Long-Term Strategy Update

Bill Lawrence, VP and CSO, NERC, and Director, E-ISAC
Technology and Security Committee Meeting
May 8, 2019
**Engagement**

- A member-first culture sets the E-ISAC’s direction while active 2-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.
Key Activities (2019-2020)

**Engagement**
- Building and enriching the value of E-ISAC membership
- Strengthening trusted-source partner relationships
- Enhancing engagement with Canada
- Evolving the GridEx program

**Information Sharing**
- Strengthening portal features and capabilities
- Increasing information sharing by trusted-source partners and industry
- Improving value added actionable information sharing with industry
- 24x7 watch operations

**Analysis**
- Hiring, developing, and retaining highly qualified staff
- Leveraging technology to enhance capabilities
- Developing new data sources, analytical tools and capabilities
- Strengthening analytical capabilities through strategic partnerships
Key Activities (2019-2020)

- Building and enriching the value of E-ISAC membership
- Strengthening trusted-source partner relationships
- Enhancing engagement with Canada
- Evolving the GridEx program

- Portal communities and IEP; Customer Relationship Management Tool; Publications and Briefings
- Increased engagement with DOE, DOD, DHS, National Laboratories
- Canadian Partnership Outreach tour; Increased collaboration with CEA and IESO
- Gas and water utility registration increase; Canada, Mexico, New Zealand, Australia
Key Activities (2019-2020)

- Strengthening portal features and capabilities
  - Logging, security, user community, and GridEx enhancements
- Increase information sharing by trusted-source partners and industry
  - Initiatives with DOD, FSARC, MS-ISAC, DNG-ISAC, public power and OT pilots; onboarding new CRISP participants
- Improve value-added, actionable information sharing with industry
  - Increase focus on emerging threats, examination and correlation of multiple data sources
- 24x7 watch operations
  - Staffing; enhancing watch operations procedures and controls; gap analysis; customer value delivery
Key Activities (2019-2020)

- Hire, develop, and retain highly-qualified staff
- Leverage technology to enhance capabilities
- Develop new data sources, analytical tools, and capabilities
- Strengthen analytical capabilities through strategic partnerships

Deepening analytical and watch bench strength

Technology road map; data management tools; CAISS; engagement with DOE, CEDS, and other research activities

CRISP data growing; exploring potential value added analysis using OT pilot data sources; Cross-sector initiative with FSARC

Collaboration with DOD, National Laboratories, FFRDCs, MS-ISAC, Water ISAC, and DNG-ISAC, IESO, strategic vendors
• Stay focused on execution of strategic plan while assessing whether adjustments are warranted to accommodate changes in the external environment

• Provide future updates on effective threat analysis, including use cases demonstrating capabilities of new tools

• Consider more specific “value added” information sharing request and incentives for members

• Present proposed 2020 performance metrics for review at June meeting

• Carefully manage consulting resources

• Important to have a strong and well funded NERC that is capable of supporting the E-ISAC
Questions and Answers
Preliminary 2020 E-ISAC Budget

Scott Jones, SVP, Chief Financial and Administrative Officer
Technology and Security Committee Meeting
May 8, 2019
Initial review in June 2017
- E-ISAC presented 5-year resource plan in support of long-term strategy
- MEC recommended approval of strategy through 2018 budget support
- NERC Board of Trustees accepted E-ISAC long-term strategy

Five-year strategy contemplates an annual review and approval of E-ISAC proposed resource needs and budget

Incorporated into overall NERC budget and subject to final approval by NERC Board of Trustees

Year one of strategy was 2018, currently executing year two of strategy (2019), and proposing year three (2020) generally in line with previous projections and estimates

Proposed 2020 budget is on track with prior projections supporting the long-term strategy
2020 - Projected Organization Chart

Note: Shifts in resources may occur across departments as ongoing needs and priorities are evaluated.
## E-ISAC DIRECT COSTS

