

# NPCC 101: *Introduction to NERC and NPCC*

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**Brian Robinson** – Manager, Entity Risk Assessment

August 20, 2024





# Agenda

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Overview of NERC and NPCC

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Reliability Standards Overview

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Entity Risk Assessment

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Compliance Monitoring

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Enforcement and Mitigation

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Align/Secure Evidence Locker (SEL)

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Additional Helpful Links

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Upcoming NPCC Events



# NERC Overview



# North American Electric Reliability Corporation (NERC)

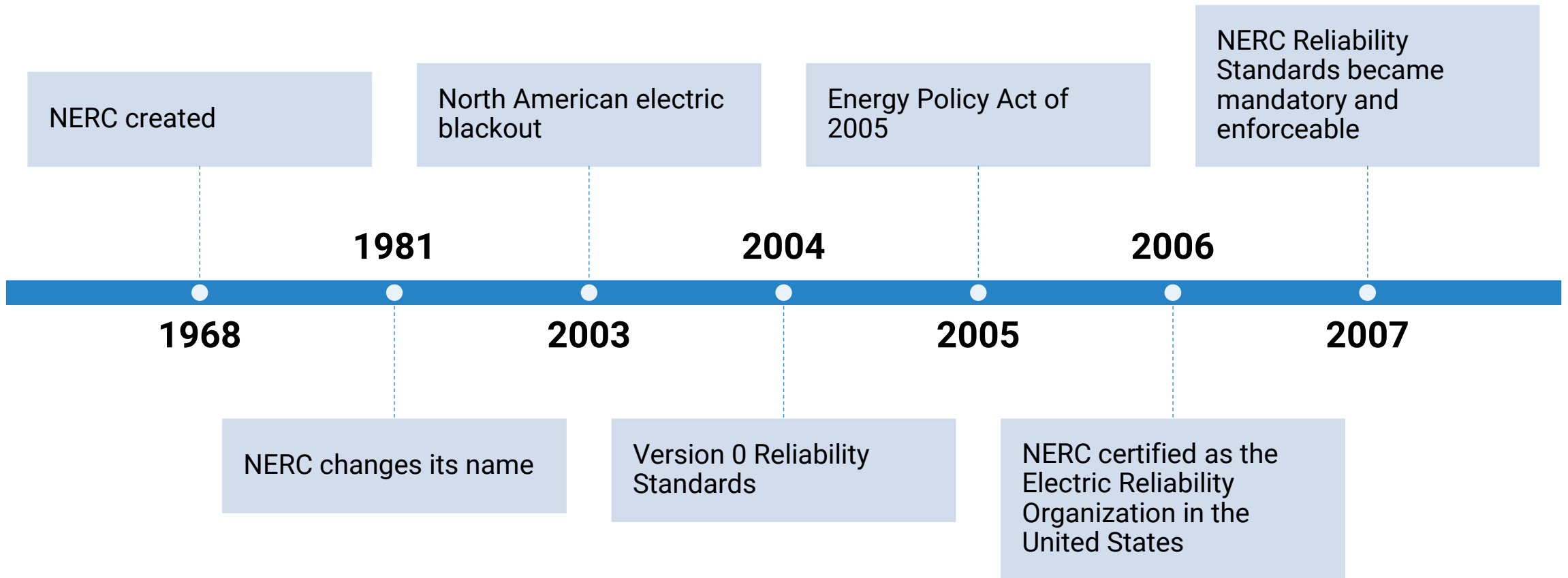


International, independent, not-for-profit organization

- **Mission:** Assure the effective and efficient reduction of risks to the reliability and security of the grid.
- **Area:** Continental United States, Canada, and the northern portion of Baja California, Mexico.
- **Jurisdiction:** Users, owners, and operators of the bulk power system, which serves nearly 400 million people.
- Develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel.



# Formation of NERC





# Energy Policy Act of 2005

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Amends the Federal Power Act in Section 215

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Authorized the creation of an ERO

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FERC given jurisdiction over the ERO

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Mandatory Reliability Standards subject to FERC review

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Urged agreements with Canada and Mexico

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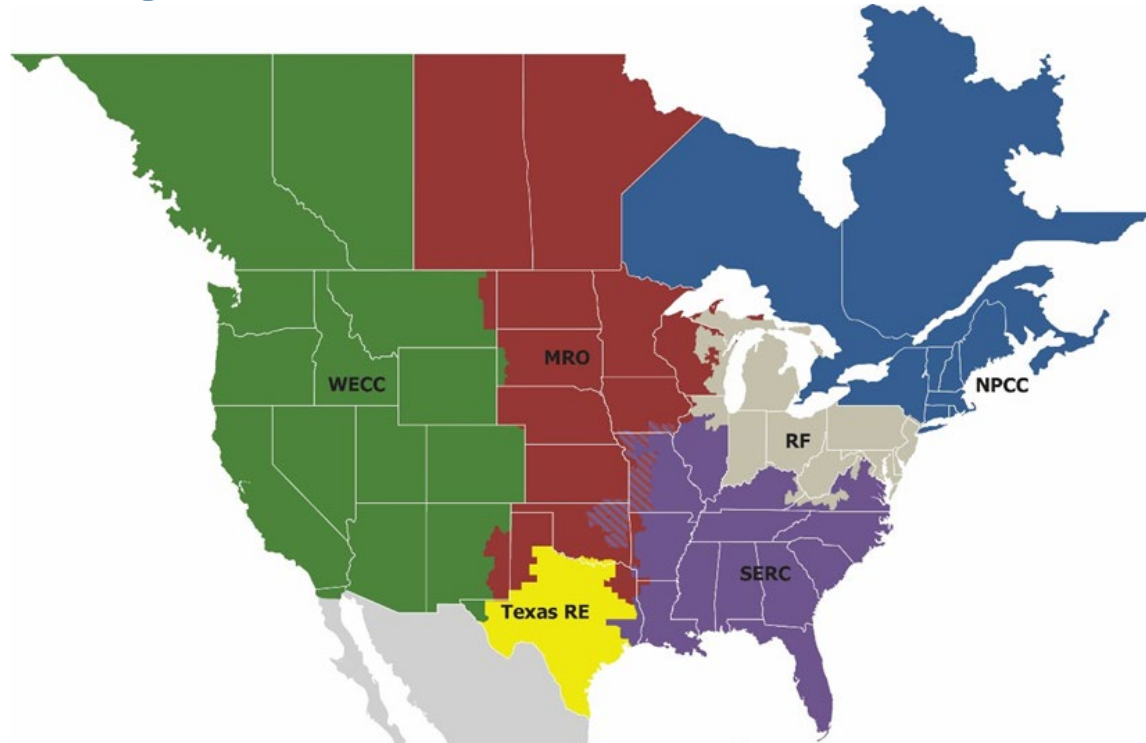
Set forth Regional Delegation Agreement (RDA) framework

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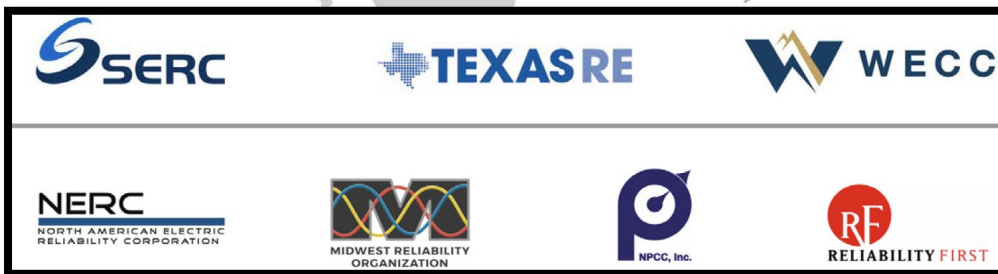
Section 215(e) of the FPA authorizes FERC or NERC to impose penalties



