A DIVISION OF NERC

E-ISAC

ELECTRICITY INFORMATION SHARING AND ANALYSIS CENTER

E-ISAC Update

Manny Cancel, CEO E-ISAC

Technology and Security Committee Meeting

May 12, 2021

TLP:WHITE

RELIABILITY | RESILIENCE | SECURITY

Agenda

- Director of National Intelligence (DNI) Annual Threat Assessment
- Microsoft Vulnerabilities Report
- Department of Energy (DOE) 100 Day Plan
- Threat Landscape
- Strategic Partnerships and Industry Coordination
- Portal Upgrade
- Events
- Feedback Survey

DNI Annual Threat Assessment

- China, Russia, Iran and North Korea possess capability to disrupt critical infrastructure
- Terrorist organizations continue to plot attacks
- COVID-19 will continue to strain governments and societies, fuel crises, political unrest, and geopolitical competition
- Ecological degradation and climate change will continue to fuel disease outbreaks, threaten food and water supply, and exacerbate political instability
- Organized crime will continue to take its toll
- Emerging and disruptive technologies will continue to pose unique challenges

Microsoft Vulnerabilities Report

- Unpatched vulnerabilities are the cause of 1 in 3 breaches
- 48% increase in vulnerabilities in 2020
- Vulnerabilities facilitated elevation of privilege and ransomware
- Most vulnerabilities would have been mitigated by removal of administrative privileges
- Password and endpoint management
- Secure remote access

DOE 100 Day Plan

- Establish near real time situational awareness, indications, warnings, and response capabilities in critical industrial control system (ICS) and operational technology (OT) networks across electricity subsector
- High-impact activities executable within 100 days
  - Focus on networks that touch the largest number of Americans' lives or that significantly impact homeland and national security
  - Enhance the integrity and security of priority sites' control systems by installing technologies and systems to provide visibility and detection of threats

Threat Landscape
Supply Chain Compromise

- US Government officially attributes to Russian Federation
- New malware variants detected and tools released
- No impact to reliability of bulk power system
- E-ISAC/ESCC Tiger Teams continue to monitor situation
- Guidance
  - Keep operating system and enterprise software patches and maintain awareness of latest threats
  - Disable sharing services or if services are required, use complex passwords or Active Directory authentication
  - Restrict permission to install and run unwanted software applications and administrators only when required
  - Configure firewalls to deny unsolicited connection requests

Threat Landscape
Microsoft Exchange Vulnerabilities

- Initial disclosure focused on HAFNIUM exploitation of four Zero-Day vulnerabilities for on-premise exchange environments
- USG required patches to be applied ASAP (CISA ED 21-02)
  - E-ISAC issued APB, and NERC issued a Level 1 Alert
- Microsoft disclosed four additional vulnerabilities for Exchange
  - Two of the vulnerabilities focused on pre-authentication, no login required
  - No known active exploitation at time of disclosure

Threat Landscape Other Vulnerabilites

- F5 BIG-IP
- Pulse Connect Secure and Codecov breaches
- Ransomware variants: REvil/Sodinokibi, CLOP, DoppelPaymer, Nefilim shares

Threat Landscape Physical Security

- Continuing Threats/Risks
  - 43% increase in number of members voluntarily sharing information
    - Domestic Violent Extremist Groups
    - Civil Unrest and Activism
    - Emerging Technology (drones)
    - Theft
- Update on New Products/Existing Efforts
  - New Drone Flightpath Analysis Pilot
  - Physical Security Year in Review: 2020
  - New analytical products

Strategic Partnerships and Industry Coordination

- Electricity Subsector Coordinating Council (ESCC)
- National Infrastructure Advisory Council and Cyber Solarium Coordination / DOE 100 Day Initiative
- IESO
- U.S. Government Partners
- Cross-Sector ISACs
- Analysis and Resilience Center (ARC)
- IronNet

Portal Upgrade

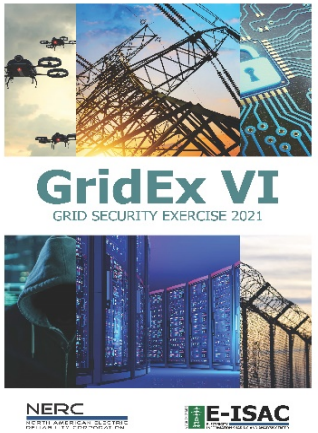
- Portal re-platform — targeted for July 2021
  - Increased security
  - Self-service and improved usability

Events

- GridSecCon 2021 will take place virtually
  - October 18 — Training Opportunities
  - October 19-20 — Keynotes, Breakout Sessions, Panels

