NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Technology and Security Committee Meeting

May 10, 2023 | 10:00-11:00 a.m. Eastern
Hybrid Meeting

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

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

Virtual Attendees
Webinar Link: Join Meeting
Password: AttendeesMay2023 (28836333 from phones and video systems)

Introduction and Chair's Remarks

NERC Antitrust Compliance Guidelines*

Agenda Items

1. **Minutes* – Approve**
   a. February 15, 2023 Open Meeting
2. **Cyber Strategy* — Update**
3. **E-ISAC Operations*— Update**
4. **ERO Enterprise Business Technology* — Update**
5. **Other Matters and Adjournment**

*Background materials included.

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Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 1a

Draft Minutes
Technology and Security Committee Open Meeting

February 15, 2023| 10:00 a.m.-10:45 a.m. Mountain

JW Marriott Tucson
3800 W. Starr Pass Blvd.
Tucson, AZ 85745

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 15, 2023, at approximately 10:00 a.m. Mountain, and a quorum was declared present.

Present at the meeting were:

Committee Members
Jane Allen, Chair
Larry Irving
Suzanne Keenan
Robin E. Manning
Jim Piro
Colleen Sidford
Kenneth W. DeFontes. Jr., *ex officio*

Board Members
Robert G. Clarke
Susan Kelly
Roy Thilly

NERC Staff
Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and CEO of the E-ISAC
Howard Gugel, Vice President, Engineering and Standards
Kelly Hanson, Senior Vice President and Chief Administrative Officer
Stan Hoptroff, Vice President, Business Technology
Dee Humphries, Director, Project Management Office
Mark Lauby, Senior Vice President and Chief Engineer
Sonia Mendonça, Senior Vice President, General Counsel, and Corporate Secretary
Kimberly Mielcarek, Vice President, Communications
Lauren Perotti, Senior Counsel
Bryan Preston, Vice President, People and Culture
Andy Sharp, Vice President and Chief Financial Officer

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. Mendonça.

Chair's Remarks

Ms. Allen welcomed participants to the meeting. She reviewed the agenda for the meeting and reported on the recent meeting of the E-ISAC Member Executive Committee.

Minutes

Upon motion duly made and seconded, the Committee approved the minutes of the November 7, 2022, meeting as presented at the meeting.

E-ISAC Operations

Mr. Cancel introduced the topic by noting a temporary outage of the E-ISAC Portal and describing alternate means of reporting issues to the E-ISAC. Then he provided an update on E-ISAC operations. First, Mr. Cancel provided a review of physical and security issues in 2022 and E-ISAC activities in response. He noted that the E-ISAC's activities in 2022 focused on membership expansion, outreach across the E-ISAC community, and improved information sharing. Second, Mr. Cancel discussed physical security and cyber security incidents. He noted a recent increase in physical security incidents, and he reported that NERC is currently assessing the CIP-014 Reliability Standard in response to a directive from the Federal Energy Regulatory Commission ("FERC"). Mr. Cancel also discussed continuing geopolitical threats. Third, he provided an update on the Cybersecurity Risk Information Sharing Program (CRISP) and participation in the Energy Threat Analysis Center (ETAC), highlighting that CRISP continued to see increased participation in 2022. Last, Mr. Cancel provided an overview and update regarding the Vendor Affiliate Program, highlighting plans for continued growth in 2023 and 2024. He concluded the update by noting the 2023 GridSecCon will take place in Quebec City, Canada on October 17-2023, and GridEx VII will take place on November 14-16, 2023.

ERO Enterprise Business Technology

Mr. Hoptroff reviewed the topics to be addressed in the update and introduced Ms. Humphries to address the first item. Ms. Humphries reviewed the purpose and operation of the Business Continuity Plan ("BCP"), highlighting scenarios to test the plan. Next, Mr. Hoptroff reviewed the timeline for the final steps of the completion of the Align tool, retirement of legacy applications, and the transition of Align governance to the Operations Leadership Team in 2023, highlighting the security of the tool and the Secure Evidence Locker. He also provided an update on the activities of the Security Advisory Group. Last, Mr. Hoptroff discussed NERC's efforts to obtain and retain critical talent to meet its needs in cybersecurity and application development.

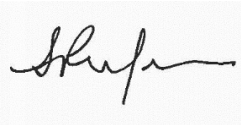
Annual Review of Committee Mandate

Ms. Mendonça reviewed the Committee mandate, noting that NERC Legal is not recommending any revisions at this time.

Adjournment

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

Submitted by,



Sônia Mendonça
Corporate Secretary

Cyber Strategy

Action
Update

Background
The E-ISAC will provide an overview of recent reports and strategies released by the Canadian and U.S. governments.

Summary
During the first quarter of 2023, Canada and the United States issued strategic reports focused on cyber security.

The White House issued the National Cybersecurity Strategy, which focuses on how technology and the internet are secured, and emphasizes protecting critical infrastructure. The strategy includes references to the energy industry and ISACs. In this reference, the strategy states that the Federal Government will build off decades of collaboration with ISACs and other groups to develop a shared vision of the future relationship between Sector Risk Management Agencies (SRMAs)—for electricity, the U.S. Department of Energy—and the U.S. Cyber and Infrastructure Security Agency. Furthermore, the strategy calls out the commitment of the Federal Government to, with industry, assessing sectors' needs and then committing investment in building out SRMAs' capabilities in order to be more proactive and responsive to those identified needs.

The U.S. Office of the Director of National Intelligence issued the 2023 Annual Threat Assessment of the U.S. intelligence community. This report highlights countries posing the biggest threats to the national security of the United State: China, Russia, Iran, and North Korea.

Finally, the Canadian Centre for Cyber Security released its National Cyber Threat Assessment 2023–2024. This strategy focuses on cybercrime and state-sponsored programs (China, Russia, Iran, and North Korea), and underscores that critical infrastructure is increasingly at risk from cyber threat activity.

These three strategic documents align with ongoing strategic work and the current threat assessments the E-ISAC has made over the course of 2022 and for 2023. The E-ISAC will track and support efforts to implement measures related to the electricity industry.

