

WELCOME TO TECHNICAL TALK WITH RF

April 15, 2024





TECHNICAL TALK WITH RF

Join the conversation at

[SLIDO.com](https://www.slido.com)

#TechTalkRF

TECHNICAL TALK WITH RF

Follow us on



[Linkedin.com/company/reliabilityfirst-corporation](https://www.linkedin.com/company/reliabilityfirst-corporation)

A screenshot of the ReliabilityFirst Corporation LinkedIn profile. The header features a banner image of power lines at sunset. The profile name is "ReliabilityFirst Corporation" with a notification bell icon. Below the name, it states "RF works to maintain the reliability, security and resilience of the electric grid in the Mid-Atlantic region" and "Utilities · Cleveland, OH · 3,970 followers · 101 employees". A section indicates "Brian & 85 other connections work here" with buttons for "Following", "Invite", and "More". Navigation tabs include "Home", "My Company", "About", "Posts", "Jobs", and "People". Filter tabs for "All", "Images", "Videos", "Articles", "Documents", and "Ads" are visible. A post from 2 days ago shows a group photo of staff and a photo of a roof being worked on, with text mentioning a "Day of Giving" and thanking various organizations.

RF
RELIABILITY FIRST

ReliabilityFirst Corporation

RF works to maintain the reliability, security and resilience of the electric grid in the Mid-Atlantic region
Utilities · Cleveland, OH · 3,970 followers · 101 employees

Brian & 85 other connections work here

✓ Following Invite More

Home My Company About Posts Jobs People

All Images Videos Articles Documents Ads

Sort by: Top



RF
RELIABILITY FIRST

ReliabilityFirst Corporation
3,970 followers

RF
RELIABILITY FIRST

ReliabilityFirst Corporation
3,970 followers
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ReliabilityFirst staff participated in our organization's annual Day of Giving last week. Thank you to [BOYS & GIRLS CLUB OF CLEVELAND](#), [Providence House](#), [Shoes and Clothes for Kids](#), [Arkansas Foodbank](#), and [City Mission](#) for having us as w...see more



TECH TALK REMINDERS

Please keep your information up-to-date

- CORES, Generation Verification Forms, Entity Profile Questionnaires (quarterly)

Following an event, send EOP-004 or OE-417 forms to disturbance@rfirst.org

CIP-008-6 incident reports are sent to the [E-ISAC](#) and the [DHS CISA](#)

Check our [monthly CMEP update](#) and [quarterly newsletter](#):

- [2023 ERO Periodic Data Submittal schedule](#)
- Timing of Standard effectiveness

BES Cyber System Categorization (CIP-002-5.1 a)

- Assess categorization (low, medium, or high) regularly and notify us of changes

CIP Evidence Request Tool V8.1 was released and is on NERC's [website](#)



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TECH TALK ANNOUNCEMENT



HOOSIERENERGY

Physical Security Workshop May 14th - 16th

Click here for [Registration](#)

In this workshop, attendees will:

- Identify the layers/stages of protection in depth.
- Describe the role of Design Basis Threat in identifying threats and risks for entities and external partners.
- Identify the importance of physical security for registered entities, external partners and their assets.
- Identify types of threats/vulnerabilities to physical security for registered entities.
- Explain the reason for employing physical security controls.
- In the VISA application sessions, attendees will experience practical application of adversary sequence diagrams, design basis threat (DBT), and the Vulnerability of Integrated Security Analysis (VISA) methodology.



TECH TALK ANNOUNCEMENT



NERC Filed Proposed Rules of Procedure Revisions on IBR registrations with FERC

Click here for [Announcement](#)

NERC filed with FERC its proposed Rules of Procedure (ROP) revisions related to the registration of inverter-based resources (IBR) as the penetration of these resources continues to increase. Details can be found in the previously posted [summary of revisions](#) as well as the [filing](#). To learn more about this initiative, please visit the [IBR Registration Initiative Quick Reference Guide](#).



TECH TALK ANNOUNCEMENT



GridEx VII Report Released Read Full [Report](#)

The *GridEx VII Lessons Learned Report*, is a detailed post-exercise review and analysis of NERC and the Electricity Information Sharing and Analysis Center's (E-ISAC) GridEx VII, that took place in November 2023.

More than 15,000 participants from approximately 250 North American organizations— including the electric industry, cross-sector partners from gas and telecommunications, and U.S. and Canadian government partners – took part in a two-day exercise, which tested operational and policy measures that would be needed to restore the grid following a severe cyber and physical attack.

The report provides recommendations and actions for utilities, government partners, the E-ISAC, and other stakeholders to prepare for and respond to security incidents that affect the North American electric system.



GridEx VII

Lessons Learned Report
TLP: CLEAR
April 2024

RELIABILITY | RESILIENCE | SECURITY

NERC
NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

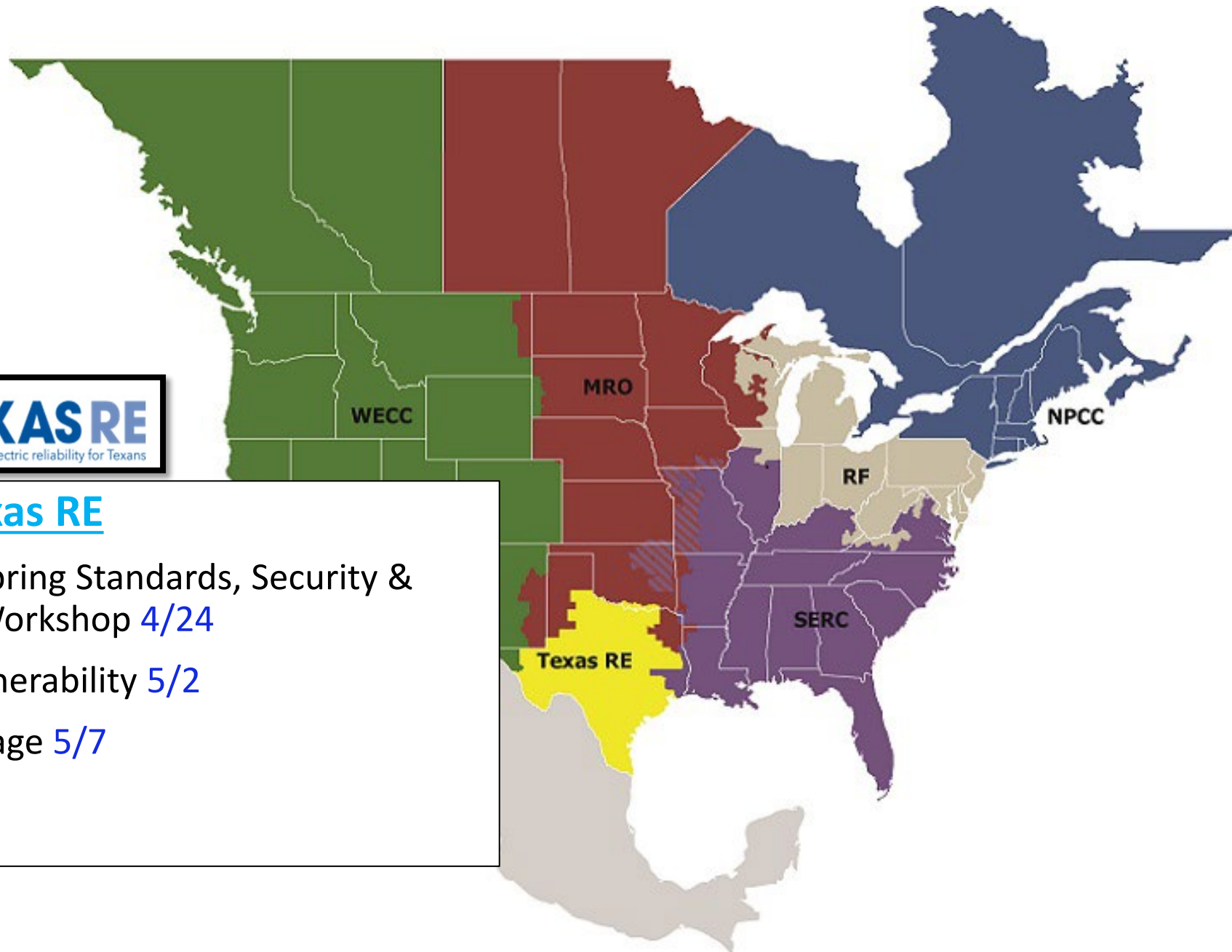


E-ISAC
ELECTRICITY INFORMATION SHARING AND ANALYSIS CENTER



[Talk with Texas RE](#)