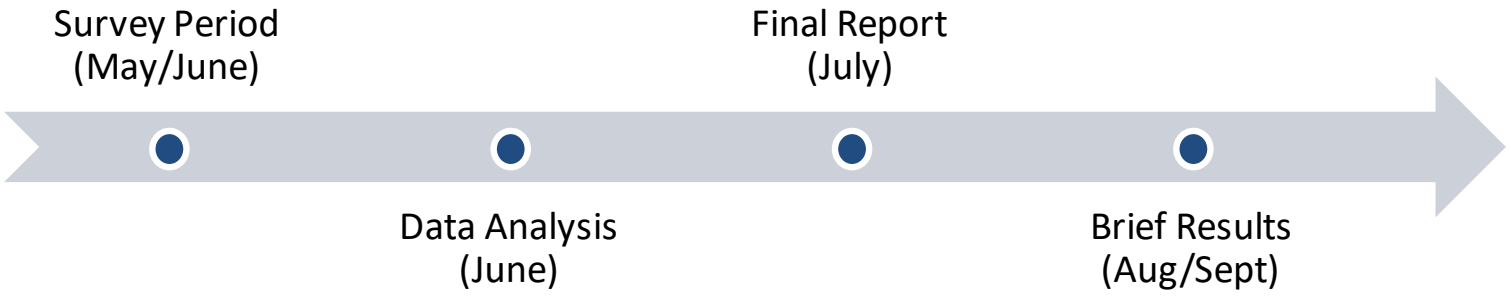
GRIDSECCON 2021
NERC • E-ISAC • TEXAS RE

- Grid Ex VI
  - Distributed Play – November 16-17
  - Executive Tabletop – November 18
    - Will be conducted in hybrid mode



Stakeholder Feedback Surveys

- JD Power Stakeholder Feedback Surveys
  - Members (AOOs, MSP, Balancing Authority, RTO/ISO)
  - Partners (Gov't, Cross-Sector, Trade Associations, Nat'l Labs)
  - Gather feedback on stakeholder experience, products, and services
  - Identify best practices and areas for improvement



- Additional sources of feedback
  - Surveys (CRISP, Physical Security Advisory Group)
  - Programs (Industry Engagement Program)

Questions and Answers

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ERO Enterprise Align Project Update

Stan Hoptroff, Vice President, Business Technology
Andy Rodriquez, Director, Business Technology
Technology and Security Committee Meeting
May 12, 2021

RELIABILITY | RESILIENCE | SECURITY




Agenda

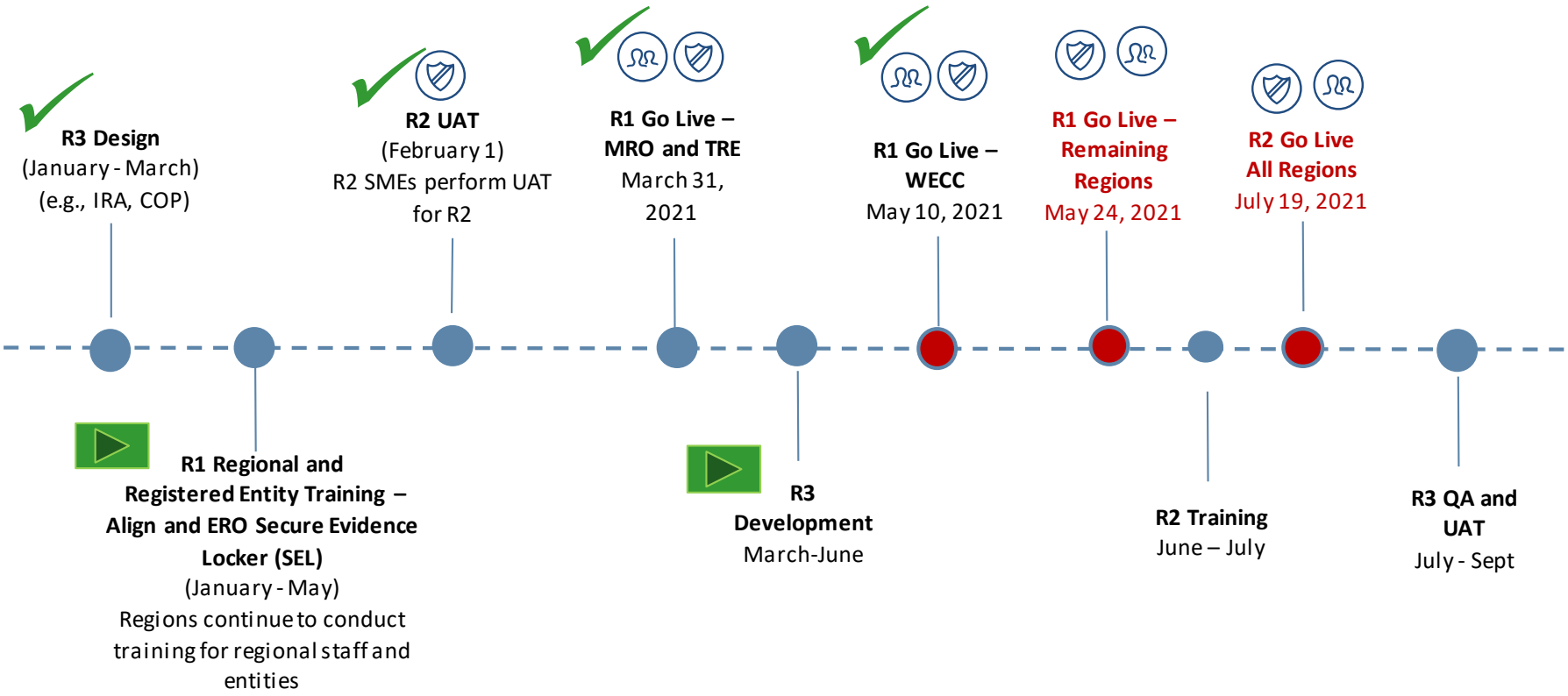
- Align Benefits
- Align Timeline
- Release 2 Functionality
- Release 3 Functionality
- Challenges
- How to Stay Informed

