
RELIABILITY
& SECURITY
Workshop–San Diego, CA
OCTOBER 31–NOVEMBER 1

WECC

Inverter-Based Resources Coffee Talk

November 1, 2023

Rich Bauer, Associate Principal Engineer, Event Analysis, NERC

Enoch Davies, Manager, Systems Reliability Modeling, WECC

Tim Reynolds, Manager, Risk Analysis, WECC

Mark Rogers, Sr. Technical Advisor, Registration, WECC

Agenda

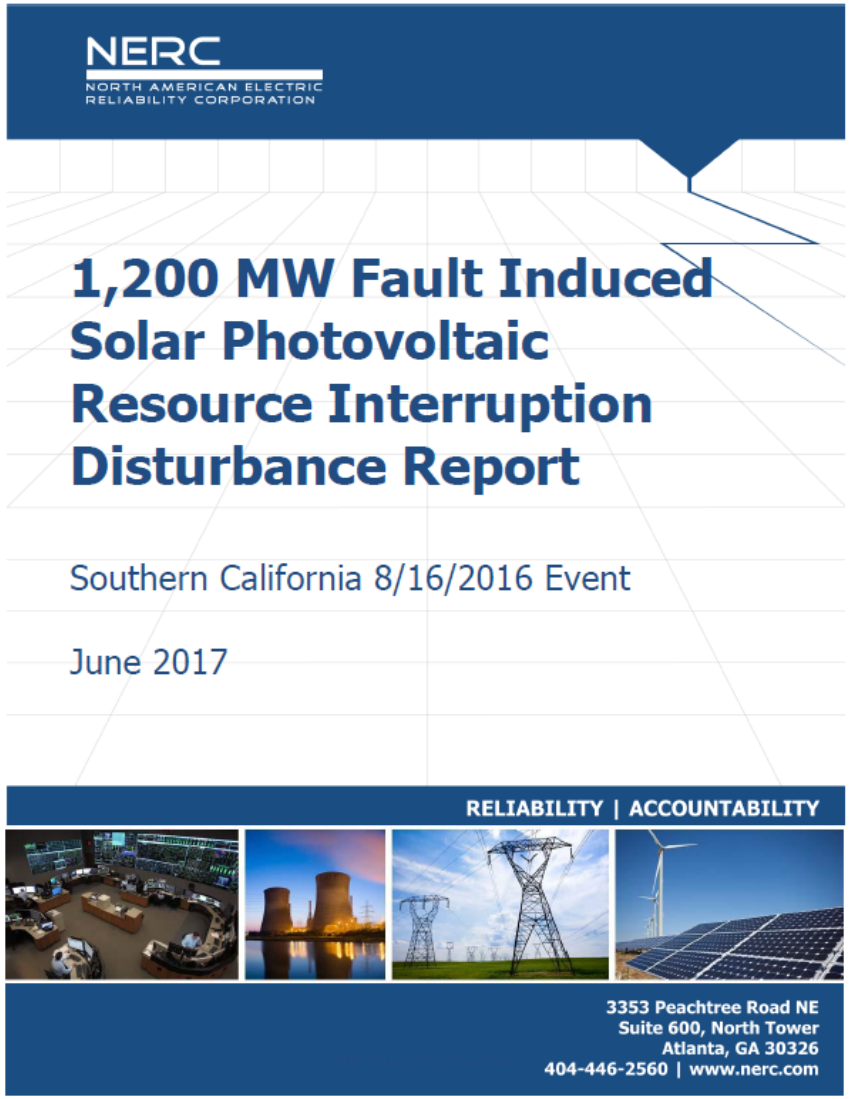
- What you will learn and why it matters
- How we arrived here
- Where are we today?
- How will this affect regional studies?
- What are the risks?

