

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# ERO Enterprise Information Technology Projects Update

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Information Technology

Ryan Stewart, Senior Manager Registration and Certification  
Technology and Security Committee Meeting

August 14, 2019

RELIABILITY | RESILIENCE | SECURITY



- ERO Information Technology (IT) Projects Update
  - Align Project Update
  - Entity Registration
  - Situation Awareness for FERC, NERC and the Regional Entities (SAFNRv3)
  - Florida Reliability Coordinating Council (FRCC) Dissolution
- Electricity Information Sharing and Analysis Center (E-ISAC) Technology Projects
  - Salesforce customer relationship management (CRM)
  - E-ISAC Portal
  - Data Analysis
- Priorities Looking Ahead

- Recent Industry Stakeholder engagement
- Release 1 Schedule
- Change of software vendor ownership

Moving to a common platform will provide:

- Alignment of **common** Compliance Monitoring and Enforcement Program (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
- **More secure** method of managing and storing CMEP data

- Data identification, classification, management and destruction
- Aggressive management of role-based credentials
- Control processes and auditing
- Cybersecurity Standards and Frameworks (National Institute of Standards and Technology, Federal Risk and Authorization Management Program, Critical Infrastructure Protection)
- Data and document encryption at-rest and in-transit

- Application and network cyber testing
- Multi-factor authentication for user access
- Data Loss Prevention
- Cyber Security Risk Information Sharing Program Monitoring
- Application and data isolation
- 24x7 monitoring activity logging

- Change Readiness Pulse Check Assessment: Closed June 28
- Survey Respondents: 975
- Response Rate: Approximately 20 percent
- Sixty-three percent indicated familiarity with Align, up from 47 percent during the baseline assessment in March
- Sixty-seven percent strongly agree or agree with the business need and value of Align; up from 58 percent during the baseline assessment
- Twelve percent strongly disagree that they are aware of the general changes; down from 22 percent during the baseline assessment
- NERC & Regional Entities' emails or newsletters remain the preferred communication method for receiving Align updates

- Train-the-Trainer
- Training lead identified for each Region
  - Will train Regional staff and registered entities
  - Will be supported by core team and NERC business units
  - Onsite and at NERC
- NERC Training Department will produce all materials
- Consistency in training across the Regions



## Key communication vehicles

- Align newsletter for Regions and registered entities
- Regional Change Agent Network
- Dedicated project page on NERC.com: [Click Here](#)
- Upcoming CMEP Regional workshops
- Trades' meetings, as appropriate

- **Benefits and Security**
  - One common registration tool for the ERO Enterprise
  - Consistent registration experience for registered entities
  - Ability to easily share registration data
  - Data integration with Align (data flows from CORES into Align)
  - Access via ERO Portal protected by multi-factor authentication
  - Encrypted data

# What to expect as a registered entity?

## Registered Entity



## Functionality

- Create and submit new registration requests
- Receive notifications when new registrations are submitted
- After Regional and NERC approval, manage the newly submitted registration record
- Manage existing registration records (those that exist today in CITS, CDMS and CRATS)
- Manage contacts for their entity
- Receive notifications when registration changes (including new registrations) are approved
- View Coordinated Oversight Information related to their entity

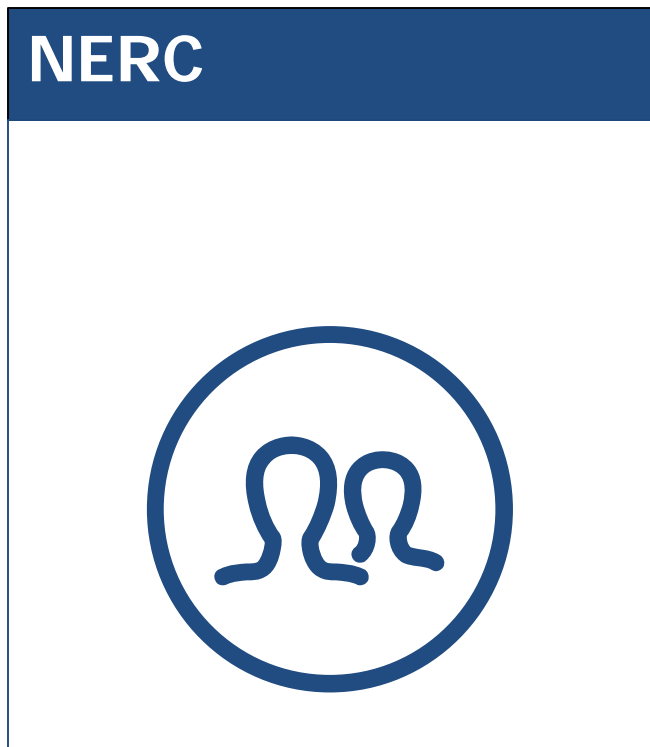
# What to expect as a Regional Entity?