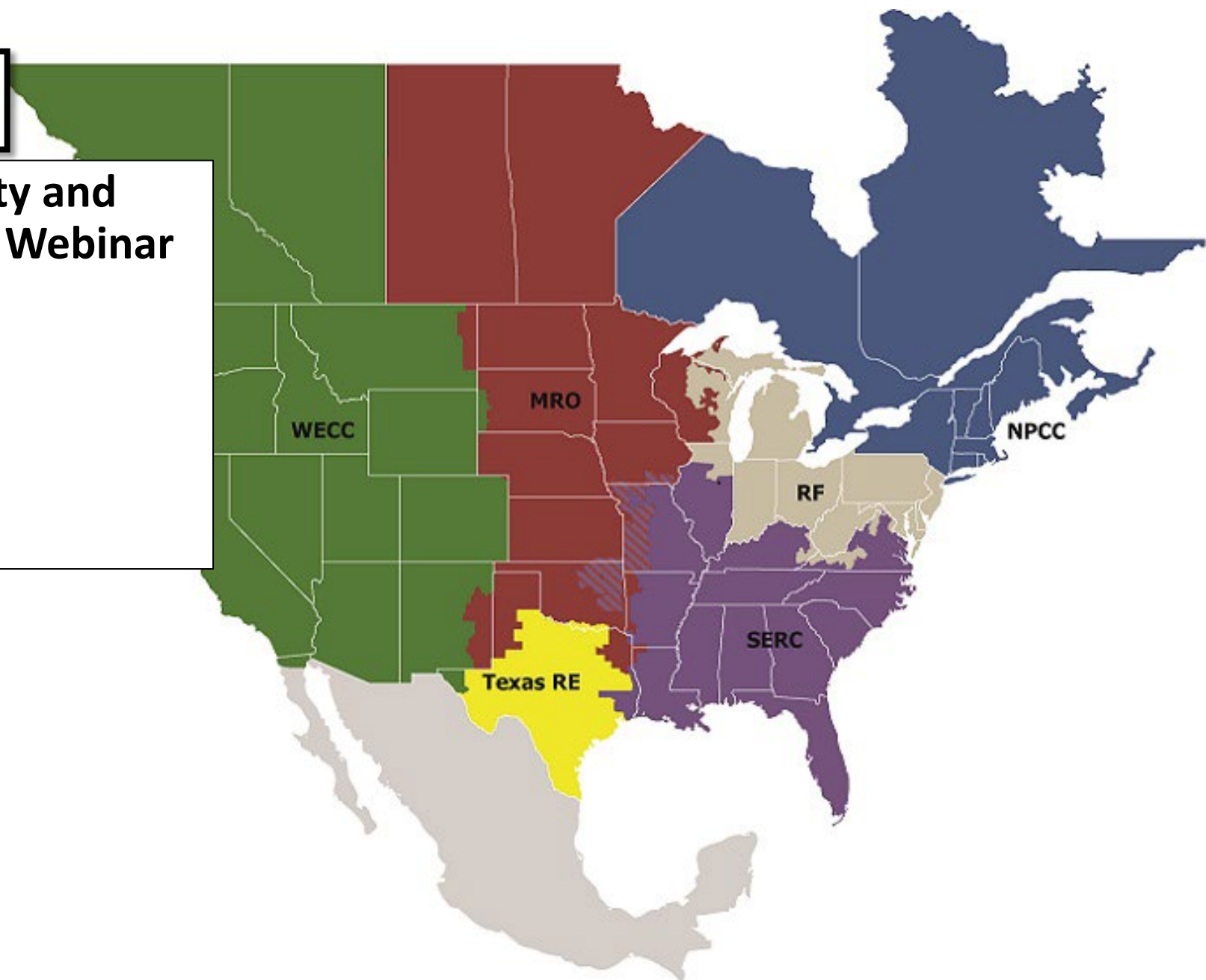
- In-person Spring Standards, Security & Reliability Workshop [4/24](#)
- MOVEit Vulnerability [5/2](#)
- Energy Storage [5/7](#)





Monthly Reliability and Security Monthly Webinar

- [April 18th](#)
- [May 16th](#)