What You Will Learn and Why it Matters

- Learn about the benefits of registering non-BES inverter-based resources (IBR) and the complexity of IBRs in the system
- Discover how IBRs affect:
  - System reliability
  - Security
  - Resiliency
- Representatives from NERC and WECC will provide a unified perspective on IBRs

How We Arrived Here

It all started with Blue Cut…



<Public>

How We Arrived Here

It all started with Blue Cut…

How We Arrived Here

- Momentary cessation
- PRC-024
- 1547
- Models
- Renewable Portfolio Standards (RPS)
- FERC Generator Interconnection Procedure—the need for speed
- Facilities are getting smaller

Where Are We Today?

- Final phase of proposed revisions to NERC Rules of Procedure Appendices 2, 5A, and 5B
- Current NERC workplan phase

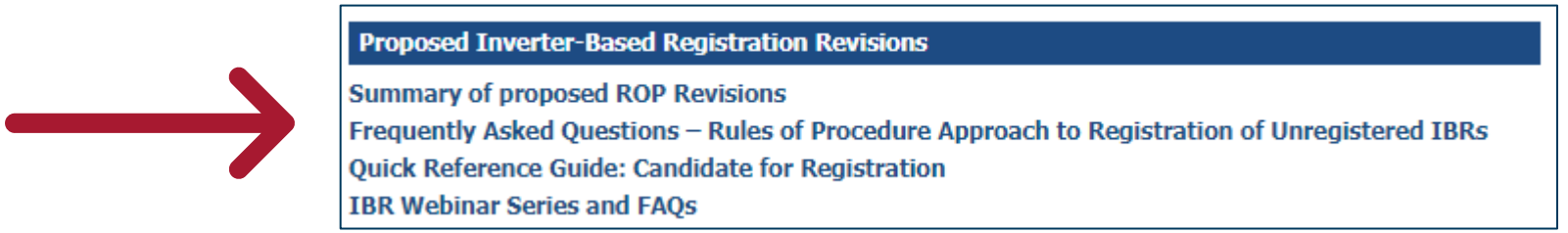
34	1.3.4.1	ERO Enterprise to complete revisions to initial draft ROP proposal to address informal stakeholder feedback	30 days	8/7/2023	9/18/2023
35	1.3.4.2	NERC to post ROP revisions for public comment period on NERC website for 45 days	45 days	8/7/2023	10/9/2023

- Next phase of the workplan

37	**1.3.5**	**Month 6**	**20 days**	**9/18/2023**	**10/16/2023**
38	1.3.5.1	If necessary, ERO Enterprise completes further revisions to the ROP to address comments	20 days	9/18/2023	10/16/2023
39	1.3.5.2	ERO Enterprise to prepare matrix summarizing proposal, comments, and responses thereto	20 days	9/18/2023	10/16/2023
40	**1.3.6**	**Month 7**	**1 day**	**10/16/2023**	**10/17/2023**
41	1.3.6.1	ERO Enterprise to request NERC Board of Trustees ("Board") approval to file ROP revisions with FERC	1 day	10/16/2023	10/17/2023
42	1.3.6.2	Second posting of ROP for 30 days, if necessary	0 days	10/17/2023	10/17/2023
43	**1.3.7**	**Month 8-10**	**40 days**	**10/17/2023**	**12/12/2023**
44	1.3.7.1	NERC to file the proposed ROP revisions with FERC, subject to Board approval, and	40 days	10/17/2023	12/12/2023
45	1.3.7.2	Request expedited notice, comment, and review over a 3-month period	40 days	10/17/2023	12/12/2023

Where Are We Today?

- NERC Organization Registration and Organization Certification [Web Page]



- Inverter-Based Resource Performance Subcommittee (IRPS) website for [NERC IBR Webinar Series]

How Will This Affect Regional Studies?

- Significant capability of IBRs expected to come online
- MOD-032 requirements (EMT)
- Inertia studies
- Short-circuit studies
- Ride-through capabilities
- EMT studies

What are the Risks?

- Applicability of GO registration and NERC Reliability Standards
- Modeling quality issues
- Performance and validation issues
- Inadequate interconnection requirements and commissioning

<Public>

WECC

Electric Reliability and Security for the West

www.wecc.org