Agenda
Technology and Security Committee Meeting

May 8, 2024 | 9:45-10:45 a.m. Eastern
Hybrid Meeting

In-Person (*Board, MRC, NERC Staff ONLY***)**

NERC DC Office
1401 H Street NW, Suite 410
Washington, D.C. 20005

Virtual Attendees (*including presenters*)
Webinar Link: [Join Meeting](#)
Attendee Password: Day1May82024 (32916298 from phones)
Audio Only: 1-415-655-0002 US | 1-416-915-8942 Canada | Access Code: 2310 963 8050

Committee Members
Jane Allen - Chair
Larry Irving
Suzanne Keenan
Susan Kelly
Robin E. Manning
Jim Piro
Kenneth W. DeFontes Jr., *Ex Officio*

Introduction and Chair's Remarks

[NERC Antitrust Compliance Guidelines](#)

Agenda Items

1. **Minutes — Approve**

    a. February 14, 2024 Open Meeting*

2. **E-ISAC Operations*— Update**

    a. Threat Landscape

    b. Election Preparation

    c. Customer Experience

3. **Business Technology Strategy* — Update**

4. **Other Matters and Adjournment**

*Background materials included.

Draft Minutes
Technology and Security Committee
Open Meeting

February 14, 2024| 9:45-10:45 a.m. Central
In-Person

The Houstonian Hotel Houston
111 North Post Oak Lane
Houston, TX 77024

Call to Order

Ms. Jane Allen, Committee Chair, called to order a duly noticed open meeting of the Technology and Security Committee (the Committee) of the Board of Trustees (Board) of the North American Electric Reliability Corporation (NERC or the Company) on February 14, 2024, at approximately 9:45 a.m. Central, and a quorum was declared present.

Present at the meeting were:

Committee Members	Board Members
Jane Allen, Chair	Robert G. Clarke
Larry Irving	George S. Hawkins
Suzanne Keenan	Susan Kelly
Robin E. Manning	Jim Robb
Jim Piro	Kristine Schmidt
Colleen Sidford	
Kenneth W. DeFontes. Jr., *ex officio*	

NERC Staff

Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and CEO of the E-ISAC
Mathew Duncan, Director Intelligence
Howard Gugel, Vice President, Compliance Assurance and Registration
Kelly Hanson, Senior Vice President and Chief Administrative Officer
Eric Hartung, Director of Performance Management, E-ISAC
Stan Hoptroff, Vice President, Business Technology
Soo Jin Kim, Vice President, Engineering and Standards
Mark Lauby, Senior Vice President and Chief Engineer
Kimberly Mielcarek, Vice President, Communications
Sonia Rocha, Senior Vice President, General Counsel, and Corporate Secretary
Andy Sharp, Vice President and Chief Financial Officer
Bluma Sussman, Director, Membership
Jesse Sythe, GridEx Program Manager
Angus Willis, Director of Information Technology Infrastructure and Support

NERC Antitrust Compliance Guidelines

Ms. Allen directed the participants' attention to the NERC Antitrust Compliance Guidelines included in the advance agenda package and indicated that all questions regarding antitrust compliance or related matters should be directed to Ms. Rocha.

Chair's Remarks

Ms. Allen welcomed participants to the meeting and reviewed the agenda.

She also highlighted that on January 24, 2024, NERC's business technology function hosted the Security Advisory Group, which received a briefing from an independent consulting firm on the results of their Q4 2023 penetration test effort and comparison of the current ERO Secure Evidence Locker to NIST 800 171 standard. NIST 800 171 standard was the design standard for the Secure Evidence Locker. Ms. Allen noted that the consulting firm reported that the results of the review were positive and indicated a few opportunities for improvement and NERC staff are working through those improvement opportunities.

Ms. Allen also recognized that 2024 is the 25th anniversary of the E-ISAC.

Minutes

Upon motion duly made and seconded, the Committee approved the minutes of the August 16, 2023, open meeting as presented at the meeting.