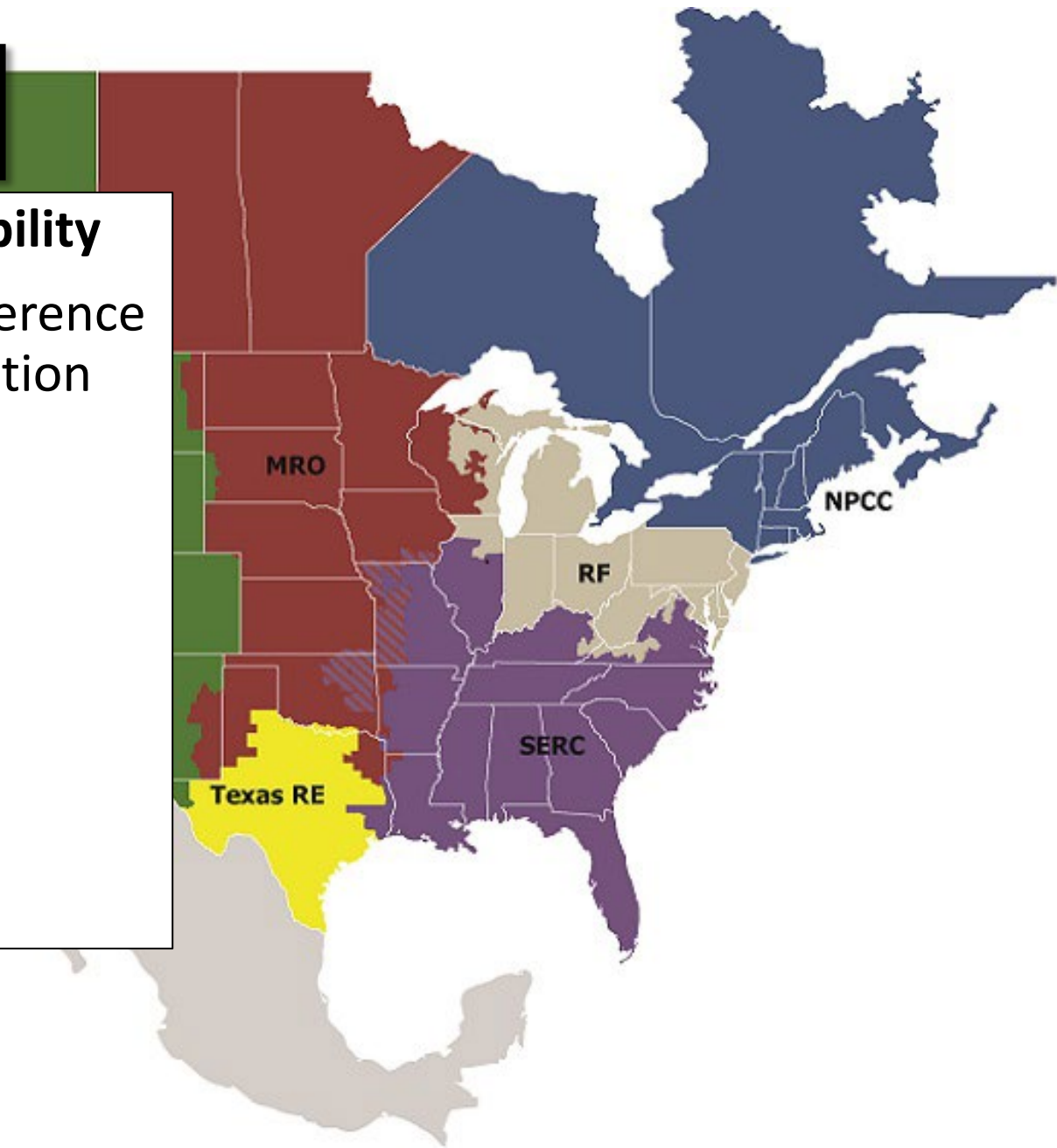


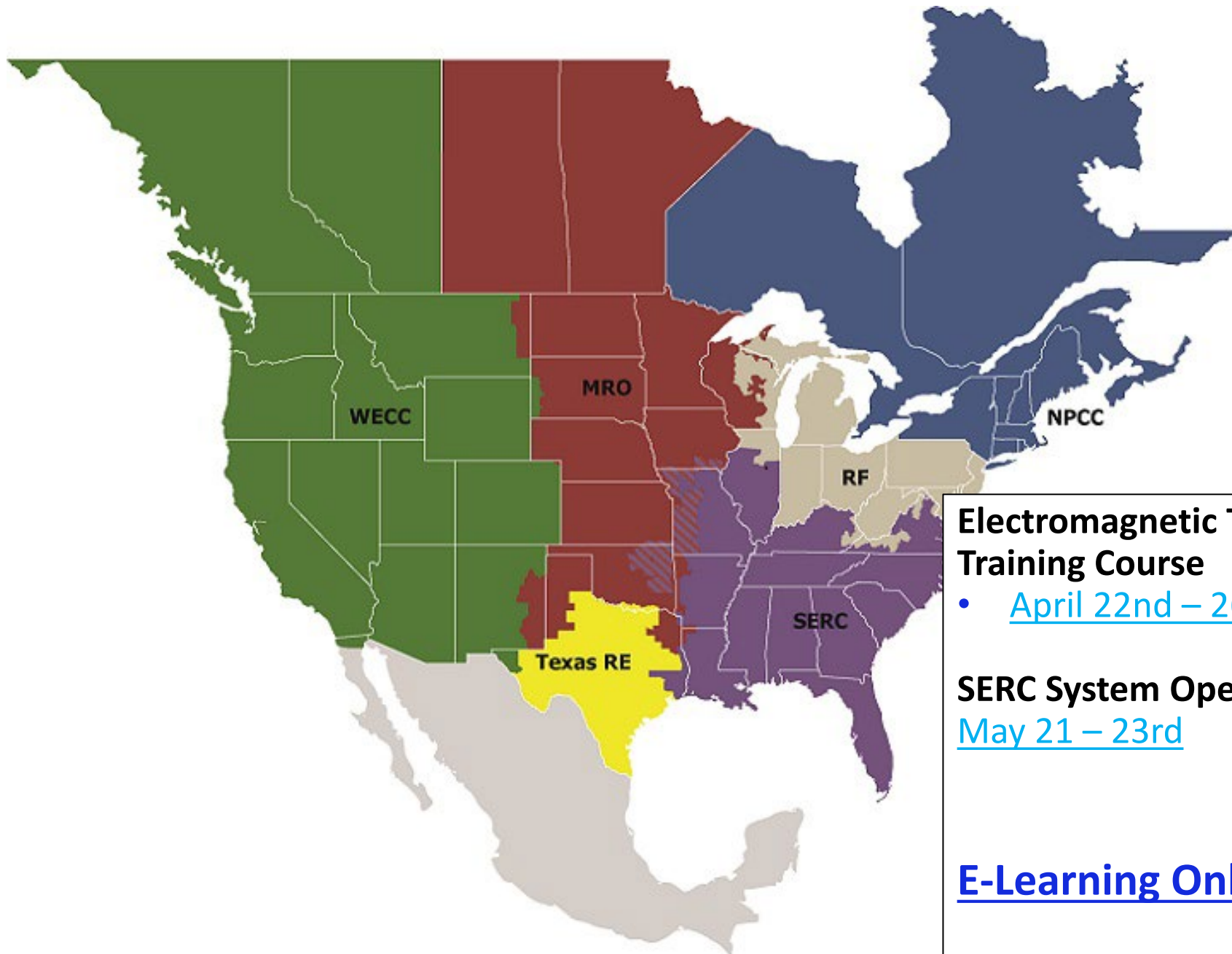


2023 Long-Term Reliability

Hybrid Reliability Conference
and Networking Reception

- [May 15th](#)





Electromagnetic Transient Training Course

- [April 22nd – 26th](#)

SERC System Operator Training

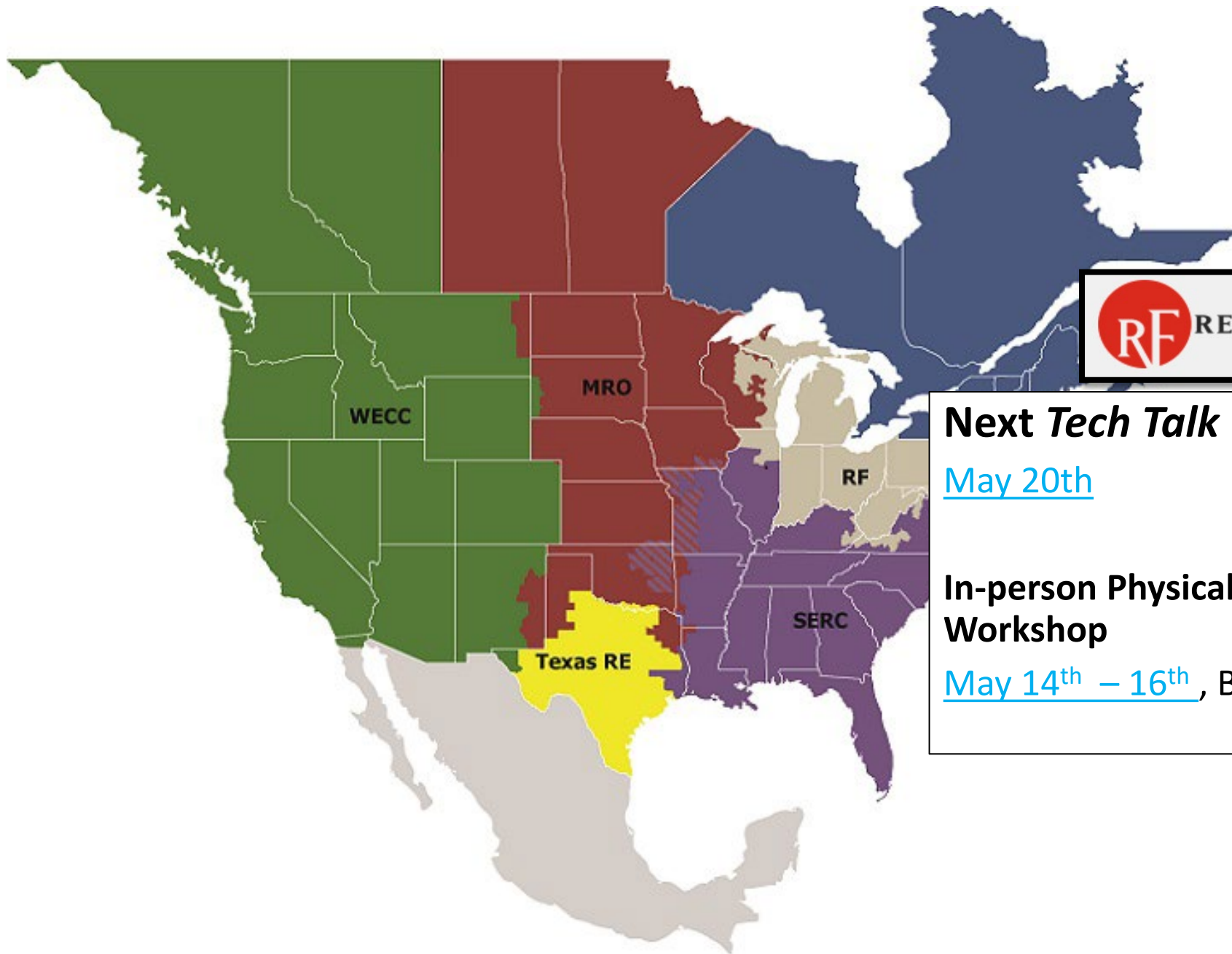
- [May 21 – 23rd](#)

[E-Learning Online Courses](#)



Violations Trends and Compliance Enforcement Updates Webinar

- [4/23](#)



Next *Tech Talk with RF*

[May 20th](#)

In-person Physical Security Workshop

[May 14th – 16th](#), Bloomington, IN

TECH TALK REMINDER

Tech Talk with RF announcements are posted on our calendar on www.rfirst.org under Calendar

April 2024

MON
15

April 15 @ 2:00 pm - 3:30 pm

Technical Talk with RF

Virtual (Webex)

Technical Talk with RF is a monthly webinar ReliabilityFirst hosts to discuss key reliability, resilience and security topics with our stakeholders.

