

WELCOME TO TECHNICAL TALK WITH RF

May 27, 2025





TECHNICAL TALK WITH RF

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#TechTalkRF

TECHNICAL TALK WITH RF

Follow us on



[Linkedin.com/company/reliabilityfirst-corporation](https://www.linkedin.com/company/reliabilityfirst-corporation)

A screenshot of the ReliabilityFirst Corporation LinkedIn profile. The header features a banner image of power lines against a sunset sky. The profile name is "ReliabilityFirst Corporation" with a notification bell icon. Below the name, it states "RF works to maintain the reliability, security and resilience of the electric grid in the Mid-Atlantic region" and "Utilities · Cleveland, OH · 3,970 followers · 101 employees". A section indicates "Brian & 85 other connections work here" with buttons for "Following", "Invite", and "More". Navigation tabs include "Home", "My Company", "About", "Posts", "Jobs", and "People". The "Posts" tab is active, showing a post from "ReliabilityFirst Corporation" (3,970 followers, 2d) with the text: "ReliabilityFirst staff participated in our organization's annual Day of Giving last week. Thank you to [BOYS & GIRLS CLUB OF CLEVELAND](#), [Providence House](#), [Shoes and Clothes for Kids](#), [Arkansas Foodbank](#), and [City Mission](#) for having us as w...see more". The post includes two images: a group photo of staff in front of a building and a photo of a roof being worked on.

TECH TALK REMINDERS

Please keep your information up-to-date

- CORES and Generation Verification Forms

Following an event, send EOP-004 or OE-417 forms to disturbance@rfirst.org

CIP-008-6 incident reports are sent to the [E-ISAC](#) and the [DHS CISA](#)

Check our [monthly CMEP update](#) and [newsletter](#):

- [2025 ERO Periodic Data Submittal schedule](#)
- Timing of Standard effectiveness

BES Cyber System Categorization (CIP-002-5.1a)

- Assess categorization (low, medium, or high) regularly and notify us of changes

CIP Evidence Request Tool V9 was released and is on NERC's [website](#)




TECH TALK REMINDER

Are you getting our newsletter
First Things RFirst?

- Sign up today [here](#)

Also, make sure to check out
our [2024 Impact Report](#) and
[video](#)




First Things RFirst
Expert analysis for a more reliable, secure and resilient electric grid, plus news and updates for RF stakeholders.

June 2024

Insights & Analysis


ReliabilityFirst 2024 Summer Reliability Assessment



RF's Summer Reliability Assessment projects the PJM and MISO areas to have adequate resources under normal demand, but if demand or resource outages are experienced beyond those projections, there is an increased likelihood that corrective actions would be needed. This risk is low in the PJM area, but it is elevated in the MISO area.

[Click here to read more](#)

The Lighthouse: The challenges of Operational Technology cyber security



Our modern civilization relies on Operational Technology (OT) to keep essential services working. The electric grid, pipelines, water treatment plants, transportation systems, and many more all depend on OT to deliver reliable services. Operating these systems securely comes with a host of cyber security challenges.

[Click here to read more](#)



RF RELIABILITY FIRST

FORWARD TOGETHER.

2024 IMPACT REPORT

WELCOME TO TECHNICAL TALK WITH RF

May 27, 2025



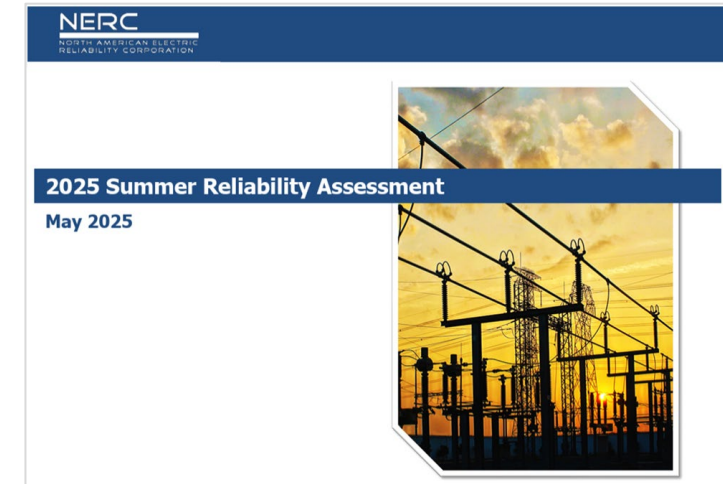
TECH TALK ANNOUNCEMENT



NERC releases 2025 Summer Reliability Assessment

Read here: [Announcement](#)

Load growth is expected to drive higher peak demand this summer and could strain resources in some areas during certain periods. According to NERC's [2025 Summer Reliability Assessment](#), aggregated peak demand is forecast to increase across all 23 assessment areas by 10 GW—more than double the increase from 2023 to 2024. New data centers, electrification, and industrial activity are contributing to higher demand forecasts.



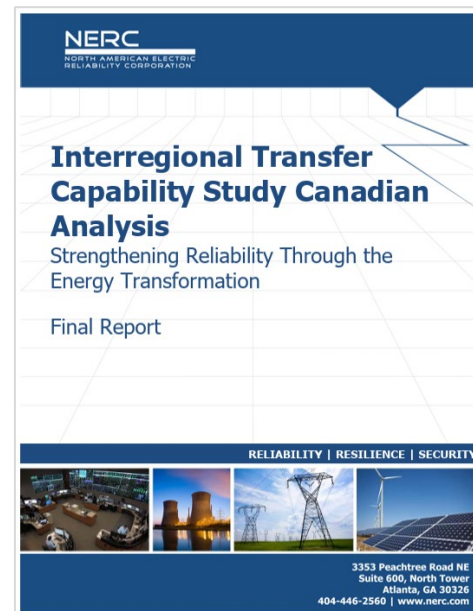
TECH TALK ANNOUNCEMENT



NERC publishes ITCS Canadian Analysis

Read here: [Announcement](#) | [Report](#)

NERC has published its Interregional Transfer Capability Study (ITCS) Canadian Analysis of transfer capability between transmission planning regions and the reliability benefits of enhancing cross-provincial and cross-border transmission. The analysis reflects the crucial role that Canadian systems play in the interconnected North American bulk power system and is an unprecedented assessment conducted using a common approach and a consistent set of assumptions.



NERC ITCS Canadian Analysis



Subscribe



TECH TALK ANNOUNCEMENT



Reminder: NERC is launching a NEW website late summer/early fall 2025

Read here: [Announcement](#) | [Resource Hub](#)



NERC is developing a new, modernized website to meet current needs and adapt to future demands. That means a smarter search function, easier navigation, mobile responsiveness, and better access to the tools and resources that matter most to our stakeholders.

To keep everyone informed about the progress, NERC launched a [Resource Hub](#) under the Initiatives dropdown on the front page of the current website. This central location will keep you informed with timely updates on the redesign, including details on the new functionality, a timeline for upcoming activities, and links to available resources and FAQs to help users navigate the transition.

