



RELIABILITY FIRST

Agenda Board of Directors

December 5, 2024 11:00 am – 1:00 pm (ET)

North American Electric Reliability (NERC) Offices

1401 H St NW Suite 410

Washington, DC 20005

Theme: Operating/Monitoring the Grid of the Future

Room: Capital Room

Attire: Business

Closed Agenda

Board of Directors – Executive Session

Location: The Hay Adams Hotel, Concord Room

Confidential Update

8:00 am

Presenter: Tim Gallagher, President and CEO

Confidential Security Update

8:20 am

Presenter: Marcus Noel, Chief Security Officer

Reference: Presentation

The Interregional Transfer Capability Study Update

8:40 am

Presenter: Jim Uhrin, Director Engineering & Reliability Services

Confidential Executive Session

9:00 am

Presenter: Antonio Smyth, Chair

Open Agenda

1. Call to Order and Appoint Secretary to Record Minutes

11:00 am

Presenter: Antonio Smyth, Chair

2. Antitrust Statement

11:00 am

Presenter: Niki Schaefer, Vice President and General Counsel

Reference: Antitrust Compliance Guidelines

3. Chair Remarks

11:05 am

Presenter: Antonio Smyth, Chair

- 4. Consent Items** 11:10 am
 Presenter: Antonio Smyth, Chair
 Reference: a) [Draft Minutes from August 22, 2024 Board of Directors meeting](#)
 b) [Resolution for Election of Officers \(No. 2024-4\)](#)
 c) [Resolution for Recognition and Appreciation of Jennifer Sterling \(No. 2024-05\)](#)
 d) [Resolution for Recognition and Appreciation of Simon Whitelocke \(No. 2024-6\)](#)
 e) [Resolution in Recognition of Patrick Cass \(No. 2024-7\)](#)
 f) [RF Standards Committee BAL-502-FL-03 Board Recommendation](#)
 Action: **Approve Consent Items**
- 5. Keynote Speaker** 11:15 am
 Presenter: Jim Robb, President and CEO, NERC
 Reference: Presentation
- 6. President's Report** 11:30 am
 Presenter: Tim Gallagher, President and CEO
- 7. Tabletop Update** 11:55 pm
 Presenter: Nathan Sterrett, Security Architect
 Description: Mr. Sterrett will discuss the tabletop exercises RF has performed with various stakeholders.
 Reference: [Presentation](#)
 Action: Information and Discussion
- 8. Standing Updates** (Provided for transparency into key aspects of RF operations) 12:15 pm
[Security](#)
 Marcus Noel, Chief Security Officer, will provide an organizational security update.
- [Outreach and Regulatory Update](#)
 Brian Thiry, Director Entity Engagement will provide an overview of state outreach efforts.
- 9. Committee Reports** 12:35 pm
Talent and Compensation Committee • Lesley Evancho
Risk and Compliance Committee • Joanna Burkey
Finance and Audit Committee • Jennifer Sterling
Nominating & Governance Committee • Rachel Snead
- 10. Comments from Stakeholders** 12:55 pm
- 11. Adjourn** 1:00 pm

Roster • Board of Directors

Antonio Smyth, **Chair** • AEP (S • 2026)
Nelson Peeler, **Vice Chair** • Duke Energy (T • 2024)
Steve Ambrose • DTE Energy (M-LSE • 2025)
Joanna Burkey • Independent (2025)
Mèlika Carroll • Independent (2027)
Lesley Evancho • Independent (2025)
Tim Gallagher • ReliabilityFirst
Craig Grooms • Buckeye Power (S-LSE • 2026)
Scott Hipkins • FirstEnergy Services Company (T • 2024)
Ken Seiler • PJM (RTO • 2024)
Rachel Snead • Dominion Resources Services, Inc. (S • 2024)
Jennifer Sterling • Exelon Corporation (L-LSE • 2025)
Joe Trentacosta • Southern Maryland Electric Cooperative, Inc. (AL • 2025)
Robert Taylor • Invenergy (AL • 2026)
Simon Whitelocke • ITC Holdings Corporation (AL • 2024)

**a) Draft Minutes from August 22, 2024 Board of
Directors meeting**



RELIABILITY FIRST

PUBLIC

Draft Minutes

Board of Directors

August 22, 2024

ReliabilityFirst Corporation

Closed Session

Executive Session – The ReliabilityFirst (RF) Board of Directors met in executive session at 8:00 am (ET) and discussed confidential matters concerning the corporation. Presentations included an update on the status of the interregional transfer capability study being performed by the ERO pursuant to the Fiscal Responsibility Act of 2023, a confidential security update, and a second training on the gas industry.

Open Session

Call to Order – Vice Chair Peeler called to order a duly noticed open meeting of the Board of Directors (Board) at 9:47 am (ET). A quorum was present, consisting of the following members of the Board: Vice Chair Nelson Peeler; Steve Ambrose; Joanna Burkey; Mèlika Carroll; Patrick Cass; Lesley Evancho; Tim Gallagher; Craig Grooms; Scott Hipkins; Ken Seiler; Rachel Snead; Robert Taylor; Joe Trentacosta; and Simon Whitelocke.

A list of others present during the Board meeting is set forth in Attachment A.

Appoint Secretary to Record Minutes – Vice Chair Peeler designated Niki Schaefer, RF's Vice President and General Counsel, as the secretary to record the meeting minutes.

Antitrust Statement – Ms. Schaefer advised all present that this meeting is subject to, and all attendees must adhere to, RF's Antitrust Compliance Guidelines.

Consent Items – Vice Chair Peeler introduced the following consent agenda items for approval:

- Agenda Item 3(a): Draft Minutes from May 2, 2024 Board Meeting
- Agenda Item 3(b): Draft Minutes from June 27, 2024 Board Meeting
- Agenda Item 3(c): Resolution to Hold Annual Meeting of Members (No. 2024-03)
- Agenda Item 3(d): ERO Enterprise Long-Term Strategy (for endorsement)
- Agenda Item 3(e): 2025 Proposed Board Meeting Dates

Upon a motion duly made and seconded, the Board approved the consent agenda items.

Keynote Speaker – Kurtis Minder, CEO and Co-Founder of GroupSense, provided the keynote remarks. Mr. Minder described his organization, which helps companies navigate ransomware, breach, and data extortion cases. He then discussed recent cybersecurity

events and the current threat landscape, including the material risk of foreign actors. Mr. Minder described how ransomware and payments of ransom work in practice, and he advised focusing on behavioral risks in addition to putting in place policies and software. There were questions and discussion on Operational Technology (OT) and how to best ensure the proper training of cyber and IT teams. There was also discussion on ransomware negotiations and Mr. Minder discussed best practices for what to do if you receive a ransom note.

Guest Speaker – Vice Chair Peeler introduced Colleen Sidford, member of the NERC Board of Trustees and prior Vice President and Chief Investment Officer at Ontario Power Generation. She shared her electricity background and discussed the complex risk environment in the energy industry. She then discussed how NERC sets its work plan priorities, and shared NERC's key focus areas of energy, security, engagement, and agility and sustainability. Ms. Sidford, who serves as the Chair of NERC's Finance and Audit Committee, highlighted the importance of strategic planning and discussed NERC's three-year work plan and NERC's progress against the plan. Mr. Gallagher asked her if there was anything RF could be doing differently or better, and in response Ms. Sidford commended RF's recent work and noted the importance of RF's strategic plan.

President's Report – Tim Gallagher, RF's President and CEO, thanked the guest speakers and trainers for attending the meeting. He recognized the newly elected and re-elected Board members, and announced that December will be the last RF Board meeting for Ms. Sterling (who will be retiring), Mr. Seiler, Mr. Whitelocke, and Ms. Snead. Mr. Gallagher discussed the release of RF's 2023 Impact Report, which is a resource to show stakeholders the value of RF and lists the major accomplishments of an outstanding team. He shared details regarding the ERO Enterprise long term strategy document, and how it fits well with RF's five-year strategic plan. Mr. Gallagher reported that NERC approved the NERC and Regional 2025 budgets at its recent meeting, and there was discussion regarding the consistency of how NERC and the Regions do their respective budgets.

Mr. Gallagher then discussed resource adequacy concerns, driven by increasing load and the retirement of traditional resources due to energy policies across the country. He stated that RF is not opposed to the energy transition, but that it is important to ensure that sufficient generation is ready to replace retiring resources and to understand reliability issues associated with inverter-based resources (IBRs). Ms. Sidford added that a key issue is a lack of data around IBRs. Mr. Gallagher then talked about the growth of data centers, the reliability challenges they pose, and the importance of being proactive on this issue. He stated that data centers consume a great deal of power, have strict power quality requirements, and that it is important for training to take place to better understand their needs.

