ERO Enterprise Information Technology Projects Update

Stan Hoptroff, Vice President, Chief Technology Officer and Director of Information Technology
Ryan Stewart, Senior Manager Registration and Certification Technology and Security Committee Meeting
August 14, 2019
Agenda

- 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
Align Project Update

- 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
Align Training - Approach

• 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
How do I stay informed?

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?

**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?

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
What to expect as NERC?

### 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
CORES Lessons Learned

- 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.)
SAFNR v3 Features

- 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
Priorities Looking Ahead

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

**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
Align Release 1: What to expect as NERC?

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

Stakeholder Group

NERC Users
### 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
E-ISAC Update

William Lawrence, Vice President and Chief Security Officer, Director of the E-ISAC Technology and Security Committee Meeting
August 14, 2019
• 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
• 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
Questions and Answers
Metrics for Other Key Engagement, Information Sharing and Analysis Activities
Other Key Activities (2019-2020)

**Engagement**
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- Strengthen trusted-source partner relationships
- Enhance engagement with Canada
- Evolve the GridEx program

**Information Sharing**
- Strengthen Portal features and capabilities
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**Analysis**
- Hire, develop, and retain highly qualified staff
- Leverage technology to enhance capabilities
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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