

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Proposal for Restructuring NERC Technical Committees

Jennifer Sterling, MRC Vice Chair  
Member Representatives Committee Meeting  
August 14, 2019

RELIABILITY | RESILIENCE | SECURITY



- Based on stakeholder input, the NERC Board of Trustees (Board), established the ERO Effectiveness and Efficiency initiative.
- Objectives
  - Enhance ERO effectiveness in executing its statutory functions, recognizing the value of industry expertise
  - Improve the efficiency of ERO operations and use of stakeholder resources
- A stakeholder engagement team (SET) was established in December, 2018 to review the technical committee (Operating, Planning and Critical Infrastructure) structures and activities towards improving use of industry resources.

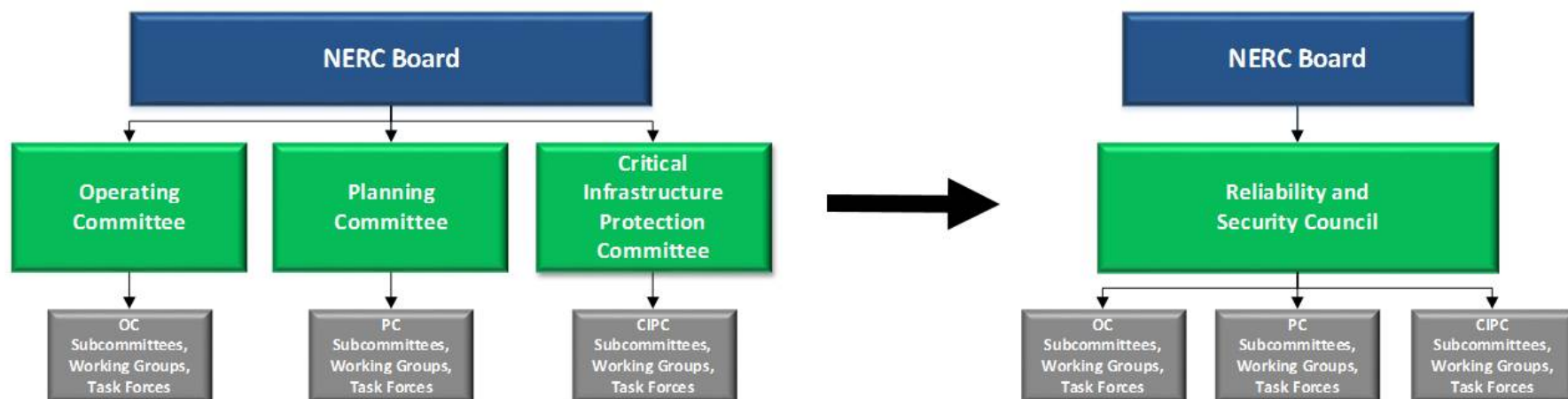
- Participants in the evaluation process include:
  - Technical Committee Chairs: Operating (OC), Planning (PC), and Critical Infrastructure Protection (CIPC)
  - Member Representatives Committee (MRC) Chair, Vice Chair, & Past Chair
  - MRC Representatives
  - Industry stakeholders
  - NERC Board representatives
  - NERC and Regional Entity staff

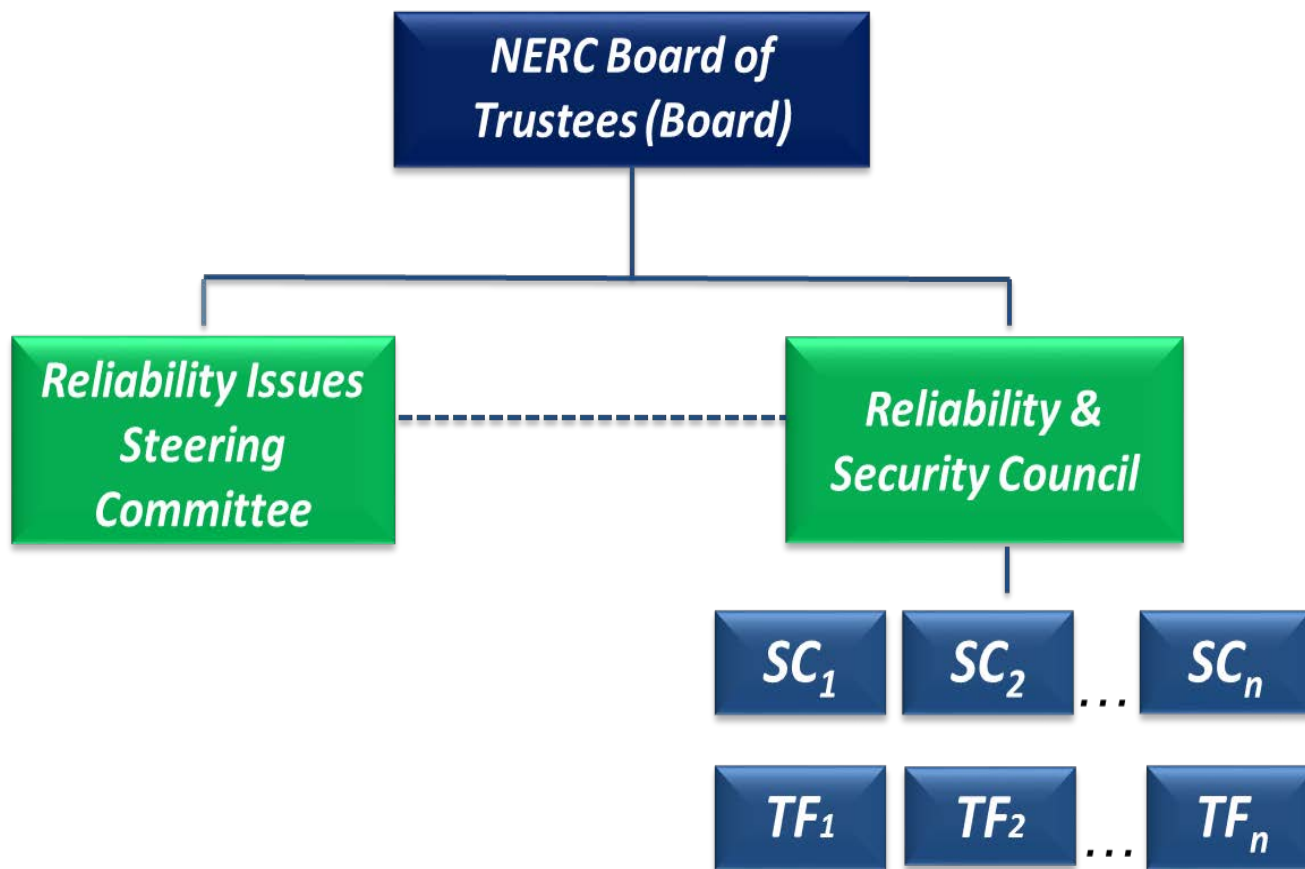
- We pivot quickly and refocus resources rapidly
  - We are in an ever changing world and the pace of change is accelerating
  - Agile teams need to be readily deployed to address emerging issues
- We bring multi-disciplined teams together to develop “complete” solutions
- We leverage scarce talent to solve problems and maximize our return
- We work collaboratively to solve problems efficiently while eliminating silos and redundancies
- Our committees need the ability to support standards and compliance
  - Address risks that are inevitable
  - Standards or guidelines may be needed

- The SET performed four steps in its review leveraging NERC's Strategic Plan, Operating Plan, and RISC Report
  - Examined all RE experiences with committee restructuring
  - Verified the parameters surrounding governance of the technical committees, as outlined in the NERC Rules of Procedure and Bylaws, Federal Power Act, and federal regulations
  - Reviewed common responsibilities, work flow, and current levels of coordination across the technical committees based on their work plans and deliverables
  - Surveyed current committee members for their input about the existing committee structure and potential replacement structures
- Organizational structure options reviewed & recommendations for next steps developed

- Need to ensure work plans are coordinated and for more end-to-end solution development for reliability/security risks
- Five different potential models developed, narrowed down to two options:
  - **Option 1:** Retain existing technical committee structure and create an oversight committee which coordinates and directs their work
  - **Option 2:** Replace OC, PC, and CIPC with a Reliability and Security Council (RSC) that reports to the Board

- Replace OC, PC, and CIPC with the RSC
- Retain existing subcommittees, working groups, and task forces
- Will evaluate work products of subcommittees, working groups, and task forces and eliminate or combine those without recurring responsibilities





- Improved effectiveness of communication to inform the RSC work with input from the Board and MRC
- Enhanced functional alignment between RISC priorities and mitigations, and the RSC directed technical work
- Efficiencies from streamlining the operation of the three existing technical committees into one council
- Development of end-to-end technical solutions to mitigate existing and emerging risks to reliability
  - Determine best approach to prioritize and address risks and potential mitigating strategies
  - Employ risk issue-specific task forces with well-defined deliverables

- Proposed Sector-based and At-Large representation

| Name                 | Voting Members |
|----------------------|----------------|
| Sectors 1-10, and 12 | 11             |
| At Large             | 20             |
| Chair and Vice Chair | 2              |
| <b>Total</b>         | <b>33</b>      |

- Additional Non-Voting Members

| Non-Voting Member           | Number of Members |
|-----------------------------|-------------------|
| NERC Secretary              | 1                 |
| U.S. Federal Government     | 2                 |
| Canadian Federal Government | 1                 |
| Provincial Government       | 1                 |
| <b>Total</b>                | <b>5</b>          |

- With Board approval, a nomination period would be opened in fourth quarter 2019 and members appointed in first quarter 2020
- The first meeting of the RSC would be end of the first quarter 2020
- The existing technical committees would be unwound in early 2020 with the formation of the RSC

- Proposal presented to the MRC at August 14, 2019 meeting
- Council structure, participation model, and implementation/transition plan will be refined based on MRC policy input and industry feedback
- Final recommendation will be presented to the Board at their fourth quarter meeting seeking Board approval
- Seek nominations for Sector and At-Large members of the RSC fourth quarter 2019
- Implement transition in early 2020

- Policy input requested on the following:
  - The proposal to replace the NERC CIPC, OC, and PC with the RSC.
  - The proposed participation model of the RSC.
  - The best way to implement the transition from three technical committees to the RSC.