Agenda Item 3
Technology and Security Committee
Open Meeting
May 10, 2023

Electricity Information Sharing and Analysis Center (E-ISAC) Operations

Action
Update

Background

Management will provide the Technology and Security Committee an update regarding E-ISAC operations. The update will include a discussion of the security threat landscape; E-ISAC programmatic updates; new E-ISAC products; and updates on activities with the Energy Threat Analysis Center (ETAC).

- Threat Landscape: Management will discuss E-ISAC's tracking of potential threats to the electric sector, including from nation state actors and physical security incidents.
- New E-ISAC Products: Management will provide an update on new products from the Watch Operations Team and the Physical Security Analysis Team, including an industrial control systems security bulletin, a cyber open source intelligence report, and a drone pilot program.
- ETAC: Management will provide an update on activities with the ETAC.

A DIVISION OF NERC

E-ISAC

ELECTRICITY INFORMATION SHARING AND ANALYSIS CENTER

Agenda Item 3

E-ISAC Operations

Manny Cancel, Senior Vice President NERC and CEO E-ISAC

Technology and Security Committee

Open Meeting

May 10, 2023

TLP:CLEAR

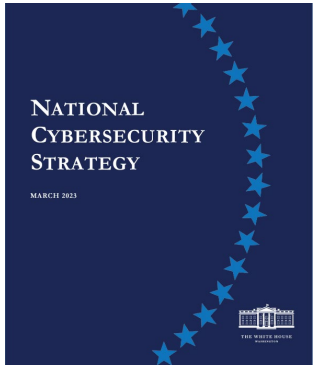
RELIABILITY | RESILIENCE | SECURITY

Agenda

- Cyber Strategy
- Threat Landscape
- New E-ISAC Products
- Energy Threat and Analysis Center (ETAC)

Cyber Strategy

- U.S. Office of the Director of National Intelligence (ODNI) Annual Threat Assessment
- Canadian Centre for Cybersecurity Threat Assessment
- National Cybersecurity Strategy



Summary of Threat Assessments

Nation states possess the capability to disrupt critical infrastructure in North America and continue to target the electricity sector

- Russia remains a top cyber threat as it employs its espionage, influence, and attack capabilities
- China is one of the most dynamic cyber threats and continues to demonstrate increasing sophistication and adaptive techniques
- Iran's growing expertise and willingness to conduct aggressive cyber operations make it a major threat
- North Korea's cyber program poses a sophisticated and agile espionage, cybercrime, and attack threat

Summary of National Cyber Strategy

Complex threat environment and evolving technologies demand a more intentional, more coordinated, and more well-resourced approach to cyber defense

- Defend Critical Infrastructure
- Disrupt and Dismantle Threat Actors
- Shape Market Forces to Drive Security and Resilience
- Invest in a Resilient Future
- Forge International Partnerships to Pursue Shared Goals

Threat Landscape

Cyber

- Adversaries are capable and adaptive
- Operational Technology (OT) continues to be targeted
- Ransomware remains a persistent threat
- Vendors and other third parties are targeted and compromised

Physical

- Serious incidents in Q1 2023 decreased in comparison with previous quarter
- Number of incidents in Q1 2023 still represents elevated frequency with respect to historical trends
- The E-ISAC assesses the physical security threats and risks will continue throughout the year

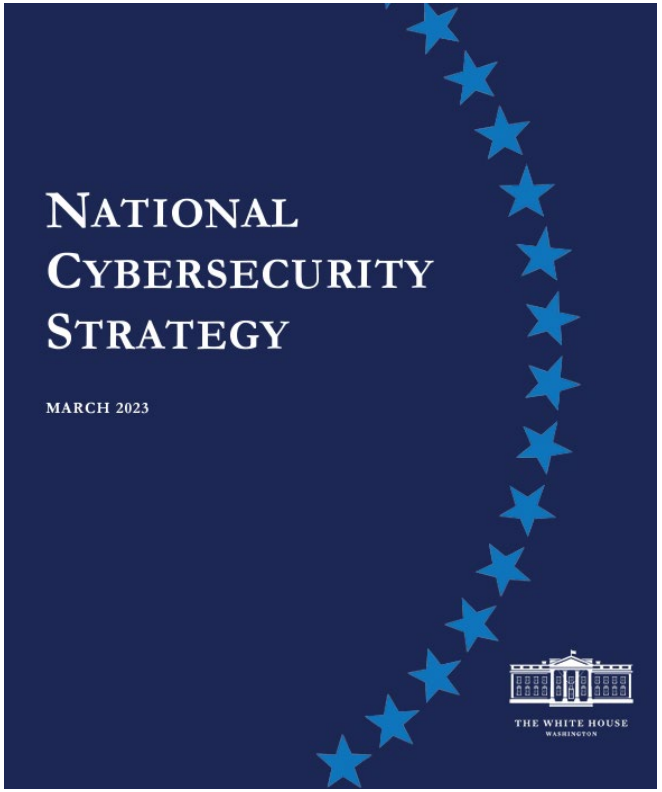
E-ISAC Products and Services

Cyber

- Threat hunts
- Summary of Key Threats for Security Executives
- CRISP
- Clearinghouse
- Dark web/Ransomware forum Monitoring
- Shodan searches