TECH TALK ANNOUNCEMENT



Milestone 3 Industry Engagement Workshop

Reliable IBR Integration and Milestone 3 of

FERC Order No.901

June 3 - 5, 2025 | Virtual & In-Person

NERC will host a technical workshop on **Milestone 3** from June 3-5, 2025 and will focus on discussing industry comments regarding the following projects:

- **Project 2020-06** - Verifications of Models and Data for Generators
- **Project 2021-01** - System Model Validation with Inverter-Based Resources (IBRs)
- **Project 2022-02** - Uniform Modeling Framework for IBRs

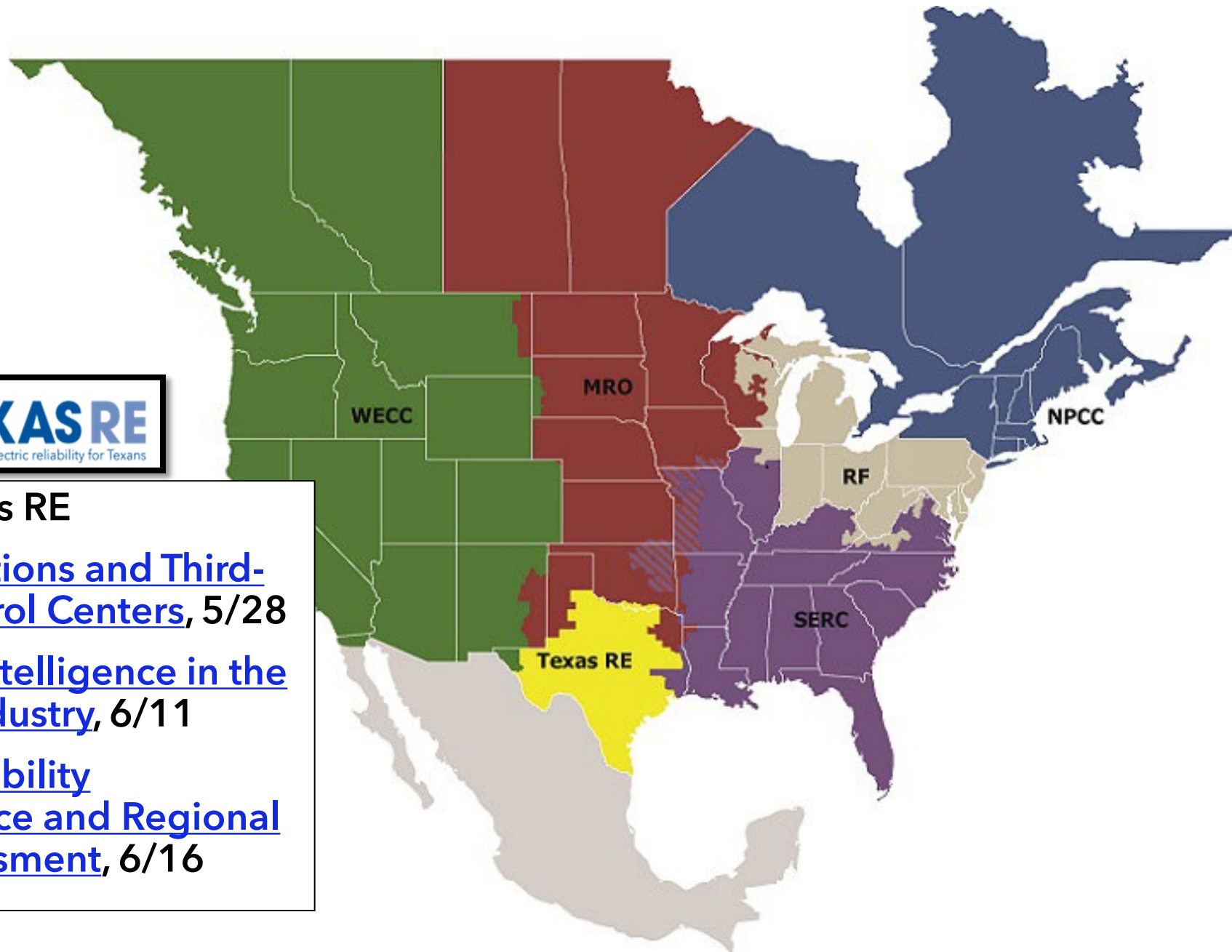
The primary objective of the workshop will be to explore the key commonalities identified in the industry comments received during the balloting period, as well as questions raised during outreach leading up to the workshop.





Talk with Texas RE

- [GOP Functions and Third-Party Control Centers, 5/28](#)
- [Artificial Intelligence in the Electric Industry, 6/11](#)
- [2024 Reliability Performance and Regional Risk Assessment, 6/16](#)