# Questions and Answers

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# Standards Efficiency Review

Howard Gugel, Vice President of Engineering and Standards  
Member Representatives Committee Meeting  
August 14, 2019

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- **Overall**: Evaluate NERC Reliability Standards using a risk-based approach to identify potential efficiencies through retirement or modification of Reliability Standard Requirements. This project seeks to identify potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden.
- **Phase 2**: Evaluate NERC Reliability Standards (Operations & Planning and Critical Infrastructure Protection ), as informed by implementation experiences and compliance practices, to develop and recommend standards-based solutions intended to reduce inefficiencies and unnecessary regulatory burdens for the purpose of supporting continued safe, secure and reliable operations.

- Form SER Phase 2 team by supplementing with new Compliance and Certification Committee & Standards Committee members (complete)
- Clarify and adjust scope of work for Phase 2 (complete)
- Identify key issues to address with Advisory Group (complete)
- Review alternatives and concepts proposed by Phase 1 (complete)
- Develop new efficiency concepts (complete)
- Evaluate and identify best efficiency concepts (complete)
- Draft recommendations for prioritized concepts (2019 Q4 - 2020)

- Industry survey results for 6 efficiency concepts
  - **Concept 1:** Evidence Retention (8.12)
    - Draft report and socialize recommendations
  - **Concept 5:** Consolidate Information/Data Exchange Requirements (8.11)
    - Discuss approach and solutions at whiteboard session
  - **Concept 3:** Move Requirements to Guidance (7.85)
    - Renaming/retooling this concept
  - **Concept 2:** Prototype Standard (7.78)

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  - **Concept 6:** *Relocate Competency-based Requirements to the Certification Program/Controls Review process (6.85)*
  - **Concept 4:** *Consolidate & Simplify Training Requirements (6.19)*
- Reviewed industry survey responses, comments, and concerns
- Evaluated and prioritized concepts based on potential benefit, feasibility, and effort of implementation

- CIP SER: using a risk-based approach, evaluate NERC CIP Reliability Standards in order to identify potential efficiencies through retirement or modification of Reliability Standard Requirements
- Approach is very similar to SER Phase 1
- Key considerations:
  - Focus first on retirements, then on modifications
  - Relationship and communications with active drafting teams
  - Industry input in parallel with working team formation
  - CIP has less history of mandatory and enforceable
- Working team nominations end August 16
- Industry input using SER Matrix ends August 26
- Analysis of industry feedback (August - September)



# Questions and Answers

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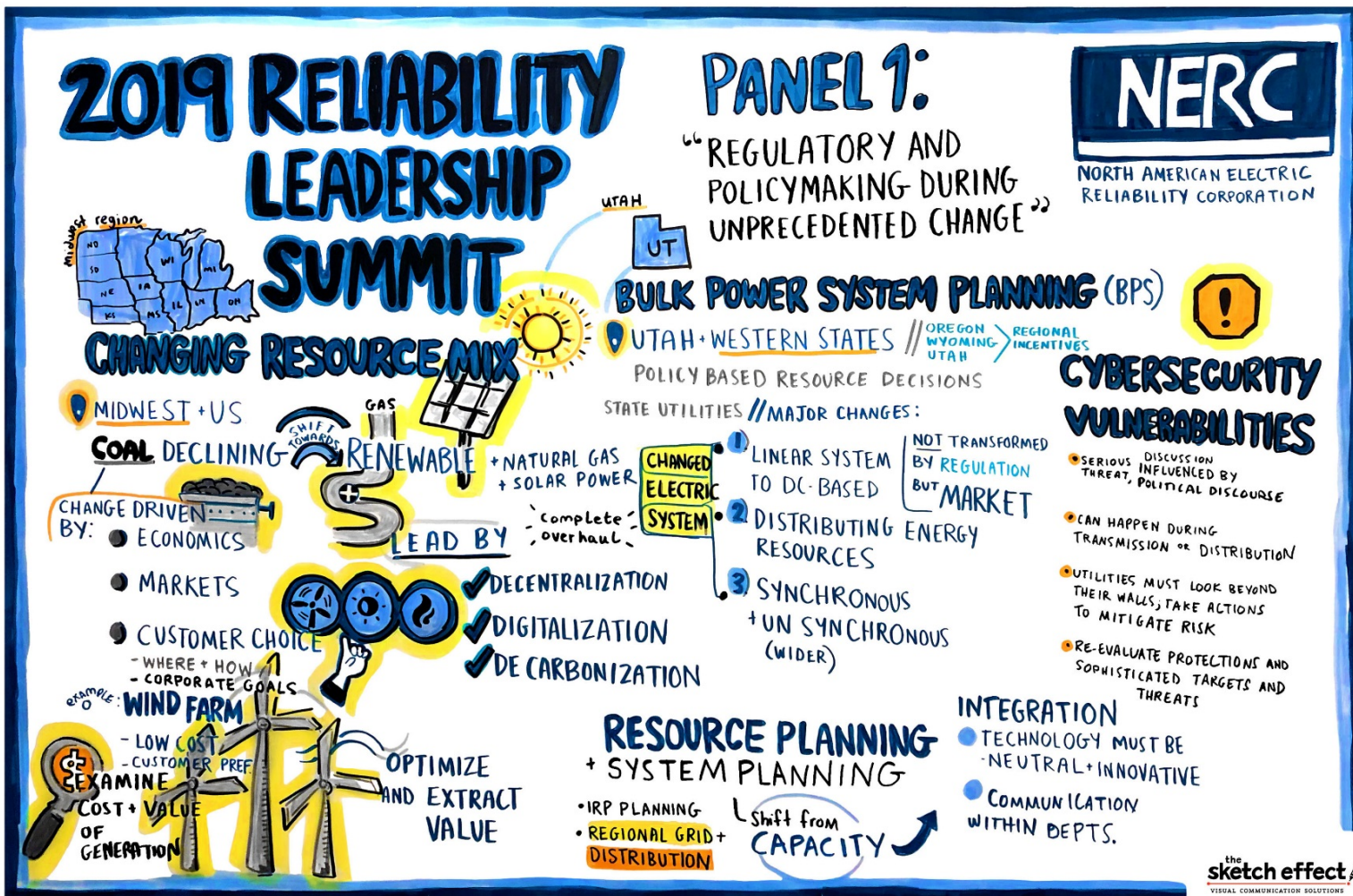
## 2019 ERO Reliability Risk Priorities Report Preview

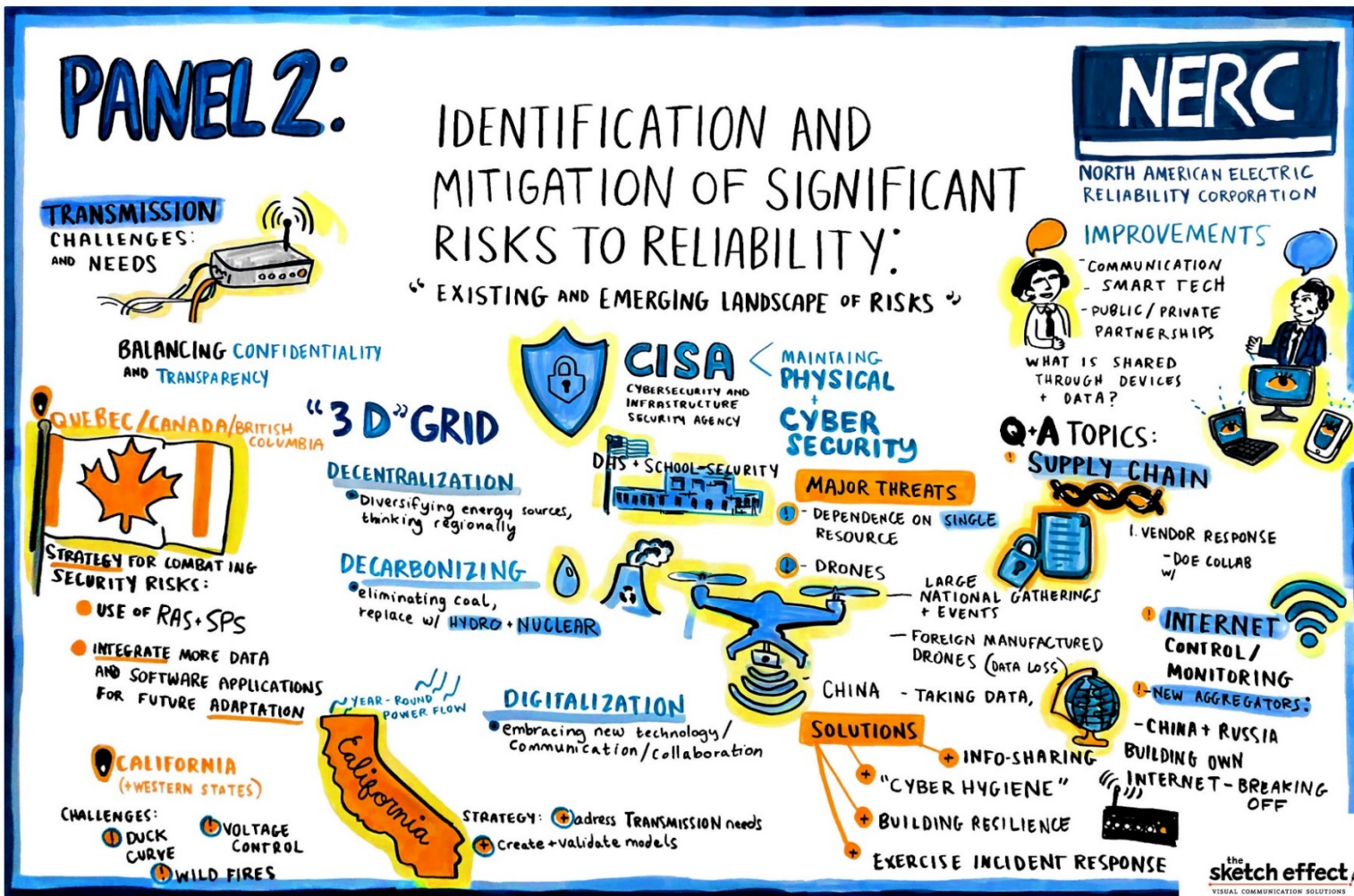
Nelson Peeler, Chair, RISC Committee  
Member Representatives Committee Meeting  
August 14, 2019