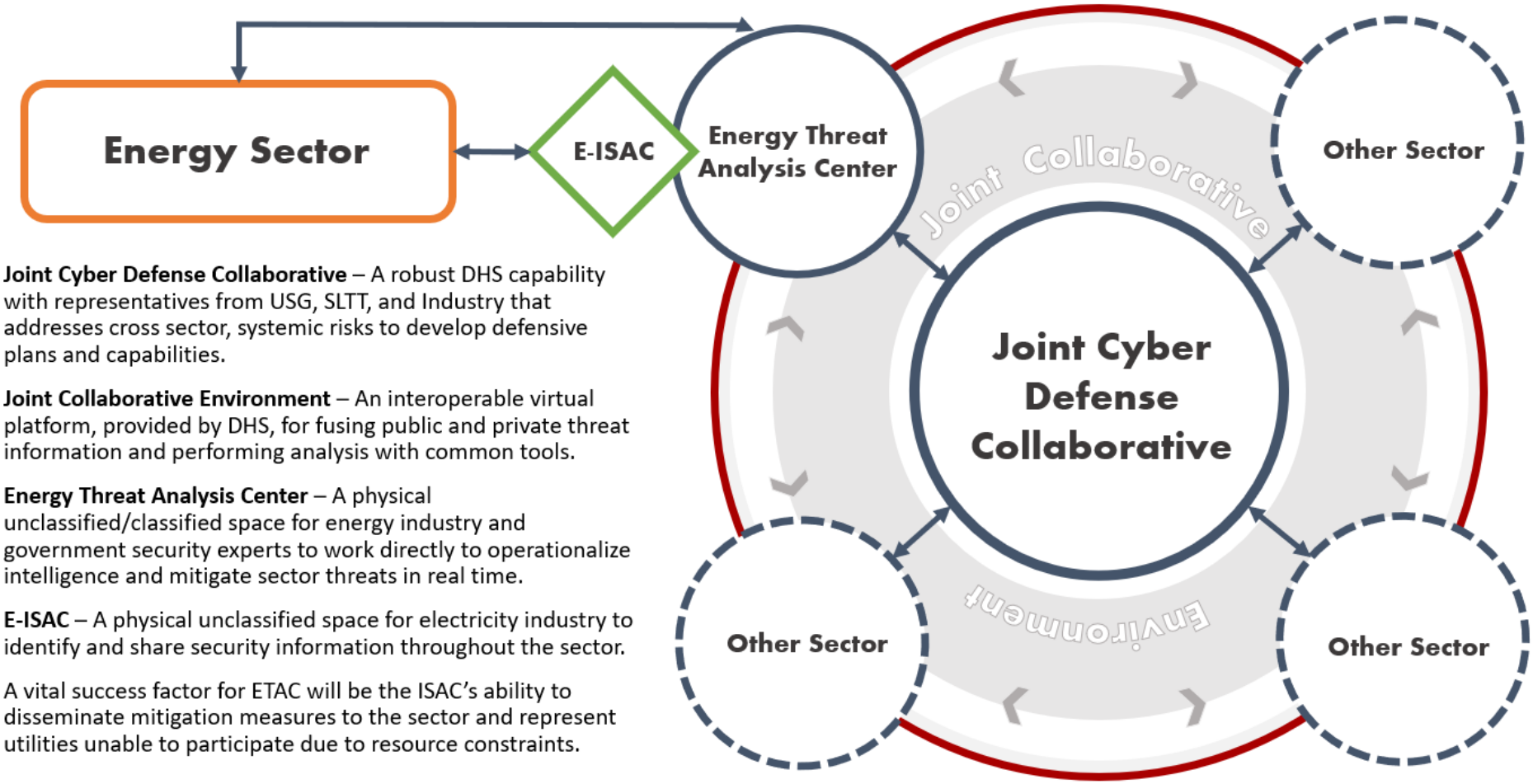
Physical

- Physical Security Resource Guide
- Avenues of Approach and Firing Positions at Substations
- Monthly Online Threat Summary
- Drone Detection Pilot: Trend Analysis and Key Findings
- Summary of Member and Partner Weekly Postings
- Open Source Intelligence Report



- Unique operational collaboration model
  - Referenced in U.S. national cyber strategy
- A spoke to Joint Cyber Defense Collaborative (JCDC) hub
- Provides link between industry, intelligence community, DOE, and labs
- E-ISAC a full partner with four IOUs in current pilot
- E-ISAC serves as industry CIPAC co-chair

ETAC Ecosystem



Joint Cyber Defense Collaborative – A robust DHS capability with representatives from USG, SLTT, and Industry that addresses cross sector, systemic risks to develop defensive plans and capabilities.

Joint Collaborative Environment – An interoperable virtual platform, provided by DHS, for fusing public and private threat information and performing analysis with common tools.

Energy Threat Analysis Center – A physical unclassified/classified space for energy industry and government security experts to work directly to operationalize intelligence and mitigate sector threats in real time.

E-ISAC – A physical unclassified space for electricity industry to identify and share security information throughout the sector.

A vital success factor for ETAC will be the ISAC's ability to disseminate mitigation measures to the sector and represent utilities unable to participate due to resource constraints.

2022 ETAC Pilot Activities

- Industry and government collaboration began in January 2022
- Ukraine – Russia War collateral threats collaboration
- Equipment supply chain threats
- Operational Technology threats
- ETAC governance and capability development
- Monthly Analysts to Analysts (A2A) exchanges

Future Activities

- Establish formal governance
- Open physical location for unclassified and classified access
- Onboard additional entities
- Prioritize threats for analysis
- Develop research questions

Questions and Answers

ERO Enterprise Business Technology

Action
Update

Background
Management will provide an update on the Align tool, NERC's IT infrastructure services team, and NERC's use of the cloud.

- Align: Management will review lessons learned from Align implementation, Align financials, and the timeline of the completion of the Align tool and retirement of legacy applications. Management will also demonstrate a Registered Entity's view of the Align tool.
- Infrastructure Services Team: Management will provide an overview of the IT infrastructure Services team.
- NERC's Use of the Cloud: Management will provide an overview of the manner in which NERC currently uses the cloud technology and planned uses of cloud technology in the coming years.

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Agenda Item 4

ERO Enterprise Business Technology Update

Stan Hoptroff, Vice President, Business Technology
Angus Willis, Director of IT Core Infrastructure and Support
LaCreacia Smith, Senior PMO Manager
Technology and Security Committee Open Meeting
May 10, 2023

RELIABILITY | RESILIENCE | SECURITY

Agenda

- Align Project Update
- NERC's Infrastructure Team
- NERC's Journey to the Cloud (Fast Follower)

Align – What We Achieved

Moving to a common platform has provided:

- **A more secure** method of managing and storing Compliance Monitoring and Enforcement Program (CMEP) data
- Alignment of **many 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
- **Ease of Access:** Ability to download all standards and requirements for use in other systems

What We Learned

- Importance of security (cost and value)
- Allow time for business process harmonization
- Importance of overcoming differences within our model with common business processes
- Importance of modifying project processes to accommodate a fully virtual team
- Importance of change management
- Plan for change of ownership with vendors
- New automation for Inherent Risk Assessment and Compliance Oversight Plan required additional time and investment