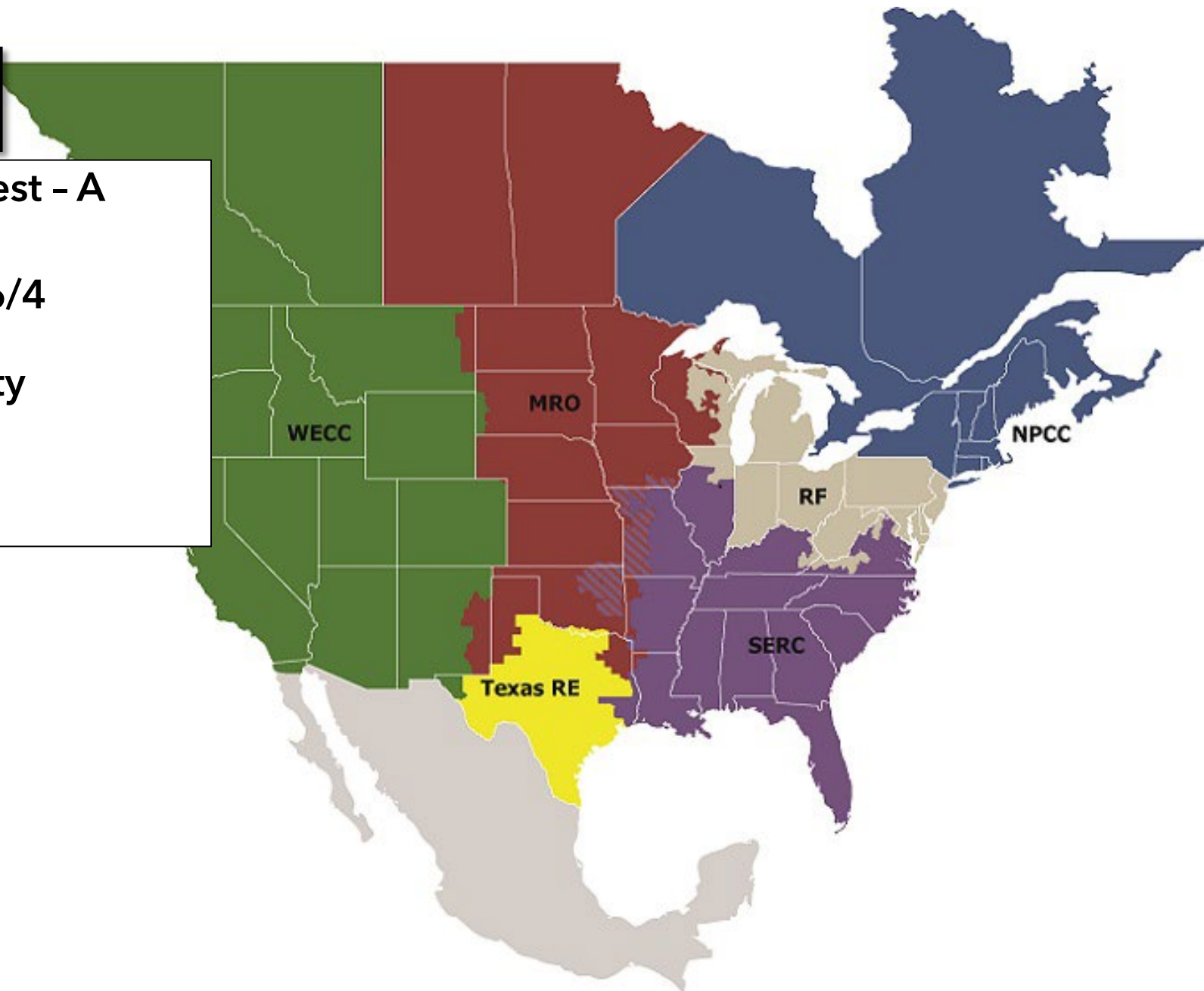


Reliability in the West - A Discussion Series

- [Cyber Security, 6/4](#)

Reliability & Security Oversight Update

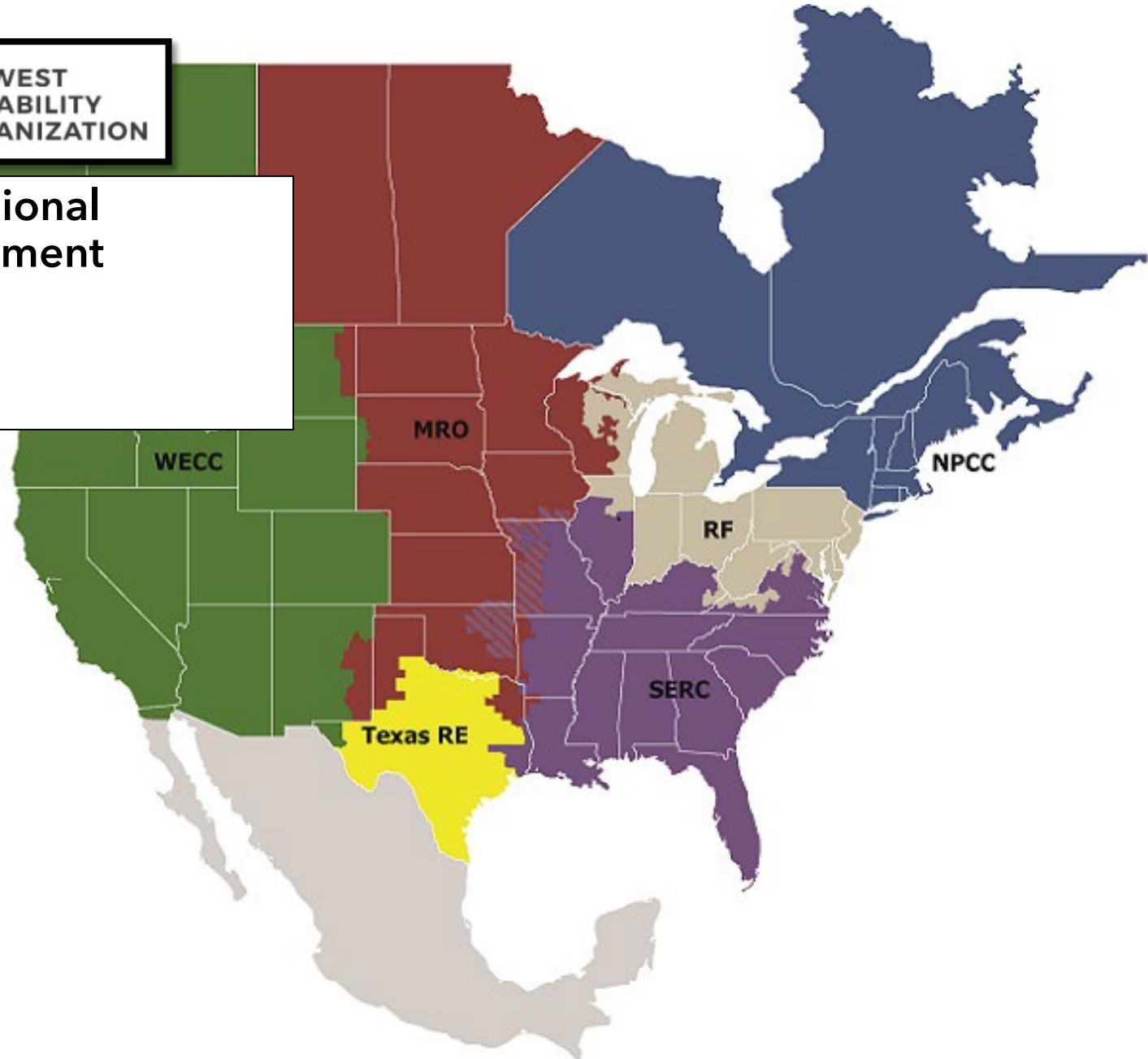
- [June 19](#)