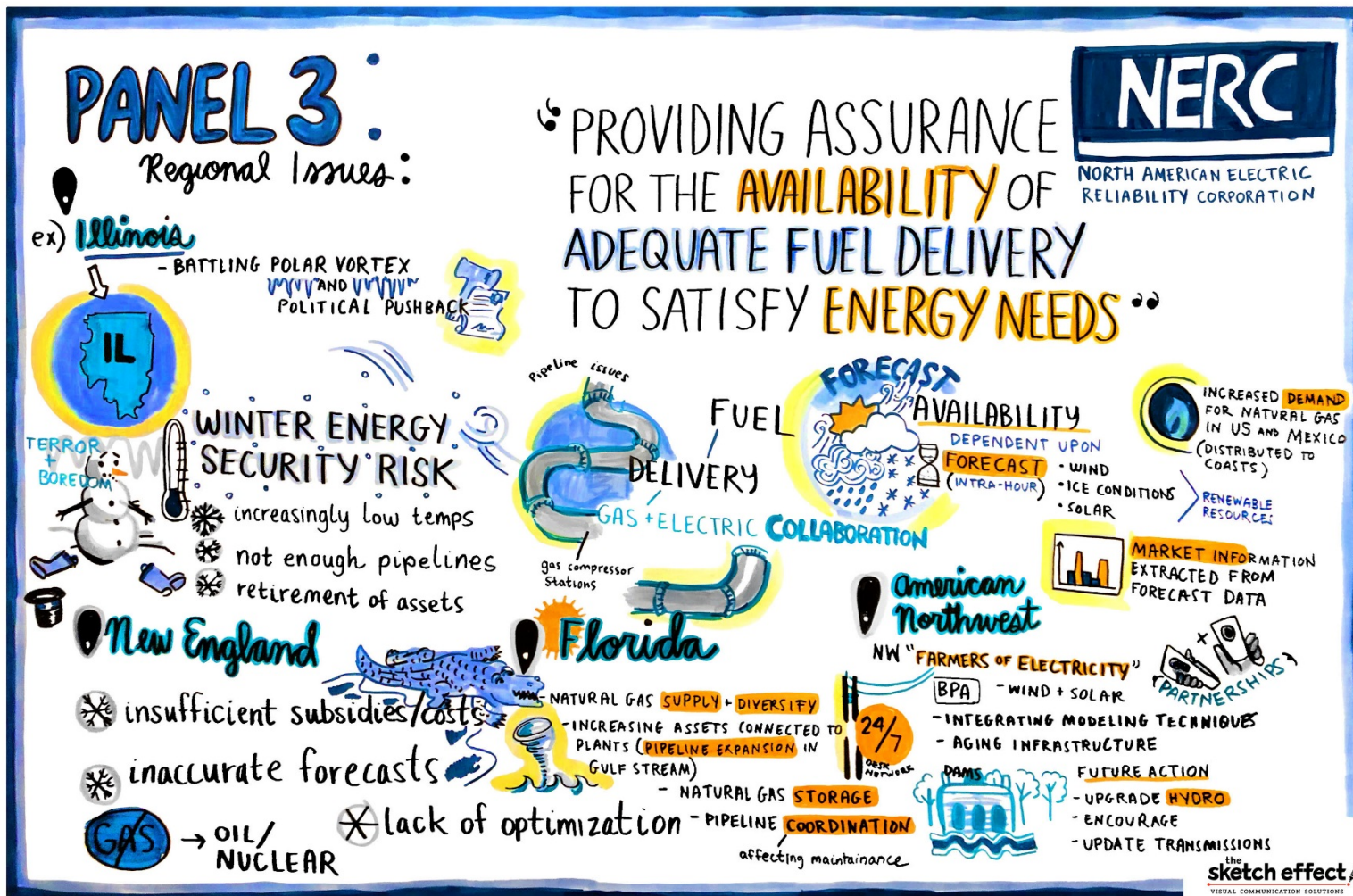
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- Objectives:
  - Understand the scope, priority and goals to mitigate known and emerging risks to bulk power system reliability
  - Provide a framework to effectively focus NERC and industry resources to improve reliability
- Biennial Activities
  - Reliability Leadership Summit
  - Industry risk survey
  - Identify Priority Risks
  - Vet mitigation alternatives
- Document result in RISC Report







## PANEL 4: OPEN DISCUSSION

MODERATED BY: Nelson Parker and Charles King



### MAIN THEMES

- INTERDEPENDENCIES
- INCREASED SECURITY RISKS
- SIGNIFICANT CHANGES TO GRID
- NATURAL GAS INCREASE
- NEW TECHNOLOGY INTEGRATION

### ADDITIONAL CONTENT:

- WHAT CROSS-SECTOR COORDINATION IS BEING CONDUCTED W/ WATER SUPPLY TRANSPORT/ MAINTENANCE
- DISTRIBUTION IS BECOMING DIGITIZED + INTERCONNECTED
- INCREASED CYBER CROSS-SECTION OF RISK  
↳ NEW VULNERABILITIES



### SUPPLY CHAIN

### HOW DO WE ENSURE WE'RE MAKING THE RIGHT STRATEGIC INVESTMENTS?

- ENERGY RESERVE PROBLEM
- CREATE INCENTIVE STRUCTURES
- ISSUES W/ MARKET DESIGN
- PLANNING FOR "FUNDAMENTALLY RELIABLE SYSTEM"
- LONG-TERM ASSESSMENT METHODOLOGIES

### NATIONAL SECURITY

- COMPETITION W/ ADVERSARIES
- SHARED INFO W/ GOVERNMENT
- SHARING DATA W/ PLANTS + NWS

### RENEWABLE ENERGIES ARE WEATHER BASED -- HOW DO WE IMPROVE WEATHER FORECASTING?

- ISOLATED VS. INTEGRATED GRID
- RESEARCH TECH INVESTMENTS + FLEX RESERVE
- UNPREDICTABLE GENERATIONAL ASSETS
- EXPAND PAST "HOURLY" PREDICTIONS
- DOE TASK FORCE
- HOW TO MONITOR WEATHER SYSTEMS
- HOW TO INCREASE VISIBILITY/ SECURE EXPORT CAPABILITIES
- MULTIPLE VENDORS + APPROACHES + DATA POINTS

### HOW DO WE INTEGRATE CYBER STRATEGIES INTO OUR PHILOSOPHIES?

### IT/OT CONVERGENCES AND INTEGRATION

- DER'S AFFECTING BULK SYSTEM  
↳ WHEN WILL NERC INTERVENE?