ERO Enterprise Business Technology Strategic Plan

Mr. Willis provided the Committee with an overview of the ERO Enterprise Business Technology Strategic Plan. His overview included a recap of business technology projects delivered and initiated in 2023 and highlighted the projects to be delivered and initiated in 2024. The Committee also discussed implementation of the Align tool in Canada.

ERO Enterprise Stakeholder Engagement

Mr. Hoptroff presented the Committee with an overview of the results of the ERO Enterprise Business Technology client survey. The survey was conducted between December 1, 2023, and January 15, 2024. There were 428 respondents, which included personnel from Registered Entities (60%), Regional Entities (17.8%), and NERC (22.2%). Mr. Hoptroff reported that respondents indicated a general satisfaction with the customer support with the following key areas for improvement (in priority order): (1) resolving issues faster, (2) increased response time to reported issues, (3) improved notifications to customers on status of reported issues; and (4) ensuring response resolves the reported issue. The Committee discussed issuing a client survey on an annual basis and ways to collect data outside the survey to proactively address client support issues.

Threat Landscape

Mr. Duncan provided the Committee with an update on the threat landscape, with a focus on threats from nation states. Mr. Duncan's update also included a discussion with the Committee on artificial intelligence (AI) threats and opportunities and the 2024 election cycle.

E-ISAC and Customer Experience and Stakeholder Engagement

Ms. Sussman and Mr. Hartung discussed with the Committee the E-ISAC's initiatives related to enhancing the customer experience and stakeholder engagement. Ms. Sussman summarized for the Committee recent stakeholder feedback and the E-ISAC's efforts to address the feedback and provide more value to members. She also discussed the growth of the E-ISAC's vendor affiliate program. Mr. Hartung provided an overview of the E-ISAC's 2024 initiative to better understand and enhance the customer experience.

GridEx VII Recommendations

Mr. Sythe provided an overview of GridEx VII and the draft recommendations from the Executive Tabletop. He reported that the preliminary recommendations currently include:

- Evaluating technologies and processes that could be used to increase the resilience of telemetry exchange between control centers and operator voice communications that are essential to operating the grid.
- Reviewing the frameworks used to prioritize restoration during a complex power outage and determine if improvement is needed.
- Evaluating options to mitigate impact of a potential loss of market operations over an extended period.

Adjournment

There being no further business and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Sônia Rocha
Corporate Secretary

E-ISAC Update

Action
Update

Summary

Threat Landscape
Management will provide a summary of recent cyber vulnerabilities and US government policy matters including SEC disclosure requirements and proposed critical incident reporting requirements. In addition, management will summarize the findings of the recently issued 2023 Summary of Physical Security Incidents, share insights from a recently completed pilot of aerial drone usage, and provide an update on 2024 election security preparations.

Customer and User Experience
Management will summarize the latest progress on the E-ISAC Stakeholder Customer Experience (CX) and User Experience (UX) Project. In February, the E-ISAC kicked off this project working with the firm Main Digital, to explore and improve the current E-ISAC stakeholder experience. The project is focused on two primary goals:

- Increase the effectiveness by which we educate and influence stakeholders to maintain and/or improve grid security; and
- Continue to improve upon the positive sentiment stakeholders have for E-ISAC products and services

This presentation will provide an update on Phase one of the project summarizing efforts findings and insights regarding next steps. An additional update will also be provided at the August 2024 TSC Open Meeting.