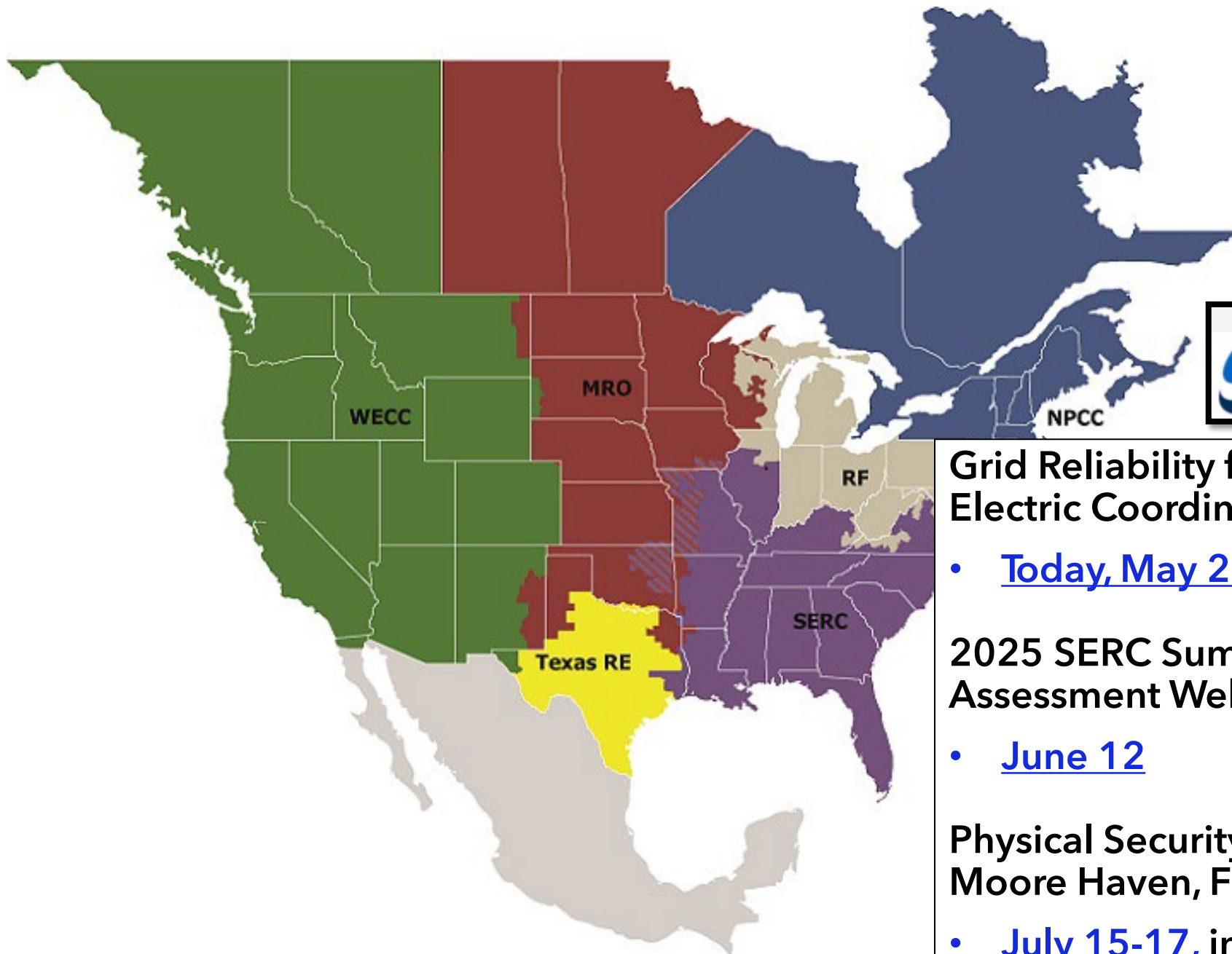




MRO 2025 Regional Summer Assessment Webinar

- [June 26](#)





Grid Reliability for States: Gas-Electric Coordination Webinar

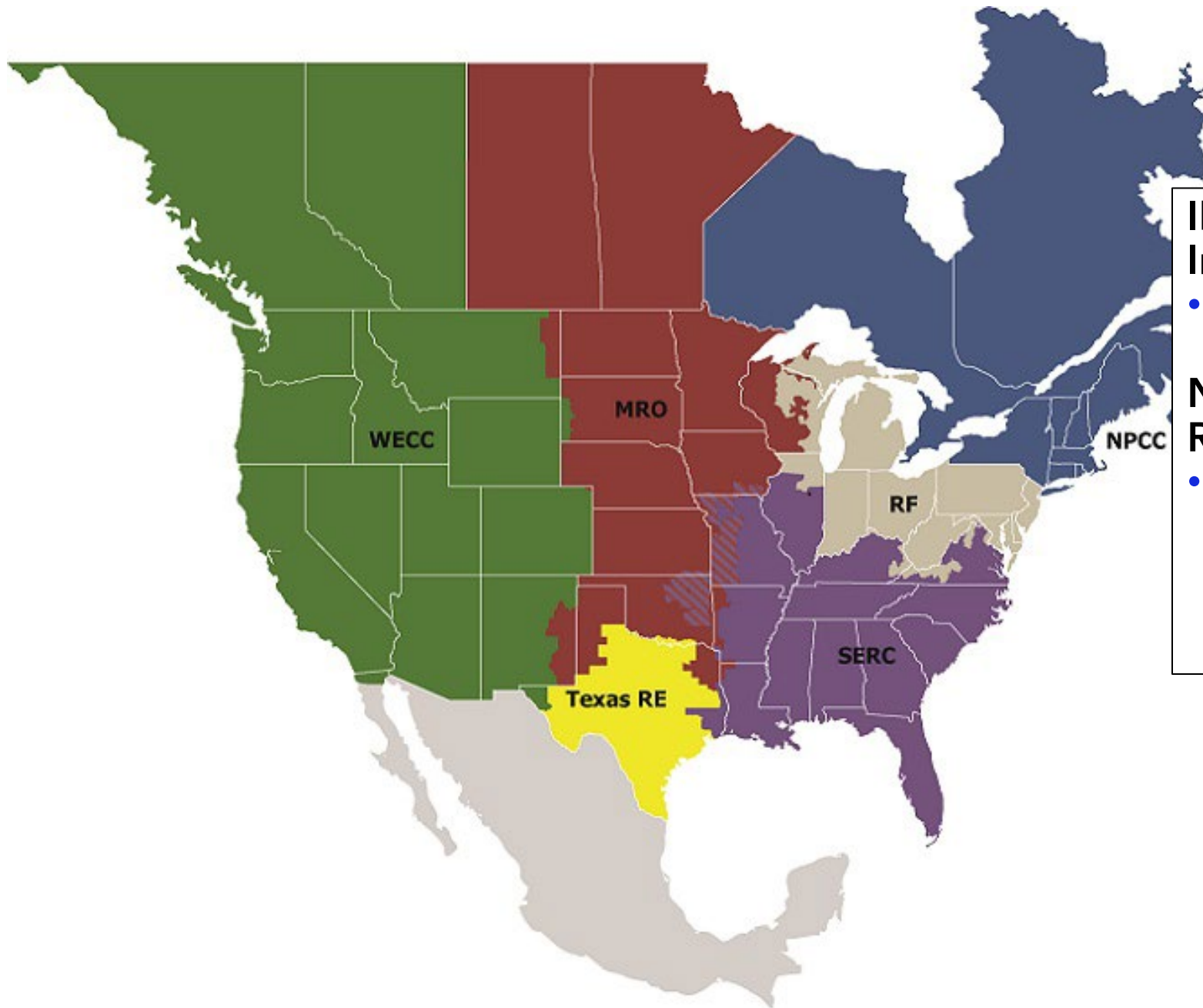
- [Today, May 22](#)