Align - Benefits

Moving to a common platform will provide:

- **More secure** method of managing and storing Compliance Monitoring and Enforcement Program (CMEP) data
- Alignment of **common** and CMEP **business processes**, ensuring consistent practices and data gathering
- A **standardized interface** for registered entities to interact with the ERO Enterprise
- **Real-time access to information**, eliminating delays and manual communications
- **Consistent application** of the CMEP

Align Timeline (As of May 1, 2021)



AUDIENCE IMPACT KEY

Registered Entities | ERO Enterprise Staff

In progress

Complete

Release 2
Periodic Data Submittals (PDSs), Technical Feasibility Exceptions (TFEs), Self- Certifications

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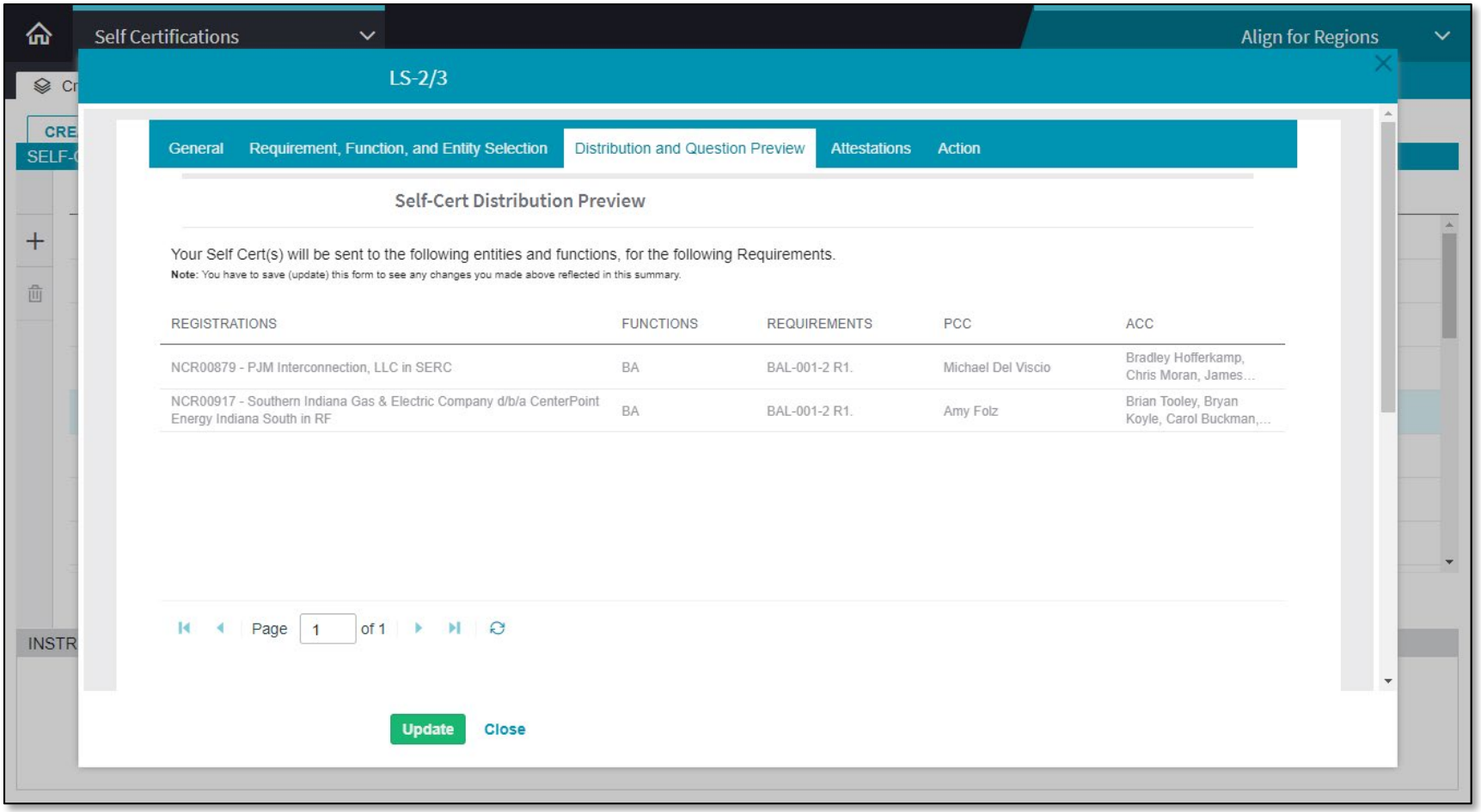
R2: Self-Certifications, PDSs, and TFE Process Improvements