E-ISAC Update

Manny Cancel – SVP and CEO E-ISAC

Matt Duncan – VP Security Operations and Intelligence

Bluma Sussman – VP Stakeholder Engagement

Technology and Security Committee Open Meeting

May 8, 2024

RELIABILITY | RESILIENCE | SECURITY

Threats

- No specific, credible, and imminent cyber threats to the bulk power system (BPS)
- Geopolitical threats consistent
- Ongoing targeting and compromise of key supply chain tools
- Adversary focus on initial access and legitimate credentials
- Ransomware activity in the sector, but no outages

Policy Changes

- Release of Cyber Incident Reporting for Critical Infrastructure Act of 2022 (CIRCIA) reporting rulemaking
- SEC 8k Disclosures

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Threats

- No credible threats to the overall physical security of the BPS
- Grid impacting incidents remain at ~3% of total incidents
- Ballistic damage and theft most prevalent incident categories
- 55% of serious incidents demonstrate intent to sabotage
- Domestic Violent Extremists continue to advocate attacks
- Increased theft due to economic turbulence and high material prices

Actions

- 2024 VISA Workshops scheduled
- Physical Security Conference in Bellevue, WA on May 15

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Goal

- Develop activity baseline and high-risk characteristics for industry to better understand the drone threat

Key Observations

- Leverage Dedrone sensor network
- Identified flights in proximity to substations and power plants
  - 31k substation flyovers and 9k power plant flyovers in a 12-month period
- Established baseline of normal activity
- Identified high-risk characteristics
  - Payload capacity
  - Time in air
  - 400 ft breach/Flight restriction breach

Lessons Identified

- Effective drone alerting requires more mature procedures and coordination
- Critical asset inventory needs to be developed
- Top three drones detected made in China

Next Steps

- Phase II contract executed
- Leveraging new sensor that includes frequency and radar
- Develop and publish trend analysis

Threats

- No specific or credible election related threats to industry
- China, Russia promoting misinformation
- DVEs looking for targets of opportunity to promote civil unrest
- Use of AI-generated misinformation campaigns
- Targeting of election workers

Actions

- Ongoing coordinating with partners on election security support
- Election support updates contained in E-ISAC Monthly reports

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Questions and Answers

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E-ISAC CX/UX Project:

Stakeholder Experience

Bluma Sussman, VP Stakeholder Engagement
May 8, 2024

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CX/UX Project Scope

- Improve E-ISAC stakeholder experience by reducing friction and increasing reach
- Satisfaction directly correlated to touchpoints
- Customer Experience (CX) / Portal User Experience (UX) Scope of Work
  - Analyze customer experience
  - Define stakeholder personas
  - Identify gaps in engagement/opportunities for outreach
  - Analyze Portal user experience and identify areas for improvement