2025 SERC Summer Reliability Assessment Webinar

- [June 12](#)

Physical Security Workshop, Moore Haven, FL

- [July 15-17, in-person only](#)

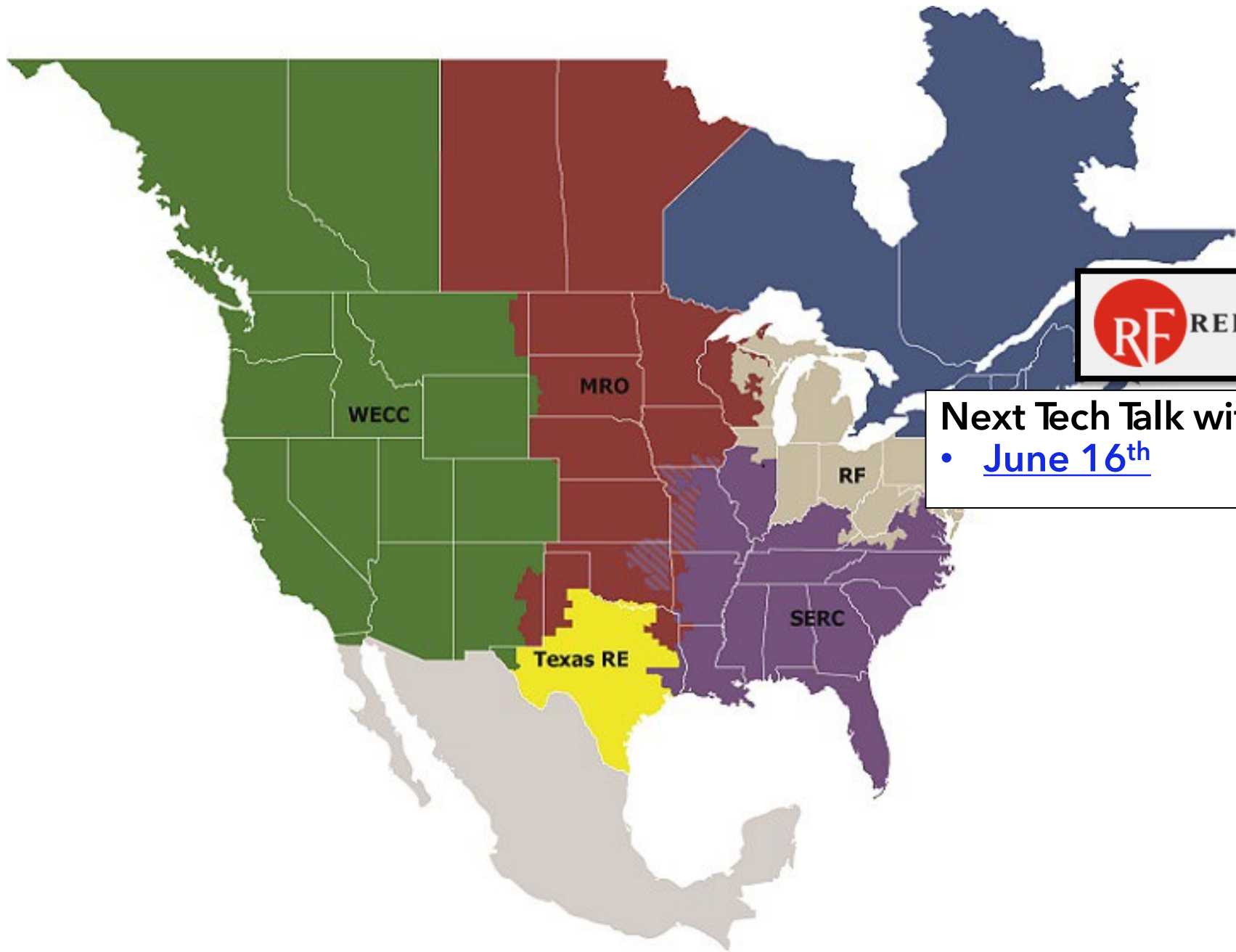


IBR Registration Initiative Webinar

- [June 9](#)

New Presentation Recording Available:

- [MOD-025-2 Compliance, Best Practices, and Internal Controls](#)



Next Tech Talk with RF
• [June 16th](#)

TECH TALK REMINDER

Tech Talk with RF announcements are posted on our calendar on www.rfirst.org under Calendar

CLICK HERE

TUE
27

May 27 @ 8:30 am - 10:00 am

Technical Talk with RF

Virtual (Webex)

Technical Talk with RF is a monthly webinar ReliabilityFirst hosts to discuss key reliability, resilience and security topics with our stakeholders.



TECHNICAL TALK WITH RF

Join the conversation at

[SLIDO.com](https://www.slido.com)