CLICK HERE





TECHNICAL TALK WITH RF

Join the conversation at

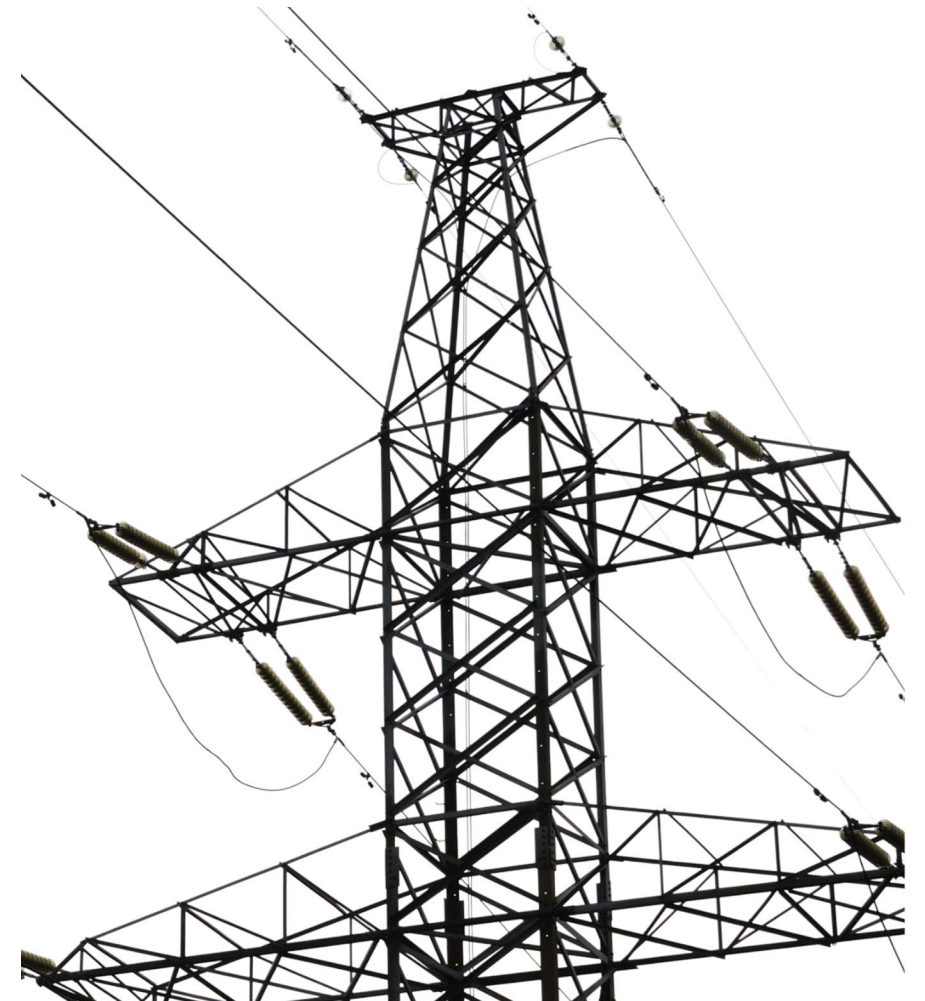
[SLIDO.com](https://www.slido.com)

#TechTalkRF

Anti-Trust Statement

It is ReliabilityFirst'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 which violates, or which 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.

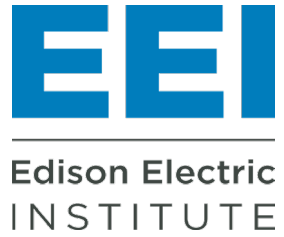
It is the responsibility of every ReliabilityFirst participant and employee who may in any way affect ReliabilityFirst's compliance with the antitrust laws to carry out this policy.



AGENDA

THE THREAT LANDSCAPE IN THE ELECTRIC INDUSTRY AND SUPPLY CHAIN RISKS

- DAVID BATZ - MANAGING DIRECTOR, CYBER&
INFRASTRUCTURE SECURITY, EDISON ELECTRIC INSTITUTE



TECH TALK



David Batz

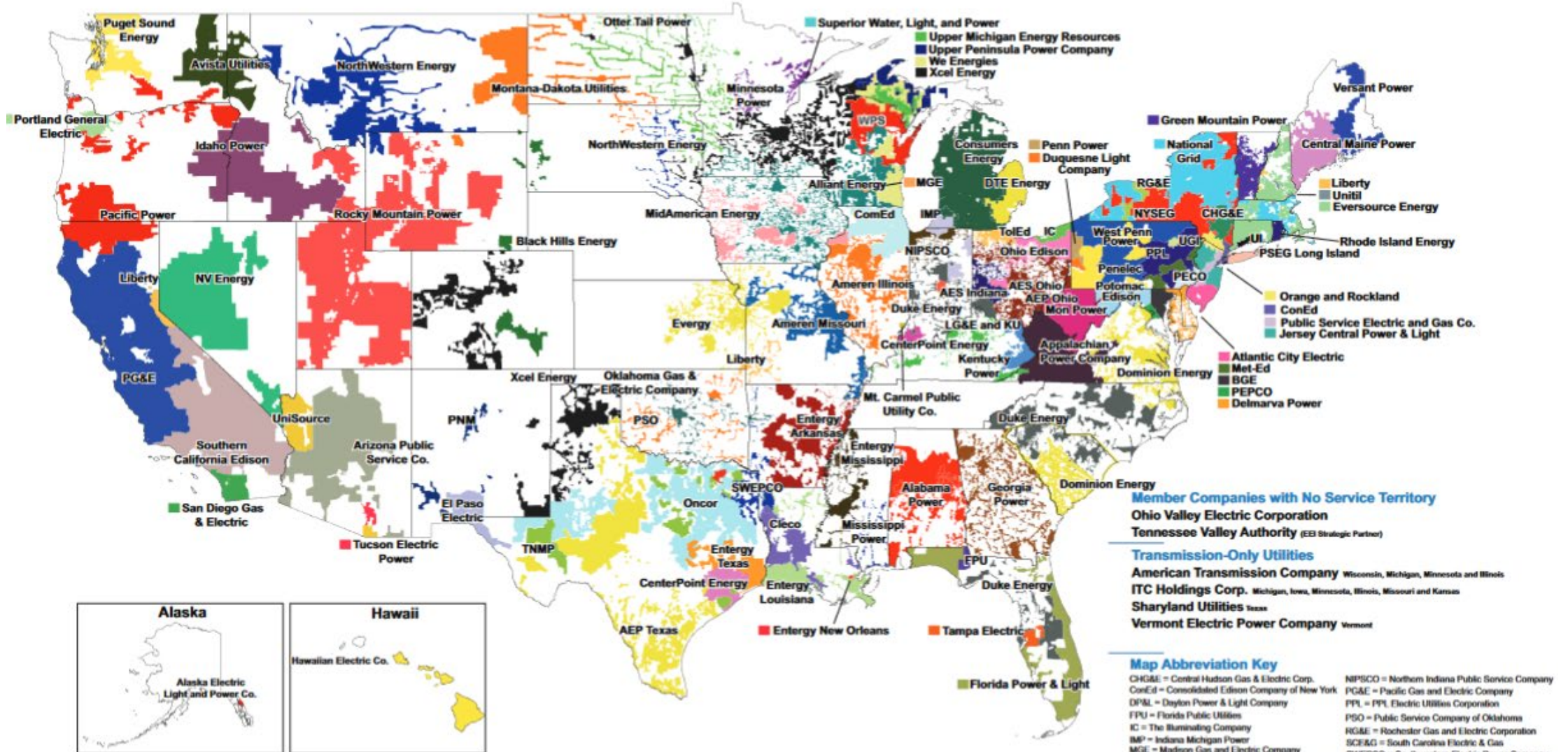
Managing Director – Cyber & Infrastructure Security
Edison Electric Institute
@DavBatz