Q1 Award/Contract Kickoff

Q2 Discovery and Analysis

Q3 Recommendations, then Planning and Implementation

Q4 Implementation

2

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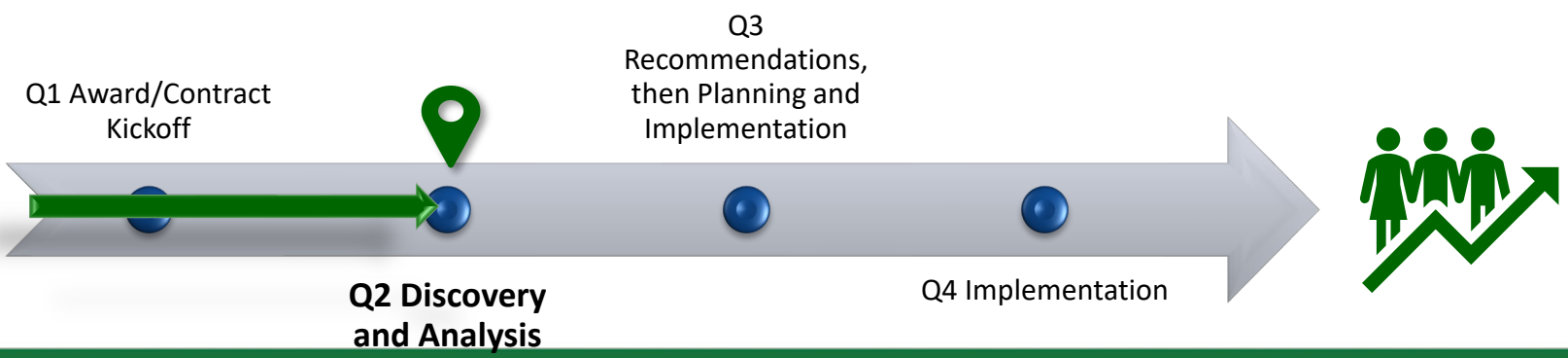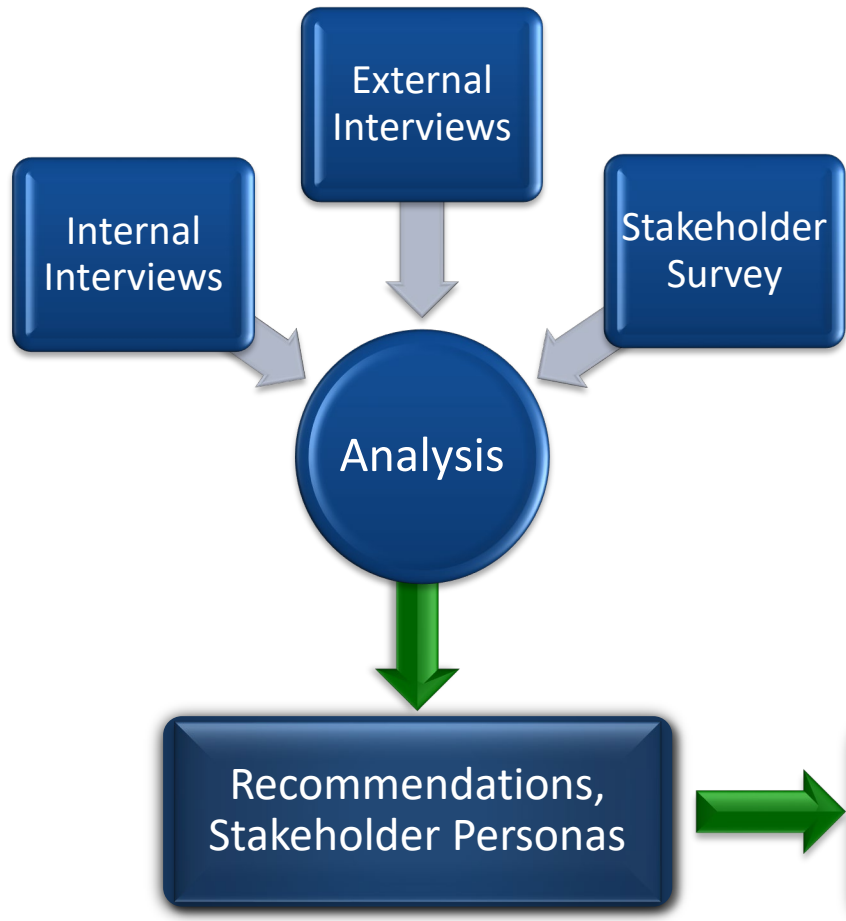
Discovery Phase Objectives

- Conducted 25+ Stakeholder Interviews
  - E-ISAC Staff
  - E-ISAC Members/Partners
- Analyzed 68 Survey Responses
- Reviewed E-ISAC data