Mr. Gallagher also discussed the success of RF's statewide tabletop exercises (which serve as a supplement to NERC's GridEx), which simulate a major system disturbance and test the response of state agencies. He shared that are some assumptions about state conduct during a system disturbance that can be tested, such as governors' actions and how national guard and law enforcement would be deployed. He noted the success of the Ohio tabletop exercise, and shared that there will be another taking place soon in New

Jersey (with participation from Ohio and Illinois). Vice Chair Peeler then thanked Tom Scanlon, RF's Senior Managing Enforcement Counsel, for his work on the CIP themes report and stated that Mr. Scanlon will be discussing the report.

CIP Themes Report – Mr. Scanlon provided an overview of the ERO Enterprise's 2024 CIP themes report (Report). He shared that the Report highlights risk themes and areas for improvement and suggests potential resolutions. He noted that the Regions' enforcement groups manage thousands of cases, over fifty percent of which are CIP-related. Mr. Scanlon stated that the first theme from the Report is latent vulnerabilities, which refers to long-standing, higher risk issues that evade detection. He stated that examples of this can be seen in physical security and in patching programs. The second theme from the Report is insufficient commitment to low impact programs, including a need for more attention to detail in the planning and execution of CIP and security obligations.

Mr. Scanlon shared that the third theme from the Report is shortages of labor and skillsets, including challenges in workforce succession, and planning. He stated that this is a pervasive issue and can be difficult to manage when paired with a challenging cyber threat landscape. The fourth theme from the Report is performance drift, which is where physical security issues are seen when disciplined execution becomes inconvenient or uncomfortable. Examples of this are employees bypassing security controls or propping doors open. Mr. Scanlon then discussed next steps associated with the Report, which include outreach to share the content through webinars, conferences, workshops, and private briefings. He encouraged Board members to reach out if their companies are interested in having a private briefing on the report.

Financial Update – Beth Dowdell, Senior Director, Corporate Services, provided a financial update for the second quarter. She shared that RF is 5.4% under budget, partially driven by investment income performing better than expected and a 3% vacancy rate that decreased personnel expenses. Additionally, RF negotiated lower medical costs, which impacted personnel expense levels. Ms. Dowdell stated that travel meeting expenses are under budget due to the timing of training and events, and operating expenses are under budget due to the timing of projects and lower than expected office rent. She shared that RF is projecting to be 1% under budget (\$293K) at year end, with key variances being funding (up \$251K), personnel expenses (down \$304K), and meeting expenses (up \$11K). At the end of the update, Vice Chair Peeler commended the RF finance and accounting team for their work to change RF's bank, which has proven beneficial.

Security Update – Marcus Noel, RF's Vice President and Chief Security Officer, provided a security update. He discussed recent efforts to update RF's security risk register to an improved system that aligns risk register controls with the NIST Cybersecurity Framework and maps the maturity of the controls to calculate their effectiveness. Mr. Noel then shared how the security team evaluated the risks facing RF using the new system and landed at the same top three risks. He then discussed emerging threats, including the CrowdStrike outage, where CrowdStrike released a flawed configuration update causing computers across the country to crash. Mr. Noel stated that a lesson learned from the event is to perform rigorous quality assurance testing before deploying code and avoid single points of failure among platforms.

He also discussed how during the Russia/Ukraine conflict, Russia jammed GPS signals used by Ukraine's electric substations, which caused issues with balancing loads. Mr. Noel noted that GPS jamming is becoming more widespread and stated that there is a risk to the extent that companies use outdated GPS technology that could be compromised.

Committee Reports:

a) Talent and Compensation Committee

Talent and Compensation Committee Chair Lesley Evancho reported that the Committee received an update on RF's demographics and its refreshed diversity strategy and program. The Committee then discussed talent management, and Ms. Evancho shared that the Committee will perform a deep dive of the succession plan every other year and on off years will discuss the overall talent management program. The Committee also received an update on the progress toward completion of the 2024 corporate goals, and an update on stop/start/continue projects. The Committee reviewed RF's benefits and enrollment details, and reviewed and approved an RFP to select a pay study vendor for a 2025 pay study. Finally, the Committee discussed the process for Mr. Gallagher's annual review and conducted his mid-year review in executive session.

b) Risk and Compliance Committee

Risk and Compliance Committee Chair Joanna Burkey reported that the Committee heard remarks from the Data Center Coalition on the perspective of the data center industry on its growth and energy needs and how it can partner with the energy industry. The Committee then received a presentation from AEP's System Performance Analysis Manager Mary Burkey on how AEP approaches CIP-014 and physical security. There was also a presentation from First Energy on how it approaches key cybersecurity challenges and builds its cybersecurity program. During closed session, the Committee discussed confidential enforcement matters with RF staff and received an update on FERC and NERC oversight activities of RF for awareness.

c) Finance and Audit Committee

Finance and Audit Committee Chair Pat Cass reported that the Committee received a financial update on the second quarter from Beth Dowdell, Senior Director of Corporate Services, and an analysis of the working capital and investment account from Christi Klein, Manager of Finance and Accounting. The Committee also reviewed and approved RF's financial policies (with a few minor revisions proposed by staff). The Committee reviewed the results of the first audit of RF's 401k financials, and Mr. Cass explained that this audit is now required because RF has over 100 participants in the 401k plan. Finally, the Committee had a confidential session with Ms. Dowdell, and an executive session to discuss confidential matters.

d) Nominating & Governance Committee

Nominating and Governance Committee Chair Rachel Snead reported that the Committee discussed and approved revisions to the CIPC charter, approved the resolution for the annual meeting of members, and reviewed the timetable of key RF events. The Committee then discussed RF membership as it relates to the process to obtain quorum during elections, and efforts to enhance this process. In closed session, the Committee received an update on the results of the independent director survey and discussed the next steps to fill the open At-Large director seat. There was also an overview of recent director conflicts, and a discussion of the recent Supreme Court case which overturned Chevron deference and its implications for RF and the ERO.

Next Meeting – Vice Chair Peeler noted that the next meeting of the Board of Directors will occur on December 5, 2024.

Adjourn – Upon a motion duly made and seconded, Vice Chair Peeler adjourned the meeting at 12:10 pm (ET).

As approved on this 5th day of December 2024, by
the Board of Directors,

Niki Schaefer
*Vice President, General Counsel & Corporate
Secretary*

ATTACHMENT A

Others Present During the Board of Directors Meeting

Allison Archer • MISO
Mary Berkley • AEP
Jeff Craigo • ReliabilityFirst
Beth Dowdell • ReliabilityFirst
Chelsey Eppich • ReliabilityFirst
Tom Foster • PJM
Vinit Gupta • ITC
Diane Holder • ReliabilityFirst
Keith Mehle • FirstEnergy
Kurtis Minder
Marcus Noel • ReliabilityFirst
Ollie Pannell • FirstEnergy
Tom Scanlon • ReliabilityFirst
Niki Schaefer • ReliabilityFirst
Kristen Senk • ReliabilityFirst
Colleen Sidford • NERC BOD Trustees
Brian Thiry • ReliabilityFirst
Matt Thomas • ReliabilityFirst
Jody Tortora • ReliabilityFirst
Jim Uhrin • ReliabilityFirst

b) Resolution for Election of Officers (No. 2024-4)



RESOLUTION NO. 2023-5

Resolution for Election of Officers

WHEREAS, Section 9.1 of the Bylaws states that the officers of the Corporation shall include a President, one or more Vice Presidents, a Secretary, a Treasurer and any other officers as may be elected or appointed in accordance with the Bylaws;

WHEREAS, Section 9.2 of the Bylaws states that the officers of the Corporation shall be elected annually by the Board of Directors at the annual meeting of the Board of Directors;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors elects, pursuant to Section 9.2 of the Bylaws,

Tim Gallagher as President & CEO;
Jeff Craig as Senior Vice President, Reliability and Risk;
Diane Holder as Vice President, Entity Engagement & Corporate Services;
Niki Schaefer as Vice President, General Counsel & Corporate Secretary;
Marcus Noel as Vice President and Chief Security Officer; and
Beth Dowdell as Treasurer.

FINALLY RESOLVED, that each elected officer shall continue to serve as officer of the Corporation in his or her respective elected capacity at the pleasure of the Board of Directors and hold office until his or her successor has been duly elected and qualified, or upon his or her earlier resignation or removal.