# Regional Entities

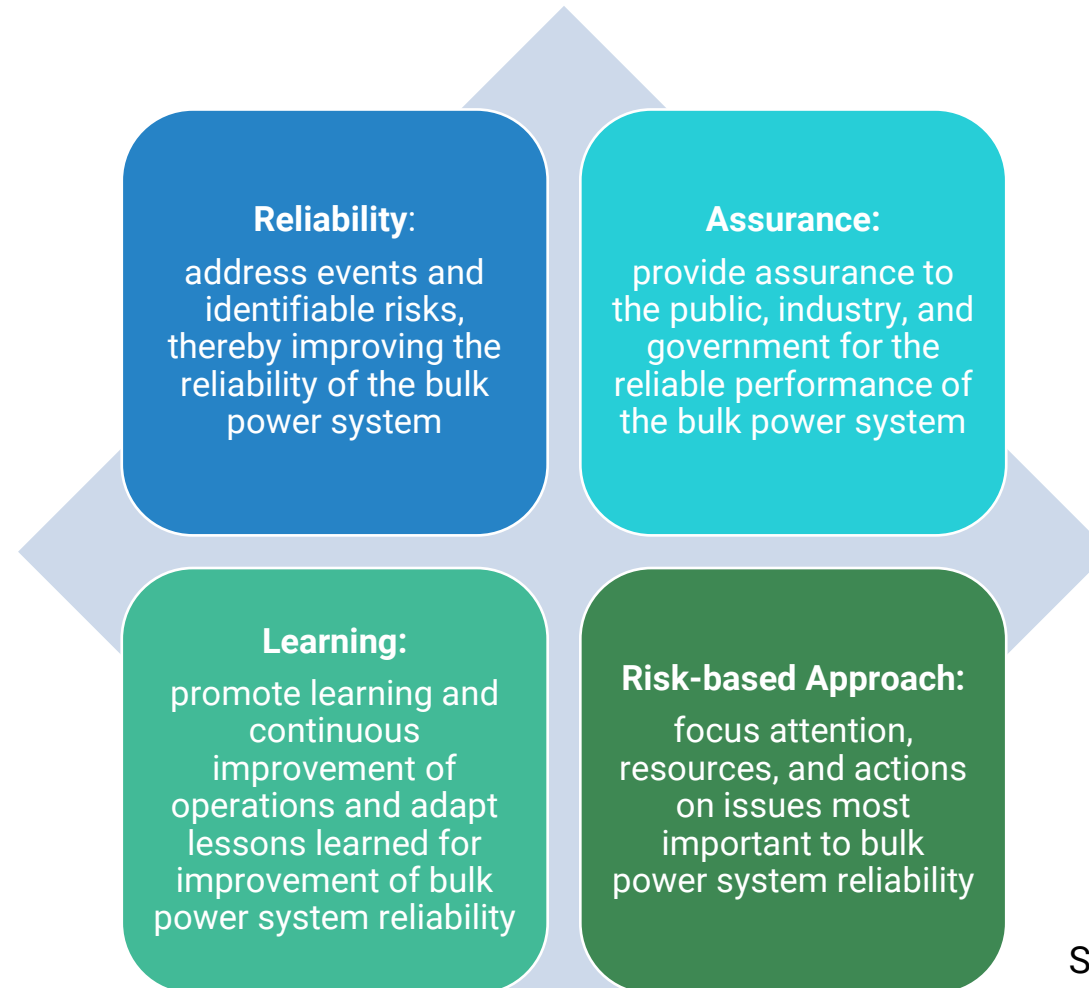


- [Midwest Reliability Organization \(MRO\)](#)
- [Northeast Power Coordinating Council \(NPCC\)](#)
- [ReliabilityFirst \(RF\)](#)
- [SERC Reliability Corporation \(SERC\)](#)
- [Texas Reliability Entity \(TRE\)](#)
- [Western Electricity Coordinating Council \(WECC\)](#)





# Key Aspects of NERC



Source: [The History of NERC](#)



# NERC Rules of Procedure (ROP)



The rules of procedure define the roles, responsibilities and processes of NERC and its stakeholders in developing and enforcing reliability standards, conducting assessments, monitoring compliance, and addressing emergencies.

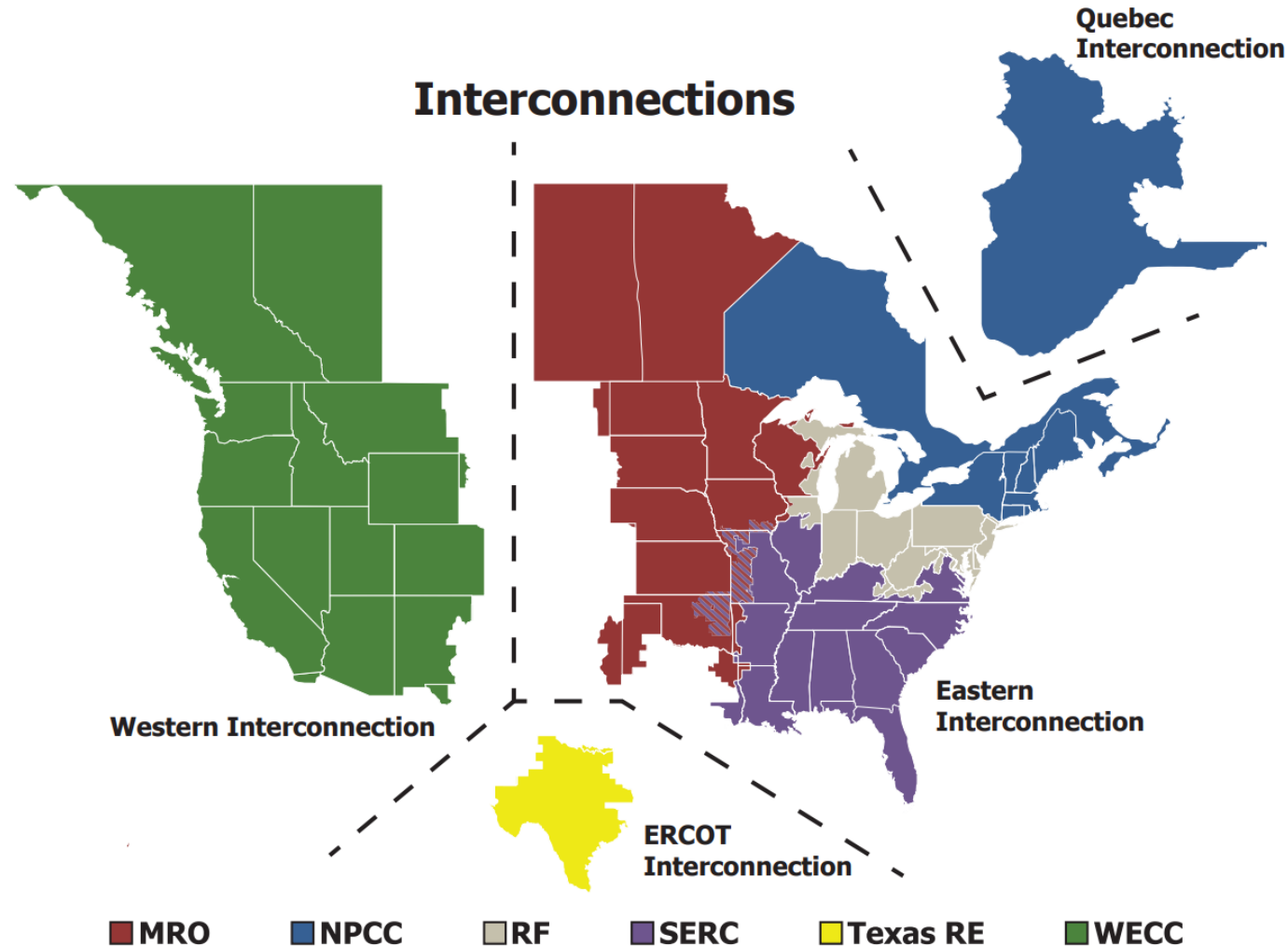


Appendices provide additional details and processes for:

Reliability Standard Development  
Compliance Monitoring and Enforcement  
Registration and Certification



# North American Interconnections





# NPCC Overview



# Origins of NPCC

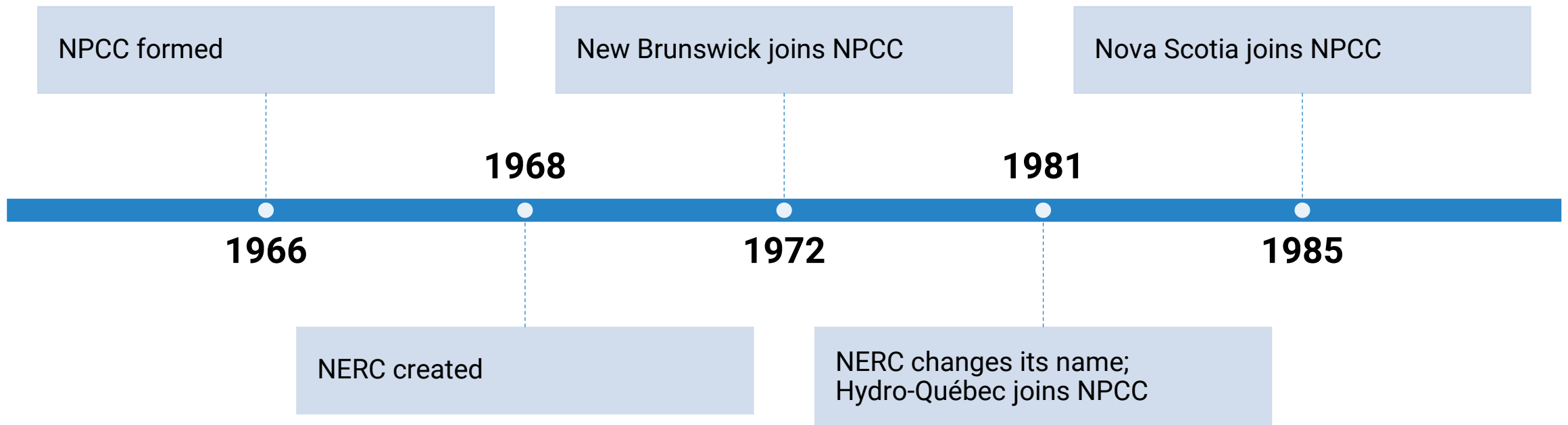


## 1965 – Northeast Blackout (November 9, 1965)

- Loss of 20,000 MW of load
- 30 million people affected



# Formation of NPCC





# NPCC Quick Facts

NY State 501(c)  
Not-for-Profit  
Corporation

7 BOD Sectors and  
1 Independent  
Sector

NERC  
Registered  
Entities

209 Entities  
performing 438  
functions for  
compliance with  
mandatory  
Reliability  
Standards

98 Member  
Organizations

Consists of Full  
and General  
categories

Funding:

