• Periodic Review recommended added clarity
  ▪ Connection between Reliability Standard and System Operator Certification Program Manual
  ▪ Certifications referenced are those in NERC System Operator Certification Program

• Action
  ▪ Adopt PER-003-2 – Operating Personnel Credentials
• Periodic Review recommended retirement
  ▪ Requirements duplicative in other Reliability Standards

• Action
  ▪ Retire PER-004-2 – Reliability Coordination - Staffing
• 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
• NERC created a supply chain standard webpage
• Critical Infrastructure Protection Committee (CIPC) to establish advisory task force
  ▪ Advise on activities to support standard implementation
  ▪ Develop schedule for webinars, workshops, and technical conferences in coordination with NERC and the Regional Entities
  ▪ Document existing risks and develop security guidelines
• NERC and Regions to conduct small group advisory sessions
• NERC and Regions to offer outreach and readiness evaluations
Supply Chain Risk Study

- NERC to use EPRI to conduct risk study
  - Assessment of product/manufacturer types used on the BES
  - Analysis and applicability to BES Cyber Assets
  - Analysis of best practices and standards in other industries to mitigate supply chain risks
  - Analysis of generalized vendor practices and approaches used to mitigate supply chain risks
- NERC to recruit industry experts and vendors to participate in supply chain risk study
- E-ISAC to engage Department of Energy and Department of Homeland Security to explore information sharing opportunities and future supply chain risk assessment activities
• NERC and E-ISAC to continue utilizing NERC Alerts to communicate supply chain risks
• E-ISAC included supply chain risk topic in GridEx IV
• NERC to capture supply chain standard resources on webpage
• NERC and Regions to include supply chain topic at planned workshops and seminars in 2018
  ▪ NERC to conduct additional webinars and technical conferences
• CIPC to develop supply chain security guidelines
• NERC and CIPC to partner with National Laboratory group to conduct current equipment supply chain risk evaluation
Forums and Associations developing white papers

- First drafts completed
- Final review and publish Q3 2018

NERC to post white papers on supply chain standard webpage

NERC, Forums and Associations to jointly present papers to industry
Plan to Evaluate Standard Effectiveness

- NERC and Regions to develop effectiveness evaluation plan in Q4 2018
  - Evaluation plan dependent on FERC approval
  - Plan to consider standard effective date and associated implementation plan
- CIPC advisory task force to provide feedback to ERO Enterprise and industry on supply chain standard effectiveness
- NERC and Regions to continue small group advisory sessions throughout supply chain implementation to obtain feedback on outcomes and standard effectiveness
- ERO Enterprise auditor observations and feedback on standard effectiveness
Questions and Answers
Reliability Assessments
Plan to Address Recommendations from 2017 Reports

Brian Evans-Mongeon, Planning Committee Chair
Board of Trustees Meeting
May 10, 2018
• Key assessments from 2017
  ▪ Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System
  ▪ 2017 Long-Term Reliability Assessment

• Recommendations aligned with RISC priorities
• **Objective of report**: Evaluate disruptions of key natural gas facilities and their impact to BPS reliability

• **Recommendation**: NERC, with industry’s support, should enhance its Reliability Guidelines and/or Standards as necessary to include additional planning and operating requirements for analyzing disruptions to the natural gas infrastructure and their impacts on the reliable operation of the BPS
• Current Plan of Action:
  ▪ Planning Committee advisory group formed in February
  ▪ Meetings have been progressing, briefings to MRC/BOT along the way
  ▪ Conduct industry workshop – July 10, 2018
  ▪ Develop and assess identified capabilities – July through December 2018
  ▪ Articulate prospective courses of action – year end 2018

• Steps being taken:
  ▪ Review current requirements (e.g., TPL-001-4)
  ▪ Identify the need and scope for a Reliability Guideline
  ▪ Determine if existing controls are in place to assure extreme conditions due to natural gas disruptions are considered in planning
  ▪ Conduct workshop in conjunction with natural gas industry representatives
Objective of Report: Review, assess, and report on the overall electric generation and transmission reliability of the BPS