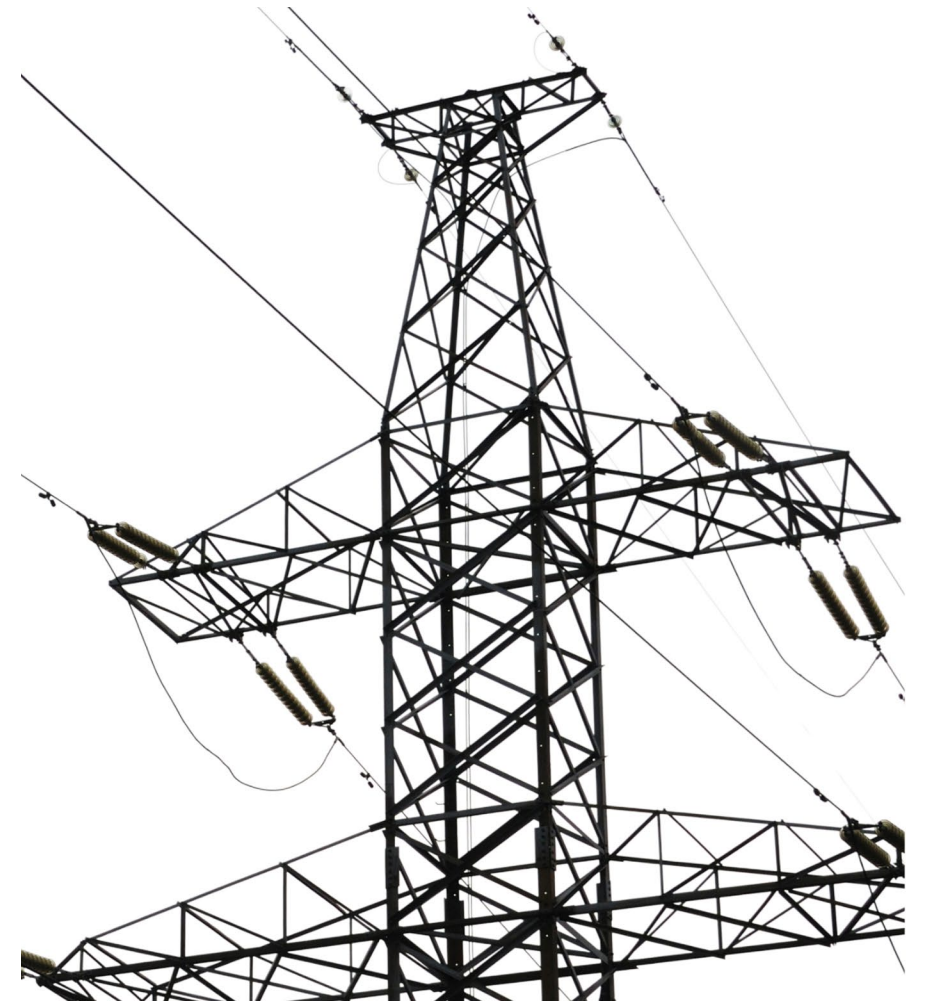
#TechTalkRF



Anti-Trust Statement

It is ReliabilityFirst's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct which violates, or which might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every ReliabilityFirst participant and employee who may in any way affect ReliabilityFirst's compliance with the antitrust laws to carry out this policy.



AGENDA

NERC RELIABILITY STANDARD COMPLIANCE ABEYANCE PERIOD OVERVIEW

- **LONNIE RATLIFF**, DIRECTOR OF COMPLIANCE ASSURANCE AND CERTIFICATION, NERC

AN INTERACTIVE LOOK AT HOW RENEWABLE GENERATION IMPACTS POWER SYSTEMS OPERATION

- **BILL SMITH**, PRESIDENT, POWERSMITHS INTERNATIONAL, INC.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

NERC Supplemental Filing: Abeyance

Lonnie Ratliff, Director of Compliance Assurance and Certification

RF Tech Talk

May 27, 2025

What is the value of abeyance?

- To enhance NERC standards development process agility that the ERO Enterprise and industry have focused on the past few years.
- Help reduce the concern over compliance risk during standards development so that the focus can be on addressing risks to reliability.

When is abeyance considered?

- During the Standards Drafting process

What is the purpose of abeyance?

- Develop insights from initial implementation of the standard that can then be fed back to NERC and industry to further refine standards as needed

Who determines which Standards/Requirements/Parts for abeyance consideration?

- The ERO Enterprise will consider the candidates for the abeyance period.

What is the initial criteria for abeyance consideration?

- A high priority project given risks being addressed
- A new Reliability Standard or a modified Reliability Standard undergoing significant revisions
- It involves one or more of the following attributes:
 - new technology likely will be needed to implement the Reliability Standard;
 - new, emerging reliability issue with no consensus on specific best practices or
 - a high level of technical complexity.

Example of current usage:

- Project 2024-03 Revisions to EOP-012-3 (Cold Weather) *
 - *“From the effective date of **Reliability Standard EOP-012-3 until October 1, 2027**, the Compliance Enforcement Authority will not pursue an action under Sections 4A.0 or 5.0 of Appendix 4C to the Rules of Procedure for a failure to comply with **Reliability Standard EOP-012-3 Requirement R1 Part 1.1** with respect to the **calculation of the Extreme Cold Weather Temperature** for an applicable generating unit, or any other failure to comply resulting from an incorrect calculation of the Extreme Cold Weather Temperature for that generating unit, against any entity acting in good faith to comply with the standard in accordance with the relevant implementation plan.”*

<https://www.nerc.com/pa/Stand/Pages/Project-2024-03-Revisions-to-EOP-012-2.aspx>

Abeyance is NOT

- A free pass
- An extension of the implementation plan
- Time to sit and ***wait*** for feedback

What should you be doing?

- Working with your Region
- Talking with your peers



Will all Standards / Requirements have an abeyance period? **No, it will be evaluated by NERC and the Regions during the Standards drafting process.**



Where will the abeyance language be within the Standard? **Section C. Compliance.**



What if I'm not audited during the abeyance period? **Entities are expected to meet compliance on the effective date of the Standard.**



What current Standards or Projects have been flagged for abeyance? **Currently, EOP-012-3.**



Will the supplemental filing impact the self-logging process? **No, there is no impact to the self-logging process.**

How does the information feed back to Standards for possible enhancements? The ERO Enterprise will be tracking and reporting on a periodic basis.

How will industry receive updates during the abeyance period? Periodic webinars/outreach activities.

Can a SAR be introduced during the abeyance period?
Absolutely, a SAR can be introduced at anytime.

What is "Good Faith"?





Questions and Answers



ReliabilityFirst Tech Talk

Impact of Renewable Generation on Power Systems Operation

Bill Smith

Powersmiths International, Inc.

Renewables, Retirements and Storage

- Latest NERC Long Term Reliability Assessment shows shrinking reserve margins
- This is due mostly due to projected rapid load growth and unit retirements
- Renewables and storage make up the largest portion of new resource additions.