NERC/FERC  
(Statutory - NERC  
collects from Load  
Serving Entities on  
MWH basis)

Criteria (Non-  
Statutory - Full  
Member BA  
collects)

Sources: [NPCC 2024 Business Plan and Budget](#); [Registration and Certification \(npcc.org\)](#)



# NPCC Region Quick Facts

## Geographic Region:

- New York
- Six (6) New England states
- Four (4) Canadian provinces of Ontario, Québec, New Brunswick, Nova Scotia

## Area:

- 1.2 million square miles

## Population:

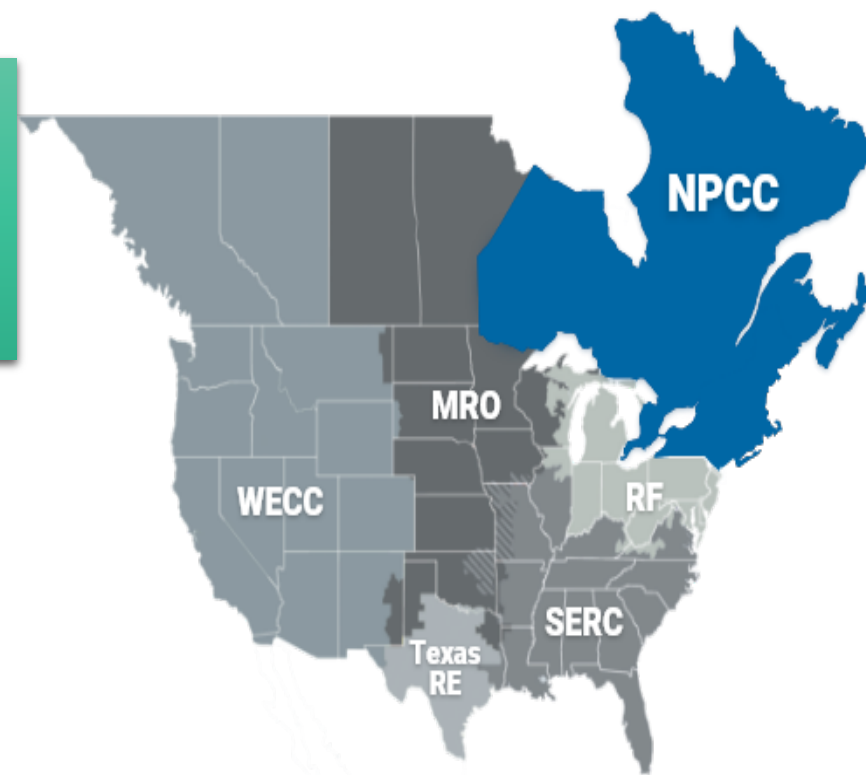
- 56+ million

## Share of Net Energy for Load (NEL):

- 43% US
- 57% Canadian

## Share of Total Canadian NEL within NPCC:

- ~65%



Source: [NPCC 2024 Business Plan and Budget](#)



# Mission of NPCC

Promoting and improving the reliability of the international, interconnected bulk power systems in Northeastern North America.

- NPCC carries out its mission through:
  - (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards,
  - (ii) coordination of system planning, design and operations, and assessment of reliability (collectively, Regional Entity activities), and
  - (iii) the establishment of Regionally-specific criteria, and monitoring and enforcement of compliance with such criteria (collectively, Criteria Services activities).

Source: [NPCC 2024 Business Plan and Budget](#)



# NPCC Statutory Role – Regional Entity Division (NERC Funded)



- Monitor and Enforce NERC and Regional Reliability Standards
- Participate in NERC Standard Development Process
- Develop Regional Standards
- Organization Registration and Certification
- Assess Reliability and Performance
- Coordinate System Planning, Design, and Operation
- Training/Education, Situation Awareness, Event Analysis

Source: [NPCC 2024 Business Plan and Budget](#)



# Non-Statutory Role - Criteria Services Division (Not NERC Funded)

Develop More  
Stringent  
Regional Criteria

Criteria  
Compliance And  
Enforcement  
Program (CCEP)

- Reporting Full Members Self Certify to a subset (non-monetary sanctions)

Different  
Obligations for:

- Full Members
- General Members



# NPCC Criteria – Bottom-Up Approach



Criteria Define the Principles to be Followed



NPCC Member Driven Development Process

Task Forces and Working Groups develop  
Reviewed by Committees  
Posted for comments  
Members approve  
Members are bound to follow and comply



# Reliability Standards Overview



# NERC Reliability Standards

Establish the compliance obligations for Registered Entities

Standard Applicability is based on Functional Registration. For example:

- Generator Owner
- Transmission Operator
- Distribution Provider

Standards are developed and approved by Industry Stakeholders

Cover a broad range of Reliability issues:

- Critical Infrastructure Protection
- Protection and Control
- Facility Ratings
- Real-time Operations
- Emergency Preparedness and Response



# Standard Families



Currently, there are 14 families of Reliability Standards.



The three-character abbreviation indicates what the standard covers.



[NERC Reliability Standards](#)

**BAL** – Resource and Demand **Bal**ancing

**CIP** – **C**ritical **I**nfrastructure **P**rotection

**COM** – **Com**munication

**EOP** – **E**mergency Preparedness **Op**erations

**FAC** – **Fac**ilities Design, Connection, and Maintenance

**INT** – **I**nterchange Scheduling and Coordination

**IRO** – **I**nterconnection **R**eliability **Op**erations and Coordination

**MOD** – **Mod**eling, Data and Analysis

**NUC** – **Nuc**lear

**PER** – **Per**sonnel, Performance, Training, and Qualification

**PRC** – **P**rotection and **C**ontrol

**TOP** – **T**ransmission **Op**erations

**TPL** – **T**ransmission **P**lanning

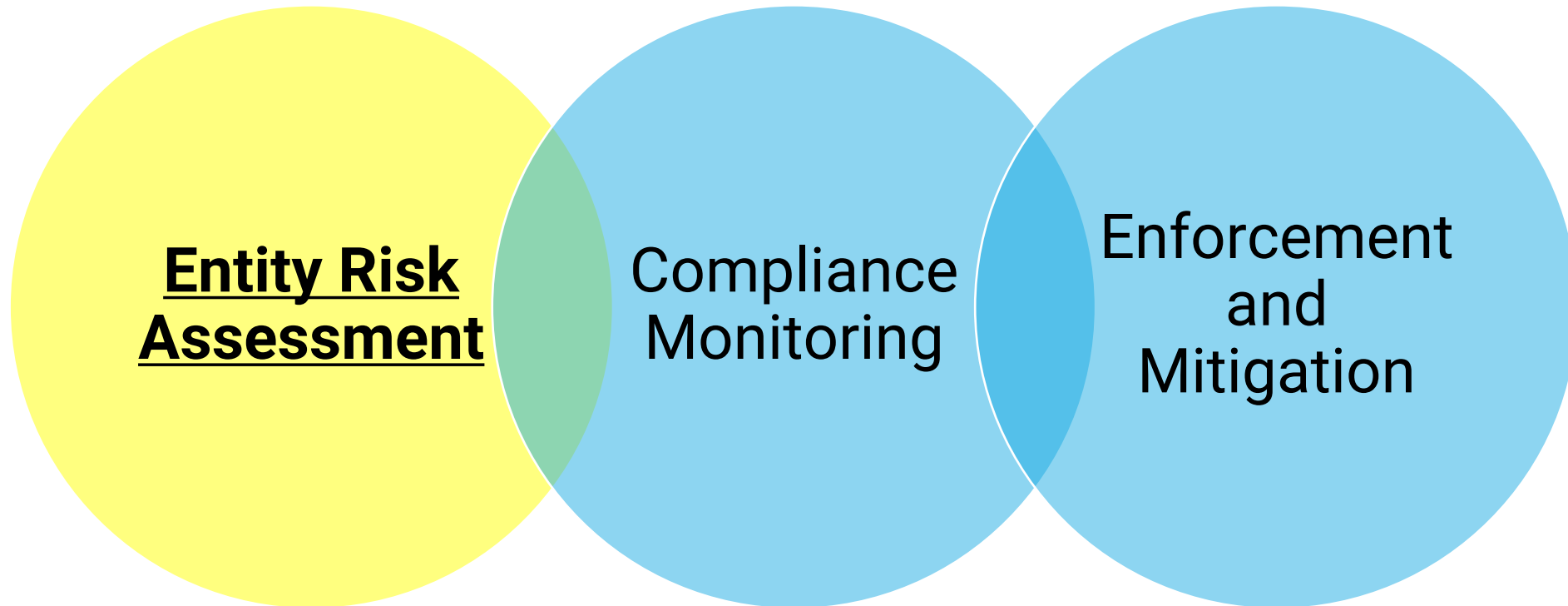
**VAR** – **V**oltage **a**nd **R**eactive