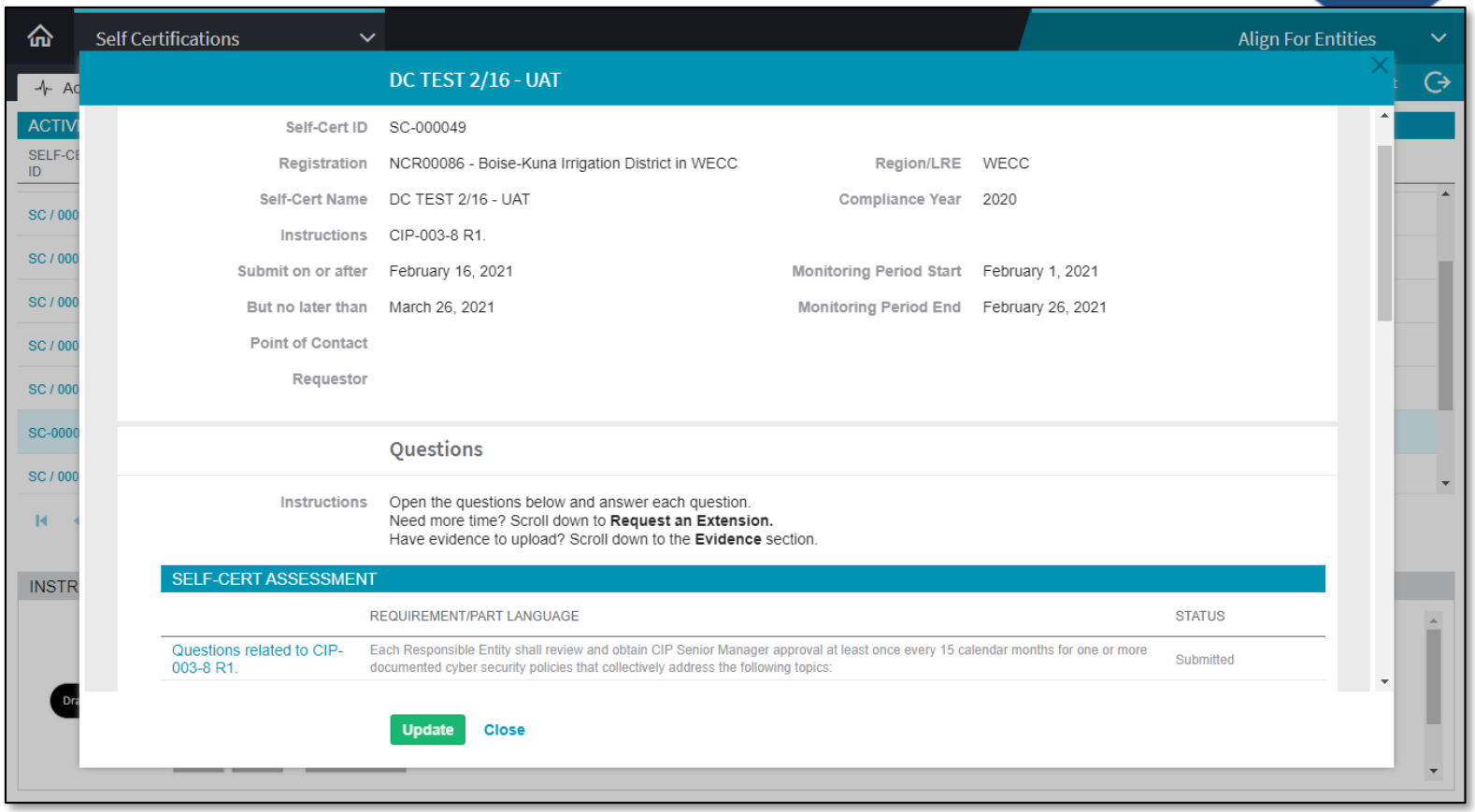
Topic	Current State	Future State
Self-Certifications	• Regions make use of both "traditional" and "guided" self-certifications; application of each and tools used varies by region • Rules of Procedure (ROP) language is based on "traditional" self-certifications • Self-certification forms vary in content and functionality	• Establish a single self-certification process, removing the distinction between "guided" and "traditional" self-certifications; Regions will have the flexibility to ask clarifying questions and request evidence at time of submission and anytime during the process • Explore opportunity to clean up ROP language to better reflect current processes • Self-certifications will be sent to registered entities as a common form containing applicable standards and requirements as defined by the CEA
Periodic Data Submittals (PDSs)	• PDSs for standards on the national schedule are submitted through a variety of tools • Variety of templates used for PDSs • Do not have a method for tracking a "no" or "not applicable" response to PDS as data, which causes extra work for entities and Regions (creating, submitting, and reviewing blank spreadsheets/templates) • No functionality to account for Multi-Region Registered Entity Coordinated Oversight	• Day 1 implementation will focus on standards where data is currently being submitted in CITS/CDMS; additional standards may be rolled into BWise in the future • PDS response templates will be standardized where feasible; to be explored further in design • Create ability for entities to report "no" or "not applicable" so that it is easily visible/reportable, and can be tracked for future PDS requests to avoid duplicate requests to entities • CEAs will be able to send a PDS to all entities for which they are the Lead Region
Technical Feasibility Exceptions (TFEs)	• Significant time and effort required to create reports for NERC and FERC • Volume of TFEs continues to reduce over time due to revisions to standards	• A single standardized form to facilitate easier NERC and FERC reporting • Continue discussions with Steering Committee on future of TFE program and approach to implementation