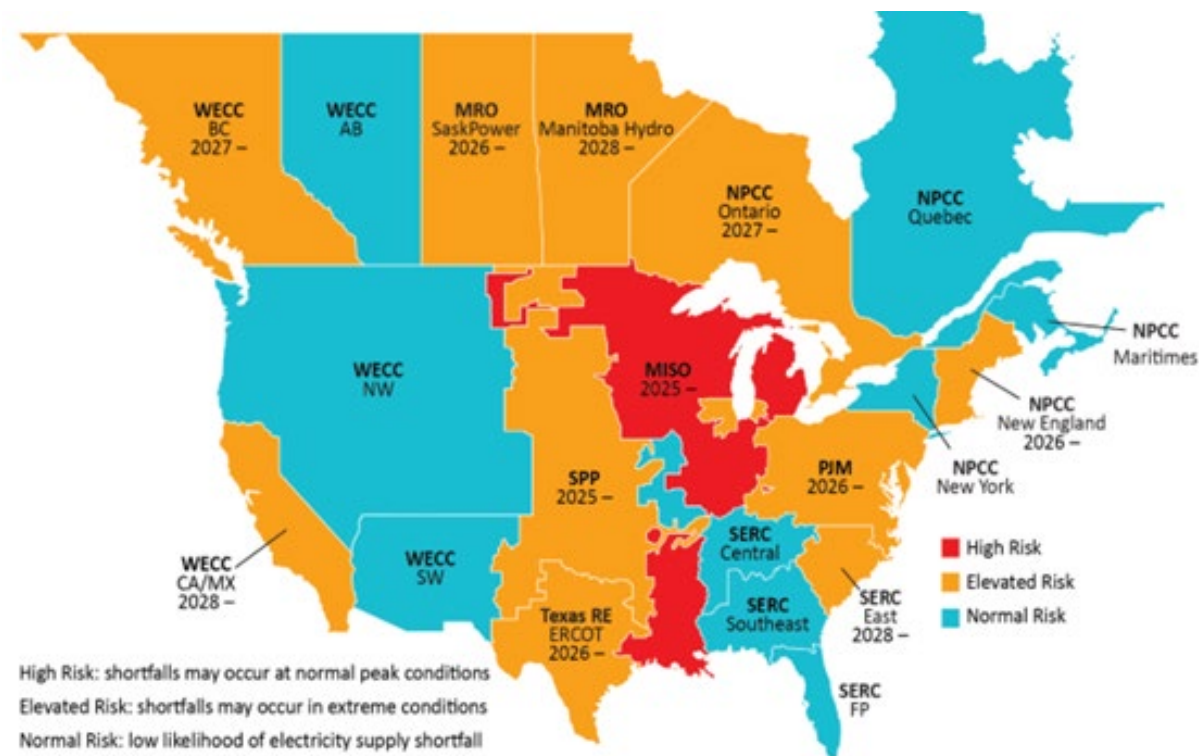


Figure 1: Risk Area Summary 2025–2029

Peak Demand Forecasts

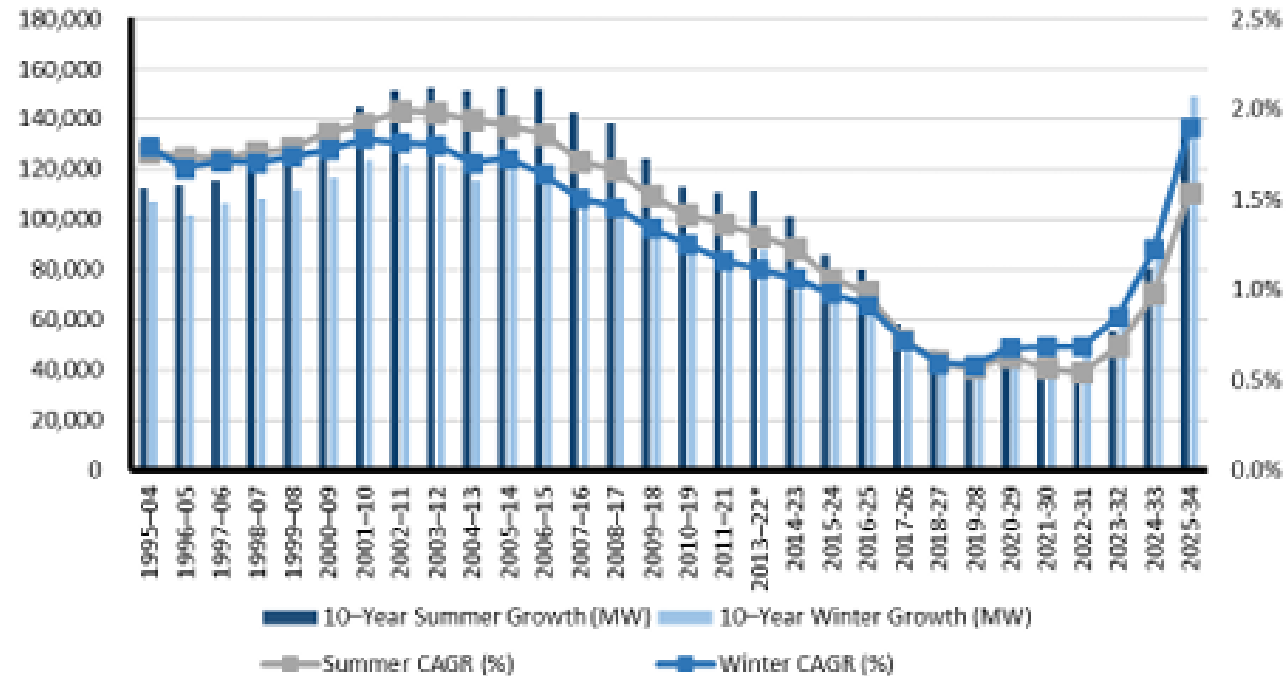


Figure 17: 10-Year Summer and Winter Peak Demand Growth and Rate Trends

Rapid Load Growth

- AI data centers and crypto mining are driving extremely rapid load growth—
- Forecasted renewable resource additions are not keeping up
- Nuclear unit extensions and reactivations show promise but are fraught with supply chain and human experience deficiencies in the short term.

Simulations

- Simulations will show a generic system in three phases of development
- Phase I—Current state—Able to meet all load with available resources. No transmission facilities overloaded.
- Phase II—Addition of 60 MW of renewable resources and storage to lower energy production costs.
- Phase III-Retirement of 60 MW of combined cycle resources

Phase I

- All renewables and storage are off line
- Load peaks at 6:00 PM
- ATL generation is dispatched until ATL-JAX line experiences overloads
- MEM generator is effective in reducing transmission line loading.
- No demand reduction or emergency generation is required

Phase II

- 60 MW of Renewables and Storage are brought on line and located at the MEM bus
- Additional capacity lowers energy production costs
- JAX unit still needed for voltage support and transmission congestion mitigation at the JAX bus

Phase III

- JAX combined cycle unit is retired
- Renewable generation is not fully available at time of system peak, resulting in insufficient generation to meet load
- Energy storage effective in helping to meet system peak load
- Renewable generation cannot provide Voltage support at the JAX bus resulting in low voltage at that bus.
- Emergency generation (25 MW) and Demand Reduction (50 MW) required to maintain overall system reliability and meet reliability standards

Energy Storage

- Energy storage most valuable when located at the JAX bus rather than co-located with renewables.
- When located here, storage can be used to mitigate congestion, shave local load and provide voltage support while meeting system peak load without demand response.

Conclusions

- Renewable generation is effective in reducing energy production costs.
- In this scenario, 135 MW of renewables needed to replace 60 MW of retired generation.

Energy Storage

- Valuable resource to meet growing load
- Can serve peak load, provide voltage support, mitigate transmission congestion and reduce system losses if strategically located close to load.
- Added value when wind energy is available to charge it at night.

Storage Technologies

- Li-ION is preferred energy storage technology presently
- Other options are commercially available

Storage Technologies

- Graphene technology offers:
 - Greater charge/recharge efficiencies
 - Faster recharging
 - Low temperature operation
 - Greater energy density
 - Multiple cycles per day
 - No chemical reaction involved to store energy—energy stored in solid state electrostatic configuration
 - Means no rare earth elements
 - Less disposal issues
 - Fewer siting issues
 - More suitable for location closer to load
 - Minimal parasitic cooling load
 - No thermal runaway issues

Short Term Options to Meet Capacity Needs

- Forestall generation unit retirements as much as possible
- Continue to add combined cycle / reciprocating internal combustion engines (RICE) at existing sites where possible
- Enhance/expand the transmission system
- Develop large load siting standards, to include provisions for generation to supply that load and methods for the capital cost of the generation to be borne by the appropriate parties.
- Load flexibility

Energy Storage

- Short term option if strategically located near load
- Can physically move energy slowly using less power off peak
- Other desirable attributes
 - Can cycle many times per day
 - Fast charging and discharging
 - Efficient charging cycle
 - Has proper control software (Automatic Battery Control)
 - Suitable for siting near load centers (decreases siting approval time)

Time Dimension—The Final Take Away

- Don't ignore the time and space dimensions
- Must consider the (hourly) time dimension when conducting Power System studies and making the resulting decisions.
- Conventional generation and storage can control the time dimension. Solar and wind generation can not.
- Conventional generation and storage more likely located where needed.