# NPCC Regional Entity Division



# NPCC Regional Entity Division





# Entity Risk Assessment

## The Entity Risk Assessment (ERA) group:

- Performs Inherent Risk Assessments (IRA) and develops Compliance Oversight Plans (COP) that provide risk-based focus internally and to registered entities
- Registers organizations as owners, operators, or users of the BPS to be subject to NERC compliance and listed in the NERC Compliance Registry (NCR)
- Performs Certifications and Certification Reviews for all Balancing Authorities (BAs), Reliability Coordinators (RCs) and Transmission Operators (TOPs)



# Entity Risk Assessment Organizational Chart

**Brian Robinson**

*Manager, Entity  
Risk Assessment*

*5 Entity Risk  
Assessment  
Analysts*



# NERC Registration

NERC Rules of Procedure defines the “owners, operators and users” of the Bulk Power System (BPS) who require registration.

Generally, Generation >20MVA, Transmission >100KV and Distribution entities with a peak load of >75MW will require registration.

- In NPCC distribution entities >25MW peak load have a limited registration for Under Frequency Load Shedding only.
- Inverter based resource generation <75MVA registration will be required in 2026.





# NERC Certification



Some Registered Entities require assessment of their capability prior to registration

Balancing Authorities  
Reliability Coordinators  
Transmission Operators



These entities are responsible for the reliable operation of the BPS in real-time



# Registration and Certification References

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[NERC Organization Registration and Certification Page](#)

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[Rules of Procedure](#)

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[Appendix 5B](#)

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[Centralized Organization Registration ERO System \(CORES\)  
End User Guide](#)



# Inherent Risk Assessment (IRA)



- NPCC completes an IRA for each Registered Entity
- The assessment considers factors such as:
  - Amount of generation, transmission and load
  - Critical Infrastructure Protection (CIP) Impact Rating
  - Participation in system restoration from a blackout
- The IRA helps determine a Registered Entity's monitoring interval and scope



# Compliance Oversight Plan (COP)

- The Compliance Oversight Plan is a report which considers the IRA and additional Performance Considerations.
- Performance Consideration include:
  - Internal Controls implementation
  - Culture of Compliance
  - Generator Availability/Transmission Availability
- The report is shared with Registered Entities and specifies:
  - Oversight Category (frequency of engagements) and
  - Reliability Standards where an entity presents risk

Note: New Registered Entities will not have enough history to assess “Performance Considerations” so the COP and the IRA results are very similar.



# ERA Outreach Activities



NPCC's Entity Risk Assessment team conducts Registered Entity Outreach



Goal is to share and collect Best Practices in High-Risk Areas

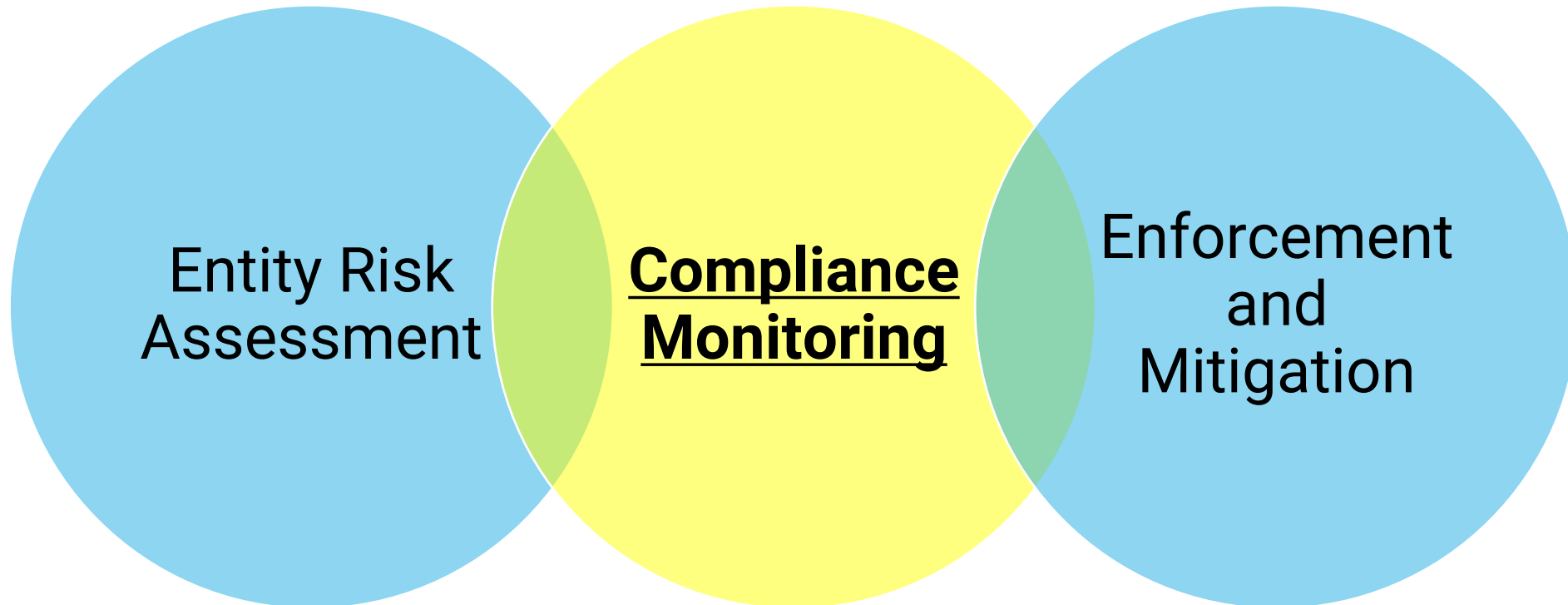


Recent Outreach includes:

- New Generator Facility Engagement
- Cold Weather Preparedness
- Critical Infrastructure Protection



# NPCC Regional Entity Division





# Compliance Monitoring

## Compliance Monitoring and Enforcement Program (CMEP)

ROP [Appendix 4C](#), Compliance Monitoring Process Section 4.0

- All users, owners, and operators of the bulk power system (BPS) in the NPCC Region