### 2019 Final Budget --- 2020 Draft 1 Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>2019 Final Budget</th>
<th>2020 Draft 1 Budget</th>
<th>Change $</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>$8,180,123</td>
<td>$9,530,378</td>
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<td></td>
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<tr>
<td>Meetings and Travel</td>
<td>418,000</td>
<td>425,200</td>
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<tr>
<td>Operating Expenses</td>
<td>9,431,696</td>
<td>9,912,675</td>
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<tr>
<td>Fixed Assets</td>
<td>700,000</td>
<td>421,199</td>
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<tr>
<td><strong>Total Direct Costs</strong></td>
<td>$18,729,819</td>
<td>$20,289,452</td>
<td>$1,559,633</td>
<td>8%</td>
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<tr>
<td><strong>CRISP portion</strong></td>
<td>$8,080,729</td>
<td>$8,085,241</td>
<td>$4,512</td>
<td>0%</td>
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<td><strong>Non-CRISP portion</strong></td>
<td>$10,649,090</td>
<td>$12,204,211</td>
<td>$1,555,121</td>
<td>15%</td>
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</table>
• Total direct costs increased 8%
  ▪ CRISP costs relatively flat
  ▪ Non-CRISP costs up 15%

• **Personnel**: Added 7 FTEs, including 24/7 watch capability and analysts

• **Meetings and Travel**: Increased due to experience and added personnel

• **Operating Expenses**: Added investments in technology and contract support

• **Fixed Assets**: Decrease in leasehold and hardware/server costs

• **Non-ISAC Costs**: Increase in administrative areas to support growth
Overview of NERC 2020 Budget

• Draft 1 budget increase of 3.8%
  ▪ E-ISAC (direct and indirect costs) is approximately 13%
  ▪ Non E-ISAC (direct and indirect costs) is generally flat

• Staff levels
  ▪ E-ISAC increasing per the long-term strategy
  ▪ Non E-ISAC remaining flat

• Technology/tools investments across NERC

• Draft 1 assessment increase of 4.5%
  ▪ Well below original projection of 6.5%
  ▪ Release of surplus working capital
  ▪ No planned release of stabilization reserves at this time
• **May 8:** FAC public meeting to discuss first draft of 2020 budget
• **May 17:** First draft of 2020 budget posted for comment through June 30
• **May 30:** FAC public webinar to preview first draft of 2020 budget
• **July 15:** Final draft of 2020 budget posted for comment through July 31
• **July 18:** FAC public webinar to preview final draft of 2020 budget
• **August 15:** Present final 2020 budget to NERC Board of Trustees for approval
Questions and Answers
ERO Enterprise Information Technology Projects Update and Budget Forecast

Stan Hoptroff, Vice President, Chief Technology Officer and Director of Information Technology
Technology and Security Committee Meeting
May 8, 2019
• ERO Information Technology (IT) Projects Update
  ▪ Align Project Update
  ▪ Entity Registration
  ▪ Situation Awareness for FERC, NERC, and the Regional Entities (SAFNRv3)
• Electricity Information Sharing and Analysis Center (E-ISAC) Technology Projects
• 2020 Budget and Forecasts
• Priorities Looking Ahead
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 way method of managing and storing CMEP data
• Data identification and classification
• Management of credentials
• Control processes and auditing
• Adherence to Cybersecurity Standards and Frameworks (NIST)
• Application and network cyber testing
• Multi-factor authentication for user access
• CRISP Program
• Application Isolation
• 24X7 monitoring
Align Release 1:
What to expect as a registered entity?