Edison Electric
INSTITUTE

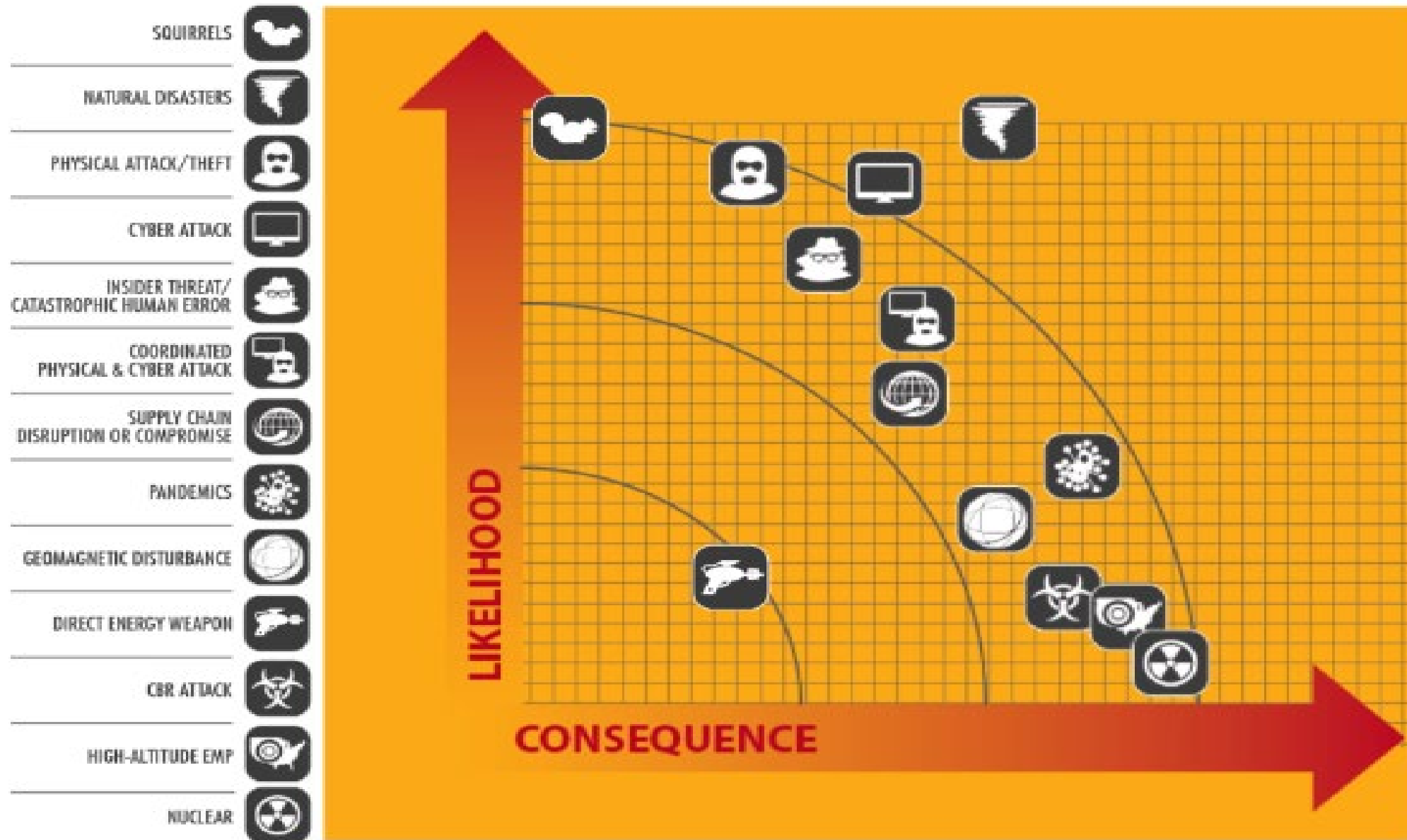
EEI U.S. Member Company Service Territories



Our Agenda

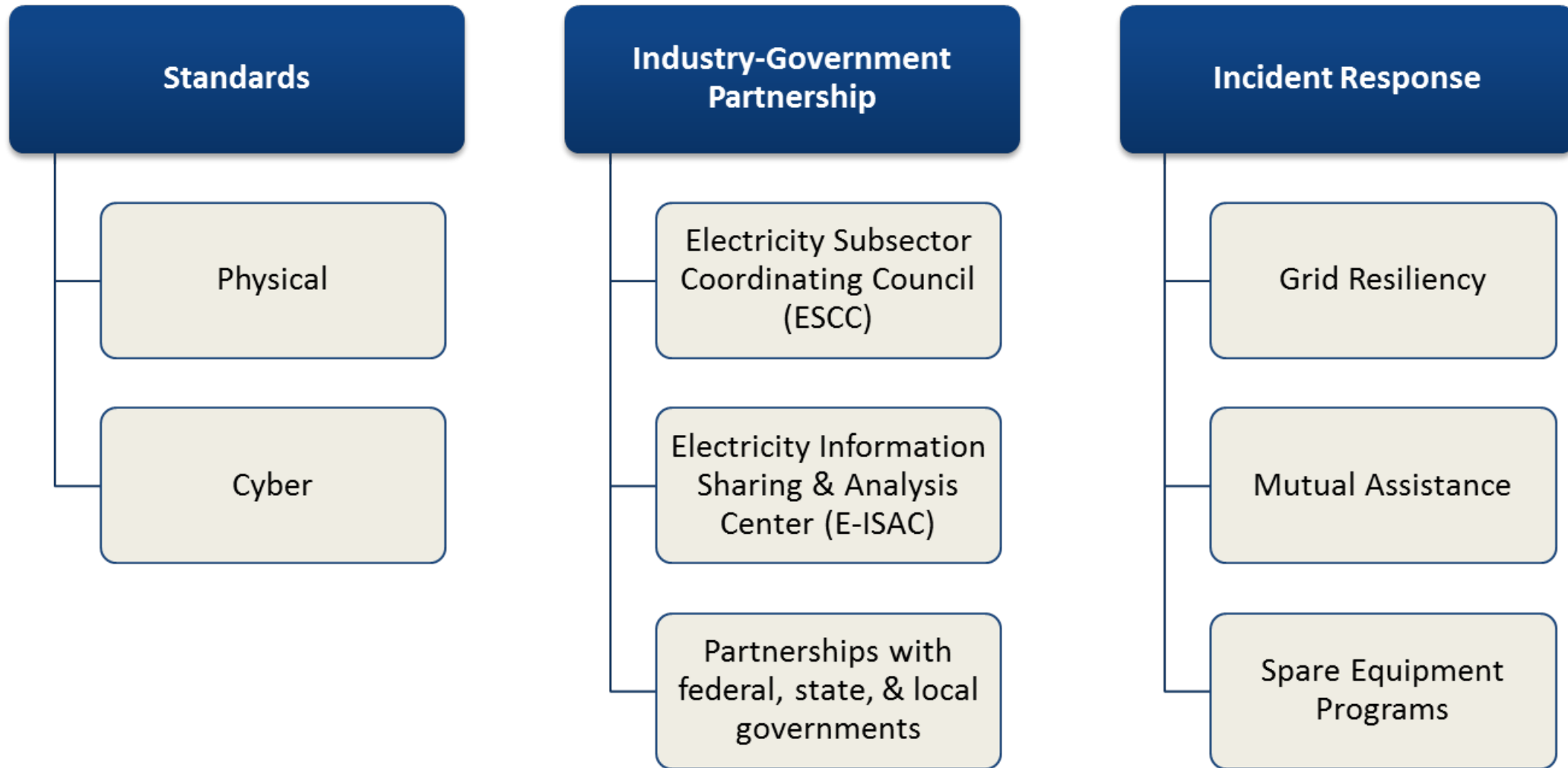
1. Electric Sector Approach to Risk Management
2. The Bad News
3. The Good News
4. Your Questions