Flow diagram:
- Internal Interviews → Analysis
- External Interviews → Analysis
- Stakeholder Survey → Analysis
- Analysis → Recommendations, Stakeholder Personas → Implementation, Continuous Improvement & Analysis
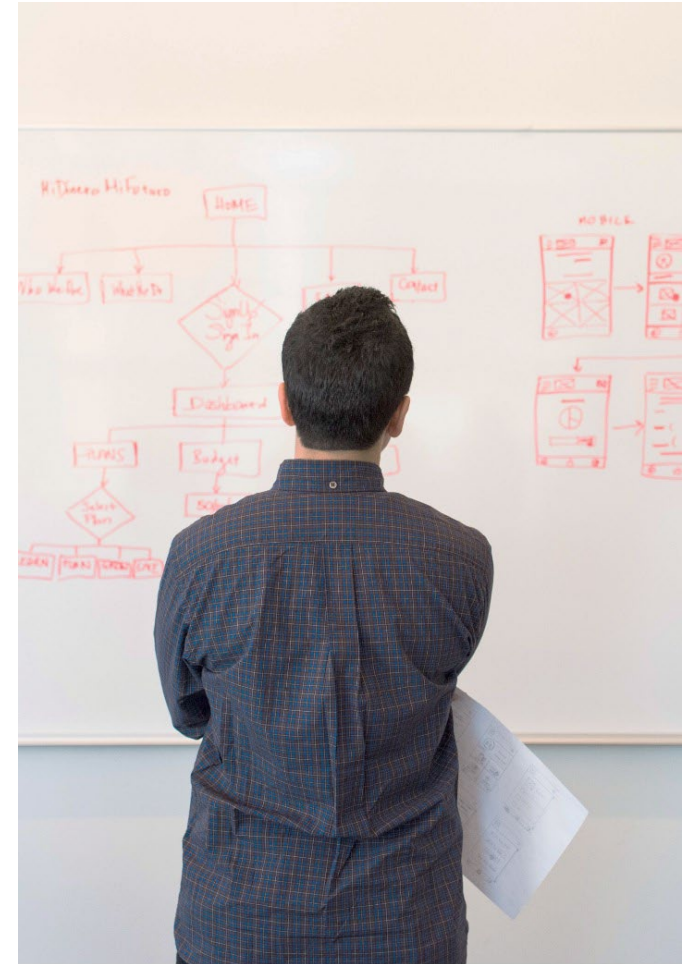
Interviews: Key Takeaways

- Interviews reflected the diversity of E-ISAC stakeholders
  - Information
    - Preferences for high level *and* technical information
    - Portal emails: less truncated, but concise; not require logging into the Portal
  - Small utilities
    - Could benefit from E-ISAC offerings, but may be less aware
    - Would like more in-person engagement, but have less budget for travel
  - Relationship building and trust are key for executives, managers, and small utilities
  - Events (IEP, GridSecCon, GridEx), CRISP and ESSIX rate higher, while the Portal rates lower

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Survey: Key Takeaways
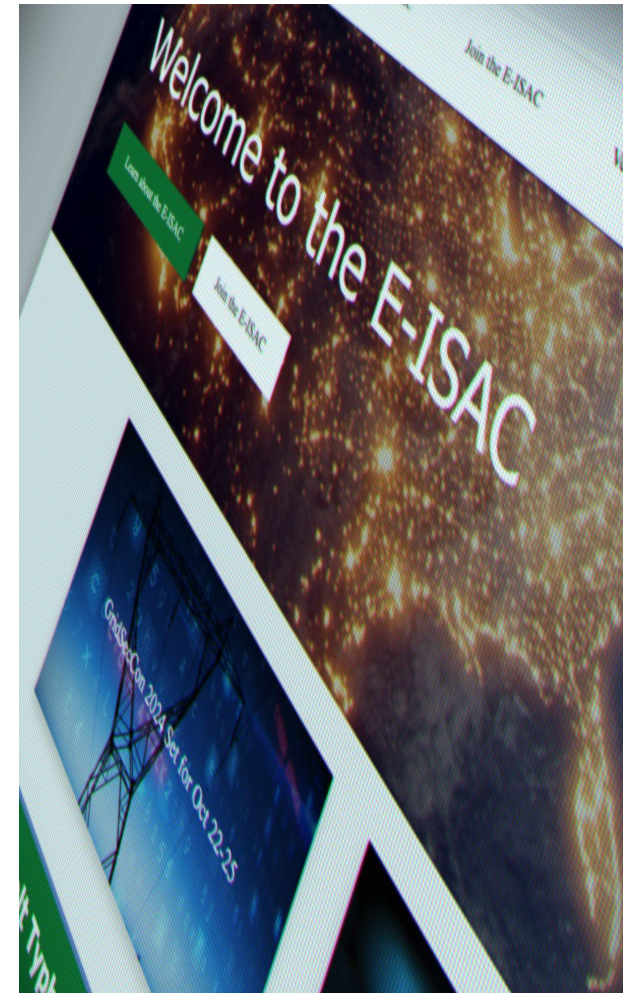
- The survey found that users want:
  - Content that is easier to digest and personalized for their needs
  - 75% would use a group forum or chat in the Portal
  - 40% reported viewing notification emails on a mobile device
- Where we are doing well:
  - No need to change/improve Portal access, sharing or calls to action
  - High praise for quality information and interactions with staff