### WHO IS ACCOUNTABLE FOR CYBERSECURITY + LONG-TERM SECURITY PLANS?

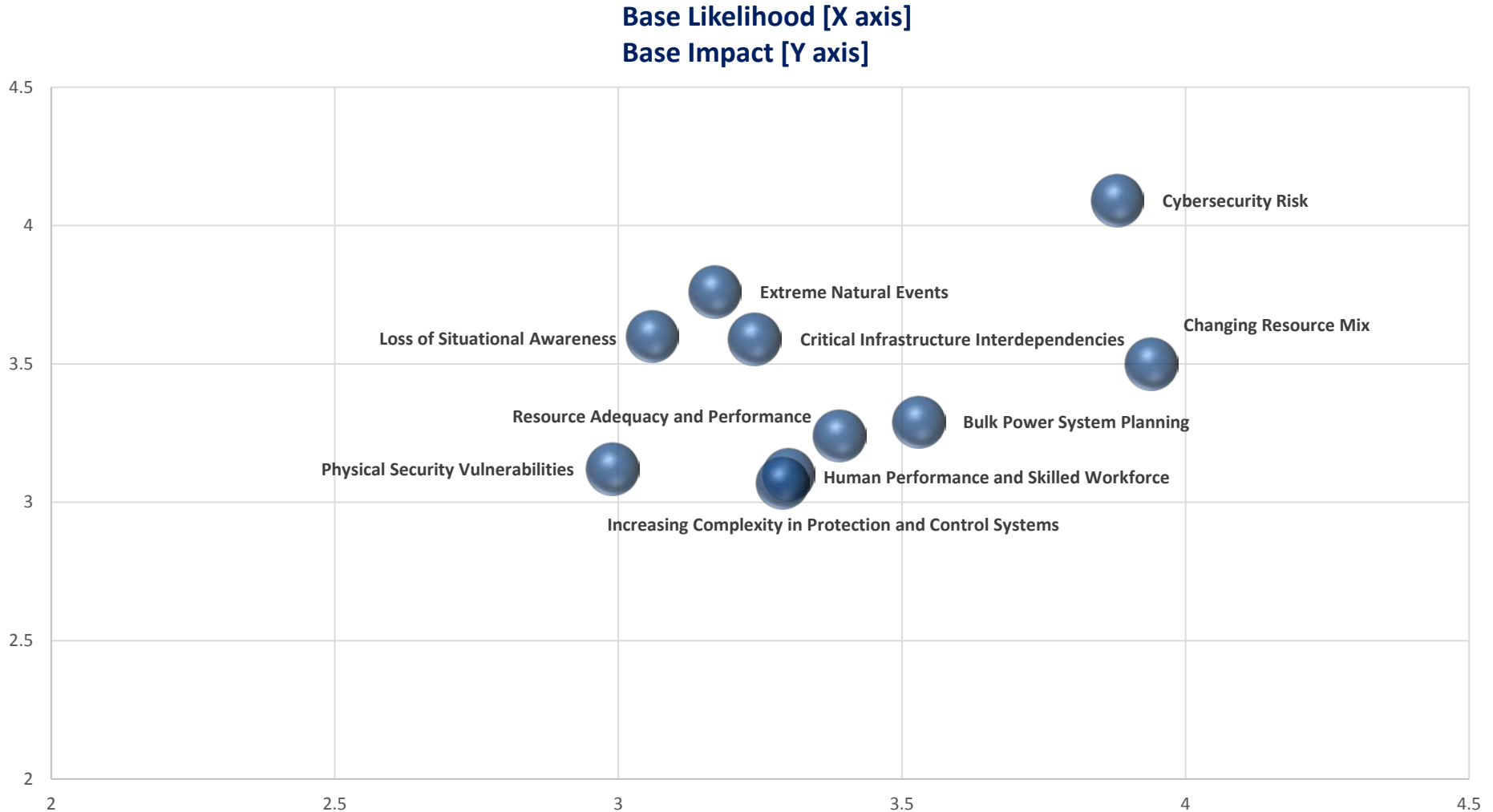
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VISUAL COMMUNICATION SOLUTIONS



- On March 26 the Emerging Risks Survey was distributed:
  - RISC
  - Standing Committees
  - Trades
  - ISO/RTOs
  - Regional Entities (Regional Entities distributed to their Regional Boards and/or Member Advisory Committees, if appropriate)
- The survey closed on April 16 with 157 total responses.
- Baseline & Residual Likelihood & Impact with a 1-5 scale identifying criticality and relativity of bulk power system risks

- 10 risks from multiple inputs (e.g., ERO Leadership Summit, Emerging Risks Survey results, Subject Matter Expertise)
  - Changing Resource Mix
  - Bulk Power System Planning
  - Resource Adequacy and Performance
  - Protection System Complexity
  - Human Performance and Skilled Workforce
  - Loss of Situational Awareness
  - Extreme Natural Events
  - Physical Security Vulnerabilities
  - Cyber Security Vulnerabilities
  - **Critical Infrastructure Interdependencies\***

\*Newly Identified Risk



## Manage versus Monitor

**MANAGE**

1. Changing Resource Mix

**MANAGE**

2. Bulk Power System Planning

**MANAGE**

3. Resource Adequacy and Performance

**MONITOR**

4. Increasing Complexity in Protection and Control Systems

**MONITOR**

5. Human Performance and Skilled Workforce

**MANAGE**

6. Loss of Situational Awareness

**MONITOR**

7. Extreme Natural Events

**MONITOR**

8. Physical Security Vulnerabilities

**MANAGE**

9. Cyber Security Vulnerabilities

**MANAGE**

10. Critical Infrastructure Interdependencies

Further review and consolidation has resulted in four high level risk profiles:

## Grid Transformation



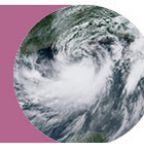
- A. Bulk Power System Planning
- B. Resource Adequacy and Performance
- C. Increased Complexity in Protection and Control Systems
- D. Situational Awareness Challenges
- E. Human Performance and Skilled Workforce

## Security Vulnerabilities



- A. Physical
- B. Cyber
- C. EMP

## Extreme Natural Events



- A. Extreme Natural Events, Widespread Impact
  - GMD
- B. Other Extreme Natural Events

## Critical Infrastructure Interdependency



- A. Communications
- B. Water/Wastewater
- C. Oil
- D. Natural Gas

- Analysis of mitigating activities and the effects on risk likelihood and impacts, enable biennial comparison/trending
- A larger emphasis on immediate and short-term actionable activities to reduce risk
- Differentiation between actively manage versus monitor
- Final report to NERC Board of Trustees in Q4 2019



# Questions and Answers

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# ERO Enterprise Long-Term Strategy

Jim Robb, President and CEO  
Member Representatives Committee Meeting  
August 14, 2019

RELIABILITY | RESILIENCE | SECURITY



# WHY ARE WE HERE?

We are here to assure a highly reliable and secure bulk power system for the benefit of society.

Electricity is a critical part of the fabric of modern society.

We exist to strengthen that fabric.



# The ERO Enterprise Golden Circle



- Working together as one team and honoring each of its roles
- Actively supporting ERO Enterprise activities while eliminating unnecessary duplication of work
- Collaborating in developing clear and consistent guidance across the ERO Enterprise
- Sharing information, knowledge, and resources across ERO Enterprise
- Developing and sharing harmonized messages across ERO Enterprise communications
- Supporting innovation, initiatives, and the sharing of best-practices across the ERO Enterprise

1. Expand risk-based focus in all Standards, Compliance Monitoring, and Enforcement programs
2. Assess and catalyze steps to mitigate known and emerging risks to reliability
3. Build a strong, E-ISAC-based security capability
4. Strengthen engagement and collaboration across North America and the reliability ecosystem
5. Capture effectiveness, efficiency, and continuous improvement opportunities

- Ensure Standards are clear, timely, considerate of cost, effective at mitigating risk, and do not create unnecessary burdens
- Use the full suite of tools to provide support to industry
- Improve quality and consistency of risk assessments and controls reviews to inform Compliance Oversight Plans
- Focus enforcement efforts on the highest risk violations and continue to find efficient ways to process lower risk violations
- Enhance alignment in practices and outcomes across all Regional Entity CMEP efforts

- Build outreach, training, and education to reduce incidence of known risks to reliability
- Acquire, develop, maintain, and deliver innovative tools and programs that quantify and address existing and emerging risks
- Undertake special assessments and studies to better understand emerging risks
- Develop measures of operational and cyber BPS resilience, and identify ways to enhance resilience
- Identify ways industry can enhance planning and operating practices to reduce cyber vulnerabilities
- Leverage data collection, analytics, and relationships with other sectors to identify leading indicators of emerging risks

- Ensure effective execution of the E-ISAC strategic plan
- Build strong connectivity and engagement with the ESCC and, with the MEC, evolve the strategy to ensure continued relevance to industry needs
- Mature E-ISAC business processes and controls and leverage performance metrics to identify ongoing improvement opportunities
- Collaborate with other sector's security infrastructure to facilitate cross-sector information sharing and threat analysis
- Strengthen relationships with DOE and DHS as well as Natural Resources Canada, Canada's Communications Security Establishment, and Mexico's Secretaría de Energía

- Nurture relationships with key industry trade associations, technology groups, affiliated sectors, and end users
- Collaborate with other non-profits that share elements of the ERO Enterprise's reliability and security mission
- Strengthen proactive outreach to key federal, state, and provincial regulatory, legislative, and policy bodies across North America

- Deliver on the “big three”
  - Standards Efficiency Review
  - Align Tool
  - Stakeholder Engagement Realignment
- Leverage the annual business plan and budget process to fine tune and capture continuous improvement opportunities
- Look for the next wave of strategic effectiveness and efficiency opportunities while remaining focused on key reliability and security challenges

RISC priorities  
(updated every other year)

Strategic focus areas  
(updated when conditions warrant)

Annual business plans  
and budgets

Annual work plan  
priorities



# Questions and Answers

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# Supply Chain Data Request

Howard Gugel, Vice President of Engineering and Standards  
Member Representatives Committee Meeting  
August 14, 2019

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- Support effective and efficient implementation (e.g. CIP V5 transition)
- **Supply chain risk study**
- Communicate supply chain risks to industry
- Forum and Association white papers
- Plan to evaluate effectiveness of supply chain standards

- Include in Supply Chain Standards
  - Electronic access controls for medium and high impact BES Cyber Systems
  - Physical access controls for medium and high impact BES Cyber Systems
- Do not include in Supply Chain Standards
  - Electronic access monitoring and logging
  - Physical access monitoring and logging
  - Protected Cyber Assets
- **Collect more data on low impact BES Cyber Systems**
- Develop guidelines with CIPC Supply Chain Working Group
  - Application to lows
  - Evaluation of PCAs

- Developed with Supply Chain Working Group
- Options discussed
  - Collect detailed information on all BES Cyber Assets
  - Collect information based on location
- Draft posted for 20 day comment period
- 35 respondents
- Five questions

- Is data adequate to determine whether low impact should be included?
- Comments received
  - Half “Yes”
  - Others split
    - Why include medium and high?
    - Additional data needed
    - Focus on supply chain vendors

- Are the right entities included?
- Comments received
  - Almost all “Yes”
  - Others
    - Limit to low impact
    - Include vendors

- Is 45 days adequate?
- Comments received
  - Split decision
    - About half “Yes”
  - Others
    - Wait until after implementation of CIP-003
    - Need 90-180 days
    - Too many systems to count quickly and accurately

- Not Confidential Information, agree?
- Comments received
  - Split decision
    - About half “Yes”
  - Confidential Information
    - Confidential Business and Market Information
    - Critical Energy Infrastructure Information (CEII)
      - Specific engineering, vulnerability, or detailed design information
      - Useful to a person in planning an attack
      - Does not simply give the location of the Critical Infrastructure
    - Personnel information, work papers, investigative files
    - Cyber Security Incident Information

- Any other input?
- Comments received
  - Mostly clarification requests
  - Some repetition from previous questions

- Many changes made for clarity
- Timing remains the same
- Present to Board for approval
- Webinar will be scheduled for assistance



# Questions and Answers



# Recent FERC Activity

Andy Dodge  
Director, Office of Electric Reliability  
Federal Energy Regulatory Commission  
August 14, 2019

*The views expressed in this presentation are my own and do not represent those of the Commission or any individual Commissioner*

# FERC-NERC Joint Inquiry into 2018 Cold Weather Event

- FERC and NERC completed their joint inquiry to assess extreme cold weather event that occurred in Midwest and South Central U.S. starting on 1/15/18.
- Report and associated recommendations were published on 7/18/19.
  - Stresses the need for generation owners and operators to adequately prepare for winter weather conditions to ensure bulk electric system reliability.
  - Recommends the development of one or more mandatory Reliability Standards requiring generator owner/operators to prepare for the cold weather and provide information about those preparations to their Reliability Coordinators and Balancing Authorities.
  - Highlights similarities with conditions and outcomes of the 2011 Southwest cold weather event and the 2014 Polar Vortex.
  - Gas supply issues contributed to the event.
  - Also identified a number of sound practices.