As adopted on this th day of December, 2024 by
the Board of Directors,

Niki Schaefer
*Vice President, General Counsel & Corporate
Secretary*

**c) Resolution for Recognition and Appreciation of
Jennifer Sterling (No. 2024-05)**



RESOLUTION NO. 2024-5

**Resolution in Recognition and Appreciation of
Distinguished Service by Jennifer Sterling**

WHEREAS, ReliabilityFirst Corporation's mission is to preserve and enhance the reliability and security of the bulk power system across its footprint, which stretches from Lake Michigan to the Eastern Seaboard and includes all or parts of 13 states and the District of Columbia;

WHEREAS, Jennifer Sterling has devoted her career to furthering the reliability and security of the bulk power system through her service, and by holding positions of significance, with Exelon;

WHEREAS, in furtherance of this devotion, Jennifer Sterling graciously volunteered her time and expertise as a member of the Board of Directors for the ReliabilityFirst Corporation from 2019 to 2024;

WHEREAS, during her service on the Board of Directors, Jennifer Sterling served as a member of the Compensation committee and is currently the Vice Chair of Finance and Audit provided invaluable insight, perspective, and guidance to the Board of Directors to assist the Corporation in fulfilling its mission;

WHEREAS, ReliabilityFirst Corporation seeks to publicly recognize Jennifer Sterling commitment, dedication, and invaluable contributions to the Corporation and its mission;

NOW, THEREFORE, BE IT RESOLVED, that ReliabilityFirst Corporation acknowledges and extends its gratitude to Jennifer Sterling for her distinguished service to the Board of Directors and her lasting contributions to the Corporation and its mission.

BE IT FURTHER RESOLVED, that this Resolution is saved in the permanent minutes of the Corporation and a copy of this Resolution is given to Jennifer Sterling.

As adopted on this 5th day of December, 2024 by
the Board of Directors,

Niki Schaefer
*Vice President, General Counsel & Corporate
Secretary*

**d) Resolution for Recognition and Appreciation of
Simon Whitelocke (No. 2024-6)**



RESOLUTION NO. 2024-6

**Resolution in Recognition and Appreciation of
Distinguished Service by Simon Whitelocke**

WHEREAS, ReliabilityFirst Corporation's mission is to preserve and enhance the reliability and security of the bulk power system across its footprint, which stretches from Lake Michigan to the Eastern Seaboard and includes all or parts of 13 states and the District of Columbia;

WHEREAS, Simon Whitelocke has devoted his career to furthering the reliability and security of the bulk power system through her service, and by holding positions of significance, with ITC Holding, Inc.;

WHEREAS, in furtherance of this devotion, Simon Whitelocke graciously volunteered his time and expertise as a member of the Board of Directors for the ReliabilityFirst Corporation from 2017 to 2024;

WHEREAS, during his service on the Board of Directors, Simon Whitelocke served as Board and Vice Chair, he also served as a member of the Compensation, Compliance, and Finance and Audit Committees and provided invaluable insight, perspective, and guidance to the Board of Directors to assist the Corporation in fulfilling its mission;

WHEREAS, ReliabilityFirst Corporation seeks to publicly recognize Simon Whitelocke commitment, dedication, and invaluable contributions to the Corporation and its mission;

NOW, THEREFORE, BE IT RESOLVED, that ReliabilityFirst Corporation acknowledges and extends its gratitude to Simon Whitelocke for his distinguished service to the Board of Directors and his lasting contributions to the Corporation and its mission.

BE IT FURTHER RESOLVED, that this Resolution is saved in the permanent minutes of the Corporation and a copy of this Resolution is given to Simon Whitelocke.

As adopted on this 5th day of December, 2024 by
the Board of Directors,

Niki Schaefer
*Vice President, General Counsel & Corporate
Secretary*

e) Resolution in Recognition of Patrick Cass (No. 2024-7)



RESOLUTION NO. 2024-7

**Resolution in Memorium and Appreciation of
Distinguished Service by Patrick Cass**

WHEREAS, ReliabilityFirst Corporation's mission is to preserve and enhance the reliability and security of the bulk power system across its footprint, which stretches from Lake Michigan to the Eastern Seaboard and includes all or parts of 13 states and the District of Columbia;

WHEREAS, Patrick Cass, a valued member of the Board of Directors for the ReliabilityFirst Corporation, passed away on October 31, 2024; and

WHEREAS, Pat's professional journey was marked by excellence and leadership. After earning his BSBA in accounting from Bowling Green State University, he embarked on a distinguished career at Arthur Andersen LLP, where he became a partner and served in various offices across the country. His expertise and leadership continued at Ernst & Young LLP, where he managed the Louisville office and served as a regional energy industry leader until his retirement in 2009;

WHEREAS, Pat joined the Board in 2014 and was instrumental in shaping our Finance and Audit Committee. Pat also served as Lead Independent Director, Chair of the Finance and Audit Committee, member of the Compensation Committee, and Vice Chair and member of the Compliance Committee, providing invaluable insight, perspective, and guidance to the Board of Directors and the Corporation.

WHEREAS, Pat's presence will be greatly missed, but his contributions and spirit will continue to inspire us;

NOW, THEREFORE, BE IT RESOLVED, that ReliabilityFirst Corporation expresses its deepest condolences to the family and loved ones of Pat Cass and acknowledges his significant contributions to our organization; further that we will honor his memory by continuing to strive for the distinguished service that Pat Cass provided to the Board of Directors and his lasting contributions to the Corporation and its mission.

BE IT FURTHER RESOLVED, that this Resolution is saved in the permanent minutes of the Corporation and a copy of this Resolution is given to his family.

As adopted on this 5th day of December, 2024 by
the Board of Directors,

Niki Schaefer
Vice President, General Counsel & Corporate Secretary

f) RF Standards Committee BAL-502-FL-03 Board Recommendation

RF Standards Committee Recommendation

Summary

The ReliabilityFirst Standards Committee (RF SC) seeks Board approval of their recommendation to reaffirm the RF Regional Standard Planning Resource Adequacy Analysis, Assessment and Documentation (BAL-502-RF-03) Standard with the caveat the RF SC will also continue to review NERC Project 2022-03 at least every six months. The RF SC reached this recommendation by a seven to two majority after reviewing the industry comments and much discussion throughout their review process. Vote details are captured in Appendix A.

History and RF Standards Committee Process

The RF Planning Resource Adequacy Analysis, Assessment and Documentation (BAL-502-RF-03) Regional Standard became mandatory and enforceable January 1, 2018. Per the RF Reliability Standards Development Procedure, the RF SC shall ensure each RF Regional Standard be reviewed every five years.

The RF SC reconvened in 2023 and approved a Five-Year Review, 30-day public comment period posting of the BAL-502-RF-03 Standard (October 9, 2023 through November 7, 2023). There were five comments to Reaffirm, one to Retire and three to Revise. See Appendix B for Industry Comments.

The RF SC met on multiple occasions to both review the industry comments and discuss the three options on the table (Reaffirm, Revise or Retire). There was general agreement that the existing BAL-502-RF-03 Standard is outdated based on the grid transformation. Specifically, the RF SC agreed that the Loss of Load expectation (one day in ten criteria--which is traditionally based on seasonal peaks--rather than hourly energy obligations) should be replaced with probabilistic methods to develop study scenarios that enhance the identification and mitigation of resource adequacy risk. Analysis of resource unavailability for all hours within a specified period of time and not simply the peak period is needed. Consideration for Planning Coordinators to develop corrective action plans to address any gaps identified in the current Requirement R3 analysis was discussed.

NERC Project 2022-03 was initiated in June 2022 and involves the development of future NERC standards with a purpose similar to that of BAL-502-RF-03. The RF SC began discussing and following the NERC [Project 2022-03](#) (Energy Assurance with Energy-

Constrained Resources). This effort has two assigned Standard Authorization Requests (SARs) that seek to enhance reliability by requiring entities to perform Energy Reliability Assessments (ERAs) to evaluate energy assurance and develop Corrective Action Plan(s), Operating Plan(s), or other mitigating actions to address identified risks in both the operations/operational planning time horizons and Near-term and Long-term Planning time horizon. The planning time horizon SAR is of specific interest as: “The goal of the SAR is to address energy assurance rather than resource adequacy. This project will enhance reliability by requiring industry to perform energy reliability assessments to evaluate energy assurance and when predefined criteria are not met, develop Corrective Action Plan(s), Operating Plans, or other mitigating actions to address identified risks. Energy reliability assessments evaluate energy assurance across the Near-Term Planning and Long-Term Planning or equivalent time horizon by analyzing the expected resource mix availability (flexibility) and the expected availability of fuel during the study period.”

The RF SC anticipates the SAR and eventual continent-wide Standard will likely address the deficiencies of the existing RF BAL-502-RF-03 Standard. Therefore, a majority of the RF SC members agreed that efforts should focus on the continent-wide NERC standard drafting effort and defer effort to revise the RF BAL-502-RF-03 Standard at the regional level. Reliability would be better served by the RF SC actively following and influencing the NERC effort. This includes, but is not limited to, meeting throughout the year to review the NERC draft standard and working with the Standard Drafting Team to share our Regional perspective. If at some point the RF SC determines that the NERC effort is not sufficient to meet the reliability needs of RF, a Regional Standards development effort to revise the RF BAL-502-RF-03 Standard can be further explored.

