Long-Term Strategy Update

Bill Lawrence, Vice President and CSO
Technology and Security Committee Meeting
February 6, 2019
• Strategic Plan Update
  ▪ Engagement
  ▪ Information Sharing
  ▪ Threat Analysis
• Resource Planning
• Key Challenges
• 7,070 E-ISAC Members
  ▪ 17% increase in 2018 (Average of 22 added per week)
  ▪ Increased focus on customer relationship management

• Industry Engagement Program
  ▪ 2018
    o 21 analysts from 16 organizations (Ameren, ConEd, CPS, Duke, Exelon, GRDA, Hydro Quebec, JEA, LES, LADWP, NYPA, NPPD, OPPD, SMUD, Southern, SRP)
  ▪ 2019
    o 6 sessions planned (January, March, May, July, September, December)
    o Expand participation to all asset owner and operators
    o Increased support and participation from Trade Associations
    o Utility Technology Council--planning to host a webinar on the IEP
    o Ongoing industry engagement in cooperation with Regional Entities
**U.S. Government Agencies**

- DOE–quarterly meetings
- DHS–NCCIC attendance. Periodic meetings with DHS leadership
- FERC–engagement with Office of Infrastructure Security
- DOD–focused on USCYBERCOM support to sector

**Canadian Government Agencies**

- Ongoing meetings with Canadian security establishment to enhance reciprocal information sharing
• Three Main Strategic Objectives
  ▪ Highlight the value of the E-ISAC through discussion and demonstration of increased capabilities
  ▪ Provide a deeper understanding of the benefits of E-ISAC membership
  ▪ Strengthen the E-ISAC’s relationship with Canadian members

• Outreach Efforts
  ▪ Kickoff in November 2018, met with Atlantic Provinces Regulators and New Brunswick Power, Emera
  ▪ Canadian Electricity Association, Hydro Quebec, Canadian Center for Cyber Security, IESO, Centre for Energy Advancement through Technological Innovation (CEATI)
2019 Outreach Efforts

- CEA Security & Infrastructure Protection Meetings (Quarterly)
- Continue Focused Engagement Across Canada
  - British Columbia
  - Calgary
  - Nova Scotia/Newfoundland
  - Toronto/Quebec
- Direct engagement with IESO
- Energy and Utility Sector Network Meeting in St. Johns
- CEATI and Infrastructure Protection and Security Interest Group engagement
- GridSecCon 2019 Classified Briefing
- CIPC 2019 Classified Briefing
• Portal
  ▪ Approximately 17% increase in registered users
  ▪ Cyber and physical bulletins posted
    o Cyber--297 thru Q4 2018
    o Physical--207 thru Q4 2018
  ▪ Two private User Communities in soft-launch phase
  ▪ Additional portal enhancements under development
• CRISP
  - Membership continues to increase, which also reduces participant costs
  - Public power pilot under development
  - Evaluating additional software for CRISP data analysis
• Cyber Automated Information Sharing System
  - Machine-speed sharing of cyber indicators of compromise
  - Operational in Q4 2018 with 29 participants
• Malware Analysis Repository and Threat Information Exchange
  - “Dropbox” for submitting suspected malware files for advanced analysis
  - DOE and E-ISAC conducting vendor capabilities gap analysis
• Data Storage and Management System
  ▪ Central data repository
  ▪ Early stages of requirements and business case development
• Customer Relationship Management System
  ▪ Evaluating RFP responses
• DHS Shared Resources HF Radio Disaster Recovery Capability
  ▪ Enhanced disaster communications capability
  ▪ Expected delivery of equipment Q1 2019
• Unclassified Threat Briefings (2018 and 2019)
  ▪ Two unclassified threat workshops (June and December)
  ▪ Two unclassified briefings at ESCC meetings (May and October)
  ▪ CRISP – two workshops

• Classified Threat Briefings (2018 and 2019)
  ▪ Coordinated three non-CRISP classified briefings

• Launched Critical Broadcast Program (2018)

• Significant Increase in Unique Publications in 2018- (9 Cyber, 6 Physical)
• 2019 Planned Resource Additions
  ▪ 4 watch officers
  ▪ 5 cyber security analysts
• Additional corporate services support (IT, legal, finance)
• Strategic Plan Refresh – including long-term projections
• March – Preliminary 2020 budget review with MEC
• Properly positioning the E-ISAC relative to other external government and private sector initiatives
• Pace and resource demands
• Competition for top analyst talent
• Integration of resource additions
• Multiple IT initiatives running in parallel-prioritization process in place, additional IT resources being put in place to support
• Space to accommodate planned 2019 resources additions—planning underway
Questions and Answers
ERO Enterprise IT Projects
Update

Stan Hoptroff, Vice President, Chief Technology Officer and Director of Information Technology
Technology and Security Committee Meeting
February 6, 2019
• ERO IT Projects Update
  ▪ Compliance Monitoring and Enforcement Program (CMEP) Technology Project and Standards
  ▪ Entity Registration
  ▪ Situation Awareness for FERC, NERC and the Regional Entities (SAFNR)