The Final Final Take Away

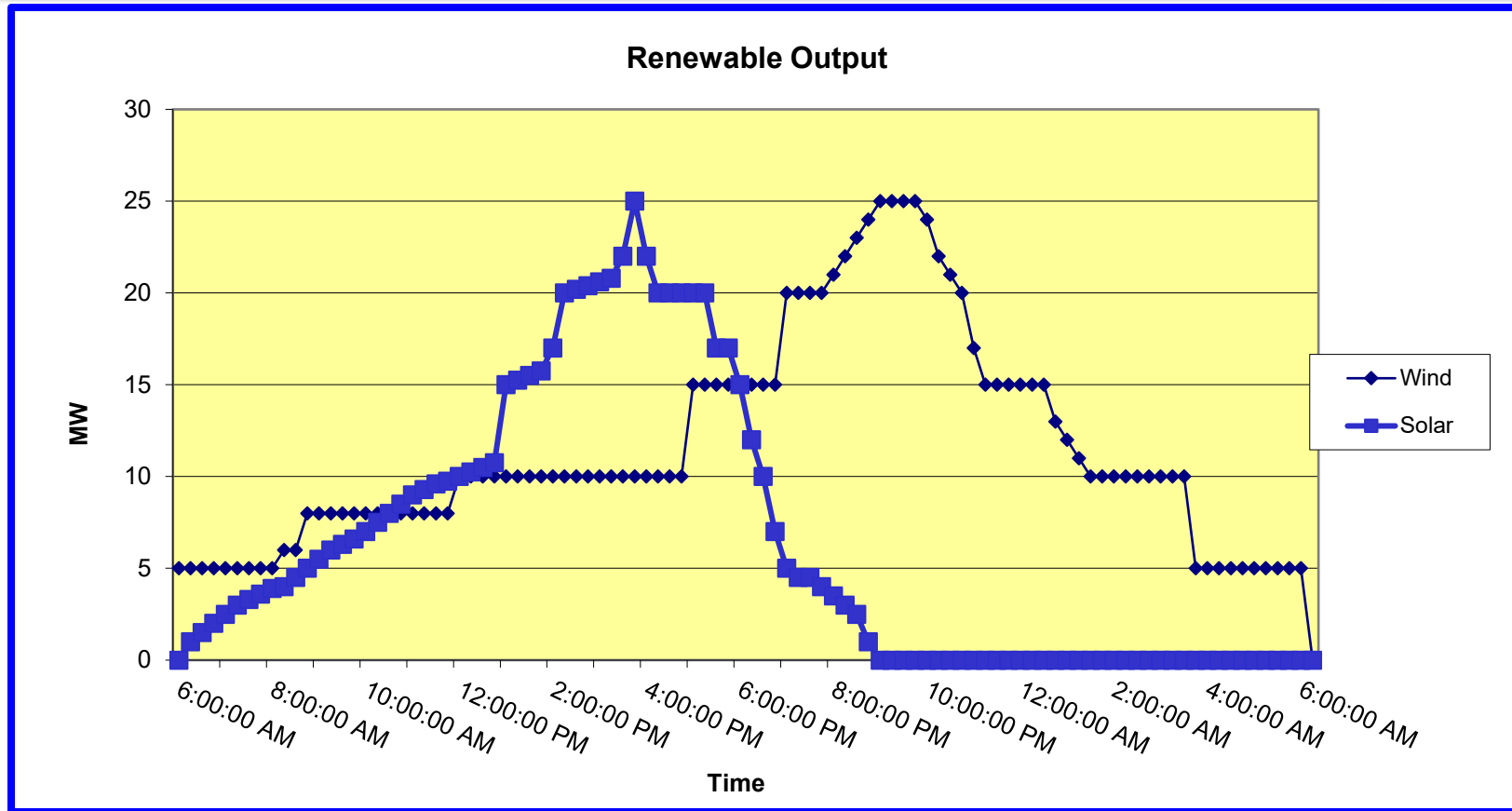
Existing generation is our greatest asset



Electric Power System Reliability
Powersmiths International, Inc.

Impact of Renewable Generation on Power Systems
Operation

Renewable Outputs



Distributed Energy Storage has PR benefits



- Perceived as a renewable resource (which is true if wind can be used to charge the units)
- Seen as more environmentally friendly than solar as it takes up less ground and has no rare earth elements
- Locally deployed giving a greater presence of environmental conscientiousness
- But not a massive presence like solar and wind
- Local deployment shows commitment to local community

Hello! My name is
Scott Goodwin
 and I am looking for a kidney donor


To learn more about my story, find out about kidney donation or be tested as a potential donor, please visit my website:

www.nkr.org/KRS378

Please share & help me find a kidney donor.

NATIONAL KIDNEY REGISTRY®
 FACILITATING LIVING DONOR TRANSPLANTS

Scott Goodwin Share my story and help me find a kidney    See if you're qualified to donate



Hi, I'm Scott. Since May 2022, my life has turned upside down when I was told that I have finally reached stage-4 kidney failure.

I have lived most of my life knowing about a genetic fatal kidney disease that I was born with. I currently work as a professional electrical engineer, who has lived in Fishers, Indiana for the past twenty years with my wife and three children.

[Read more...](#)

Why I Need a Kidney

PKD is unique in the sense that it is only passed through genetics which means 50% of my offspring will likely end up with the same disease. This is my main reason why I need a kidney. I have lived my entire life believing that one of my own children would be capable of donating a kidney to me. For this reason alone, I thought I had all my ducks in a row. I thought my future was well planned.

However, it's turning out not to be the case, as my children have automatically been ruled out as potential candidates.

I decided to register for the Geist 10k racing event in September this year in Fishers Indiana, as I do not believe my body can handle the half marathon. I plan to wear a special shirt asking for public support. I hope to see many of my friends and family at the finish line when I cross.

[Read more...](#)

How You Can Help

By sharing my story to your group of family and friends, you help to increase the number of people who may consider kidney donation.

You can also support me and other patients in need of a transplant by being screened to become a kidney donor with the NKR. The process is easy to complete and potential donors have access to the NKR's nationwide donor support network.

[Start the Donor Screening Process](#)

[Donor Support & Protections ↓](#)

www.nkr.org/KRS378

THANK YOU

***Join us for our next Tech Talk -
June 16th 2-3:30 pm EST***

[Webinar Link](#)