Appendix A
Reliability First Standards Committee - Member Votes
May 10, 2024

Member		Reaffirm	Revise	Retire
Tim Kucey	Public Service Enterprise Group Inc.	X		
Ryan Kelley (Vice Chair)	Duke Energy Shared Services, Inc.	X		
Ryan Strom	Buckeye Power Inc.	X		
Rick Blumenstock	Consumers Energy Company	X		
Beverly Laios	American Electric Power Service Corp.	X		
Dan Gacek	Exelon Corporation		X	
Nick Poluch (Chair)	Talen Energy Supply, LLC	X		
Bobbi Welch	Midcontinent Independent System Operator, Inc.	X		
Patricio Rocha Garrido	PJM Interconnection, LLC		X	

Appendix B

BAL-502-RF-03 Five-Year-Review Industry Comment Period

October 9, 2023 through November 7, 2023

<p>Johnny Gest</p>	<p>ReliabilityFirst</p>	<p>Revise</p>	<p>The ReliabilityFirst Engineering & System Performance group strongly recommends revisions to BAL-502-RF-3 to address the following:</p> <p>Require additional demand scenarios beyond a median¹ forecast of peak Net Internal Demand</p> <p>Rationale: With the recent occurrence of extreme weather events (e.g., 2014 Polar Vortex, 2018 Cold Snap, Winter Storm Uri, and Winter Storm Elliot) that combine the impacts of both wide-area generation unavailability along with increased demand, it has become customary within industry to evaluate both the median (50/50) forecast and an extreme² forecast of peak Net Internal Demand. This provides better insight to resource adequacy risks with the comparison of resource performance against varying levels of anticipated demand. This type of analysis is presently performed in the NERC Summer Reliability Assessment, NERC Winter Reliability Assessment, RF Summer Reliability Assessment, RF Winter Reliability Assessment, etc. In addition, FERC release Order No. 896 to address challenges associated with planning for extreme heat and cold weather events that occur during periods of high demand³.</p> <p>Require the analysis of resource unavailability for all hours within a specified period of time</p> <p>Rationale: The ReliabilityFirst footprint is presently in the midst of a change related to its existing generation resource mix. Retirements associated with conventional resources (i.e., Coal) have been on a steady increase and replaced mainly with solar, wind, and energy storage resources. Due to the reduction in available dispatchable resources and the variability of inverter-based resources, there are emergent challenges with maintaining adequate resources during day-to-day off-peak demand periods. In order to adequately assess this risk, evaluation of hourly resource adequacy can identify the ability to reliably serve Net Internal Demand for a given year.</p> <p>Consideration of probabilistic methods to develop study scenarios that enhance the identification and mitigation of resource adequacy risk</p> <p>Rationale: “A probabilistic study uses a range of inputs, often sampled from a distribution of inputs or historical data, to produce a</p>
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			<p>distribution of results instead of the single result in the deterministic case. The results of a probabilistic study have both a magnitude of impact and a likelihood of occurrence.”⁴ Combining both deterministic and probabilistic methods can help better understand risk and develop possible mitigations. For example, determining a range of potential generation dispatch scenarios and selecting one of those scenarios for study in a deterministic analysis.</p> <p>Consideration of language that includes more robust controls regarding verification and validation of load projection used.</p> <p>Rational: Accurate load projections are a key component to providing analysis for a 1 day in 10 criteria. The Planning Coordinator needs a way to trust but verify that the load projections are in line with previous submittals. Verification efforts should provide insight of anomalous changes that could result in large data center load additions, Distributed Energy Resource penetration, extreme heat and cold weather events, etc.</p> <p>Overall, the NERC March 2023 ERATF White Paper, Considerations for Performing an Energy Reliability Assessment provides additional context to justify the recommendations related to BAL-502-RF-3.</p>
Ed Berry	Alcoa, APCI-AGC Warrick	Reaffirm	

<p>Donald Lock</p>	<p>Talen Energy</p>	<p>Revise</p>	<p>The goal of BAL-502-RF-03, Planning Resource Adequacy Analysis, is to have Planning Coordinators (PCs) establish “one day in ten years” loss of Load expectation (LOLE) principles. PJM is the principal PC in RF’s area (the other is MISO), and they issued earlier this year the resource adequacy study at https://www.pjm.com/-/media/library/reports-notice/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx. It says that beginning with the 2026/27 Delivery Year, “The projected total capacity from generating resources would not meet projected peak loads, thus requiring the deployment of demand response,” i.e. dropping load.</p> <p>The task facing the ReliabilityFirst Standards Committee is therefore that of deciding what happens next if a PC’s resource adequacy analysis is a “Fail,” i.e. predicting loss of load far more often than one day in ten years. The answer is presently “Nothing.” R3 of BAL-502-RF says that PCs must identify such gaps, but there is no subsequent requirement for a corrective action plan. Those responsible for BES reliability can’t just predict that disaster will strike; they must take action to prevent this from occurring.</p> <p>Changes to the standard:</p> <ol style="list-style-type: none"> 1. Add as R4 of BAL-502-RF, “The Planning Coordinator shall develop a corrective action plan to address any gaps identified in the Requirement R3 analysis.” CAPs are the normal means of addressing deficiencies found via performing NERC studies, tests etc, and PJM is already moving on this subject - https://www.pjm.com/-/media/committees-groups/cifp-ra/2023/20230621/20230621-item-02a---pjm-cifp-stage-3-proposal---updated.ashx. 2. Make the subsections of R1.4 more comprehensive, as shown below: <ol style="list-style-type: none"> 1.4.1 Availability and deliverability of fuel, including the impact of natural gas pipeline compression and storage facility outages. 1.4.2 Common mode outages that affect resource availability, including loss of wind and ice storms for wind farms and snow/ice coverage for solar facilities. <p>Explanation – Common mode failures can cause the minimum dependable output of renewables to be near zero. PJM and MISO may lack authority to make these facilities more reliable, but they must be able to predict the impact of having almost all of them go out of service simultaneously.</p> 1.4.6 Impacts of extreme weather/drought conditions that affect unit availability, including identifying the probability and likely effect of
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			<p>worst-case winter storm temperature/wind combinations</p> <p>Explanation - The PJM action plan cited above proposes to, “Explicitly model how forced outages and other de-rates vary with temperature.” A dry bulb temperature (DBT)-only approach is not working and in fact cannot get the job done, however, because freeze-ups of conventional generation units do not track the DBT; they correlate to the heat transfer rate, which is dominated by wind speed. The information PJM and MISO need to collect to construct an accurate predictive model is as follows:</p> <ul style="list-style-type: none"> - Lowest DBT and, separately, WCT successfully handled to-date for each generation unit, looking back to 1/1/2000 (the start date used by NERC in EOP-012) - Heat tracing/insulation design DBT and wind speed values, and resultant WCT, for each conventional generation unit - Minimum design DBT for renewables (freezing of water is not an issue here) - Any known precipitation vulnerabilities, e.g. wind turbine blades icing-up in ice storms exceeding 0.25”/hr, CTG inlet air filters clogging at snowfall rates exceeding 1”/hr <p>1.4.7 Modeling assumptions for emergency operation procedures used to make reserves available, including the effects of putting generation units on-line early when severe winter storms are impending.</p> <p>Explanation – This is the best, easiest method of enhancing BES reliability during winter storms, especially for extreme cold that follows drenching rain that can soak insulation and reduce its effectiveness</p>
Caitlin Chavez	City of Lansing by its Board of Water and Light	Reaffirm	
Ed Berry	APGI-AGC Warrick (Alcoa)	Reaffirm	
Ed Berry	APGI-AGC Warrick (Alcoa)	Reaffirm	
Brian Flinspach	Scrubgrass Reclamation Company	Reaffirm	
Adrian Raducea	DTE Electric	Reaffirm	