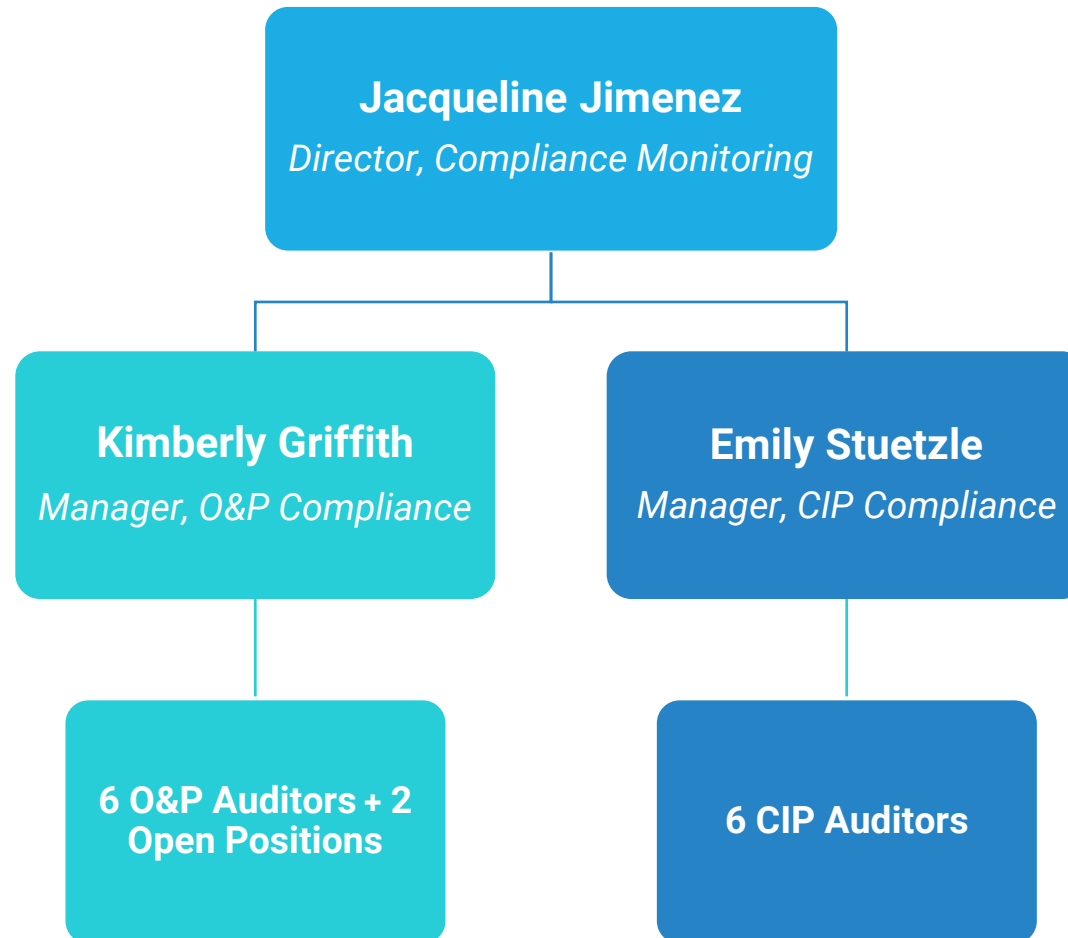


## Purpose

- Monitor and assess compliance with the NERC and Regional Reliability Standards
  - Review evidence and Internal controls
  - Risk-based approach
- May review Open Enforcement Actions during monitoring engagements



# Compliance Monitoring Organizational Chart





# Types of Monitoring Engagements



## Audits

- Hybrid on-site
- Off-site



## Spot-checks

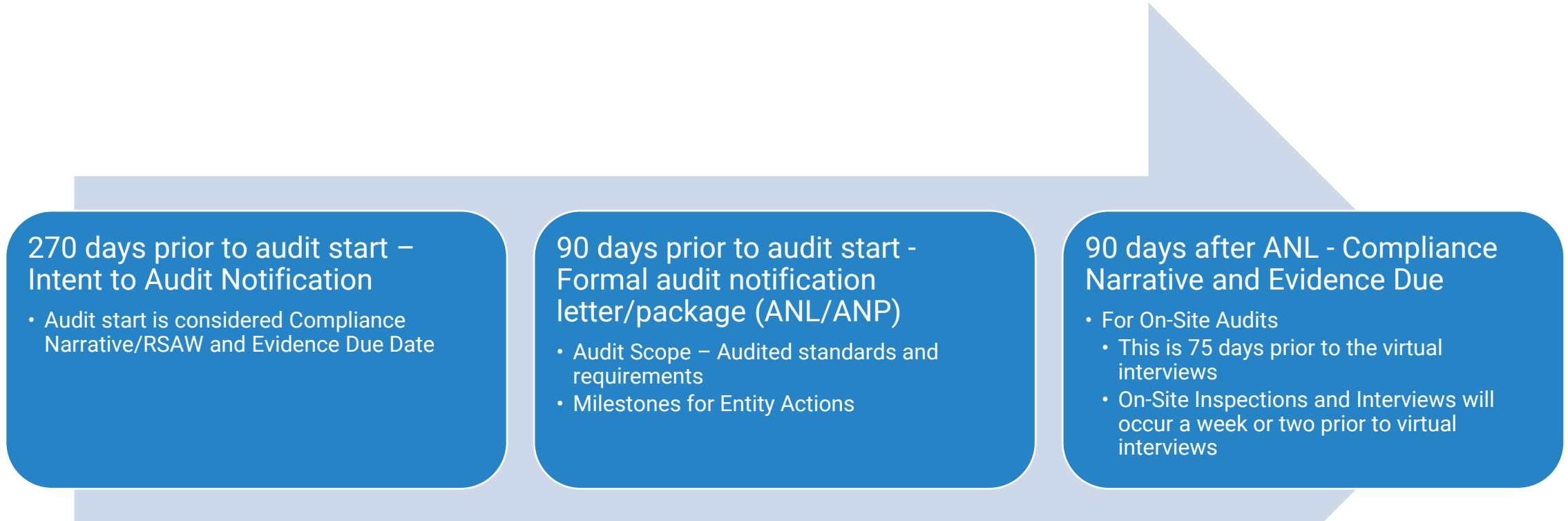
- Hybrid on-site
- Off-site



## Self-certifications



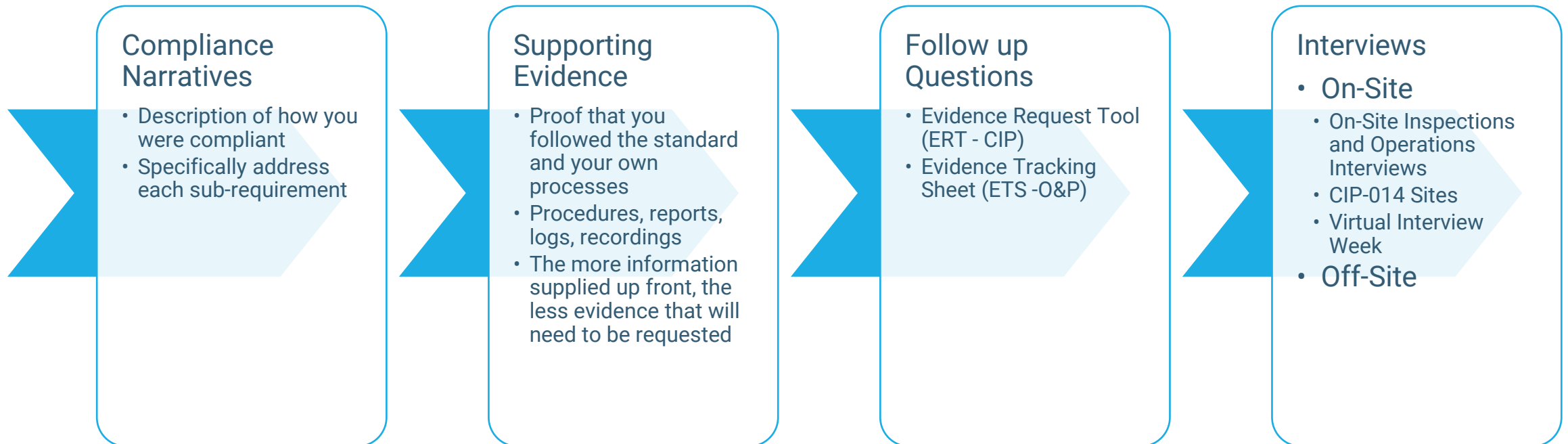
# Audit Process



## NPCC Audit Milestones and Deadlines



# Entity Audit Preparation





# Internal Controls

## ERO Enterprise Guide for Internal Controls



“Processes, practices, policies or procedures, system applications and technology tools, and skilled human capital an entity employs to prevent, detect, and correct noncompliance with Reliability Standards and address risks associated with the reliable operation of its business.”



Will be assessed during the engagement – Questions or Internal Controls Worksheet.



May provide Areas of Concern, Recommendations, or Positive Observation.



Feeds back into Entity IRA and COP.



# Compliance Guidance

## Implementation Guidance

- Provides specific examples for implementing standards
- Developed by industry stakeholders for industry stakeholder use
- ERO endorsed as an appropriate method to implement the standard

## Practice Guides

- Developed by the ERO for the ERO
- Describes methods and approaches to carry out compliance monitoring and enforcement activities
- Posted publicly on NERC's website for transparency

### [Compliance Guidance](#)



# Compliance Monitoring Links

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[One-Stop Shop](#)

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[NPCC Compliance Monitoring Page](#)