The Threat Landscape



CBR – Chemical, Biological, Radiological
EMP – Electro-magnetic Pulse

Approach to Grid Security



The Bad News

China

Current Leadership/ Policy ≠ People



China – Planning Horizons

- Published Five Year Plans
- President Xi Vision for a 100 Year plan



[https://en.wikipedia.org/wiki/Five_year_plans_of_China](https://en.wikipedia.org/wiki/Five-year_plans_of_China)

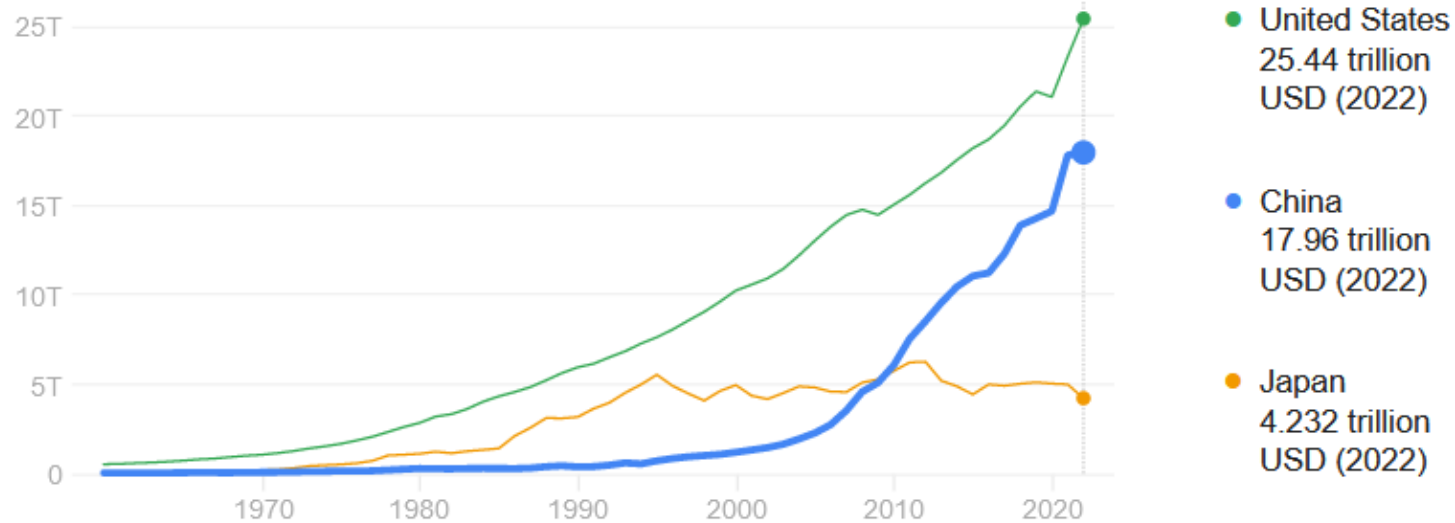
<https://www.cnbc.com/2021/07/02/ccp-100-years-xi-seizes-the-chance-to-lead-china-in-the-path-to-power.html>

China – Planning Horizons

- Stunning Economic Growth since the 1980s
- The Hundred-Year Marathon – Michael Pilsbury

China / Gross domestic product

17.96 trillion USD (2022)



<https://www.forbes.com/sites/johnmauldin/2019/11/12/chinas-grand-plan-to-take-over-the-world>

Intellectual Property Theft / Espionage

The annual cost to the U.S. economy of counterfeit goods, pirated software, and theft of trade secrets is **\$225–\$600 BILLION**



<https://carnegieendowment.org/2022/04/25/countering-unfair-chinese-economic-practices-and-intellectual-property-theft-pub-86925>
<https://www.fbi.gov/file-repository/china-exec-summary-risk-to-corporate-america-2019.pdf>

Dumping



Dumping

Occurs when goods are exported at a price less than their normal value, generally meaning they are exported for less than they are sold in the domestic market or third-country markets, or at less than production cost.

FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974



According to SolarWorld, this has driven nearly 30 U.S. manufacturing firms out of business and has left the U.S. solar manufacturing industry on the brink of collapse. SolarWorld adds that the DOJ indictment against Chinese military hackers outlines the scope of the hack, along with the degree of involvement of Chinese SOEs, and the orchestrated timing of the hack with the dumping of solar panels into the U.S. market.



Forced Labor

Forced Labor in Xinjiang



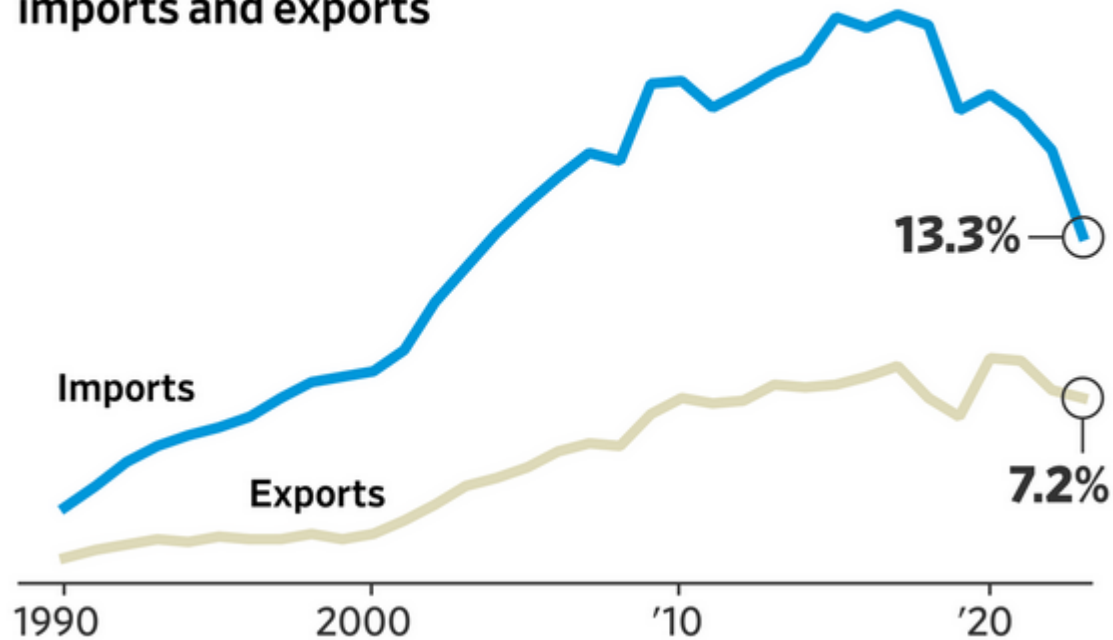
<https://www.dol.gov/agencies/ilab/against-their-will-the-situation-in-xinjiang>
<https://www.hrw.org/report/2024/02/01/asleep-wheel/car-companies-complicity-forced-labor-china>