Self-Certifications



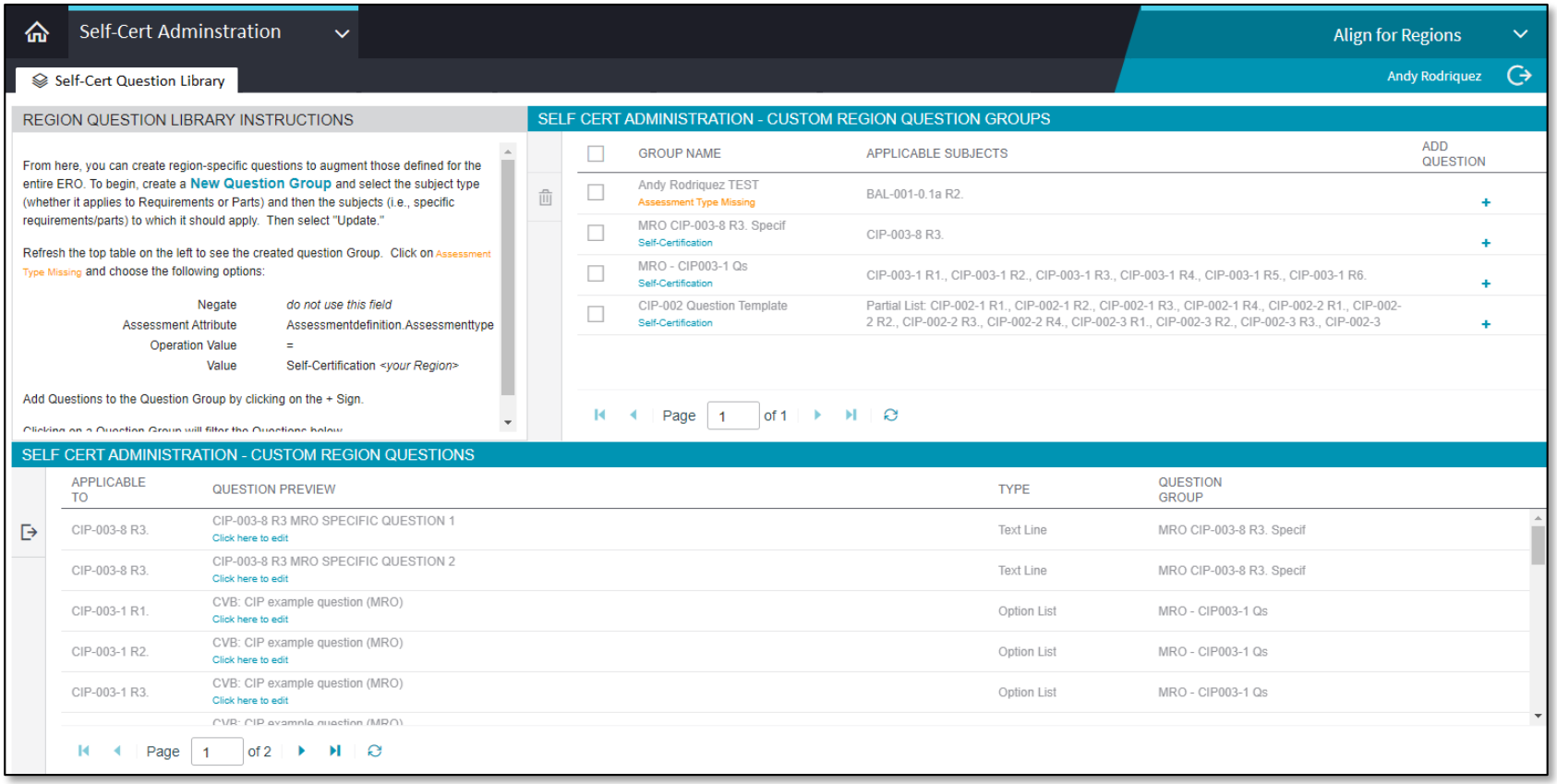
- Regional Entities create bulk-distributions of Self-Certifications based on function, entity, requirement, or any combination of the three