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Conclusions and Next Steps

- The quality of analysis and information rates high, with an opportunity to improve the experience of consuming information
  - Personalize content and membership experience
  - Enhance the Portal experience and features
- What's next:
  - Q2: Define & finalize user personas; Portal UX audit
  - Q3: Full report in August
  - Q4-2025: Implementation

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Questions and Answers

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Business Technology Strategy

Action
Update

Background
Management will provide an overview of NERC's Business Technology strategy. The objectives of the Business Technology Strategy is to (1) ensure the protection of NERC platforms and applications, (2) provide foundational infrastructure to support the ERO Enterprise, and (3) build and provide applications that enable NERC's core mission. Management will explain that the critical IT investments under the strategy will center around cyber security, application development and enhancements, platforms, acceleration of cloud computing, and foundational infrastructure and specialized infrastructure.

Management will also provide the roadmap for Align enhancements in 2024. The focus area in 2024 will be to enhance capabilities around audit and spot checks, periodic data submittals, self-certifications, attestations, compliance oversight plans, inherent risks assessments, and system confidence. Management will provide the Committee with a schedule for the proposed releases.

ERO Enterprise Business Technology Strategic Plan

Stan Hoptroff, Vice President, Business Technology
Justin Lofquist, Director, Enterprise Applications
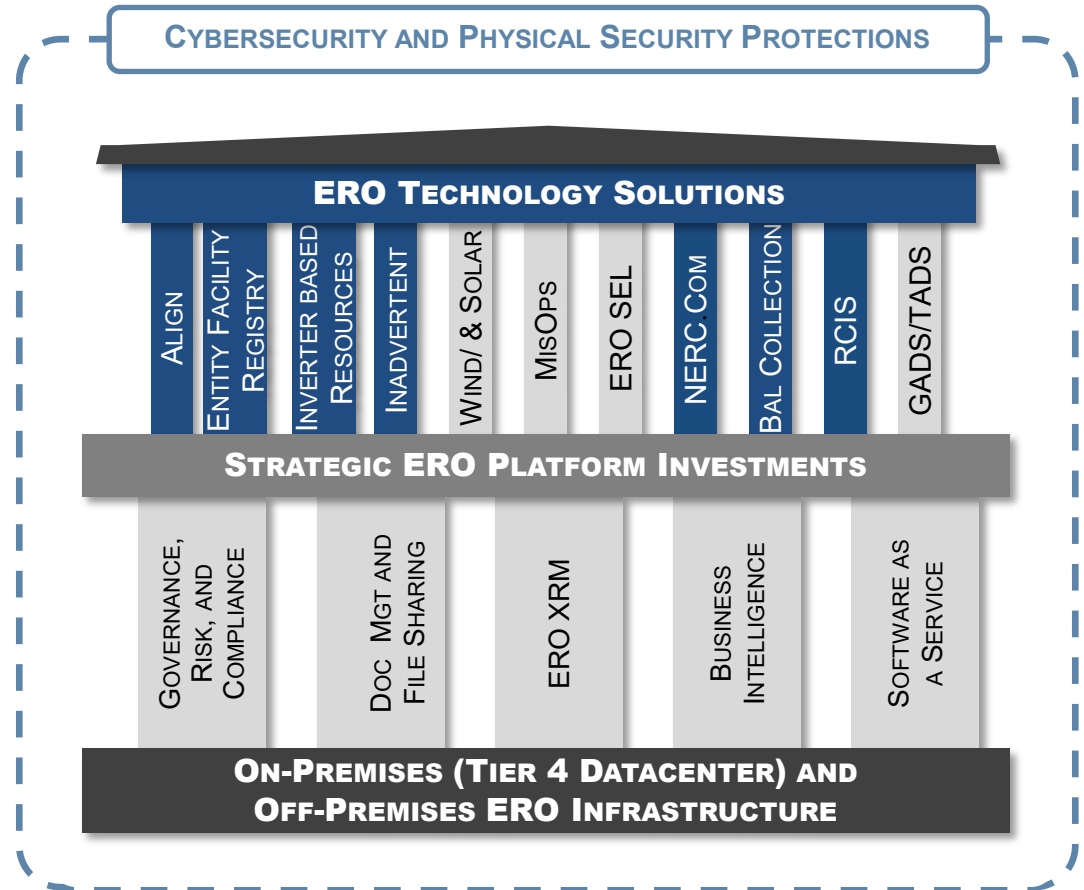Technology and Security Committee Open Meeting
May 8, 2024