<p>Elizabeth Davis</p>	<p>PJM Interconnection</p>	<p>Revise</p>	<p>PJM has reviewed BAL-502-RF-03 and has determined the best approach is to revise the existing Standard for the following reasons:</p> <ol style="list-style-type: none"> 1. PJM finds that the reliability metric is not future-proof and requests clarification of what “1 day in 10 years” means due to multiple areas assigning different meanings to “1 day in 10 years”. And to calculate the loss of load hours (LOLH) and expected unserved energy (EUE) when the system has a planning reserve margin that meets the 1 day in 10 years criteria. This is needed as the transition to a different fuel mix has made the potential loss of load events more heterogeneous (some events can be shorter and impact few MWhs while others can be longer and impact more MWhs). This would mean the granularity of the study required by the standard should be hourly (i.e., all 8760 hours of year should be studied) <ol style="list-style-type: none"> a. Additional focus on probabilistic analysis is taking place at the RAS and PAWG, therefor, maintaining and revising the Standard ensures an accurate RMR calculation. 2. PJM finds that emerging regulation negates the need for regional efforts that will be superseded/short-lived and once the energy standard gets created and the industry has experience with it, a reconsideration should be considered in keeping BAL-502-RF-03 as an active Regional Standard. 3. The Standard should not include requirements to perform analysis beyond a 5-year period. It is too speculative to perform analysis for such a time horizon and results could lead to misleading conclusions.
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<p>Bobbi Welch</p>	<p>MISO</p>	<p>Retire</p>	<p>MISO arguments in support of retirement:</p> <ol style="list-style-type: none"> 1. Reliability metric is not future-proof – With the transformation of the electricity sector – shaped by a changing resource mix, more frequent extreme weather events, and increasing electrification – the industry is experiencing increasing challenges in ensuring sufficient resources during shifting risk periods and the analysis of Resource Adequacy, as assessed by BAL-502-RF-03, has not kept pace. The regional standard, BAL-502-RF-03 is based on a “one day in ten-year” loss of Load criteria, or Loss of Load Expectation (LOLE) metric, which quantifies the frequency of risk periods on a daily basis. In contrast, the industry is considering moving to a more comprehensive metric, Expected Unserved Energy (EUE), that quantifies the magnitude, duration, and frequency of risk periods on an hourly basis. 2. Inability to keep pace with future shifts in risk - Moreover, as the resource portfolio continues to evolve, a LOLE-based Planning Reserve Margin (PRM) based on gross peak hour risk is less effective in addressing periods of risk that emerge outside of the gross peak hour since it only looks at the gross peak hour and doesn’t measure the extent of which we are serving load. Additionally, the LOLE objective considers the “peak hour for all days” throughout the year, ignoring that the industry is generally moving from annual to seasonal analysis. 3. Duplicative of other regulations and studies – MISO’s resource adequacy construct and processes are governed by MISO’s Tariff, Module E which lays out the mandatory Resource Adequacy Requirements (RAR) that MISO must meet to ensure resource adequacy within its footprint. The deliverables required under Module E are more comprehensive than what is currently required under BAL-502-RF-03. Therefore, if BAL-502-RF-03 were retired, MISO would still be required to determine an appropriate PRM using LOLE analysis. <p>In addition, MISO would continue to actively participate in NERC’s Winter and Summer Seasonal Reliability Assessments and Long-Term Reliability Assessment (LTRA), assessing and reporting on the overall reliability, adequacy, and associated risks that could impact the upcoming summer and winter seasons and long-term (10-year) horizon.</p> <ol style="list-style-type: none"> 4. Stifles creativity – BAL-502-RF-03 limits what MISO can do in terms of its resource adequacy construct (i.e., methodology, metrics, adequate reliability levels, etc.) as MISO must meet BAL-502-RF-03 requirements as it modernizes its approach under Module E. For example, MISO recently modified its Tariff to establish a seasonal resource adequacy construct whereby resource accreditation more
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		<p>accurately reflects the availability of a resource during each season. MISO would like to do more; however, the pace and extent to which MISO can modify its resource adequacy construct, is limited by the parameters of BAL-502-RF-03.</p> <p>5. Emerging regulation negates the need for regional efforts that will be superseded/short-lived – Currently, NERC is working on a footprint-wide standard, Project 2022-03: Energy Reliability Assessment with Energy-Constrained Resources, that will require entities to perform energy reliability assessments. Energy reliability assessments will evaluate energy assurance across the Long-Term Planning horizon by analyzing expected resource mix availability (flexibility) and expected fuel availability during the study period. Corrective Action Plan(s) will be required to address identified risks. Therefore, it is inefficient to develop a regional standard in parallel with a national standard intended to address the same risk.</p> <p>If BAL-502-RF-03 is not retired, it needs to be revised (at a minimum) to address the issues above.</p> <p>Annual Review - To keep current with dynamic changes in the environment and to assess for continued need, MISO recommends BAL-502-RF-03 be reviewed annually as opposed to once every five years.</p> <p>Reference: MISO Tariff, Module E-1, section 68A.2 and 68A.2.1</p>
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Tabletop Update

2024 NEW JERSEY SECURITY TABLETOP UPDATE

Nathan Sterrett, Security Architect

December 5, 2024
Washington, D.C.



INTRODUCTIONS



Nathan Sterrett

Security Architect, Security

- Joined ReliabilityFirst in 2022 as a security architect
- 10 years at FirstEnergy in various roles, including supervising the cybersecurity governance team
- CISSP certification since 2011
- Graduated from the University of Akron with a bachelor's degree in philosophy, economics, and political science

RF TABLETOPS

RF Purpose:

- Develop as an outreach strategy to:
 - Improve awareness of the emergency response processes between federal, state, local and entities
 - Raise awareness of our role
- Proactively reduce electric grid risk
- Foster productive dialogue on grid reliability, security and resilience

Scenario Design Criteria:

- Not GridEx
- Local impact
- Involve multiple critical infrastructure sectors



EXERCISE GOALS

Purpose of the tabletop exercise:

- Increase communication across critical infrastructure sectors
- Practice emergency response

Goals:

- Build relationships between critical infrastructure sectors
- Strengthen communication channels between government agencies and community service providers

Scenario Challenges:

- Hostile occupation of a substation. Players explore first responder safety vs maintaining electric service
- Live stream by ecoterrorists group. Players exercise media response challenges.



NJ TABLETOP SCENARIO

- Scenario takes place on July 19, 2026 (“Today”)
- World Cup Final hosted at MetLife Stadium
- Large multistage ecoterrorist attack aimed at disrupting the World Cup Final
- Distribution and Transmission substations vandalized, damaged and set on fire
- Transmission substation occupied by ecoterrorists



PARTICIPANTS

American Water

Madison Police Department

Madison Fire Department

Morris County EMA

New Jersey Board of Public Utilities

NJ Assembly Majority Office

ReliabilityFirst

SERC Reliability Corporation

State of New Jersey

The Zita Group

Exelon

E-ISAC

FERC

FirstEnergy

NERC

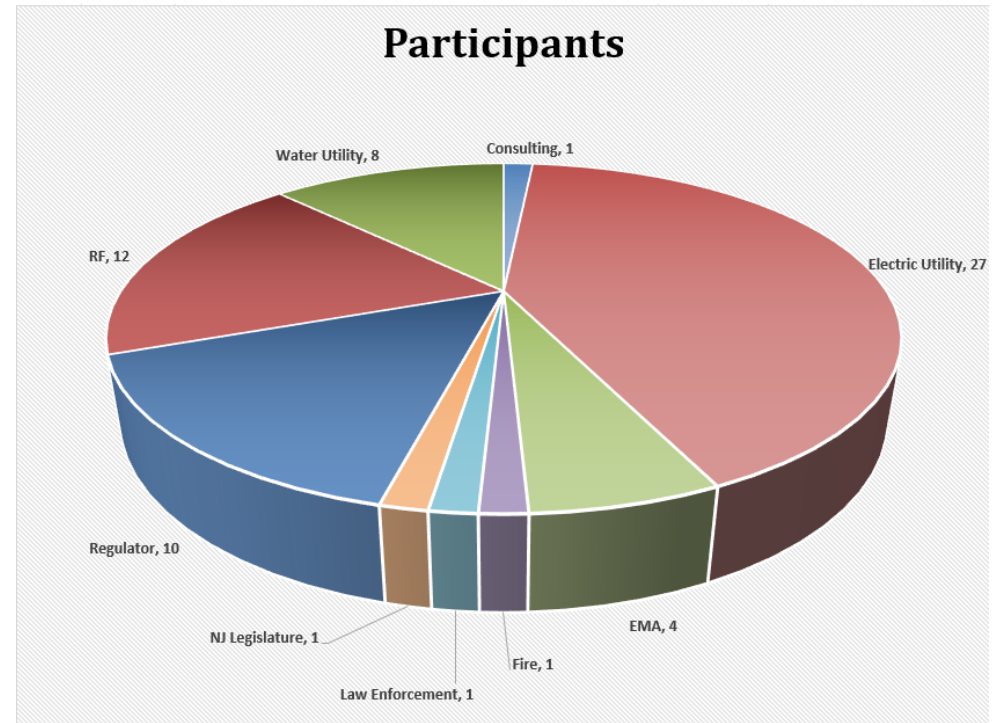
NPCC

PJM

PSE&G

SMECO

PPL



Thank you

Joanna Burkey

Joseph McClelland

Benjamin Morris

Jody Tortora

LESSONS LEARNED

- New Jersey has experience and practice with terrorist response.
- In an emergency focus on safety, security and reliability, compliance comes later.
- Relationships between sectors with critical interdependencies are vital, build those relationships before an event.
- There is a major gap in experience between newer and older operators. It's important to find a way to pass on experience and tribal knowledge.

FEEDBACK

- 74% of survey respondents indicated they have participated in emergency response tabletop exercises.
- 60% of survey respondents indicated this was their first time attending an RF-hosted event.
- 80% of survey respondents indicated they would strongly recommend this event.
- Attendees valued:
 - Networking opportunities.
 - Small group discussions with diverse perspectives.