Self-Certifications



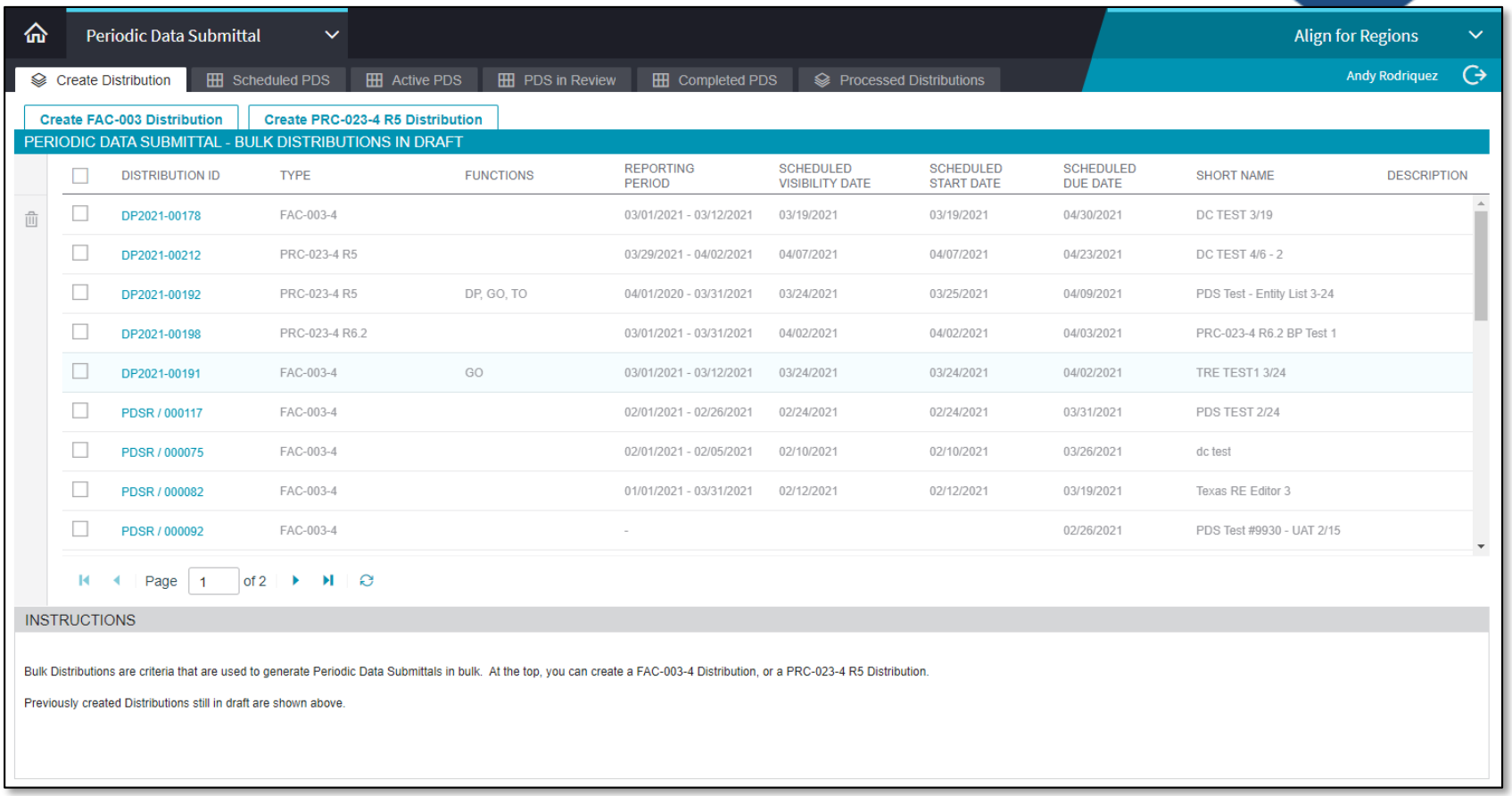
- Entities respond to questions, submit evidence to SEL, submit any Findings
- Supports Entity Attestations to streamline future processing
- Regional Entities review and create Findings, if needed

Self-Certification Customization



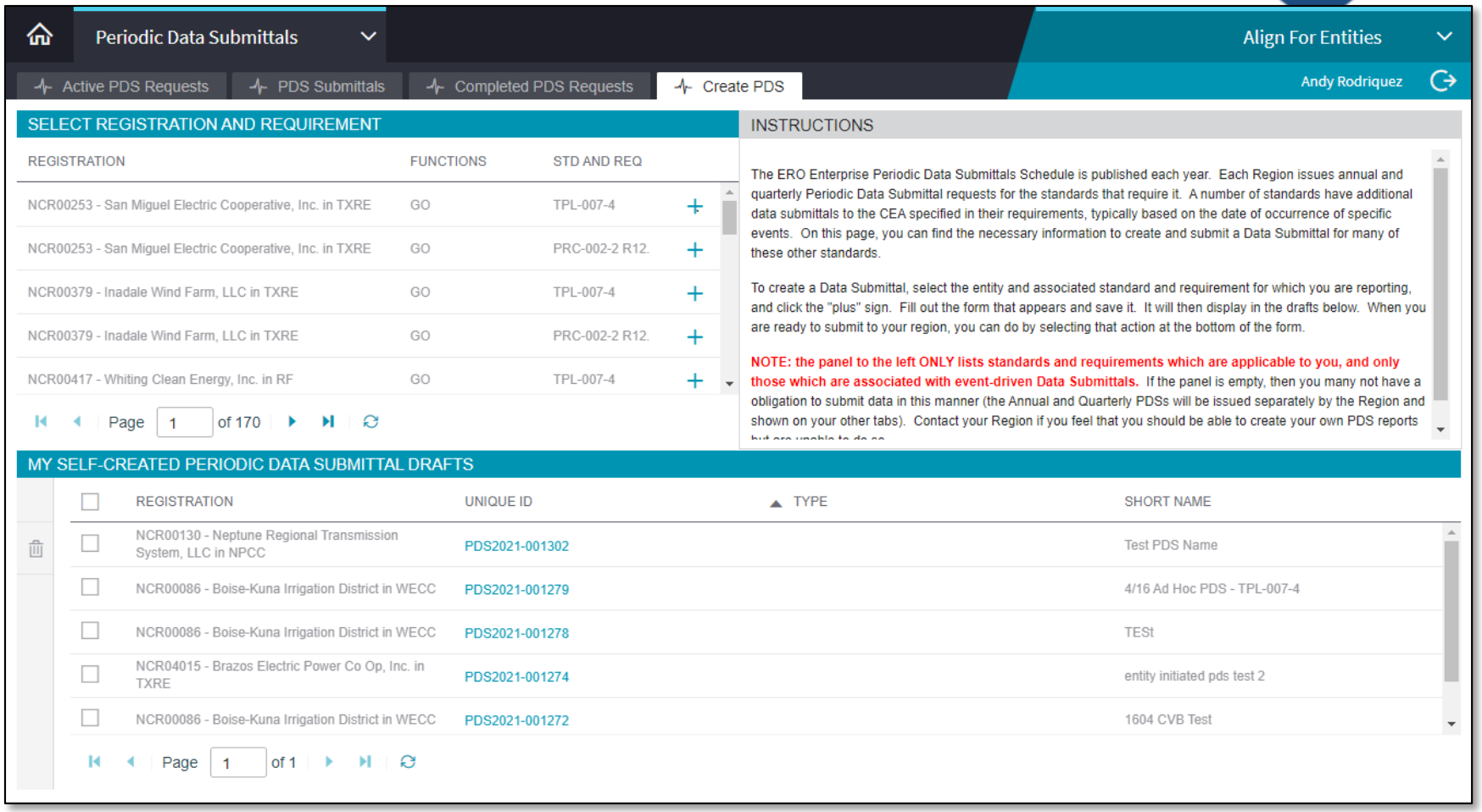
- Regional Entities can create custom questions for specific requirements in their region
- NERC can do the same across all Regional Entities