2017 Starting Point

- Disparate systems and business processes
  - Web Compliance Data Management System - Five Regions
  - Compliance Information Tracking System - Three Regions
  - MK Insight - ReliabilityFirst
  - Compliance Reporting and Tracking System - NERC
  - Microsoft Productivity Applications
    - MS SharePoint
    - MS Excel
    - MS Outlook
    - MS Access

Align Financials

- Align implementation spend: $8.0M (2017-2022)
- Revised business case estimate April 2020: $7.5M
  - Revised business case variance breakdown: $470k (6.3 percent)
- Additional cost drivers include:
  - 2022: Release 4 and 4.5 required functionality – no legacy solution
  - 2022: Performance optimization and reporting database
  - 2021: Stakeholder requested enhancements for Release 1-3

Canada: Key Features Summary

- Enforcement Processing
- Canadian Regulator Access
- Audits, Spot Checks and Scheduling
- Self-Reports
- Notifications
- Periodic Data Submittals and Self-Certifications
- Reports and Dashboards

Align-Canada

- Ontario: In Production
- In Progress: Manitoba, Saskatchewan, Alberta, British Columbia, Nova Scotia
- Quebec, New Brunswick have their own systems
- Work Effort:
  - Imported standards
  - Data segmentation (provincial views only; no FERC access)
  - User interface and reports
  - Historical data migration (planned)

Align Ticket Metrics

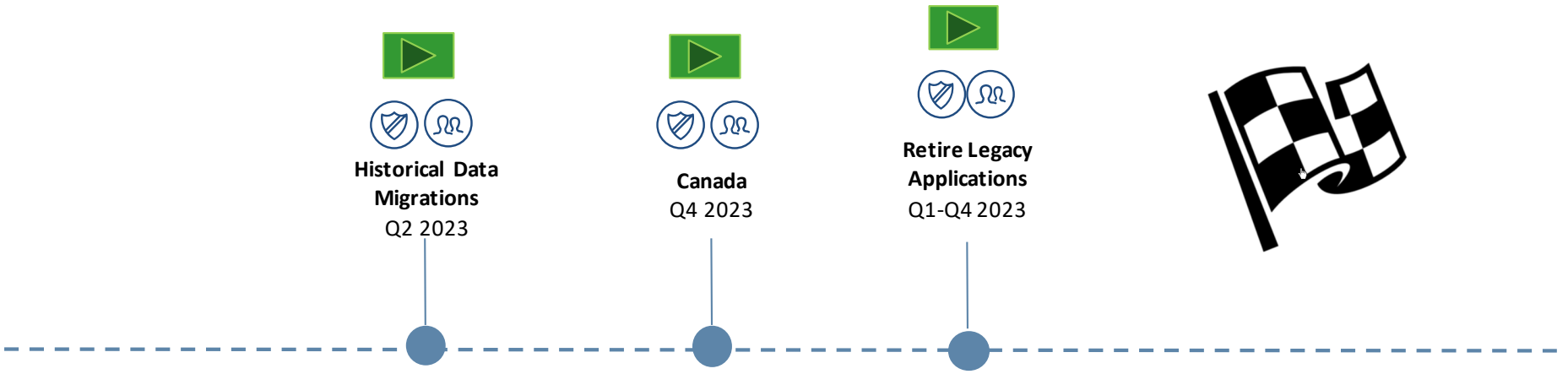
METRIC	Historical	Current
Daily Volume	6	5
Average Open	29	24
Time to Resolve		
• < 2 days	-	17%
• 3 – 14 days	-	55%
• >14 days	-	28%

Ticket Types: Account Access, Training, Defects / Enhancements

Observations / Notes:

- Focused on resolving underlying account access issues and have seen 50% drop in this ticket type
- Enhancements / Defects and Help / Training ticket types increased as more functionality was released, equalizing daily volumes and open ticket totals

Align Timeline



AUDIENCE IMPACT KEY

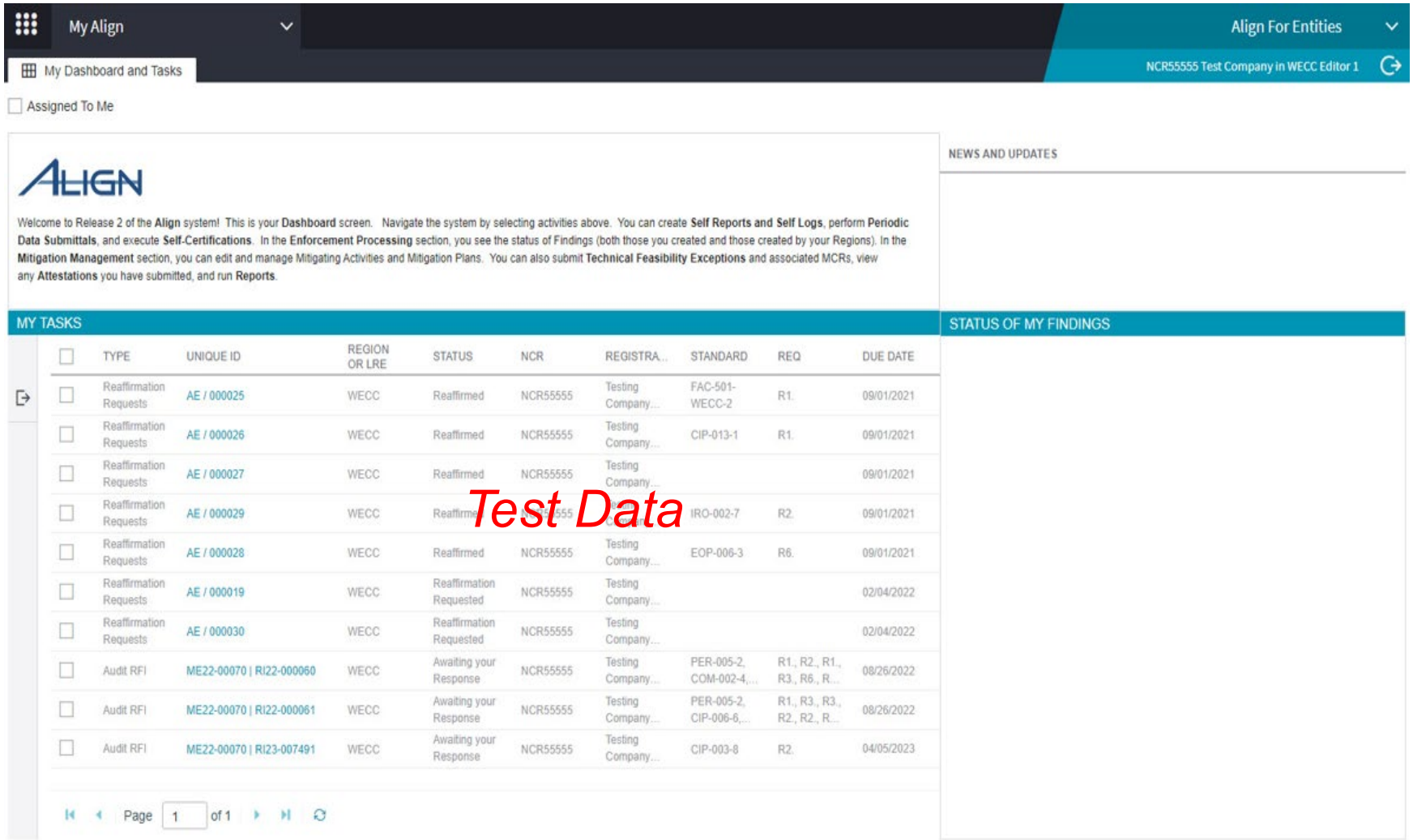
- **Registered Entities**
- **ERO Enterprise Staff**