# FERC-NERC Joint Inquiry into 2018 Cold Weather Event

Some recommendations echo the 2011 Southwest event report, including:

- Generator owners and operators should perform winterization activities to prepare for cold weather, and should ensure the accuracy of their units' ambient temperature design specifications;
- Balancing Authorities and Reliability Coordinators should be aware of generating units' specific limitations, such as ambient temperatures below which they cannot be expected to perform or the lack of firm gas transportation;
- Planning coordinators and transmission planners should jointly develop and study scenarios to be better prepared for seasonal extreme weather conditions; and
- Transmission owners and operators should conduct analyses that delineate different summer and winter ratings for both normal and extreme conditions.

# Reliability Standard CIP-012-1: Communications Between Control Centers

- NOPR in RM18-20 issued 04/18/19
- Goal: To protect the confidentiality and integrity of Real-time Assessment and Real-time monitoring data transmitted between Control Centers (BAs, GOPs, GOs, RCs, TOPs, TOs)
- Proposes to approve Reliability Standard CIP-012-1 (Cyber Security – Communications between Control Centers) submitted by NERC in response to a Commission directive in Order No. 822
- Proposes to direct NERC to modify the reliability standard to:
  - Require protections regarding the availability of communication links and data communicated between bulk electric system control centers
  - Clarify the types of data that must be protected
- Comments were due 6/24/19; eight comments received

# Reliability Standard TPL-001-5: Single Points of Failure in System Protection Systems

- NOPR in RM19-10 issued 06/20/19
- Proposes to approve Reliability Standard TPL-001-5 (Transmission System Planning Performance) submitted by NERC in response to a Commission directive in Orders Nos. 754 and 786
- Proposes to direct NERC to modify the reliability standard to:
  - Require corrective action plans for protection system single points of failure in combination with a three-phase fault if planning studies indicate potential cascading
- Comments due 8/26/19

# Reliability Standard CIP-008-6: Cyber Security Incident Reporting

- Order No. 848 Final Rule in RM18-2-000 issued 7/19/18
- NERC filed proposed Reliability Standard CIP-008-6 on 03/07/19
- Proposed Reliability Standard CIP-008-6 was approved by a Commission Letter Order (CLO) on 06/20/19
- Reliability Standard CIP-008-6 becomes effective on 01/01/21
- Consistent with Order No. 848, the modifications in approved Reliability Standard CIP-008-6 broaden the mandatory reporting of Cyber Security Incidents to include compromises or attempts to compromise BES Cyber Systems or their associated ESPs or EACMS
- Consistent with the Commission's directive, the approved standard also:
  - Requires certain minimum information be included in the incident reports;
  - Includes deadlines for submitting the incident reports; and
  - Requires the incident reports to be sent to ICS-CERT, or its successor, in addition to the E-ISAC

# NERC Five-Year Performance Assessment

- NERC filed its Performance Assessment on 7/22/19 in Docket No. RR19-7-000
- Public notice issued 7/23/19
- Comments due 8/22/19

# NERC Standards Efficiency Review (SER)

- NERC's risk-based identification of (non-CIP) Reliability Standard requirements as candidates for modification, consolidation, or retirement
- 77 requirements identified for retirement
  - Docket No. RM19-16-000 (filed 6/7/19)
  - Docket No. RM19-17-000 (filed 6/7/19)

# FERC 2019 Reliability Technical Conference

- Commission hosted its annual Reliability Technical Conference in Docket No. AD19-13 on 6/27/19
- Annual conference that brings together NERC, utilities, and other experts and stakeholders to discuss policy issues related to the reliability
- Four panels included:
  - Panel I: The Status of the Electric Reliability Organization and Reliability
  - Panel II: The Impact of Cloud Based Services and Virtualization on BES Operations, Planning and Security
  - Panel III: Reliability Issues Associated with Reliability Coordinator Seams
  - Panel IV: Managing Changes in Communications Technologies on the New Grid
- Some 25 panelists from NERC, the regions, utilities, cloud service providers, communications providers, states, and other agencies engaged in detailed and substantive discussions with the Chairman and the Commissioners
- Post-technical conference comments due 8/22/19

# FERC Technical Conference: Managing Transmission Line Ratings

- Staff-led conference to be held September 10-11, 2019 at FERC headquarters
- Panels will address issues related to transmission line ratings, with a focus on dynamic and ambient-adjusted line ratings
  - Explore which transmission line rating and related practices might constitute best practices, and what, if any, Commission action in these areas might be appropriate
- Conference will be webcast and open for the public to attend
- Commissioners may attend and participate
- Joint effort by the Office of Energy Policy & Innovation, Office of Electric Reliability, and Office of Energy Market Regulation
- Formal agenda will be issued prior to the conference
- Attendees can register on [ferc.gov](https://www.ferc.gov)

# Transmission Incentives NOI

- NOI in PL19-3-000 issued 3/21/19
- Seeks comment on possible improvements to FERC's electric transmission incentives policy to encourage infrastructure needed to ensure grid reliability and reduce congestion
- Nearly 13 years have passed since issuance of Order No. 679 establishing incentive rate treatments, including:
  - Adders for: ROE, Transco, RTO membership
  - Risk reducing incentives: hypothetical capital structure and abandoned plant
- NOI examines whether incentives should:
  - Be based on measurable criteria for economic efficiency and reliability benefits
  - Provide incentives for improvements to existing transmission facilities
  - Consider costs and benefits of projects in awarding incentives
  - Determine whether to review incentives applications on a case-specific or standardized basis
- Initial comments due 6/26/19; reply comments due 8/26/19

# Removing Barriers to Storage Participation

- Order No. 841 Final Rule in RM16-23 issued 2/15/18
  - Requires grid operators to remove barriers to participation of electric storage resources in capacity, energy and ancillary services markets
  - Requires each regional grid operators to revise tariffs to establish a participation model for electric storage resources
- All RTOs/ISOs completed compliance filings, which were due 12/3/18
- FERC sent letters to RTOs/ISOs on 4/8/19 asking for more information on how they will implement Order No. 841 and provide details on storage market participation:
  - Physical and operational characteristics of storage resources
  - Charging requirements and metering
  - How storage resources can participate as both buyers and sellers in wholesale markets
- FERC, grid operators and stakeholders have one year to review, revise and implement plans by 12/3/19

# West RC Transition

- FERC is actively monitoring the West RC Transition
  - 7/1/19: CAISO Go-Live
  - 9/2/19: BCH Go-Live
  - 11/1/19: CAISO expansion Go-Live
  - 12/3/19: SPP Go-Live
  - 12/3/19: GridForce Go-Live (expect to be delayed)
  - Q1 2020: Retirement of Peak RC

# FERC-NERC-RE Review of Real-Time Assessments

- FERC, NERC, and REs are seeking to understand the strategies and techniques used by entities to perform Real-time Assessments (RTAs) during events where a RC or TOP has a loss or degradation of data or primary tools used to maintain situational awareness
- Team will focus on the practices and controls of a sample of entities to evaluate the effectiveness of their RTA implementation as related to the Reliability Standard requirements (IRO-008-3 and TOP-001-4), particularly during times of data or tool impairments
- The focus of the evaluation is not compliance with the Standards, similar to the joint staff review of entities' restoration and recovery plans.
- Joint team is selecting entities for participation and arranging site visits
- Project will conclude in 2020 with a report on findings, recommendations, and best practices

- Thank you!
- Questions?