Periodic Data Submittals



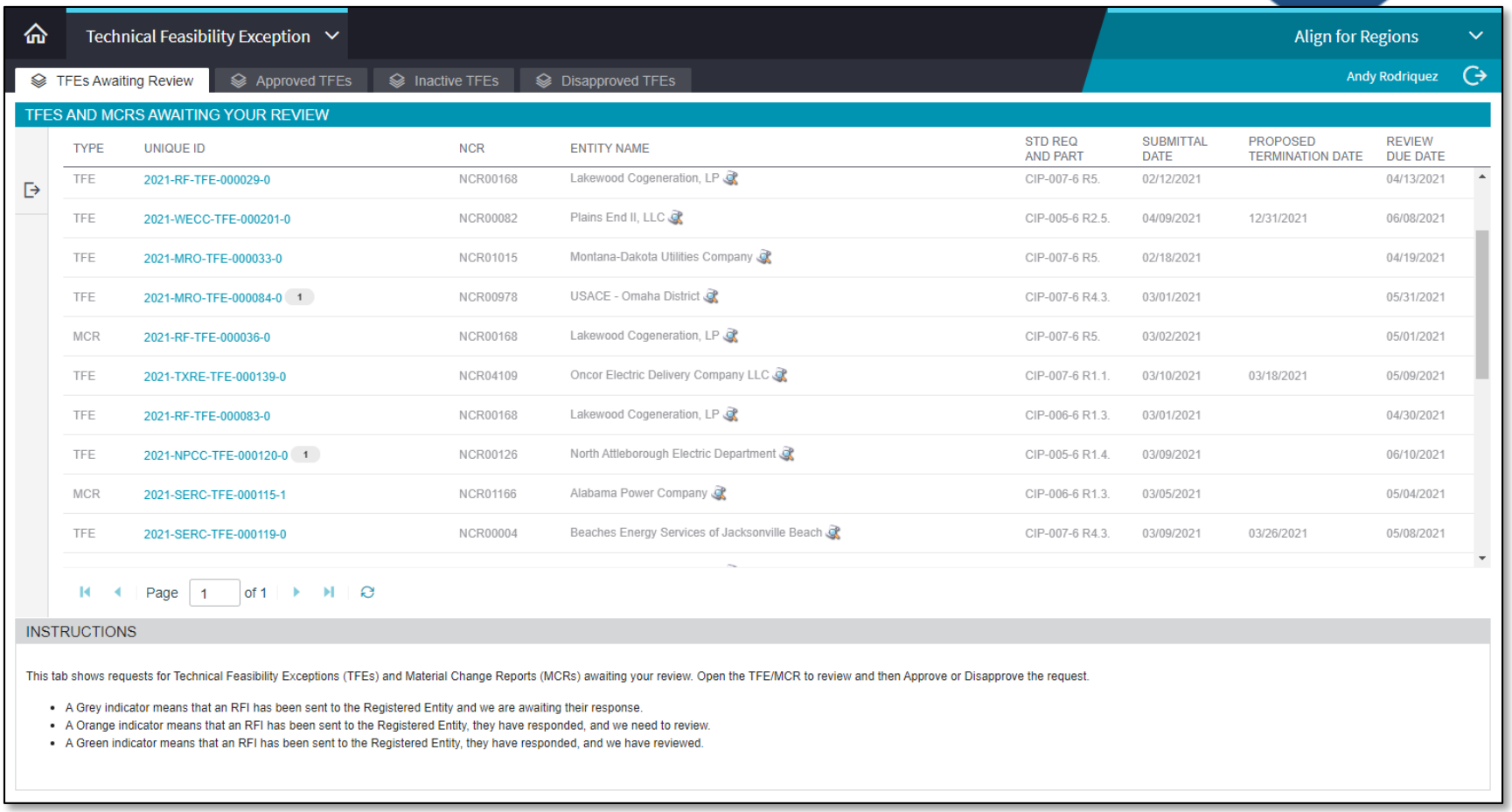
- Regional Entities create and schedule bulk PDS distributions
- Entities respond and submit data to SEL
- Support Entity Attestations to streamline future processing