In progress

Complete

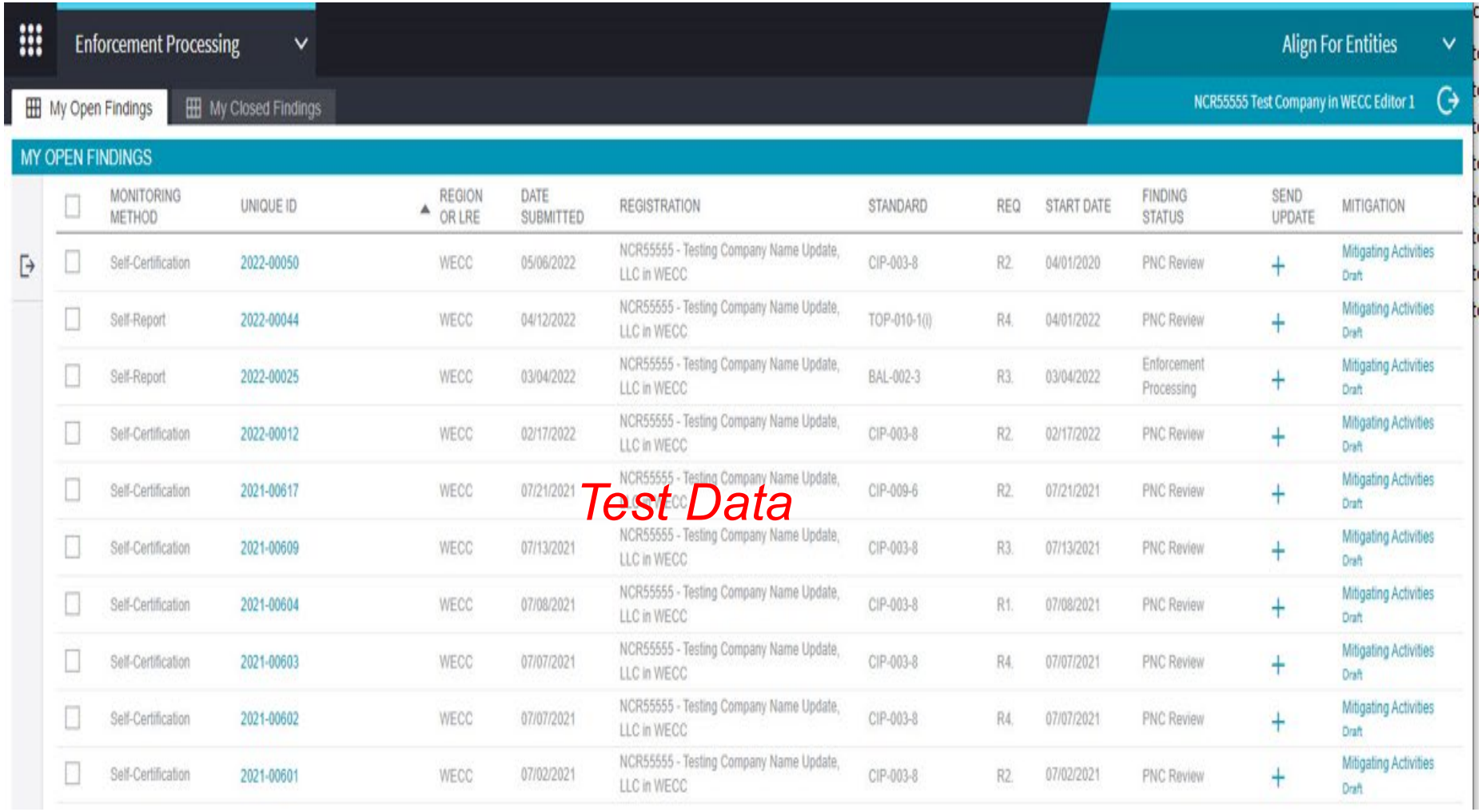
Align Registered Entity View

Entity – Dashboard



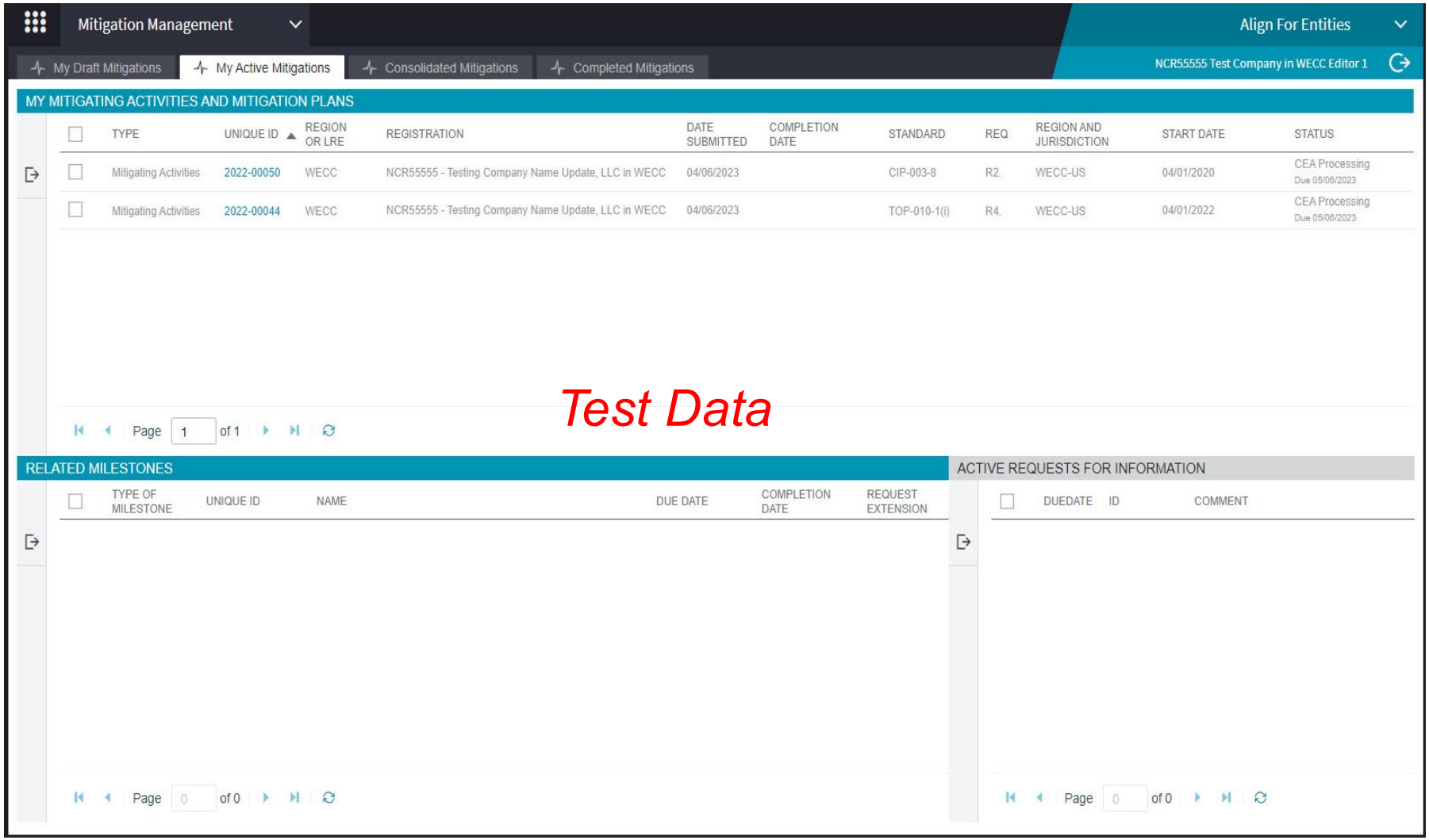
TYPE	UNIQUE ID	REGION OR LRE	STATUS	NCR	REGISTRA...	STANDARD	REQ	DUE DATE
Reaffirmation Requests	AE / 000025	WECC	Reaffirmed	NCR55555	Testing Company...	FAC-501-WECC-2	R1.	09/01/2021
Reaffirmation Requests	AE / 000026	WECC	Reaffirmed	NCR55555	Testing Company...	CIP-013-1	R1.	09/01/2021
Reaffirmation Requests	AE / 000027	WECC	Reaffirmed	NCR55555	Testing Company...			09/01/2021
Reaffirmation Requests	AE / 000029	WECC	Reaffirmed	NCR55555	Testing Company...	IRO-002-7	R2.	09/01/2021
Reaffirmation Requests	AE / 000028	WECC	Reaffirmed	NCR55555	Testing Company...	EOP-006-3	R6.	09/01/2021
Reaffirmation Requests	AE / 000019	WECC	Reaffirmation Requested	NCR55555	Testing Company...			02/04/2022
Reaffirmation Requests	AE / 000030	WECC	Reaffirmation Requested	NCR55555	Testing Company...			02/04/2022
Audit RFI	ME22-00070 | RI22-000060	WECC	Awaiting your Response	NCR55555	Testing Company...	PER-005-2, COM-002-4,...	R1., R2., R1., R3., R6., R...	08/26/2022
Audit RFI	ME22-00070 | RI22-000061	WECC	Awaiting your Response	NCR55555	Testing Company...	PER-005-2, CIP-006-6,...	R1., R3., R3., R2., R2., R...	08/26/2022
Audit RFI	ME22-00070 | RI23-007491	WECC	Awaiting your Response	NCR55555	Testing Company...	CIP-003-8	R2.	04/05/2023

Entity – Open Findings



MONITORING METHOD	UNIQUE ID	REGION OR LRE	DATE SUBMITTED	REGISTRATION	STANDARD	REQ	START DATE	FINDING STATUS	SEND UPDATE	MITIGATION
Self-Certification	2022-00050	WECC	05/06/2022	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R2.	04/01/2020	PNC Review	+	Mitigating Activities Draft
Self-Report	2022-00044	WECC	04/12/2022	NCR55555 - Testing Company Name Update, LLC in WECC	TOP-010-1(i)	R4.	04/01/2022	PNC Review	+	Mitigating Activities Draft
Self-Report	2022-00025	WECC	03/04/2022	NCR55555 - Testing Company Name Update, LLC in WECC	BAL-002-3	R3.	03/04/2022	Enforcement Processing	+	Mitigating Activities Draft
Self-Certification	2022-00012	WECC	02/17/2022	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R2.	02/17/2022	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00617	WECC	07/21/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-009-6	R2.	07/21/2021	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00609	WECC	07/13/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R3.	07/13/2021	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00604	WECC	07/08/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R1.	07/08/2021	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00603	WECC	07/07/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R4.	07/07/2021	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00602	WECC	07/07/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R4.	07/07/2021	PNC Review	+	Mitigating Activities Draft
Self-Certification	2021-00601	WECC	07/02/2021	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R2.	07/02/2021	PNC Review	+	Mitigating Activities Draft