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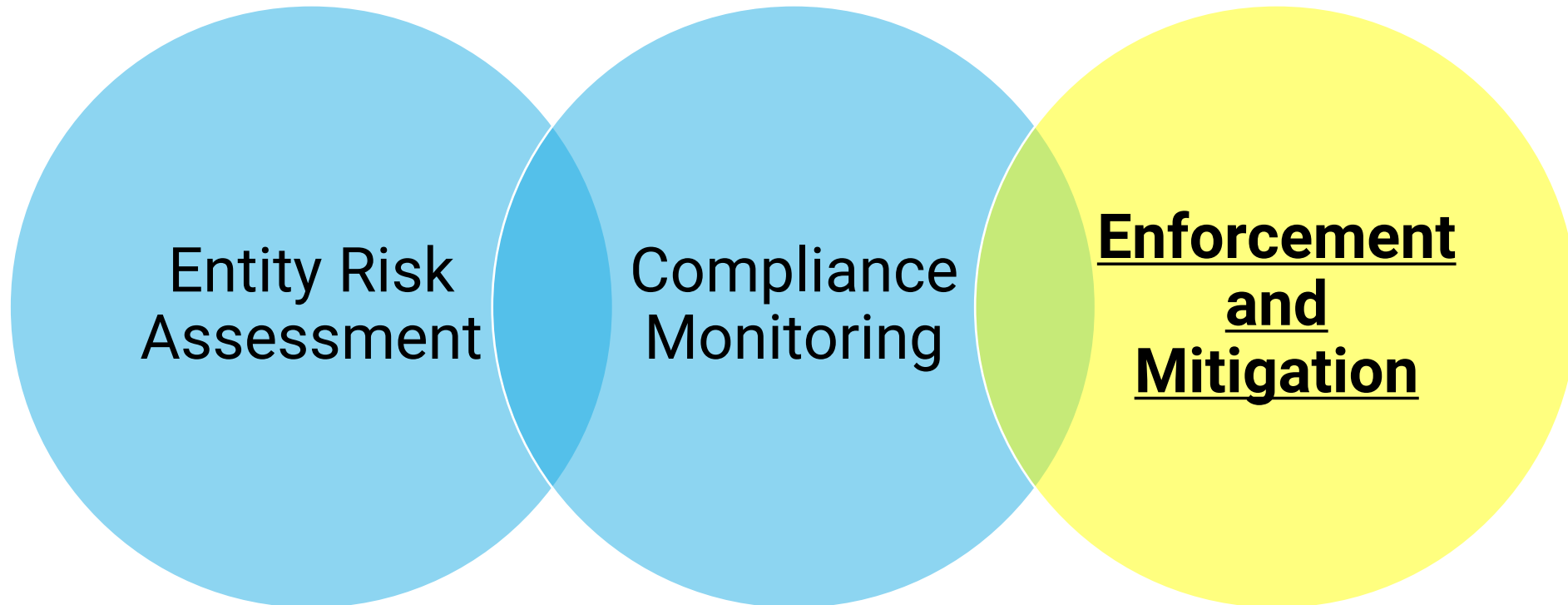
[RSAWs](#)

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[Regional RSAWs](#)



# NPCC Regional Entity Division





# Enforcement Organizational Chart

**Damase Hebert**

*General Counsel and Corporate Secretary*

**Jason Wang**

*Director of Enforcement*

**Arthur Brown**  
*Associate General Counsel*

**Legal Counsel**

**Critical Infrastructure Protection (CIP) Analyst**

**Critical Infrastructure Protection (CIP) Analyst**

**Critical Infrastructure Protection (CIP) Analyst**

**Operations and Planning (O&P) Analyst**

**Operations and Planning (O&P) Analyst**

**Operations and Planning (O&P) Analyst**

**Compliance Support**



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Determine the relevant facts and circumstances necessary to understand each noncompliance

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Evaluate and assigns a risk assessment to each noncompliance

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Evaluate and approves the mitigation activities or Mitigation Plan for each noncompliance

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Assess the relevant compliance history for each noncompliance

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Determine the disposition method for each noncompliance

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Calculate penalties and sanctions in a consistent manner

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# Enforcement Programs

## Self-Logging ([NERC Self-Logging Program](#))

- Registered entities awarded self-logging privileges have successfully demonstrated the ability to identify, correct, and assess risk in a timely manner due to their robust internal controls and processes.
- Noncompliance that is self-logged is presumed to be appropriate for disposition as a compliance exception.



# Enforcement Process

Potential Noncompliance (PNC) Intake

Triage

Fact Finding through Requests for Information (RFI)

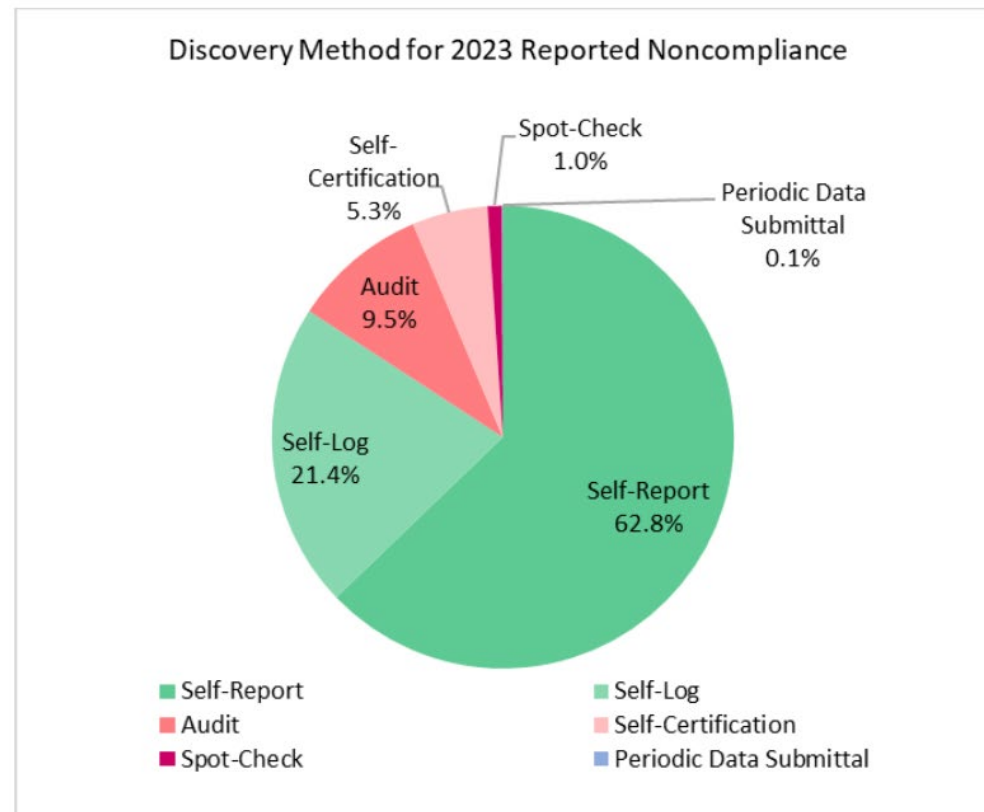
Review Mitigation

Submit Disposition



# Discovery Method

In 2023, approximately 85% of reported noncompliance was self-identified by registered entities.





# Enforcement – Minimal, Moderate, Serious



**Minimal:** Nothing serious could have occurred and there were complete or significant protections in place to reduce the risk. (FERC Order Approving CMEP Program, 150 FERC ¶ 61,108)



**Moderate:** Something serious could have occurred and there were only some protections in place to reduce risk. (FERC Order Approving CMEP Program, 150 FERC ¶ 61,108)



**Serious:** The most serious risk issues are: (i) those involving or resulting in (a) extended outages, (b) loss of load, (c) cascading blackouts, (d) vegetation contacts and (e) systemic or significant performance failures; and (ii) those involving (a) intentional or willful acts or omissions, (b) gross negligence and (c) other misconduct. (FERC March 15, 2012 Order, 138 FERC ¶ 61,193)