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## FERC/NERC/Regional Entity Inquiry Report on the South Central U.S. Cold Weather Bulk Electric System Event of January 17, 2018

Steven Noess, NERC, Director of Regulatory Programs

Heather H. Polzin, FERC, Attorney-Advisor and Reliability Coordinator

Member Representatives Committee Meeting

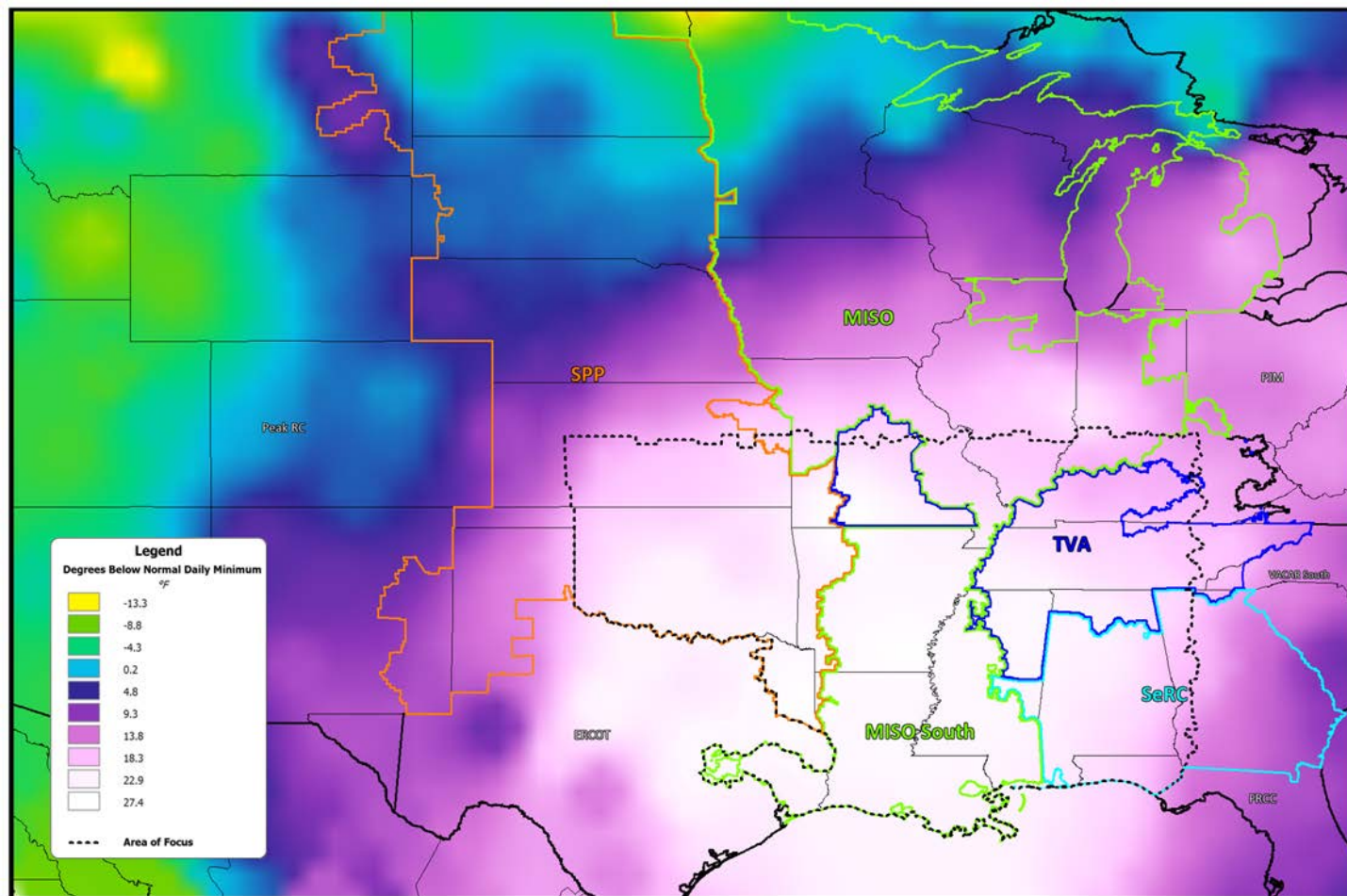
August 14, 2019

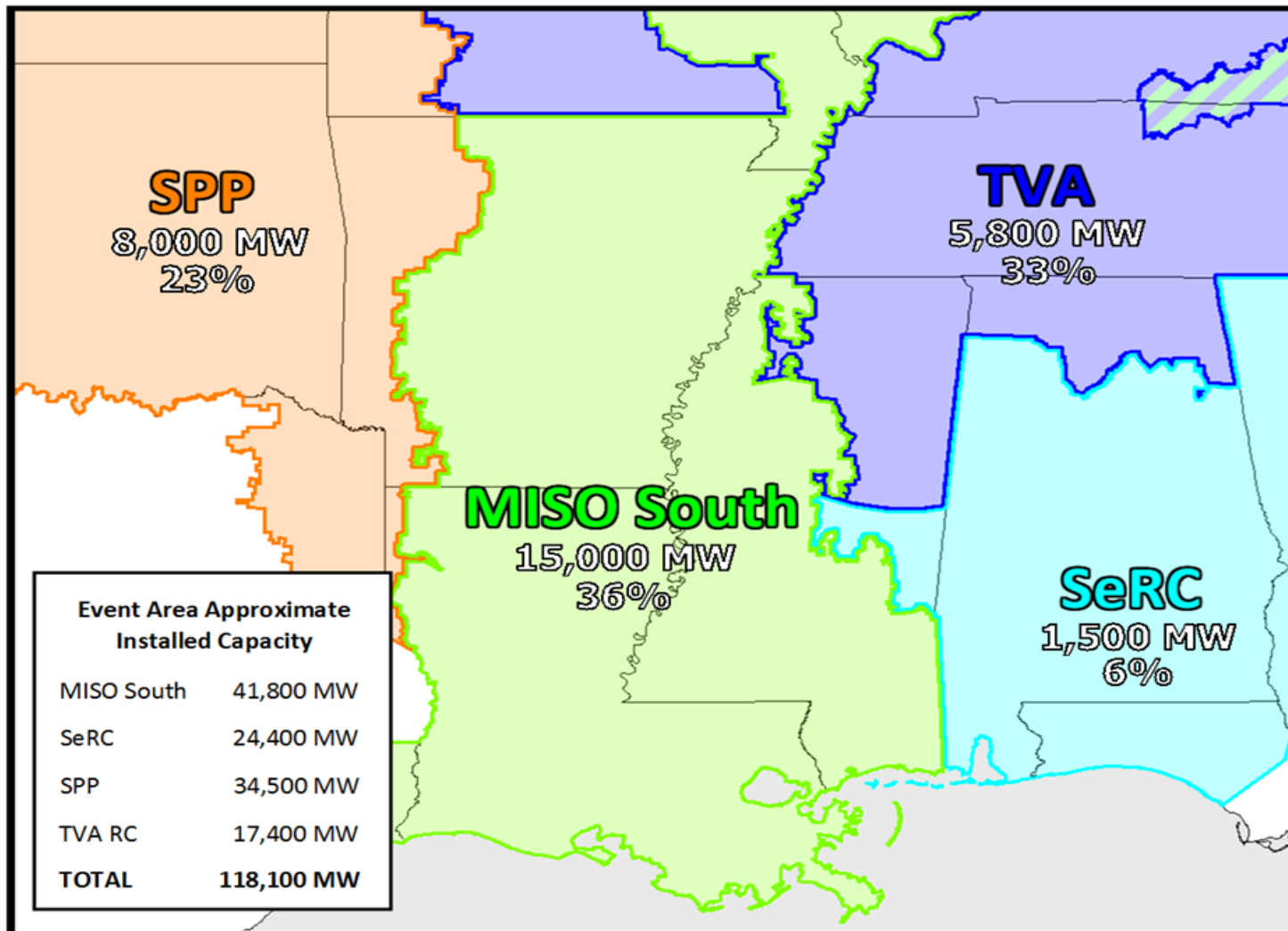
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- Event on January 17, 2018, was triggered by high loads due to extreme cold in a portion of the South Central U.S.
- Joint Inquiry announced on September 12, 2018
  - FERC staff: (OER, OE, OEMR, OEPI, OGC)
  - Staff from NERC as well as MRO, SERC, and ReliabilityFirst Regional Entities
  - WECC staff participated due to seams issues