Entity – Active Mitigations



Entity – Draft Mitigations

Mitigation Management | Align For Entities

My Draft Mitigations | My Active Mitigations | Consolidated Mitigations | Completed Mitigations

NCR55555 Test Company in WECC Editor 1

MY DRAFT MITIGATIONS

TYPE	UNIQUE ID	REGION OR LRE	REGISTRATION	STANDARD	REQ	REGION AND JURISDICTION	START DATE
Mitigating Activities	2021-00601	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R2.	WECC-US	07/02/2021
Mitigating Activities	2021-00602	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R4.	WECC-US	07/07/2021
Mitigating Activities	2021-00603	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R4.	WECC-US	07/07/2021
Mitigating Activities	2021-00604	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R1.	WECC-US	07/08/2021
Mitigating Activities	2021-00609	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R3.	WECC-US	07/13/2021
Mitigating Activities	2021-00617	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-009-6	R2.	WECC-US	07/21/2021
Mitigating Activities	2022-00012	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	CIP-003-8	R2.	WECC-US	02/17/2022
Mitigating Activities	2022-00025	WECC	NCR55555 - Testing Company Name Update, LLC in WECC	BAL-002-3	R3.	WECC-US	03/04/2022

Test Data

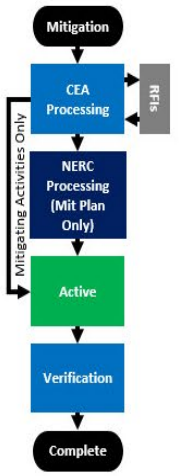
Page 1 of 1

RELATED DRAFT MITIGATION MILESTONES

TYPE OF MILESTONE	UNIQUE ID	NAME	DUE DATE

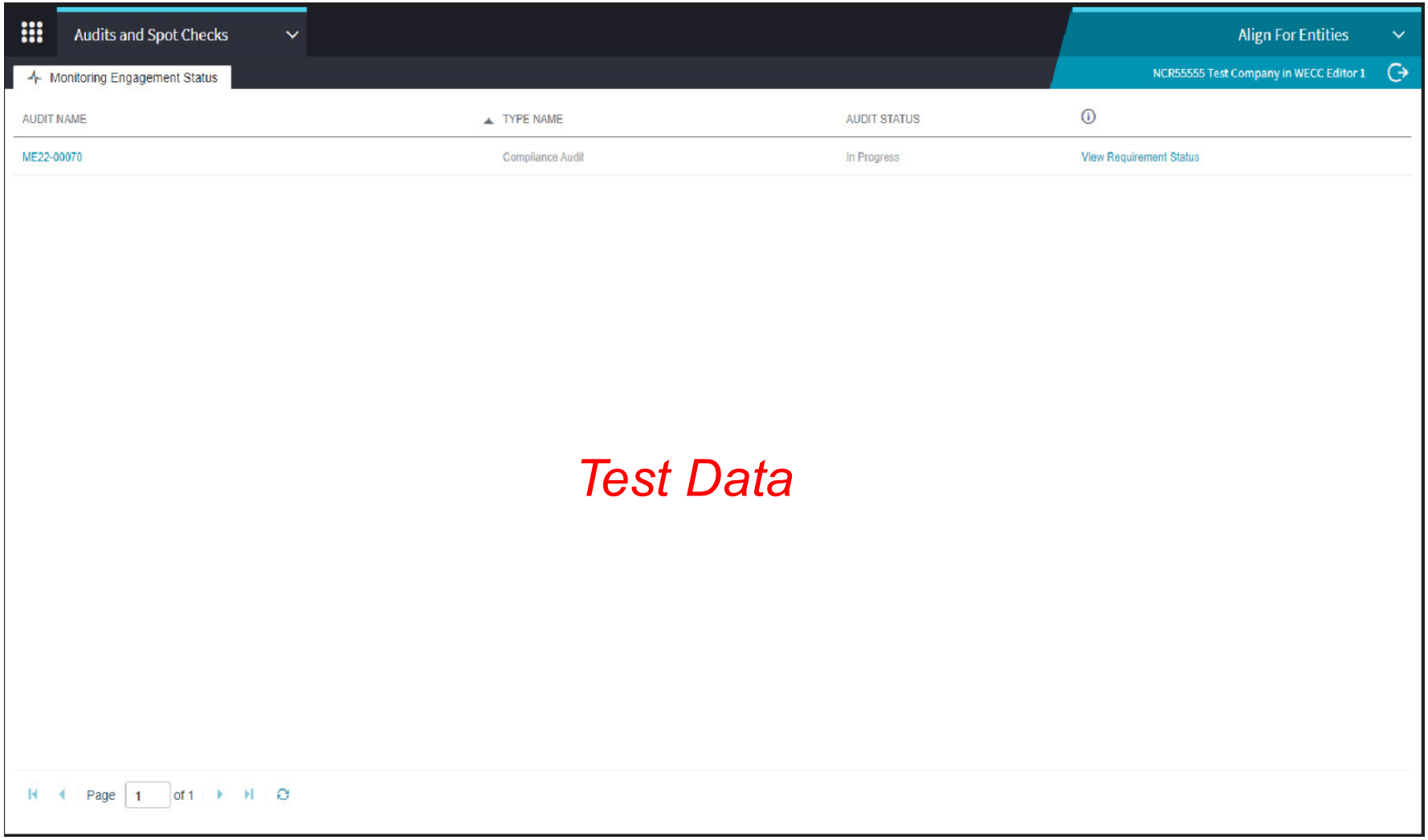
Page 0 of 0

INSTRUCTIONS



These are your Mitigation Management Screens. The **Draft Mitigations** screen shows you all your draft Mitigating Activities, as well as those that have been returned to you for more work or converted to a Mitigation Plan (both indicated with a yellow triangle). The **Active Mitigations** screen shows you all Mitigating Activities and Mitigation Plans that have been submitted. Above is a summary of the Mitigation process.