# Enforcement Tools – Disposition Tracks

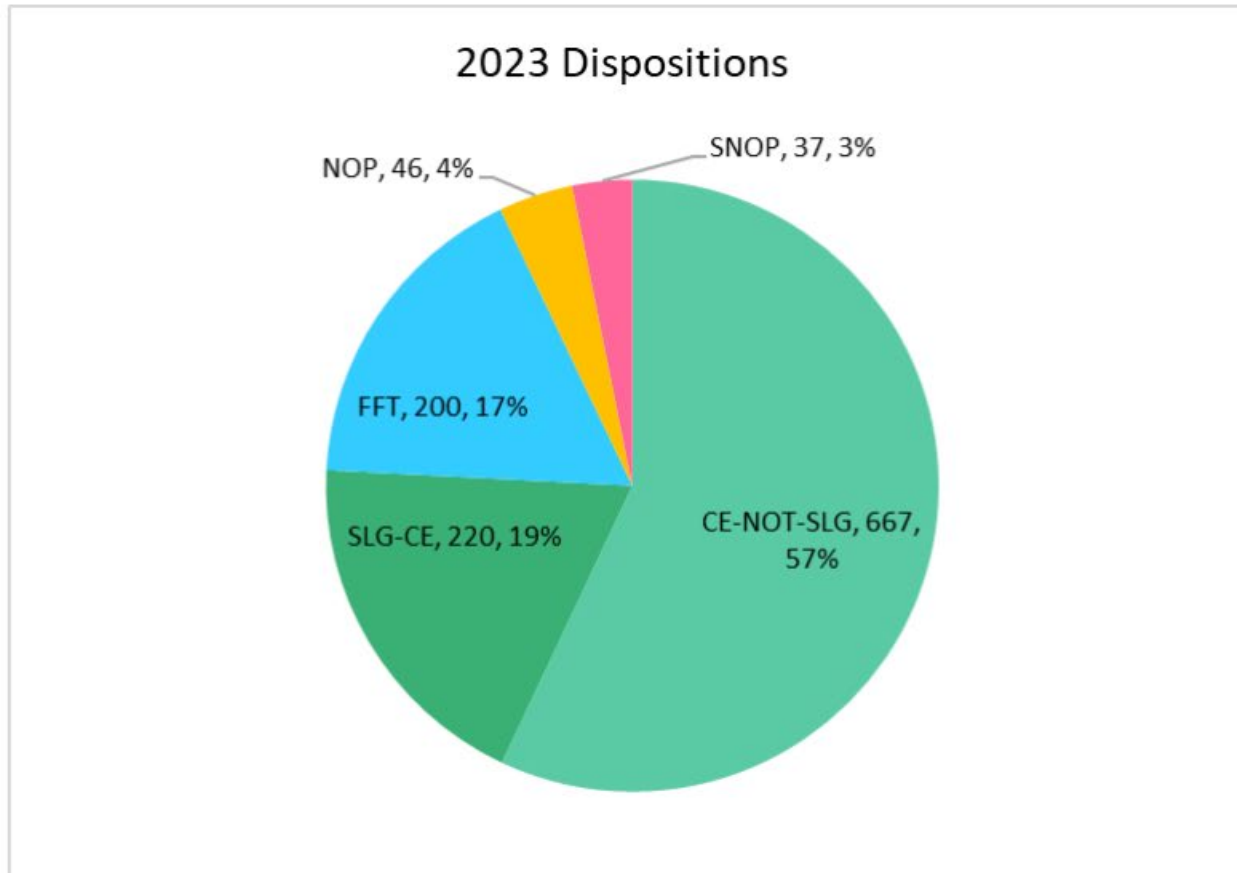
Compliance Exception (CE)	Find, Fix, Track Report (FFT)	Settlement Agreement
<ul style="list-style-type: none"><li>Minimal risk</li><li>Not considered in compliance history for penalty purposes</li></ul>	<ul style="list-style-type: none"><li>Typically, moderate risk</li><li>Considered in compliance history</li></ul>	<ul style="list-style-type: none"><li>Agreement between Entity and Regional Entity about facts and circumstances of violation(s)</li><li>Entity either (a) admits or (b) neither admits nor denies the underlying violation(s)</li></ul>

Spreadsheet Notice of Penalty (SNOP)	Notice of Penalty (NOP)
<ul style="list-style-type: none"><li>Moderate or minimal risk but inappropriate for CE or FFT</li></ul>	<ul style="list-style-type: none"><li>Serious risk, systemic, intentional, or significant failures</li></ul>

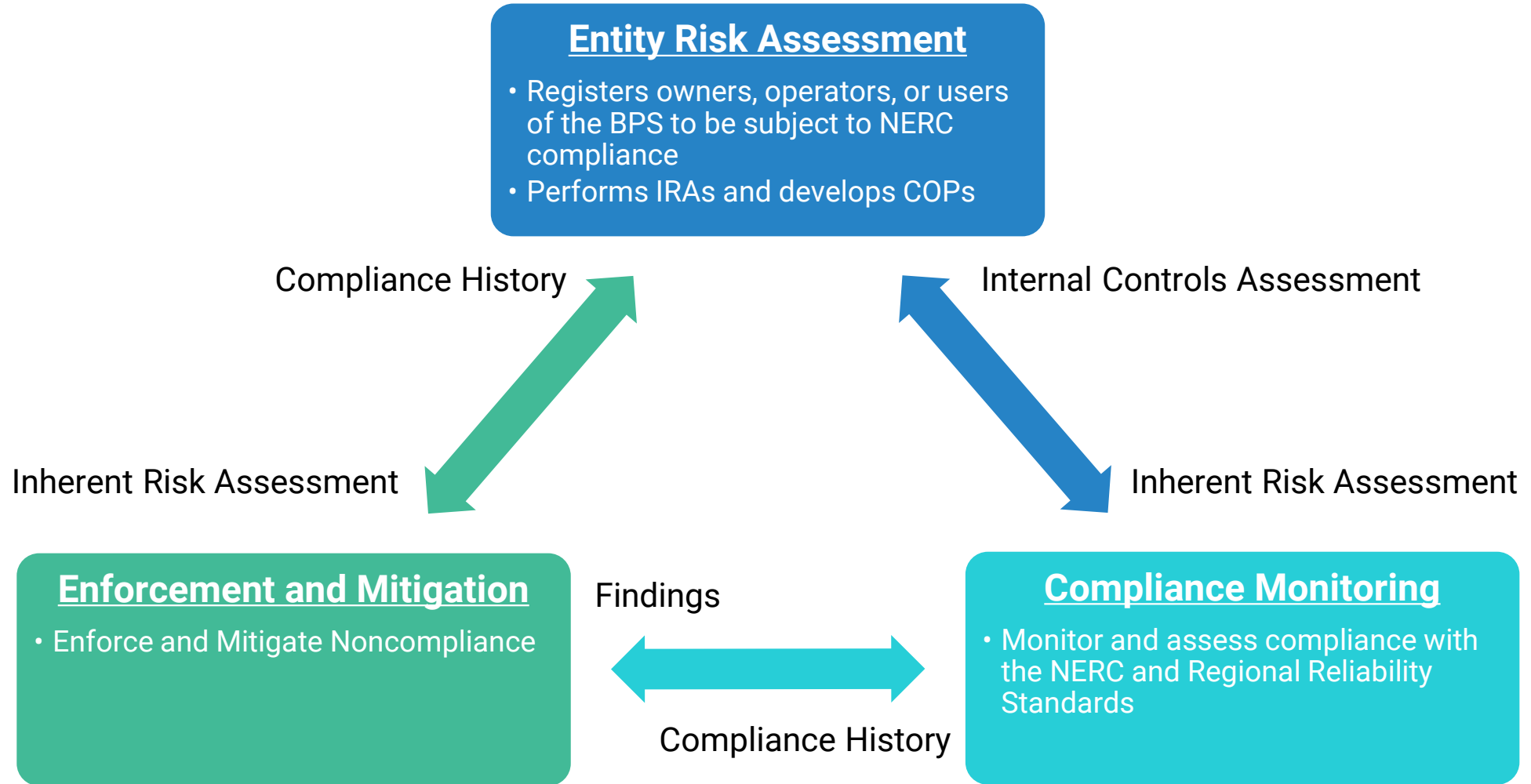




# Enforcement Output



In 2023, the ERO Enterprise processed approximately 93% of all filed or submitted noncompliance via the Compliance Exception (CE) or Find, Fix, Track and Report (FFT) methods.