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
Registered 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, Periodic Data Submittals (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 Standards and Requirements applicable to a registered entity
Stakeholder Group

**NERC Users**

### Release 1 Functionality

- Perform oversight of the Regional Entities (REs) 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. Q1/ Q2 2020**
- Technical Feasibility Exceptions (TFEs)
- 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. Q3/ Q4 2020**
- Compliance Planning (Risk, CMEP Implementation Plan, Inherent Risk Assessment, Internal Controls Evaluation, Compliance Oversight Plan)
- Compliance Audit
- Spot Check
- Compliance Investigations
- Complaints
Full implementation scheduled for 2020

<table>
<thead>
<tr>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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<tr>
<td>Governance Set-Up</td>
<td>RFP</td>
<td>Process Harmonization</td>
<td>Design, Build, Test, and Train Release 1</td>
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<tr>
<td></td>
<td>We are here</td>
<td>Design, Build, Test, and Train Release 2</td>
<td>Design, Build, Test, and Train Release 3</td>
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Design, Build, Test, and Train Release 1

Design, Build, Test, and Train Release 2

Design, Build, Test, and Train Release 3
Align Project Budget Performance

• Investment To Date:

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget</th>
<th>Costs to Date</th>
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<tbody>
<tr>
<td>2017</td>
<td>$280,000</td>
<td>$280,000</td>
</tr>
<tr>
<td>2018</td>
<td>$1,548,000</td>
<td>$1,517,600</td>
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<tr>
<td>2019</td>
<td>$2,128,000</td>
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</table>

• Current Challenges:
  - ERO Enterprise complexity
  - Data integration and migration
Align Project Update

• Successes
  - Completed construction of base system for Release 1 - Self-Reports, Enforcement and Mitigation
  - Completed initial QA testing for Release 1
  - Completed business process work for Compliance Audit & Spot Check, Compliance Investigations, Complaints (Release 2)
  - Completed Change Management Assessment survey
  - Formed Change Agent Network
• What’s next?
  ▪ Complete user acceptance testing of base solution for Release 1
  ▪ Execute data integration and migration plan
  ▪ Complete development of reporting module for Release 1
  ▪ Complete development of training materials for Release 1
  ▪ Execute Release 1 training plan
  ▪ Process harmonization for Compliance Planning (Release 3)
  ▪ Conduct training (July – September)
  ▪ Begin design for Release 2 (Self-Certifications, PDSs, TFEs)
• Change Readiness Assessment survey – March 2019
• Stakeholders - 5,500
• Respondents - 1,178 (~20 percent response rate)
• Forty-seven percent indicated familiarity with the Align project
• Fifty-nine percent agree or strongly agree with business need and value
• Sixty-four percent strongly disagree, disagree or are neutral of the general changes
• Forty-one percent prefer NERC/RE emails or newsletters as their preferred method of receiving information
Overall, the baseline change readiness assessment (CRA) yielded expected results for this stage of the project. Respondents stated the need for further awareness around what’s changing. Represented below are additional key takeaways from the baseline CRA:

1. **Vision** is fairly strong at this point in the project. **Respondents** understand the **business need** and why NERC is investing in Align, but are **unclear what changes will result** from the implementation.

2. A majority of respondents feel **NERC & RE leadership are committed** to the success of Align, but a **large portion remain undecided**, suggesting there is more emphasis needed.

3. Respondents voiced that **further communications and training** are required to understand changes needed for daily operation after the Align implementation.
• 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

- NERC and Regional emails and newsletters
- Dedicated project page on NERC.com: Click Here
- Upcoming CMEP Regional workshops
- Trades’ meetings, as appropriate
• Benefits
  ▪ One common registration tool for the ERO Enterprise
  ▪ Consistent registration experience for registered entities
  ▪ Ability to easily share registration data
  ▪ Data integration with Align
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?

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
• Key Features
  - Ability to control views for NERC, FERC, Regional Entities, and Reliability Coordinators (RCs)
  - Static power infrastructure mapping
  - Real-time data on facilities (>200kV and >500W)
  - RC dashboard with drill-down capability into data
  - Administrator tools
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
• New customer-relationship management tool (Salesforce)
• E-ISAC Portal
• Extra large conferencing capability for Critical Broadcast Capabilities (3K)
• Data gathering, management, analysis, and governance efforts
Note: Excludes Personnel
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