NEXT STEPS

- Conduct additional state tabletop exercises
- Target participants who have not participated in emergency response tabletop exercises
- Encourage smaller entity participation
- Incorporate feedback and lessons learned



Security

2024 Q4 SECURITY UPDATE

Marcus Noel, Chief Security Officer

December 5, 2024

Washington, DC



AGENDA

CYBER RISK MANAGEMENT STRATEGY – NEXT STEPS

THREATS IN THE WILD

- US SENATE HEARING ON CHINESE HACKS
- MANDIANT REPORT ON EXPLOIT TRENDS

CYBER RISK MANAGEMENT STRATEGY



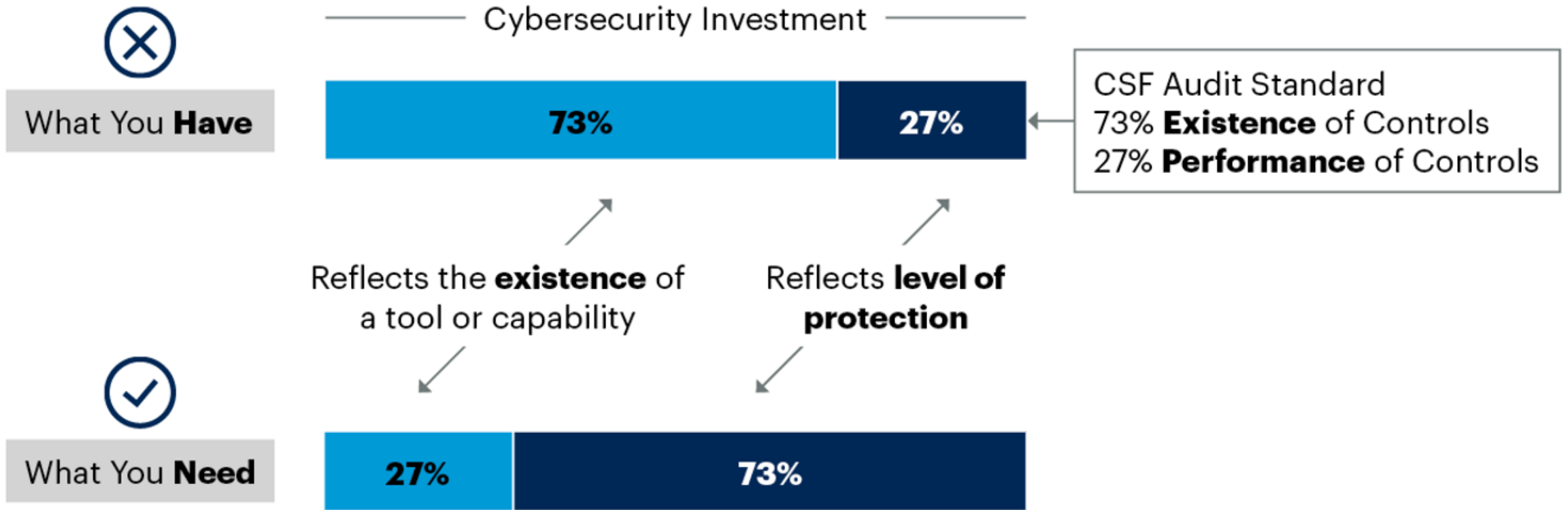
CYBER RISK DEFINED

Cyber risk is the risk that may impact an organization in terms of financial loss, operational disruption, damage, or harm caused by the failure of the technologies employed for informational and/or operational functions within interconnected digital environments.

- Cyber risk can be managed – but never eliminated.
- Managing cyber risk requires ongoing investment, strategic planning, and effective execution.
- No organization is positioned to “solve” cyber risk – we must manage this risk to acceptable levels.

SHIFTING INVESTMENT

From the Existence of Controls to Delivered Protection Levels



CASE STUDY – MANAGING RISK

Blue Cross / Blue Shield of North Dakota (BCBSND)



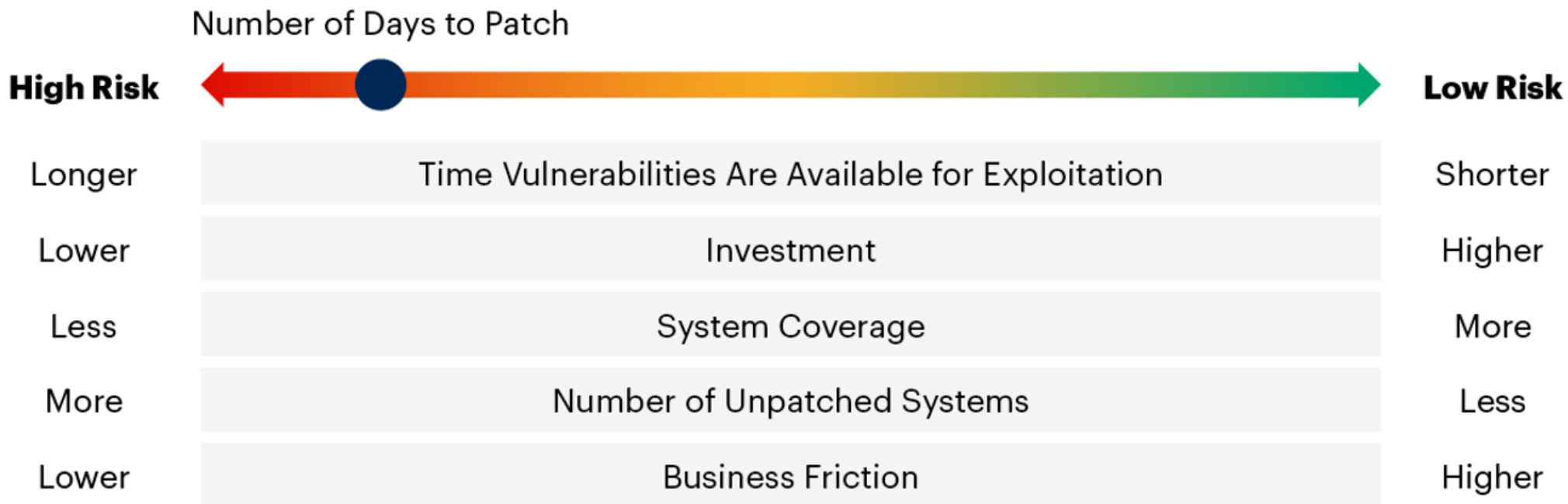
ND

Problem	Solution
<ul style="list-style-type: none">Existing and readily available security metrics had limited meaning and usefulness.Existing metrics were trailing indicators, overly operational, and did not support managing cybersecurity as a business risk.	<ul style="list-style-type: none">BCBSND educated their board and relevant stakeholders on the value of implementing outcome-driven metrics (ODMs) to gain support and buy-in.The security team instituted a metrics rollout program used to measure delivered protection-level agreements (PLAs).
<h3>Results</h3> <ul style="list-style-type: none">The pilot metrics were well-received and approval was given to continue to deliver the full set of metrics.The new ODMs facilitated new governance over how cybersecurity investments were managed through PLAs.Some ODMs raised operational visibility and invested in improving the enterprise's delivered PLAs.	

OUTCOME DRIVEN METRIC

EXAMPLE:

Number of Days to Patch



OUTCOME DRIVEN METRIC

EXAMPLE:

Risky Third Parties Engaged

Number of Risky Third Parties Engaged



Less

Rigor to Assess Third Parties (Investment)

More

More

Flexibility to Engage Partners

Less

Less

Impacted Business Outcomes

More

More

Liability

Less

HOW ARE WE POSITIONED AGAINST <THREAT X>?