## Regional Entity



## Functionality

- Receive notifications when new registrations are submitted
- Ability to review, update, approve or reject newly submitted registration records or changes to existing registration records
- Manage all entities contacts
- Receive notifications when registration changes (including new registrations) are approved
- Generate Registration Reports
- View Coordinated Oversight Information for all entities



## Functionality

- Receive notifications when new registrations are submitted
- Ability to review, update, approve or reject newly submitted registration records or changes to existing registration records
- Manage all entities' contacts
- Manage and update registration letter templates
- Send registration letters to the entities and Regional entity contacts
- Generate Registration Reports
- View and Update Coordinated Oversight Information for all entities

- Industry Engagement
  - Focus Group
  - Pilot Sessions
- Introductory “Concept Video”
- Managed Launch Plan
- Enhanced Training Approach

- One of the primary functions of the ERO Enterprise is to maintain situational awareness of the Bulk Power System
- This project will replace and enhance the existing SAFNR v2 capabilities:
  - Offer greater levels of detail beyond the existing data set (currently limited to electric system facilities operating at 230 kV and above and generation units at 500 MW and above)
  - Provide visual indicators to alert users of state changes
  - Additional visualization options to assist in understanding situation context (e.g., weather, geography, space weather, etc.)

- Additional displays that include hourly Balancing Authority actual load, forecasted load and net actual interchanges
- Display detailed outage data by state/country level or by company
- Expand search capability by providing the ability to search for facilities by name
- Allow the capture and sharing of notes between users
- Integrate the capability to perform seven-day trending within the system
- Updated architecture will provide additional capability for expansion



- Key points include:
  - Webinar was hosted on March 21, 2019
  - Contract in place with ResilientGrid
  - Production launch planned for before Q4 2019
  - Will apply IT Investment Value Methodology

- Applications that were modified include Compliance, Standards Balloting, Misoperations, Event Analysis, Generating Availability Data System and Transmission Availability Data System
- Migrated data was encrypted during transfer and validated after the transfers occurred
- Documents transferred were also encrypted
- User access was removed from several applications including Alerts, Lyris, and Reliability Coordinators Information System

- New customer-relationship management tool (Salesforce)
- E-ISAC Portal
- Data gathering, management, analysis and governance efforts

- Go-Live for Align Project Release 1
- SAFNR v3
- Planned functionality for the E-ISAC portal
  - Authentication enhancements
  - User interface/experience enhancements, content editing, editorial management and digital asset management (Version 10 - 2019)
  - New ability to track client actions and track engagement, target content and deploy personalized content (Version 11 - 2020)
- Analytical capabilities for the E-ISAC
- Outreach capability via a customer-relationship management solution for the E-ISAC



# Questions and Answers



# Additional Slides

## 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 Standards and Requirements applicable to your entity
- Manage user access for your specific entity

## Stakeholder Group

### Regional Entities



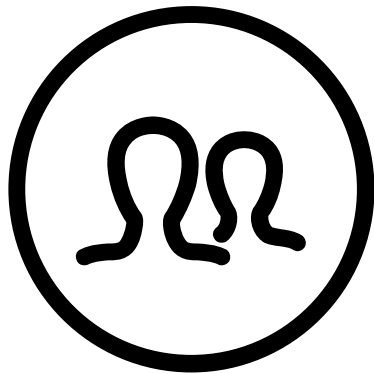
## Release 1 Functionality

- 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 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 Standards and Requirements applicable to a registered entity



## Stakeholder Group

*NERC Users*



## Release 1 Functionality

- Perform oversight of the Regional Entities' activities
- View dashboards on new/open action items
- Create reports required by FERC related to Enforcement and Mitigation activities
- Generate report of Standards and Requirements applicable to a registered entity

## Release 2 Functionality Est. Q2 2020

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

*Note: A strategy is being developed for how these monitoring methods will be managed in the gap between Releases*

## Release 3 Functionality Est. Q4 2020

- Compliance Planning (Risk, CMEP Implementation Plan, Inherent Risk Assessment, Internal Controls Evaluation, Compliance Oversight Plan)
- Compliance Audit
- Spot Check
- Compliance Investigations
- Complaints

A DIVISION OF NERC



# E-ISAC

ELECTRICITY  
INFORMATION SHARING AND ANALYSIS CENTER

## E-ISAC Update

William Lawrence, Vice President and Chief Security Officer, Director of the E-ISAC

Technology and Security Committee Meeting  
August 14, 2019

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- GridEx V Update
- GridSecCon Update
- 2020 Draft Performance Metrics
- Q&A



- The E-ISAC's 5th unclassified exercise designed to simulate a cyber/physical attack on electric and other critical infrastructures across North America
- Participants include:
  - Electric and gas utilities
  - Regional (local, state, provincial) and federal government agencies in law enforcement, first response, emergency management, and intelligence community functions
  - Critical infrastructure cross-sector partners (ISACs and natural gas transmission pipeline operators)
  - Supply chain stakeholder organizations