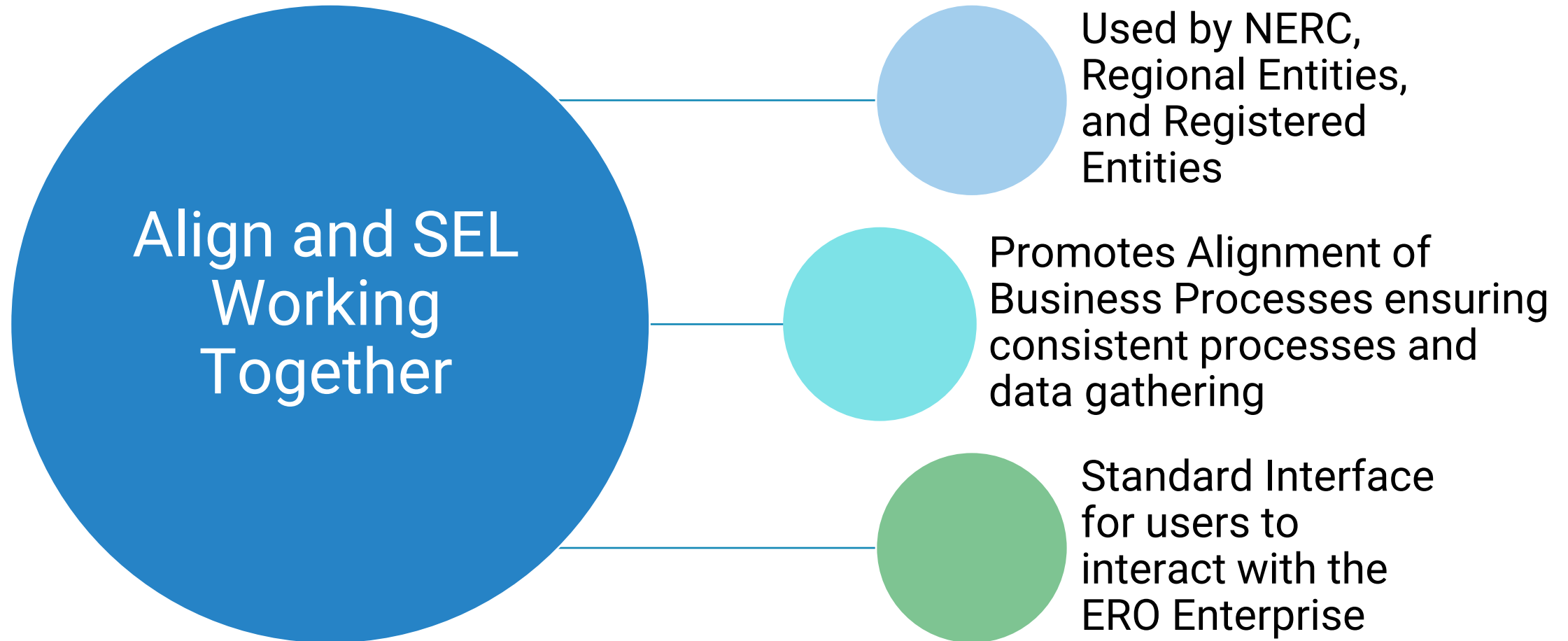




# Align and the Secure Evidence Locker

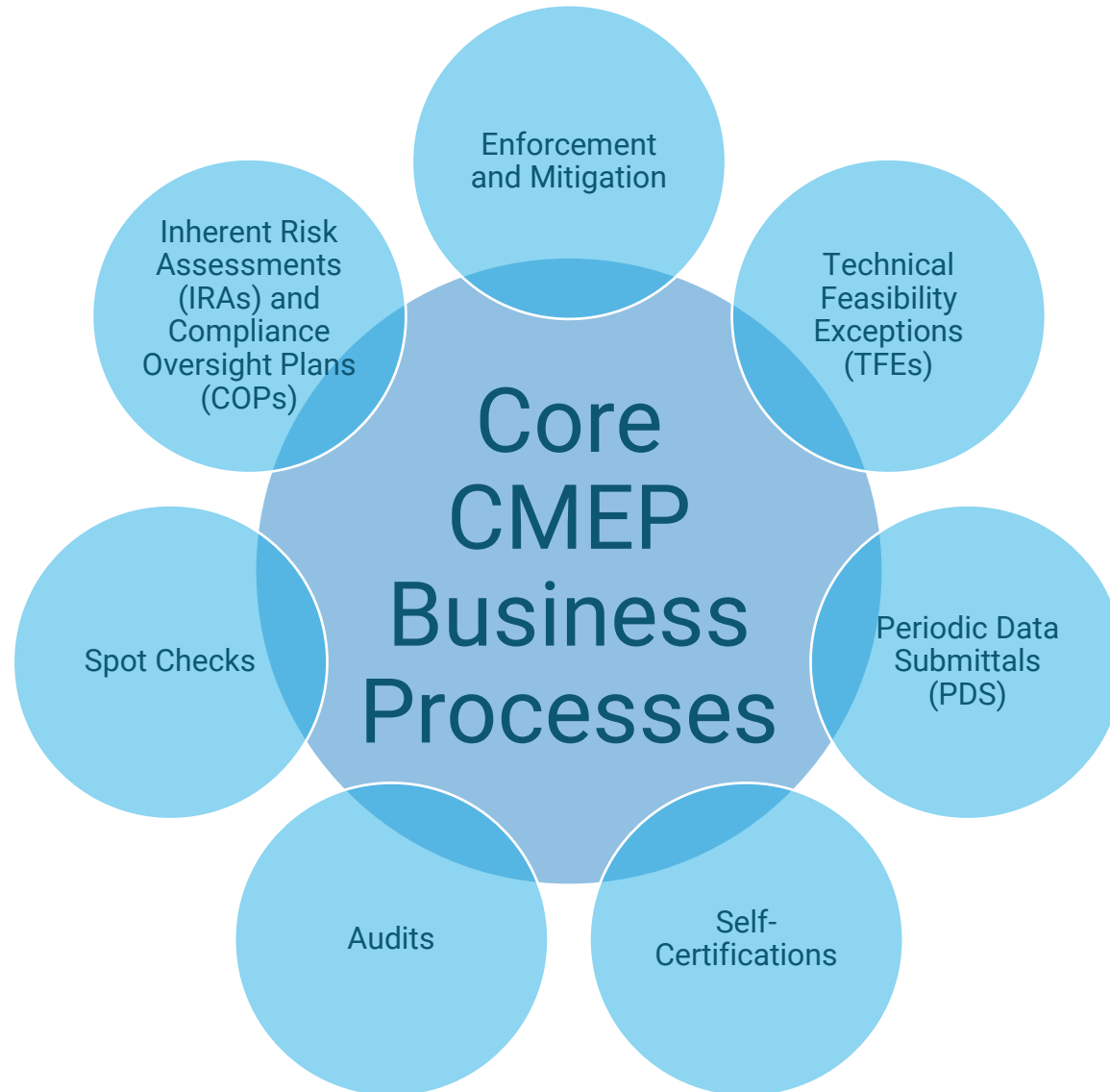


# Align/Secure Evidence Locker



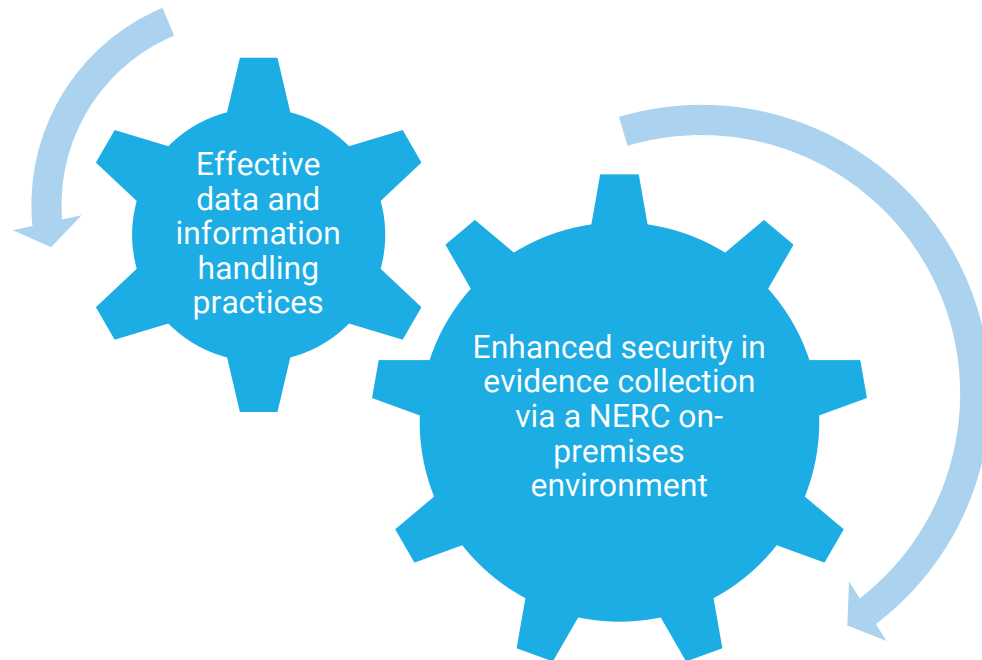


# Align





# Secure Evidence Locker (SEL)



NERC  
NORTHEAST POWER COORDINATING COUNCIL, INC.

NERC  
NORTHEAST RELIABILITY CORPORATION

NPCC, INC.

RF  
RELIABILITY FIRST

SERC

TEXAS RE

### Secure Evidence Locker

**Step 1 - Validation**  
Enter a Reference ID and click "Validate" to add new evidence to your submission.

**Step 2 - Upload Files**  
Click "Upload" to add evidence to your submission. Do NOT include any sensitive information in the file names that you are uploading!

**Step 3 - Submit Evidence**  
Verify all documents meet submission standards. Then click "Submit" to complete.

Additional Information: [Registered Entity Portal User Guide for the SEL](#)



# Align and SEL References

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[Align and Secure Evidence Locker \(SEL\) Resource Center](#)

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[Align and SEL Training for Registered Entities](#)

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[ERO Portal](#)

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[Align](#)



# Additional Helpful Links

- [FERC Reliability Primer](#)
- [The History of the North American Electric Reliability Corporation](#)
- [NERC Timeline](#)
- [NERC Rules of Procedure](#)
- [NERC Glossary of Terms](#)
- [NERC Frequently Asked Questions](#)
- [NERC Fast Facts](#)
- [NERC One-Stop Shop \(CMEP\)](#)



# Upcoming NPCC CMEP Events

## Inverter Based Resources (IBR) Registration Initiative Update Webinar

- September 18, 2024
- 10:00 – 11:00 am

## NPCC Fall 2024 Hybrid Compliance and Reliability Conference

- November 6 – 7, 2024
- Hartford Marriott  
Downtown (Hartford, CT)
- In-person or remote  
attendance



NORTHEAST POWER COORDINATING COUNCIL, INC.



# Questions

[Contact Us \(npcc.org\)](http://npcc.org)