■ Cybersecurity Benefit
 ■ Business Benefit
 ▶ Protection-Level Agreement
 ▶ Current Level

Identify

Protect

Detect, Respond and Recover

Click-Through Rates

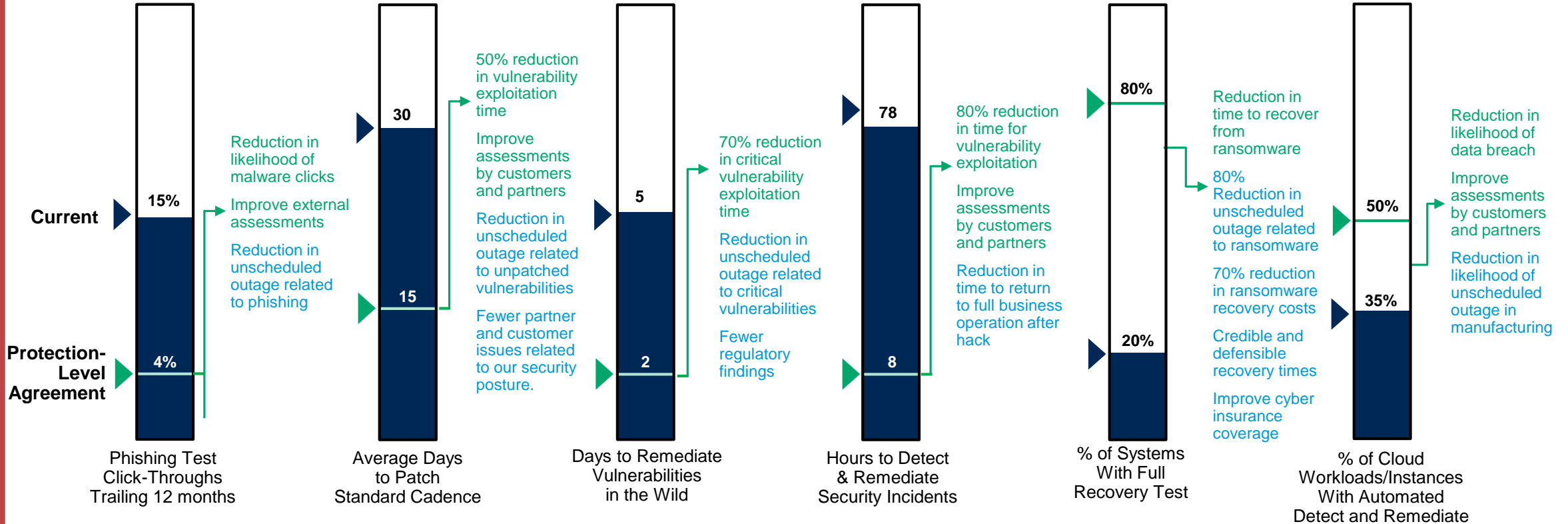
Patching Cadence

Vulnerability Compensating Controls

Detect Respond

Recovery Testing

Cloud Workload Configuration Remediation



ODM-Guided Cybersecurity Performance Review: Third Party Cyber Risk Mgmt

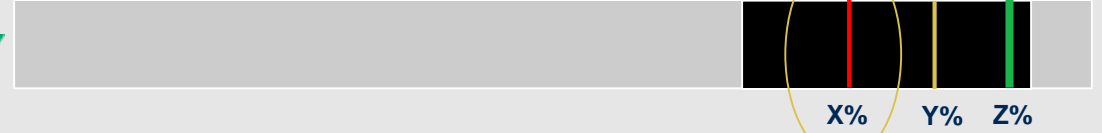


Risky Critical Vendors

BIA C critical vendors support CX

- **A Risky Vendors**
 - **B Unassessed**
- *Risky = Failed Security Assessment

ODM4: Third-Party Risk Engagement ▼



ODM5: Unassessed Third Parties ▼



What Is Our 3rd Party Risk Landscape?

- Our business is dependent on X00 third parties (vendors)
- X0 vendors support customer experience
- 1X vendors failed our security assessment, N vendors are unassessed

- A risky third party is a vendor who failed our security assessment, and our business still engaged them.
- Risky third parties are a necessary part of our business. Restricting them manages risk at the cost of reducing ability to work with necessary vendors.
- Recommendation is to invest in changing to less risky vendors where possible and improving vendor risk visibility by assessing more vendors.
- Goal by Q424 is to change X vendors and assess Y others to be in-line with our peer comparison (Gartner benchmark 2024).

- Protection Level Agreement - Z% risky vendors, \$m (from Y%)
- Protection Level Agreement - Z% unassessed vendors, \$k (from Y%)

The Plan

Plan Step 1 →

- Work with business leaders to identify vendor replacements (\$k)
- Streamline assessment process (\$k)

Plan Step 2 →

- Assess and develop compensating controls (\$k)
- Execute vendor assessments (\$k)

Plan Step 3 →

- Replace identified vendors (\$k)
- Estimated business friction costs (\$k)
- Implement compensating controls (\$k)

Project Risk/Cost Considerations →

- New assessments may identify additional risky vendors
- Business friction costs for changing vendors are highly variable
- Addressing vendor risk impacts the ability of the organization to work with the vendors and partners we need to achieve our business outcomes.

EMERGING THREATS



US SENATE HEARING ON CHINESE HACKING

On November 19, a US Senate Judiciary subcommittee overseeing technology issues held a hearing on Chinese hacking incidents, including a recent incident involving American telecom companies. The hearing was chaired by Sen. Richard Blumenthal and **reviewed the threats** “**Chinese hacking and influence pose to our democracy, national security, and economy.**”

Highlights

- Experts called on key federal departments to do more to proactively combat escalating cyberthreats from China, including:
 - Enhanced public-private collaboration
 - Increased investments in threat intelligence, critical infrastructure resilience, and advanced defensive technologies
- Experts testified that threat actors linked to Beijing are **intensifying sophisticated espionage campaigns** and hacking operations targeting US critical infrastructure and top officials
- Adam Meyers (CrowdStrike) suggested “increasing collaboration with industry on threat hunting practices and ... performing **threat actor infrastructure takedowns.**”
- Isaac Stonefish (Strategy Risks) told the Senate committee that companies like Apple, Tesla, Amazon, and Google all have **significant Chinese exposure**, which could cause “serious structural risks.”

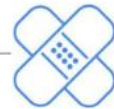
MANDIANT REPORT:

An Analysis of 2023 Time-to-Exploit Trends

Mandiant analyzed **138 exploited vulnerabilities** that were disclosed in 2023



70%
(97) of the vulnerabilities were first exploited as **zero-days**



Exploitation of an n-day vulnerability continues being most likely to occur before the end of the first month following the release of a patch

We continue to assess that media attention and exploit availability do not guarantee exploitation, nor are they the primary indicators that a vulnerability will be exploited



2021 & 2022

We observed an **average Time-to-Exploit (TTE) of five days** in 2023, down notably from the previously observed average TTE of 32 days

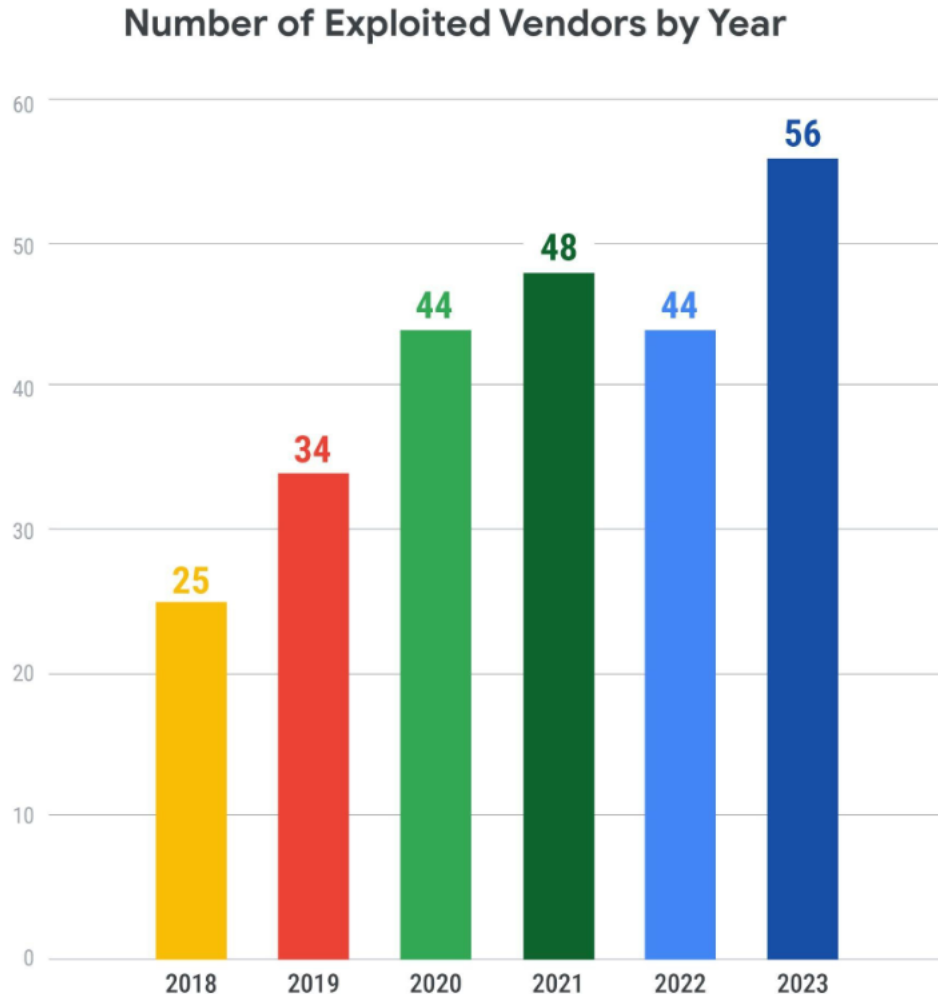


2023



MANDIANT REPORT:

An Analysis of 2023 Time-to-Exploit Trends



Implications

- More Discovered Vulnerabilities = More Opportunities
- Exploits have been number one initial infection vector for Mandiant IR every year since 2020.
- Patching prioritization is difficult as n-days are exploited faster and faster and in more products.
- As attackers get faster and have more 0-day success, delaying patching heightens the chance for successful attacks.