Entity – Active Engagements



NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Infrastructure Services Team

Infrastructure

Angus Willis
FTE Director, Infrastructure

Michael Si
FTE Principal, System Admin

Mack Marchand
C System Architect

Melinda Nicius
FTE Sr. Database Admin

Dung Nguyen
FTE System Admin

Chris Dukes
FTE Sr. System Admin

Network

Terence Lockette
FTE Sr. Network Engineer

Quality Assurance

Aviance Clay
FTE Manager, Quality Assurance

David Jones
C Quality Assurance, Testing

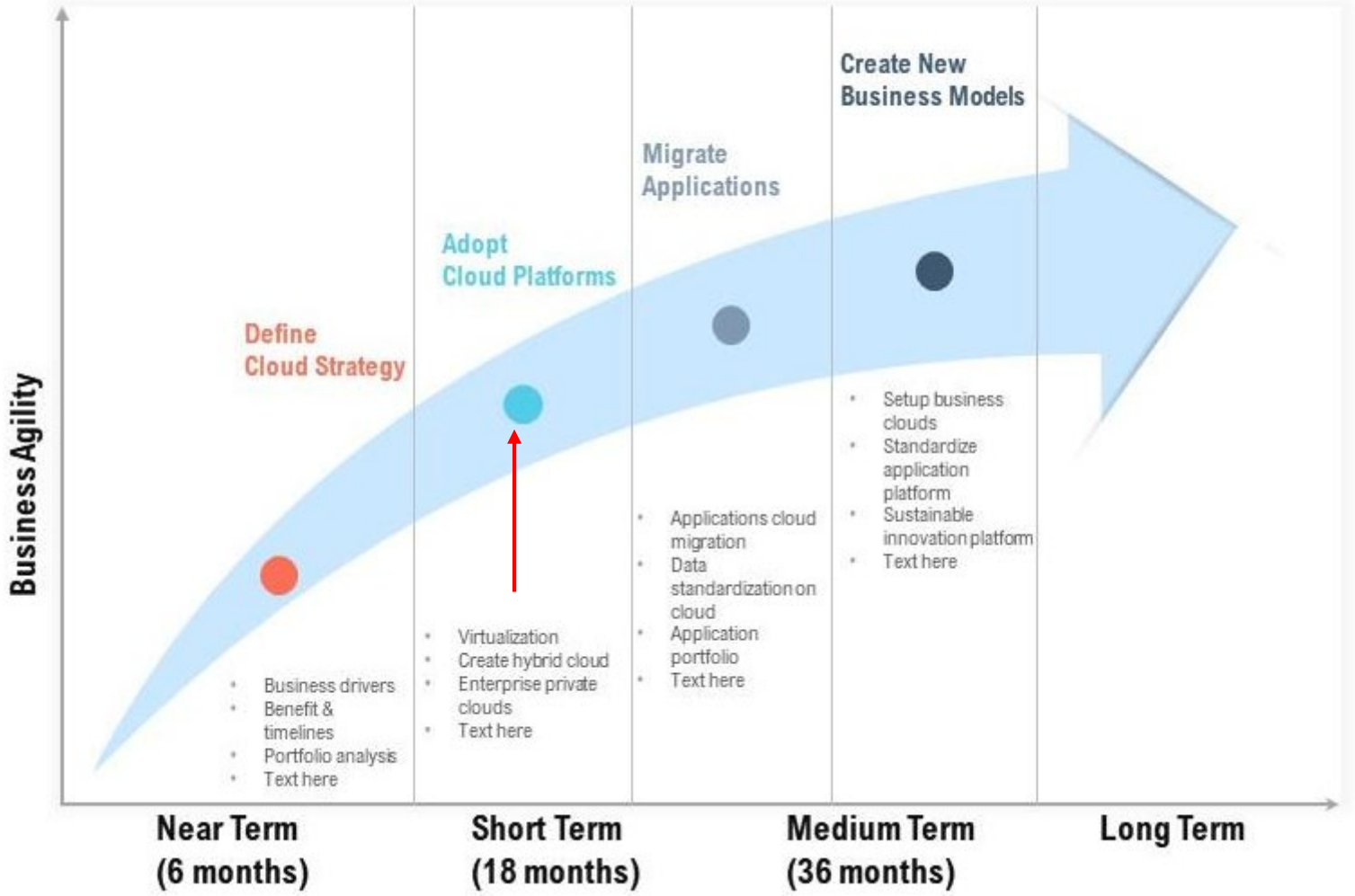
Theo Henton
C Quality Assurance, Testing

Robert Pugh
C Infrastructure Patching

Cloud Adoption Strategy

- Business Challenges and Drivers
- Cost-Efficiencies
- Risk Reduction through improved reliability, increased performance, enhanced security
- Faster Implementation Cycles
- Promotes Scalability
- Upgrades and Maintenance
- Enhanced Security through cloud platform interoperability for XDR (Extended Detection and Response) cyber events

Where are we?


Business Agility
Define Cloud Strategy
Adopt Cloud Platforms
Migrate Applications
Create New Business Models
Business drivers
Benefit & timelines
Portfolio analysis
Text here
Virtualization
Create hybrid cloud
Enterprise private clouds
Text here
Applications cloud migration
Data standardization on cloud
Application portfolio
Text here
Setup business clouds
Standardize application platform
Sustainable innovation platform
Text here
Near Term (6 months)
Short Term (18 months)
Medium Term (36 months)
Long Term

Journey to the Cloud - Completed

- MS Exchange and Outlook
- NERC.com
- EasyVista (trouble and request management system)
- Mobile Device Management
- Microsoft InTune End Point Device Management
- Microsoft Infrastructure Security Patching

Journey to the Cloud - Planned

- Office 365 Productivity Applications
- SharePoint
- Microsoft Dynamics – Application Platform (2024)
- ERO Enterprise Portal – Application Access (2024)
- Microsoft Purview Data Loss Prevention (DLP)
- Microsoft TEAMS Phone Calling

Questions and Answers