Belt and Road Initiative

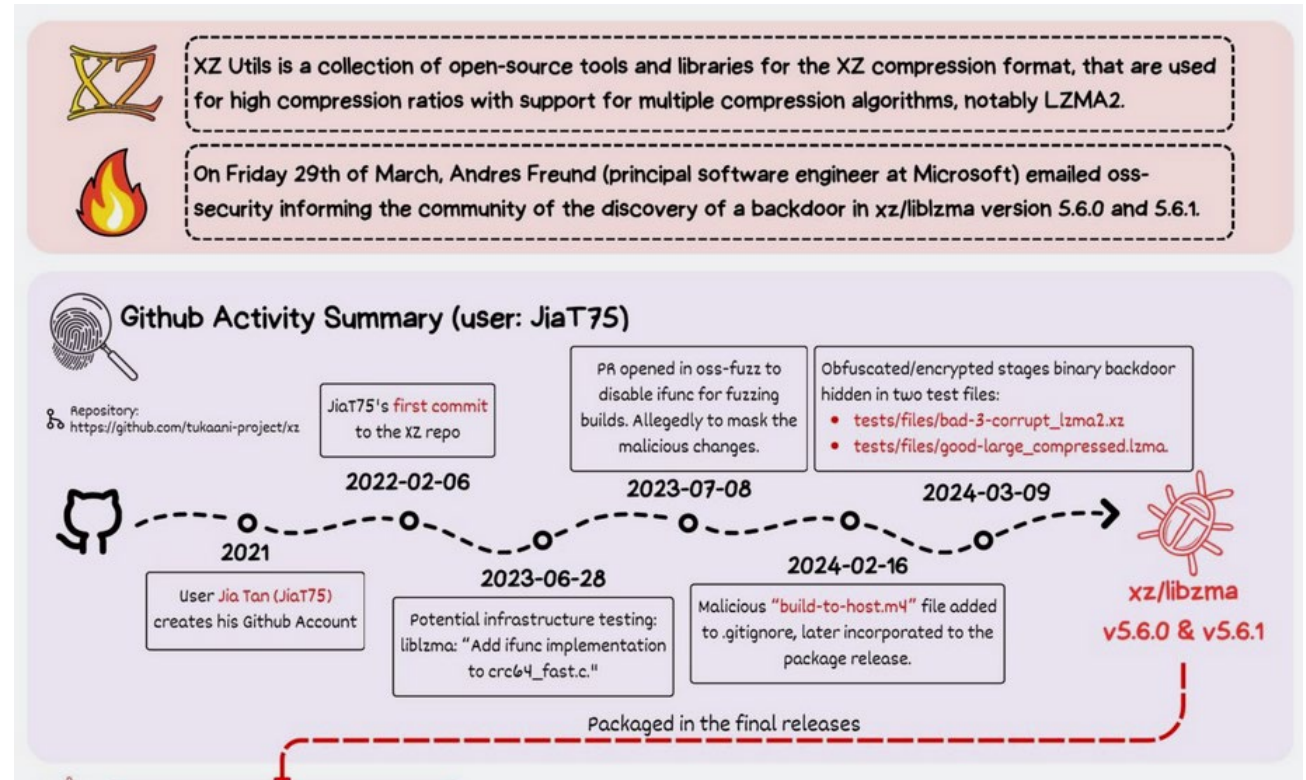


Manufacturing Flight to China

China's share of U.S. goods imports and exports



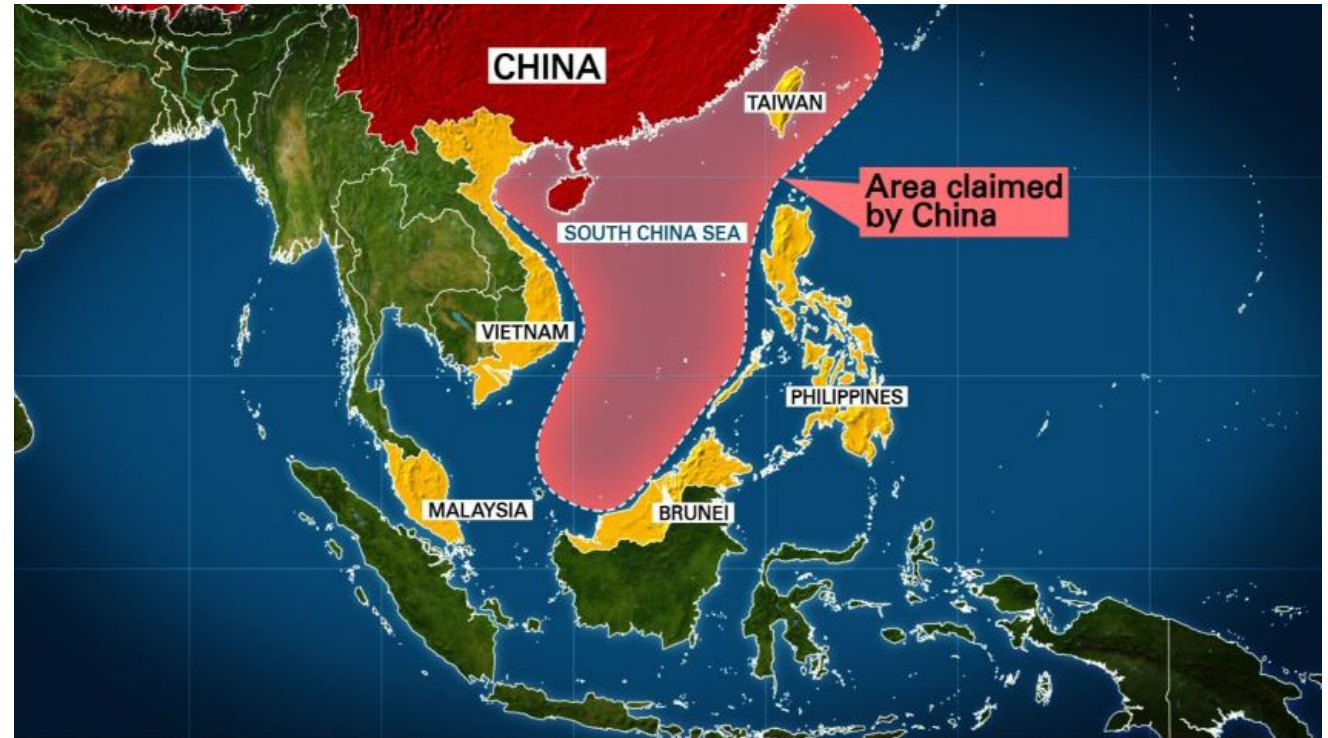
Third Party Risk



<https://www.gao.gov/blog/solarwinds-cyberattack-demands-significant-federal-and-private-sector-response-infographic>

<https://arstechnica.com/security/2024/04/what-we-know-about-the-xz-utils-backdoor-that-almost-infected-the-world/>

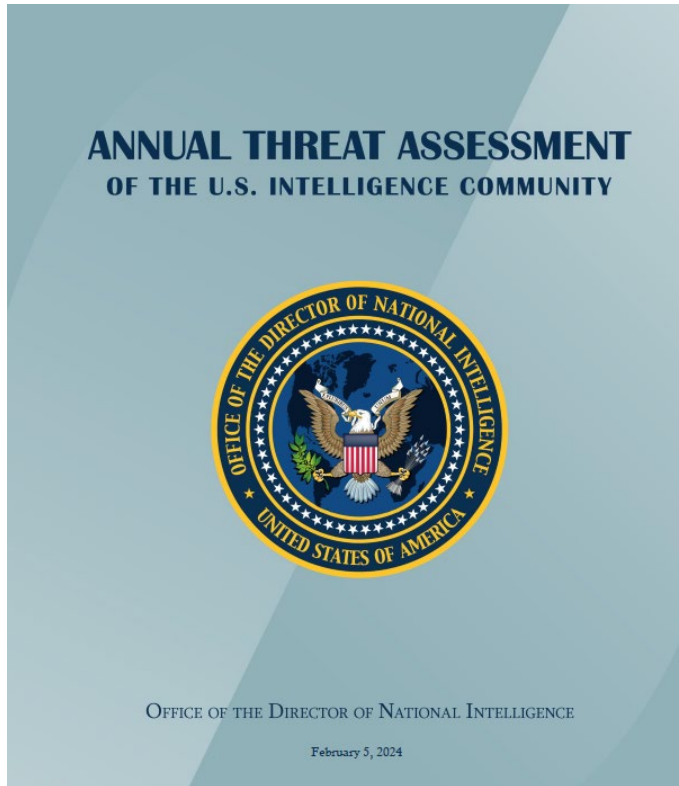
Volt Typhoon



<https://www.cisa.gov/news-events/cybersecurity-advisories/aa24-038a>

<https://www.theguardian.com/technology/2024/feb/13/volt-typhoon-what-is-it-how-does-it-work-chinese-cyber-operation-china-hackers-explainer>

National Threat Assessment



...China remains the most active and persistent cyber threat to U.S. Government, private-sector, and critical infrastructure networks. Beijing's cyber espionage pursuits and its industry's export of surveillance, information, and communications technologies increase the threats of aggressive cyber operations against the United States and the suppression of the free flow of information in cyberspace....