Event-Driven Data Submittals



- Registered entities can also create event-driven data submittals

Technical Feasibility Exceptions



- Entities create TFEs and Material Change Reports in Align and submit evidence to SEL
- Regional Entities review, request information, and approve/reject

Release 3 Functionality

- Inherent Risk Assessments
- Compliance Oversight Plans
- Compliance Audits, Spot Check, and Investigations
- Complaints

Challenges

- **Resources:** Multiple parallel efforts (R1 training/rollout, R2 user acceptance testing, R3 design, ongoing stakeholder engagement)
- **Budget pressure:** Balance in-scope efforts with continuous improvement requests (i.e., 50 enhancements from stakeholders)
- **Security vs Usability:** Can involve multiple steps to keep data secure

How To Stay Informed

Key communication vehicles:

- Align newsletter for Regional Entities and registered entities
- Regional Change Agent Network
- Dedicated project page on NERC.com: Click Here
- Upcoming Compliance Monitoring and Enforcement Program (CMEP) regional workshops
- Trades meetings
- NERC News
- Social media

Questions and Answers

Background and Reference Material

Align Release 1: What to expect as a registered entity?

Stakeholder Group

Registered Entities

Release 1 Functionality

- Create and submit Self-Reports and Self-Logs
- Create and manage mitigating activities (informal) and Mitigation Plans (formal)
- View and track Open Enforcement Actions (EAs) resulting from all monitoring methods
- Receive and respond to Requests for Information (RFIs)
- Receive notifications and view dashboards on new/open action items
- Generate report of NERC Standards and Requirements applicable to your entity
- Manage user access for your specific entity

Align Release 1: What to expect as a Regional Entity?

Stakeholder Group

Regional Entities

Release 1 Functionality

- Receive Self-Reports and Self-Logs from entities
- Manually create findings that result from any monitoring method (Audits, Spot Checks, Investigations, PDSs, Self-Certifications, Complaints)
- Perform Preliminary Screens, Potential Noncompliance (PNC) Reviews, and disposition determinations for each PNC/EA
- Send and received responses to RFIs
- Trigger notifications such as Notice of Alleged Violation(s) and Proposed Penalty or Sanction, Notices of Confirmed Violation(s), Compliance Exception Letter(s), Find, Fix, Track & Report Letter(s), and Settlement Agreements
- Receive, review, and approve mitigating activities (informal) and Mitigation Plans (formal)
- Receive notifications and view dashboards on new/open action items
- Generate report of NERC Standards and Requirements applicable to a registered entity

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ERO Business Technology Projects Update

Stan Hoptroff, Vice President, Business Technology
Jeff Hicks, Director, Business Technology
Technology and Security Committee Meeting
May 12, 2021

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Agenda

- ERO Business Technology Projects Update
  - Continued focus on cyber protection and aging infrastructure
- Electricity Information Sharing and Analysis Center (E-ISAC) Technology Projects
  - Salesforce customer relationship management (CRM)
- Hybrid Meeting Technologies
- Security Advisory Group (SAG)
- Priorities Looking Ahead

Infrastructure/Cyber Security

- Anti-virus protection upgrade
- Server operating system upgrade
- Audio Visual lease refresh
- Mobile Device Management new capability
- Email encryption upgrade

E-ISAC

- **E-ISAC Portal** – Platform replacement to Salesforce underway; expected go live in Q3 2021
- **E-ISAC Data Platform (EDP)** – Implemented functionally in June 2020; converted to a robust, reliable, secure production platform in NERC's leased data center; continue to expand analytical capabilities
- Enable and support the CRISP Operational Technology (CRISP OT) pilot

Hybrid Meeting Capabilities – Goals

- Enable an experience for virtual attendees that allows them to follow and participate effectively
- Investigate the creation of an ERO-wide Hybrid Meeting/ Communication Solution
- Elevate the overall meeting experience by using new technologies and to build an effective Hybrid Meeting approach
- Provide a simple, intuitive and consistent experience for all participants

SAG

- Advisory body established by NERC Management
- Represents all industry sectors; engagement at the Chief Information Security Officer level
- Will interface with NERC Information Technology Leadership
- Supports NERC Management with expertise and advice on data confidentiality, integrity and security
- Sensitive industry information stored or processed by NERC
- ERO Secure Evidence Locker update provided on April 23, 2021

Priorities Looking Ahead

- Analytical capabilities for the E-ISAC
- Accelerated adoption of Salesforce capabilities for the E-ISAC
- Implementation of Microsoft Teams
- Regional focus on cyber security
- Various software/hardware upgrades to NERC infrastructure

Questions and Answers