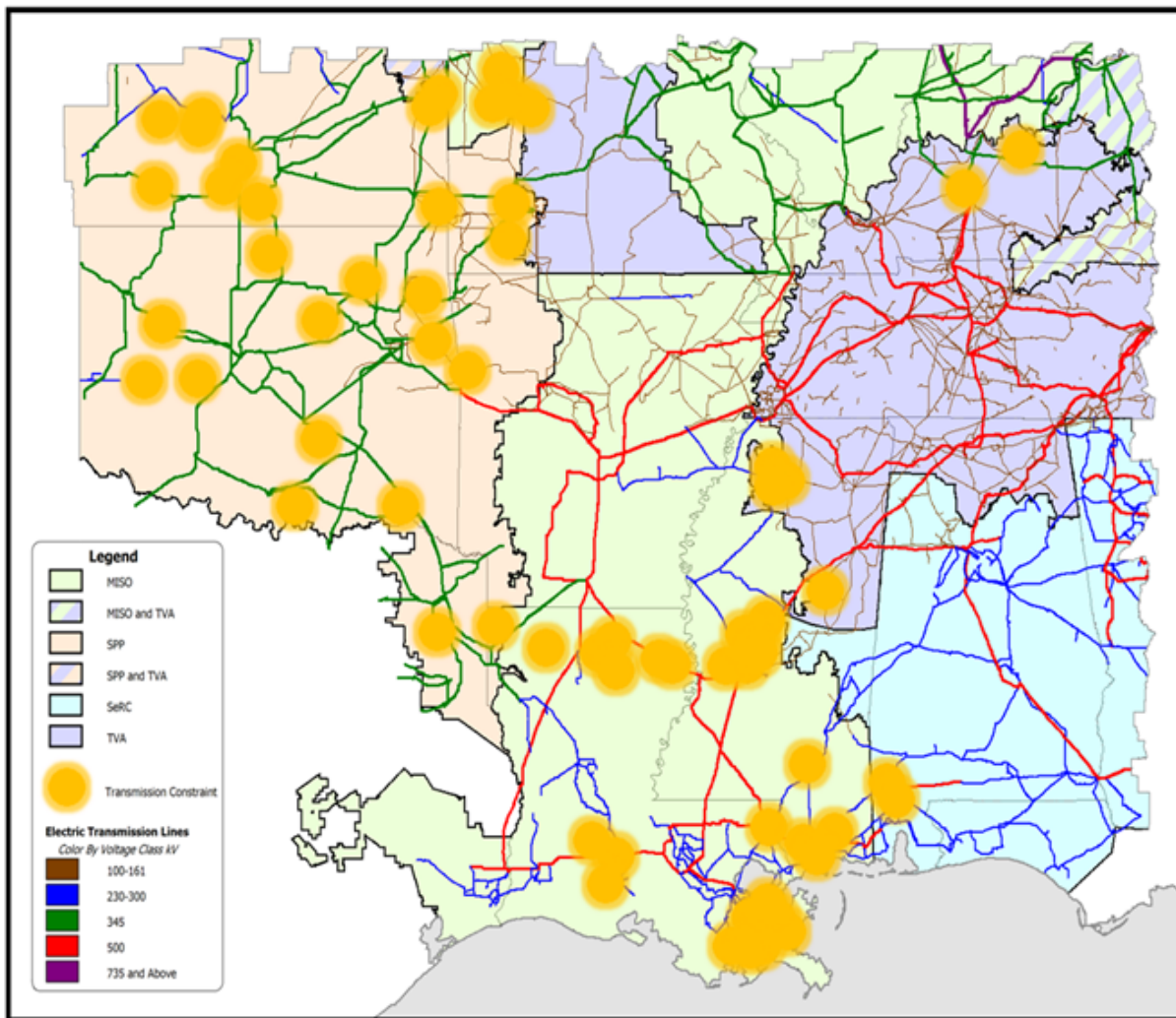






- Increased customer electricity demand due to extreme low temperatures
- MISO's Regional Directional Transfer (from north to south)
- Remote generation power transfers, including dispatch of wind generation and transfers from north to south in SPP
- Transfers between SPP and the ERCOT Interconnection

# Constrained Transmission Conditions



- As temperatures decreased, unplanned outages increased
- 44% of outages were directly attributed to, or likely related to, extreme cold weather
- Gas supply issues contributed to the Event
- One-third of Generator Owner/Operators who had outages/derates/failures to start did not have winterization procedures

- The Relevant Reliability Coordinators (MISO, SPP, TVA and SeRC) had situational awareness
- The generation outages on January 17 created energy emergency conditions which required voluntary load reduction
- Firm load shed would have been required, if the next worst single contingency in MISO South had occurred

- Generator Cold Weather Reliability (1)
- 3-pronged approach: Standard, Enhanced Outreach and Market Rules to address:
  - The need for Generator Owners/Operators to perform winterization activities, and ensure accuracy of their generating plants' ambient temperature design specifications
  - The need for Reliability Coordinators and Balancing Authorities to be aware of specific generating units' limitations

- Two FERC and/or NERC reports since 2011 found generators failed to prepare for winter, leading to loss of firm load and/or other energy emergency measures
- 2011 Joint FERC/NERC report recommended mandatory winterization Standard
- Standard Authorization Request (SAR) proposed 9/2012
- 2013-present NERC and Regional Entities provided multiple educational opportunities
- Despite improvements, still **more than 1/3** of Generator Owners/Operators did not have winterization plans in 2018

- Transmission and Reserves (12), including:
  - Real-time voltage stability analysis
  - Transmission studies of extreme conditions
  - Deliverability of Reserves
  - Improving load forecasting for extreme weather conditions
- Multiple sound practices by the entities were also identified

- Regional Entity quarterly meetings (MRO, SERC, ReliabilityFirst)
- Joint FERC/NERC Webinar (Q4 2019)
- Follow-up meetings or conference calls with affected entities to determine their planned responses to recommendations
- Read the full report at
  - [https://www.nerc.com/pa/rrm/ea/Documents/South\\_Central\\_Cold\\_Weather\\_Event\\_FERC-NERC-Report\\_20190718.pdf](https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf)
  - or
  - <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>



# Questions and Answers

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# NERC Compliance and Certification Committee

Jennifer Flandermeyer, CCC Chair  
Member Representatives Committee Meeting  
August 14, 2019

**RELIABILITY | ACCOUNTABILITY**



## Compliance and Certification Committee (CCC) Advises NERC Board of Trustees and Senior Staff

### Advisory Committees

Compliance and  
Certification Committee

Reliability Issues Steering  
Committee

Standards Committee

### Technical Committees

Operating Committee

Planning Committee

Critical Infrastructure  
Protection Committee

NERC Board-appointed  
stakeholder  
committee

Engages with, supports,  
and advises the NERC  
Board regarding the  
Compliance Monitoring  
and Enforcement  
Program (CMEP),  
Organization  
Registration and  
Certification program  
(ORCP)

Monitors NERC's  
compliance with the  
Rules of Procedure for  
these programs

Monitors NERC's  
compliance with the  
Rules of Procedure  
regarding the Reliability  
Standards development  
process

- Exception of appeals

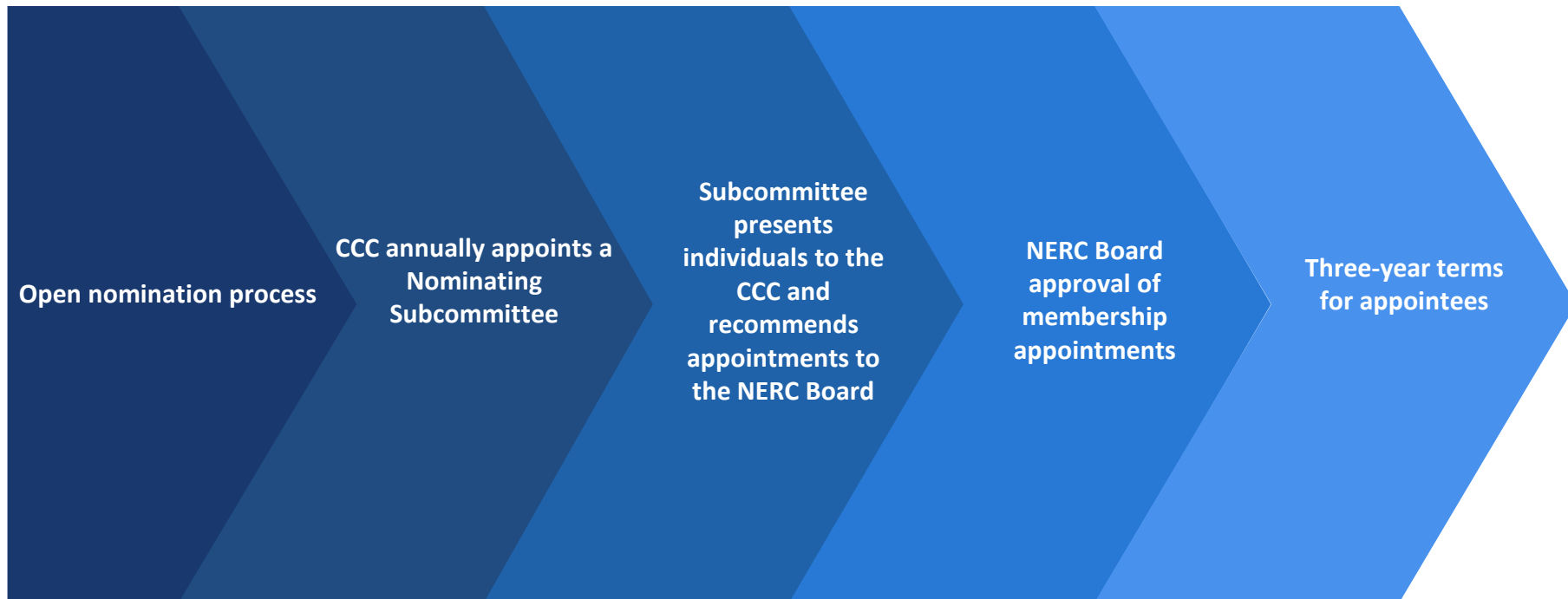


- Investor-Owned Utility
- State/Municipal Utility
- Cooperative Utility
- Federal or Provincial Utility/  
Federal Power Marketing Administration
- Transmission Dependent
- Merchant Electricity Generator
- Electricity Marketer
- Large End-use Electricity Customer
- Small End-use Electricity Customer
- Independent System Operator/  
Regional Transmission Organization
- Regional Entity
- Government

Senior-level industry experts who have familiarity, knowledge, and experience in the areas of:

- **Compliance** (Assurance, Enforcement, Administration and Management)
- **Registration and Certification**
- **NERC Standards and Regional Standards**
- **Involvement with their Internal Compliance Programs**

# Qualifications for Appointment





- Provide advice and support for CMEP as well as Registration and Certification processes
- Participate in development of ERO Stakeholder Effectiveness Survey
- Partner with ERO Enterprise related to review and comment of draft RSAWs
- Develop NERC criteria for Regional oversight
- Provide input on development of Implementation Guidance process
- Provide Stakeholder input on the ERO Enterprise Program Alignment Process
- Participate in discussions to identify emerging risks to reliability

- Enterprise Wide Risk Committee participation
- Key partnership in Program Alignment
- Partnership with Standards Committee on Standards Efficiency Review (SER) – SER Advisory Group member
- Stakeholder Survey (Program Focused)
- Collaboration with NERC on Technology Projects (Align, CORES, etc.)
- Stakeholder Feedback Loop on Guidance
- Feedback Loop for CMEP Implementation and Design Resources