**GridEx V**  
GRID SECURITY EXERCISE 2019





### GRIDSEC CON 2019

NERC • SERC

- Co-hosted with SERC in Atlanta, GA, October 22-25, 2019
- Registration is open
- Training sessions will include SANS Institute “Netwars,” Dragos, physical security, risk assessment, and many others
- Panels will include:
  - “Advocating for Security” – Trade Association Panel
  - “Design Basis Threat Assessment” – Physical Security Panel
  - “When Cyber Incidents have Physical Impacts”
  - “Identifying OT Supply Chain Risks”
  - “Game-changing Research, Development, and Deployment”
  - “The Natural Gas-Electricity Security Nexus”



- Strategic Goals Recap
- 2019-20 Key Activities
- Proposed Metrics
  - Engagement
  - Information Sharing
  - Analysis
- Next Steps



### Engagement

- A member-first culture sets the E-ISAC's direction while active two-way engagement and sharing groups increase value and leverage industry and cross-sector resources

### Information Sharing

- Trusted relationships and technologies draw in and drive the flow and dissemination of high-value information across the electricity and interdependent sectors in a timely manner

### Analysis

- Credible, reliable analytics turn member, cross-sector, third party, and government data into sector-specific insights and member action





### Engagement

Build and enrich the value of E-ISAC membership

Strengthen trusted-source partner relationships

Enhance engagement with Canada

Evolve the GridEx program

### Information Sharing

Strengthen Portal features and capabilities

Increase information sharing by trusted-source partners and industry

Improve value added actionable information sharing with industry

24x7 Watch operations

### Analysis

Hire, develop, and retain highly qualified staff

Leverage technology to enhance capabilities

Develop new data source, analytical tools and capabilities

Strengthen analytical capabilities through strategic partnerships



### Goal

- Build and enrich the value of E-ISAC membership
- Strengthen trusted-source partner relationships

### Metric

1. % increase in prospective member organizations engaged
2. % of prospective member organizations that become an E-ISAC member
3. Frequency of member user interactions by channel (e.g. Portal downloads, website visits)
4. Elapsed time since last member interaction (e.g. share or contact)
5. % increase in diversity of types of member organizations participating in Industry Engagement Program and E-ISAC led workshops

Note: Metrics for trusted source partnerships to be considered in future



### Goal

- Increase information sharing by trusted-source partners and industry
- Improve value-added, actionable information sharing with industry

### Metric

1. % increase in number of portal posts by member organizations
2. % increase in number of shares by source (channel, event type)
3. % increase in unique value-add information received from trusted partners
4. Comparability of member organization information sharing within predefined peer groups



### Goal

- Develop new data sources, analytical tools and capabilities
- Strengthen analytical capabilities through strategic partnerships

### Metric

1. % increase of content enriched by E-ISAC analysts
2. Unclassified Threat Workshop content survey results (relevant, timely, unique, actionable)
3. % increase in joint analytical products with strategic partners

- Finalize 2020 metrics, including development of metric targets where baseline historic data is available
- Member Executive Committee review and endorsement at October meeting
- Review with CGHRC and TSC at November meeting
- 2019 supporting activities
  - Gathering baseline data
  - Implementing customer relationship management tool
  - Identifying new data sources
  - Developing targeted activities and products to increase member and partner interaction
  - Strengthen watch and analytical resources

A stylized map of North America, including the United States, southern Canada, and northern Mexico. The map is rendered in shades of blue and grey. A solid blue horizontal band crosses the middle of the map, serving as a background for the title text.

## Questions and Answers



## Metrics for Other Key Engagement, Information Sharing and Analysis Activities



### Engagement

Build and enrich the value of E-ISAC membership

Strengthen trusted-source partner relationships

Enhance engagement with Canada

Evolve the GridEx program

### Information Sharing

Strengthen Portal features and capabilities

Increase information sharing by trusted-source partners and industry

Improve value added actionable information sharing with industry

24x7 Watch operations

### Analysis

Hire, develop, and retain highly qualified staff

Leverage technology to enhance capabilities

Develop new data source, analytical tools and capabilities

Strengthen analytical capabilities through strategic partnerships





### Goal

- Enhance engagement with Canada
- Evolve the GridEx program

### Metric

1. % increase in Canadian member organizations
2. Canadian Electricity Association support of 2020 budget
3. % increase in GridEx participation
4. % increase in cross-sector participation in GridEx
5. % increase in state government participation in GridEx



### Goal

- Strengthen Portal features and capabilities
- 24x7 Watch operations

### Metric

1. % increase in targeted feedback from members and partners
2. Implementation of Portal enhancements per approved project plan
3. Watch coverage/staffing metrics under development



### Goal

- Hire, develop, and retain highly qualified staff
- Leverage technologies to enhance capabilities

### Metric

1. Employee retention/attrition rates
2. Employee survey feedback
3. Quality and usefulness of CRM tool and data- actual results compared to business case assumptions
4. Data platform project implementation variance from plan