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- NERC Business Technology Strategy

- Align 2024 Enhancement Roadmap

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Business Technology

- Build and provide applications that enable our core mission

- Provide foundational infrastructure to support the ERO Enterprise

- Ensure the protection of our platforms and applications

CYBERSECURITY AND PHYSICAL SECURITY PROTECTIONS

ERO TECHNOLOGY SOLUTIONS

- ALIGN
- ENTITY FACILITY REGISTRY
- INVERTER BASED RESOURCES
- INADVERTENT
- WIND/ & SOLAR
- MISOPS
- ERO SEL
- NERC COM
- BAL COLLECTION
- RCIS
- GADS/TADS

STRATEGIC ERO PLATFORM INVESTMENTS

- GOVERNANCE, RISK, AND COMPLIANCE
- DOC MGT AND FILE SHARING
- ERO XRM
- BUSINESS INTELLIGENCE
- SOFTWARE AS A SERVICE

ON-PREMISES (TIER 4 DATACENTER) AND OFF-PREMISES ERO INFRASTRUCTURE

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- Cyber Security
- Quality Assurance
- Cloud Computing
- Analytics /Artificial Intelligence
- Application Development
- Technology Success Support
- Project and Vendor Management

Critical IT Investments

- Cyber Security

- Application Development and Enhancements

- Platforms

- Acceleration of Cloud Computing

- Foundational Infrastructure and Specialized Infrastructure

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- Audit and Spot Checks
  - Co-ordinated Oversight Enhancements
  - Auditor Review Notes Enhancements
  - Working Papers Re-design, Including Monitoring Engagement Records
  - Technical Feasibility Exceptions, Mitigations, Findings and Audit reporting
  - Request for Information Improvements
- Periodic Data Submittals
  - Targeted Notifications Enhancements
  - Improved to Bulk Review and Reaffirmation Process
  - Opportunities for Coordinated Oversight Activities

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2024 Align Focus Areas

- Self-Certifications
  - Opportunities for Coordinated Oversight Activities
  - Closure Process Improvements

- Attestations
  - Opportunities for Coordinated Oversight Activities
  - Improved User Experience for Recording Responses

- Compliance Oversight Plans
  - Coordinated Oversight Improvements

- Inherent Risk Assessments
  - Coordinate Oversight Improvements
  - Entity Risk Profile Questionnaire Enhancements

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- System Confidence
  - Performance Improvements
  - Increases in Availability
  - Procedural and Technical Controls in the Change Management Process Area
    - Configurations Assessment
    - Internal Audit advisory Engagement
    - Full security Testing Post Deployment

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Align 2024 Release Schedule

Release Date	UAT Window
✔ March 2	February 12 – February 23
May 11	April 22 – April 26
July 13	June 17 – June 21
September 7	August 19 – August 23
November 16	October 28 – November 1

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Questions and Answers

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