Recommendation: NERC should conduct a comprehensive evaluation of its Reliability Standards to ensure compatibility with nonsynchronous and distributed energy resources as well as for completeness related to essential reliability services, generator performance, system protection and control, and balancing functions.
• Significant activity in progress:
  ▪ Revisions planned for MOD-032 to address data sharing
  ▪ Inverter-Based Resources Task Force (Reliability Guideline and Alert)
  ▪ Standard Authorization Request in place to address frequency control and balancing
  ▪ PC assessment of BES-connected dynamic reactive devices

• Next Steps:
  ▪ Standing Committee Coordinating Group monitoring progress across technical committees
Questions and Answers
• Western Interconnection has operated under a “single Reliability Coordinator (RC) operational model” since 2009
  ▪ Peak is the current certified Reliability Coordinator for the Interconnection
  ▪ AESO provides RC-type services in Alberta

• Additional RCs are in development
  ▪ Mountain West Transmission Group/SPP?
  ▪ CAISO
  ▪ Peak/PJM
  ▪ Others?

• Results in many unique issues for the West to resolve
  ▪ Intra-regional interdependence
  ▪ Management of loop flow
  ▪ Data network and sharing limitations
  ▪ Multiple Balancing Authority (BA)/RC topology
  ▪ Common tools and models
A coordinated plan has been developed to ensure continued reliability and security of the bulk power system (BPS) during and after the transition.

All RCs will be certified, consistent with the Rules of Procedure.

Functional registration mapping will ensure all BA/TOPs have an RC relationship.

All RCs must provide assurance that operating practices, data/information sharing practices, etc., minimize seams impacts such as:
- Operation of phase shifters
- Compatible SOL methodologies
- Identification of IROLs
- Outage coordination
- RC to RC agreements

Existing NERC Reliability Standards will be reviewed and the need for Regional Reliability Standards will be considered.
Questions and Answers
• The NERC Board has long recognized the importance of promoting robust information sharing between the E-ISAC and electric sector participants.

• In February 2012, the Board Adopted the *Policy on the Role of the [E-ISAC] vis-à-vis NERC’s Compliance Monitoring and Enforcement Program.*
  
  ▪ Purpose of the policy was to establish a clear separation between the E-ISAC and NERC’s CMEP.
  
  ▪ Addresses concern that electricity sector participants would be hesitant to share information with the E-ISAC due to NERC’s CMEP responsibilities.
As revised in March 2013, the Board policy outlines the following principles:

1) The E-ISAC and E-ISAC Personnel shall have no responsibilities for the NERC CMEP.

2) E-ISAC personnel shall not, directly or indirectly, report or convey information about possible violations of Reliability Standards to the CMEP or CMEP personnel.

3) CMEP personnel shall not, directly or indirectly, obtain or seek to obtain information about possible violations of Reliability Standards from E-ISAC personnel.
• NERC management adopted the E-ISAC Code of Conduct in May 2014 to implement the strategic principles outlined in the Board’s policy.

• The E-ISAC Code of Conduct governs the E-ISAC’s relationship with other NERC departments.

• Outlines the parameters within which the E-ISAC may share member-provided information outside of the E-ISAC.
• Subject to limited exceptions, information E-ISAC members voluntarily provide to the E-ISAC cannot be shared with other NERC or Regional Entity personnel, or outside of the ERO Enterprise.

  ▪ Under no circumstances may such information be shared with CMEP personnel.

• Physical and electronic access to E-ISAC information is restricted to E-ISAC personnel.
The general prohibition against information sharing extends to all E-ISAC member-provided information, such as:

- Information E-ISAC members post on the portal or share with the E-ISAC during other E-ISAC activities.
- Information the E-ISAC obtains through its participation in any industry programs or initiatives, such as the Cyber Mutual Assistance program.

In addition, the E-ISAC is bound by the confidentiality requirements in Section 1500 of the NERC ROP.
Questions and Answers