QUESTIONS & ANSWERS

Marcus Noel, Chief Security Officer

Marcus.Noel@RFirst.org



Outreach and Regulatory Update

STATE OUTREACH UPDATE

Brian Thiry, Director Entity Engagement

December 5, 2024



STATE OUTREACH

- IN-REACH ACTIVITIES
- EMERGING TOPICS & POLICY
- METRICS & NEXT STEPS



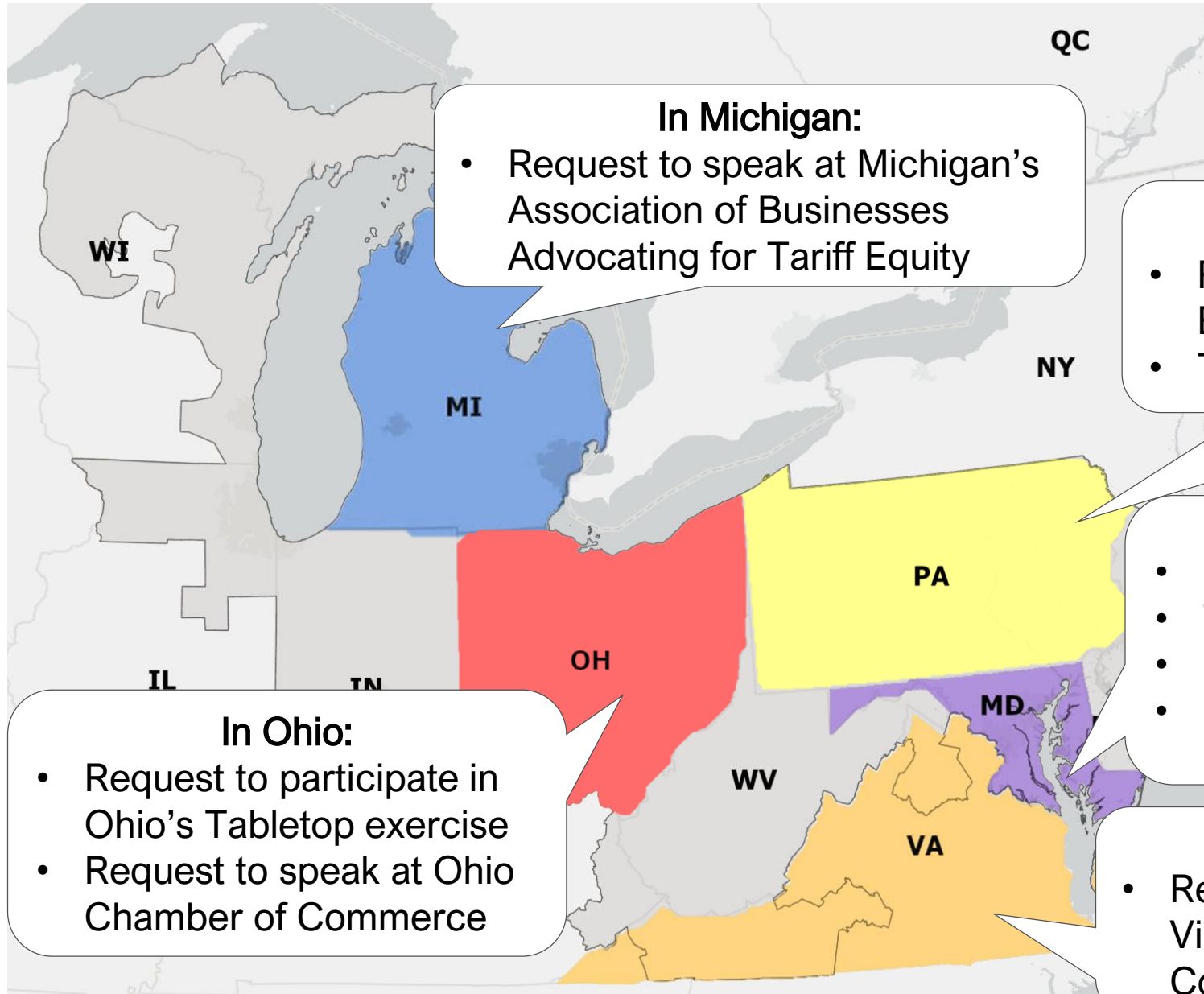
How it started:



How it's going:



IN-REACH OPPORTUNITIES



In Michigan:

- Request to speak at Michigan's Association of Businesses Advocating for Tariff Equity

In Pennsylvania:

- Request to speak at FEMA's Emergency Preparedness Symposium
- Technical conference 11/25

In Maryland:

- Request for comments
- Technical conferences (PC 61 & PC 66)
- Senator requested tabletop
- Request from delegate to join Energy Resilience and Efficiency Working Group

In Ohio:

- Request to participate in Ohio's Tabletop exercise
- Request to speak at Ohio Chamber of Commerce

In Virginia:

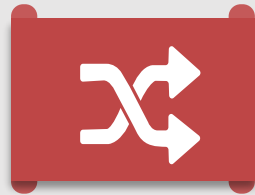
- Request to present to Virginia Department of Commerce and Trade

RF CORE MESSAGE

Managing the Pace of Change



Retirements vs Installations



- » Many baseload generation plants that run 24/7 are retiring
- » New resources operate based on weather patterns
- » Retirements were outpacing new installations

Technology



- » Battery technology development
- » Other technology development
- » Making the technologies available at scale
- » Building new transmission

Electrification



- » Data Center Load Growth
- » Artificial Intelligence
- » Electric Vehicles
- » Heat Pumps

FALL SUMMIT LEGISLATOR PANE

Brian Feldman
Maryland State Senator

Public



Stephanie Hansen
Delaware State Senator



Dick Stein
Ohio State Representative



Eric Koch
Indiana State Senator



FORWARD TOGETHER  RELIABILITYFIRST

EMERGING OUTREACH TOPICS



Data Centers: Load Growth & Co-location

Tech companies have begun plans to co-locate with large power plants, primarily nuclear. States and interested parties have utilized RF as an unbiased and expert source on how to handle growing load and reduced generation due to these data centers.



Offshore Wind Development & Challenges

Offshore wind on the East Coast has been established as one of the main sources our states will use to reach their clean energy goals. We have been tracking these projects throughout progressions and delays.

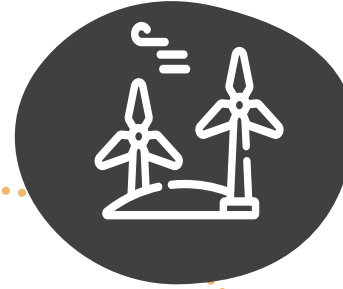


NERC's Interregional Transfer Capability Study

"NERC is conducting the Interregional Transfer Capability Study that will analyze the amount of power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems."

Example: *New Jersey Energy Plans & Policies*

Interregional Transmission
Signed MOU with 10 northeastern states to improve coordination & planning



Offshore Wind Goals

7.5 GW by 2035 & 11 GW by 2040

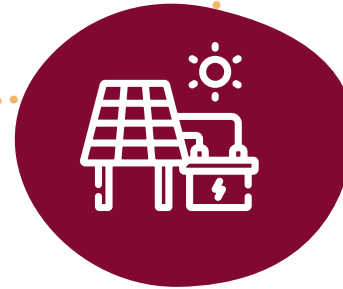
Data Centers
2.4 million sq ft data center proposed in Vineland, NJ



Clean Energy Goals

100% clean energy by 2035

Hydrogen Energy
Southern NJ is a part of the Mid-Atlantic Hydrogen Hub (MACH2)



Energy Storage Goals

2 GW of installed storage by 2030

SUMMARY OF STATISTICS



20 One-on-One Meetings



7 Hearings



8 Large-Audience Presentations



Met with Stakeholders at NARUC/MARC



Presented to Ohio Chamber of Commerce



Participated in Ohio State Tabletop



Assisted in Planning NJ Tabletop



Assisted Planning Multi-Regional Webinar

NEXT STEPS

- STAY UP-TO-DATE ON CURRENT EVENTS AND RISKS
- TARGET LEGISLATORS WITH STATE-SPECIFIC DATA AND RISKS
- COLLABORATE WITH ERO STATE OUTREACH AND PROVINCIAL WORKING GROUP



QUESTIONS & ANSWERS

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Brian.Thiry@rfirst.org