• Priorities Looking Ahead
Moving to a common platform will provide:

• Alignment of common 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
Full implementation scheduled for 2020

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<th>2017</th>
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<th>2020</th>
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<tr>
<td>Governance</td>
<td>RFP</td>
<td>Process Harmonization</td>
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<td>Set-Up</td>
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<td>Design, Build, Test, and Train</td>
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<td>Release 1</td>
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<td>Design, Build, Test, and Train</td>
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<td>Release 2</td>
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<td>Release 3</td>
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• Conducted a contest to name the software solution
• Received 90 suggestions
• Final voting conducted by Regions and registered entities
• $100 Amazon Gift Card will be awarded to winner
And the winner is...!

Winner: Align
Submitted by: Andrea Harkins, Tucson Electric Power
• Greater than 30 process improvements embedded in Release 1
• Most significant:
  ▪ Standardized forms and templates
  ▪ Consistent tracking
  ▪ Enhanced reporting
  ▪ Incorporation of evidence and enforcement records
  ▪ Single self-certification process for all types
Project Budget Performance

- Investment To Date:

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<th>Year</th>
<th>Budget</th>
<th>Actuals to Date</th>
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<td>2017</td>
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<td>2018</td>
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- Budget Challenges:
  - Additional training (recommended “in-product” training development and licensing to reduce future onboarding costs)
  - Additional travel (additional face-to-face and regional onsite training, change management)
  - Data integration and migration
  - ERO Enterprise complexity
• Successes:
  ▪ Completed design for Release 1 - Self-Reports, Enforcement, and Mitigation
  ▪ Construction underway for Release 1
  ▪ Completed Test Plan for Release 1
  ▪ Completed Training Needs Assessment for Release 1
  ▪ Completed business process work for Periodic Data Submittals, Self-Certifications, and Technical Feasibility Exceptions (Release 2)
  ▪ Created Change Agent Network with Regions to promote benefits
• What’s next?
  ▪ Execute test plan for Release 1
  ▪ Execute data migration plan
  ▪ Development of training materials for Release 1
  ▪ Process harmonization for Compliance Audit and Spot Checks, Compliance Investigations, and Complaints (Release 2)
  ▪ Execute change management program using the Change Agent Network
  ▪ Conduct training (July – September)
How do I stay informed?

Key communication vehicles

• Dedicated project page on NERC.com: Click Here
• Upcoming CMEP Regional workshops
• Trades meetings, as appropriate
• Current standards information resides in Compliance Reporting Analysis Tracking System (CRATS), NERC’s existing compliance and enforcement tool

• The new tool will replace and enhance the standards functions currently in CRATS:
  • BWise will become the system of record for Standards data used in CMEP
  • Additional data not supported by the current system will be added (e.g., better applicability and implementation information)
  • Compliance Enforcement Authorities will be able to record standard- and requirement-specific information for each entity (e.g., if a particular requirement applies based on unique facts and circumstances related to that entity)
(Continued from previous slide)

• Registered entities will be able to view and export their applicable standards and requirements

• Existing functionality on NERC.com will be transitioned over time from CRATS to the new tool, as needed
• Benefits
  ▪ One common registration tool for the ERO Enterprise
  ▪ Consistent registration experience for registered entities
  ▪ Ability to easily share registration data
  ▪ Integration with new CMEP Technology Tool
  ▪ Enhancements delivered to Entity Registration – Coordinated Functional Registration
Entity Registration

• Project Status
  ▪ Development underway
  ▪ Testing scheduled for Q2 2019
  ▪ Production launch scheduled for Q3 2019
• Key features
  ▪ Ability to control views for NERC, FERC, Regional Entities, and Reliability Coordinators
  ▪ Static power infrastructure mapping
  ▪ Real-time data on facilities (>200kV and >500W)
  ▪ Reliability Coordinator dashboard with drill-down capability into data
  ▪ Administrator tools
SAFNR v3 Upgrade

• Business case endorsed by ERO Technology Leadership Team (Ed Schwerdt, Tim Gallagher and Melanie Frye) and approved by Jim Robb

• Key points include:
  • Supports NERC’s ability to undertake situational awareness activities under Section 1000 of the Rules of Procedures
  • Funding available in 2019 and beyond
  • Positive results from the Request for Proposal process (RFP)
  • Key requirements have been vetted
  • Current system has become unreliable
  • Will apply IT Investment Value Methodology
Priorities Looking Ahead

• Go-Live for CMEP Technology Project Release 1
• Vendor selection and contract negotiations for SAFNR v3
• Planned functionality for the Electricity Information Sharing and Analysis Center (E-ISAC) portal
  ▪ Authentication enhancements
  ▪ User interface/experience enhancements, content editing, and 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)
Priorities Looking Ahead

• Analytical capabilities for the E-ISAC, with a focus on the “analyst workbench/data warehousing”

• New outreach capability via a customer relationship management investment for the E-ISAC