# COLLABORATION IS KEY

## Key Collaboration Initiatives

Industry  
Outreach

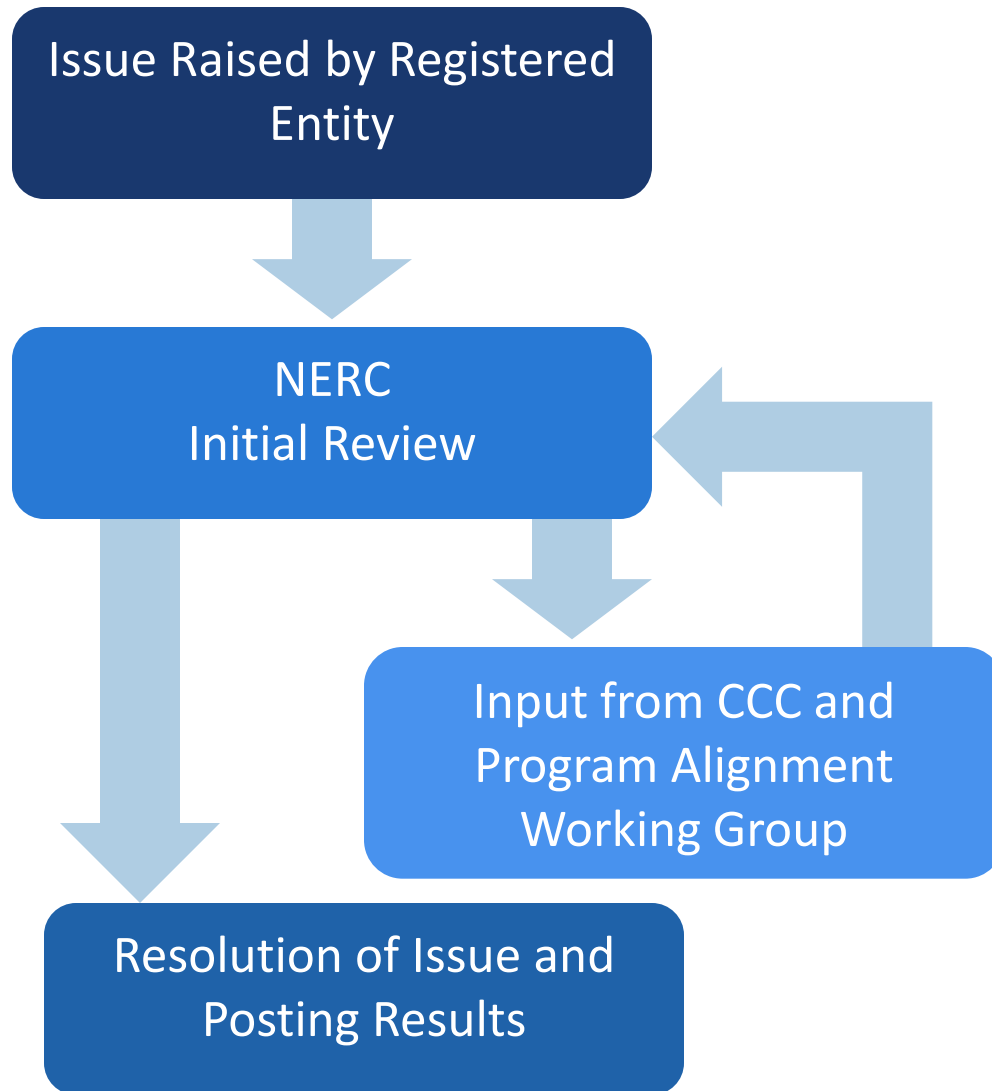
Stakeholder  
Survey and  
Feedback

Focus  
Discussion  
Topics

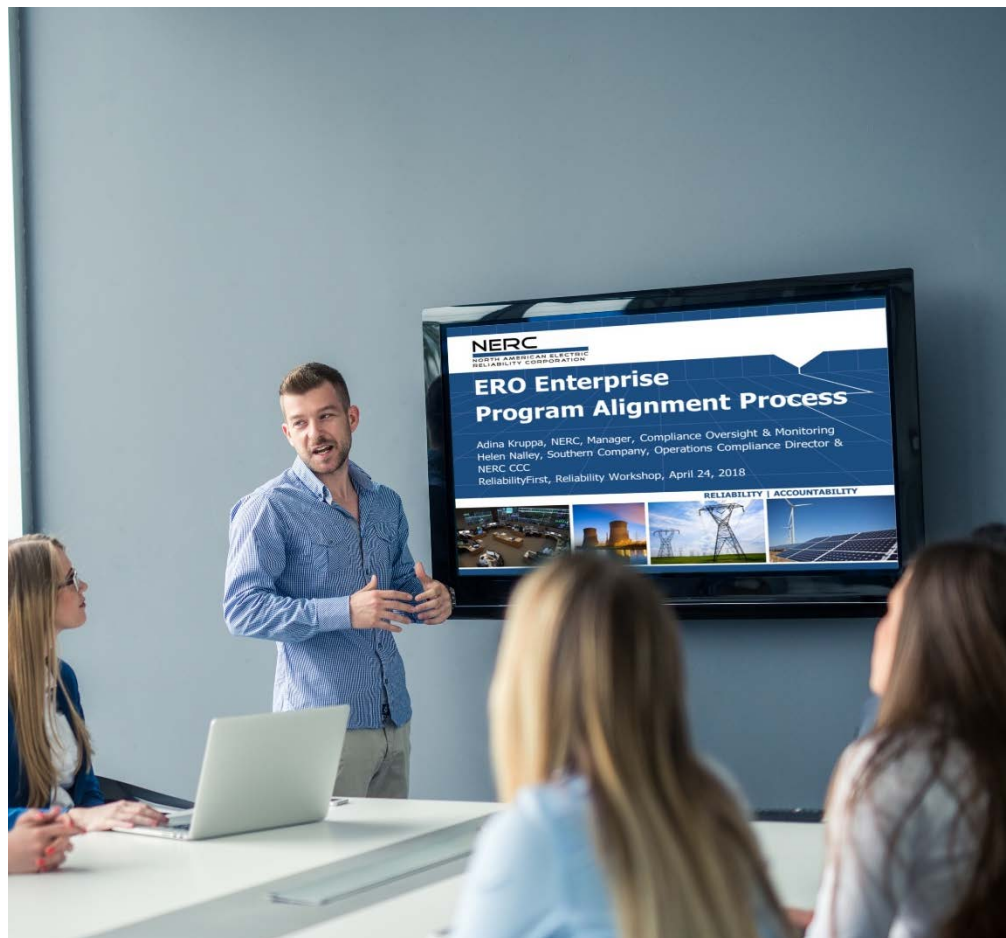
ERO Program  
Alignment

Compliance  
Guidance

Key Partners – Compliance Assurance, Enforcement and Internal Audit



- Aids in the screening of information, as appropriate
- Supports further investigation of a potential issue as requested by NERC
- Providing suggested resolutions, as appropriate
- Works directly with stakeholders to shape issue to be reviewed



- Workshop Participation
- Strategic Messaging
- Industry Outreach
- Forward Looking Efforts

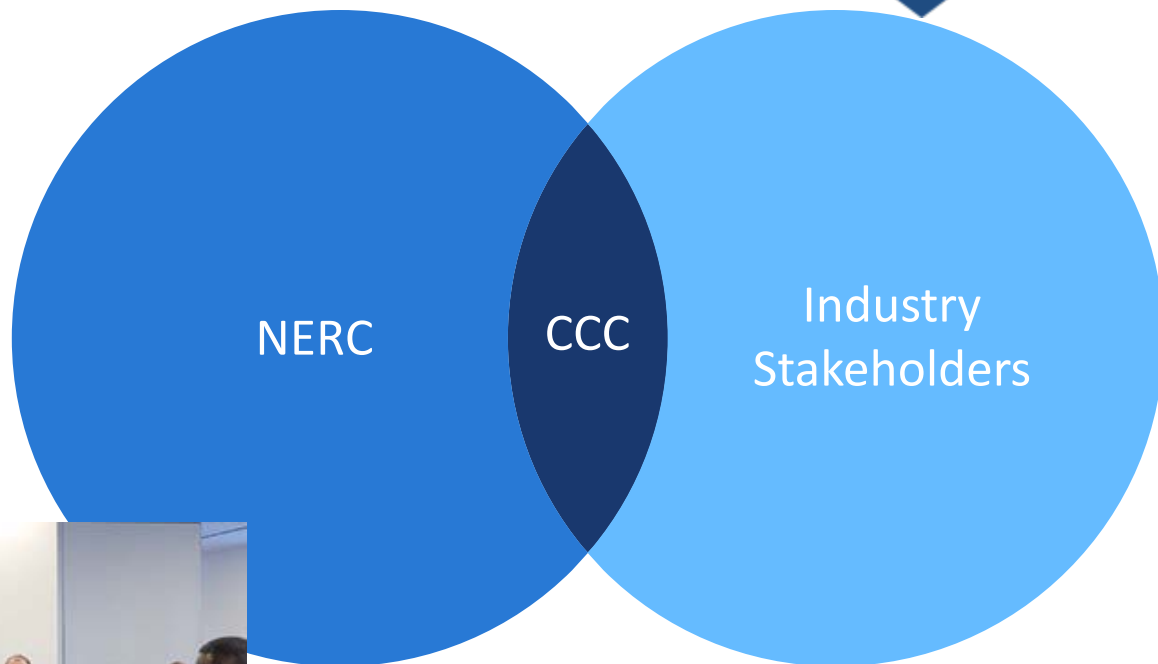


Members active  
involvement in  
compliance  
forums

Barometer for  
NERC on  
compliance and  
enforcement  
initiatives

Liaisons to trade  
organizations,  
membership forums,  
industry forums, and  
regional compliance  
committees

- Succession planning
- Onboarding procedures
- Continuous improvement



*Photo Source: RTO Insider*



# Questions and Answers