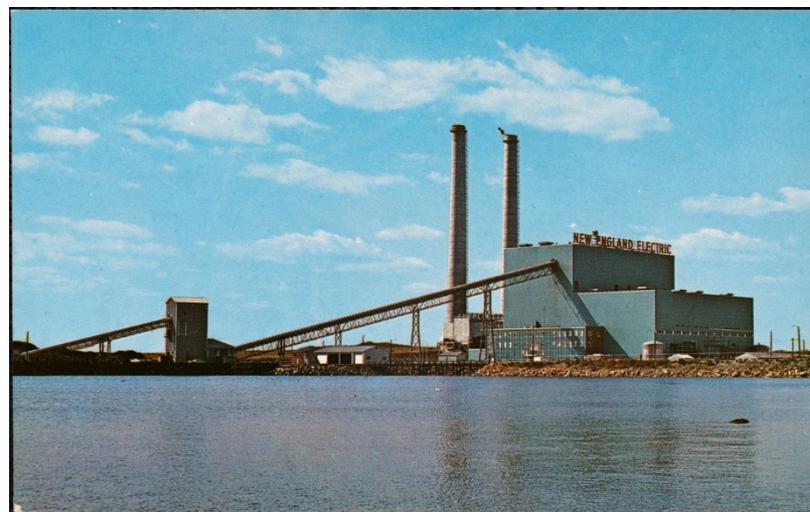
- P2800 Standard – for IBRs connected above distribution voltage
- P2800 WG kicked off in May 2019, and has met twice more in May and September, with the next meeting in January
  - The WG has been operating with 11 Sub-teams scopes meeting by WebEx every two weeks
  - A “strawman draft” was created based on 1547-2018 (for distribution-connected DERs), with the distribution-centric issues removed and the NERC IBR Guidelines added
  - A first official draft is well underway, targeting initial ballot in mid-2020

# 1965 Blackout – Lessons about Interconnections





*Fall River Electric  
Hathaway St. Plant 1970*



*New England Electric  
Brayton Point Plant 1965*

# Brayton Point Power Plant – 1,535 MW

- Built between 1960 and 1972
- Units 1 & 2 – Early cross-compound coal-fired@ 245 MW
- Unit 3 – 612 MW coal-fired
- Unit 4 – 435 MW Grade C bunker residual oil
- Closed in May 2017





## Brayton Point Three Chimneys March 24 2019



**MARCH 24, 2019**  
**FORMER BRAYTON POINT POWER STATION**  
**Somerset, MA**





# Questions