Scale of the Threat

Part of the problem facing US officials is a sheer numbers game. Wray reiterated that he believes that China's cyber operatives outnumber all FBI agents by at least 50 to 1.



<https://www.cnn.com/2024/01/31/politics/china-hacking-infrascture-fbi-director-christopher-wray/index.html>

The Good News



Created by ImageFX

Silver lining from pandemic – Reshoring

The COVID-19 pandemic exposed the vulnerabilities of extensive and intricate international supply chains. By reshoring, manufacturers can shorten their supply chains, enhance their adaptability to disruptions, and improve their ability to respond swiftly to shifts in demand or supply. This agility proves invaluable in uncertain times and is a strong motivator for reshoring.



<https://www.cnbc.com/2023/06/01/reshoring-more-domestic-manufacturing-due-to-supply-chain-disruption.html>

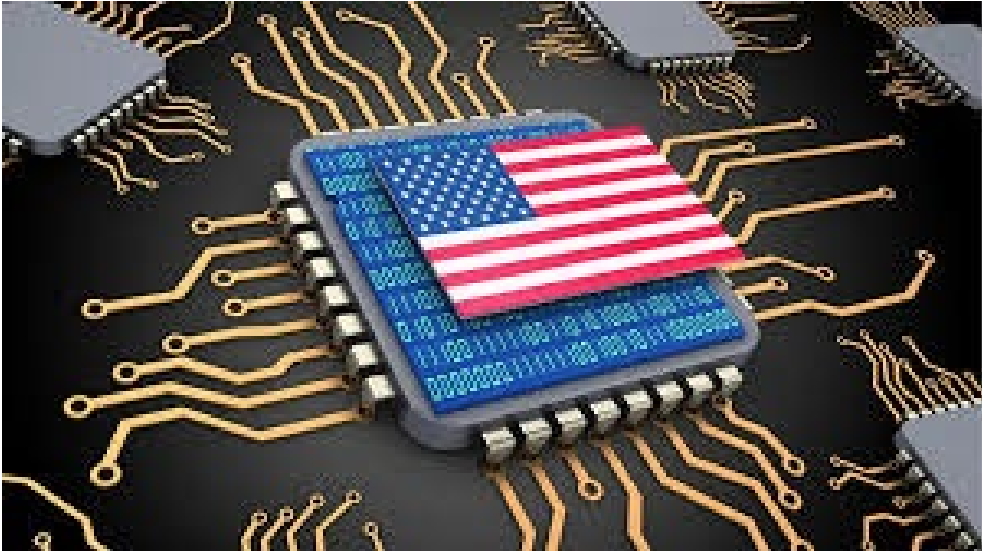
<https://guidetechnologies.com/the-resurgence-of-american-manufacturing-a-look-at-the-reshoring-phenomenon-and-its-impact-on-technology-adoption/>

Other Advantages of Reshoring / Near Shoring



https://en.wikipedia.org/wiki/2021_Suez_Canal_obstruction

CHIPS Act



The CHIPS Act encourages more individuals to explore and pursue manufacturing careers through apprenticeships and STEM education. Part of the act will focus on workforce training opportunities. Millions of dollars will go towards workforce development to ensure there's an adequate workforce who's qualified to support semiconductor chip manufacturing. In addition, the \$13 billion that's going towards STEM education includes scholarships and fellowship which will strengthen the workforce to support the industry.



<https://carnegieendowment.org/2022/11/22/after-chips-act-limits-of-reshoring-and-next-steps-for-u.s.-semiconductor-policy-pub-88439>

<https://www.njmep.org/blog/the-chips-and-science-act-is-a-huge-boost-for-domestic-manufacturing/>

Inflation Reduction Act

An REC Silicon ASA solar panel materials plant in Moses Lake, Washington, is preparing to ship its first new batch of polycrystalline silicon in five years, helping to reforge a fundamental missing link in the US photovoltaic supply chain.

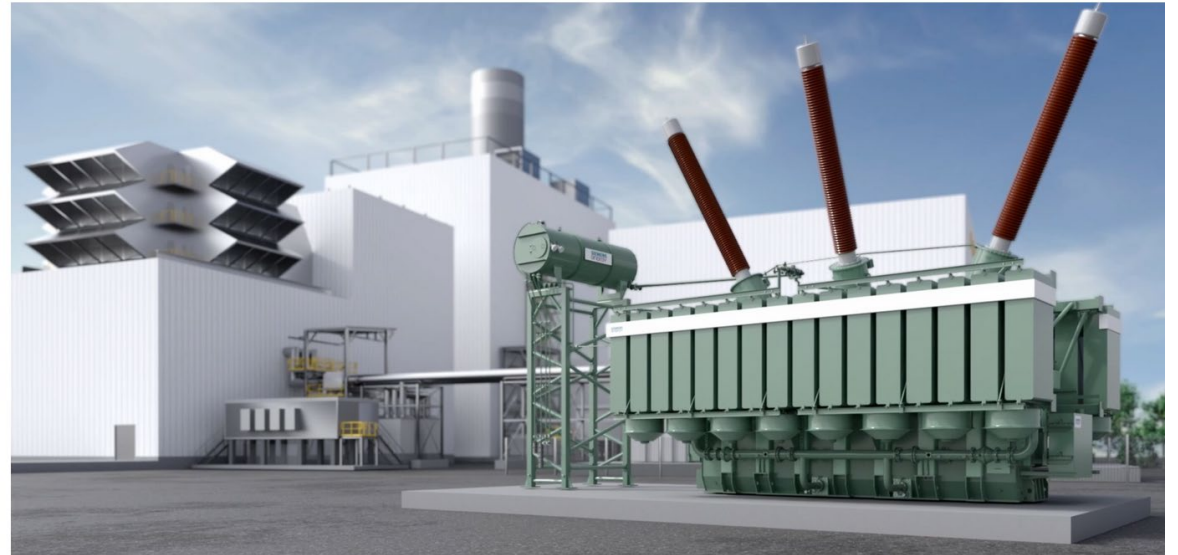


<https://recsilicon.com/technology>

<https://www.capitaliq.spglobal.com/web/client#news/article?id=79997777>

Challenges and Growth in Domestic Transformer Production

The Department of Commerce reported that the U.S. imported more than 80 percent of its total large power transformers in 2020.



GAO 2023 Report on Transformers



Nearly all stakeholders we spoke with identified supply chain constraints as the most pressing challenge for utilities attempting to ensure adequate reserves of transformers. Stakeholders reported that these constraints apply to and affect not only the manufacturing of transformers but the entire electric utility industry and that the COVID-19 pandemic exacerbated some of the issues



GAO 2023 Report on Transformers

Program	Description	Triggering event	Membership
Spare Transformer Equipment Program (STEP)	Edison Electric Institute's (EEI) STEP requires participating utilities to maintain (and sometimes acquire) a specific number of transformers to share with other utilities in case of a critical substation failure.	Although participation in STEP is voluntary, sharing transformers is mandatory for participants and is triggered by an act of terrorism and presidential declaration of emergency or grid security emergency.	Transmission-owning entities. As of March 2023, there were 57 asset owners participating, according to EEI.
SpareConnect	EEI's SpareConnect is a voluntary online networking tool that connects transmission asset owners and operators at participating utilities. Participants who are interested in providing additional information or sharing equipment work directly with each other on the specific terms and conditions of any potential equipment sale or other transaction.	Voluntary sharing during an emergency or other nonroutine failure	Transmission and generation-owning entities. As of March 2023, there were 120 asset owners participating, according to EEI.
Regional Equipment Sharing for Transmission Outage Restoration (RESTORE)	According to the North American Transmission Forum (NATF), the RESTORE program is designed to enhance the resiliency and reliability of the grid by identifying sources and facilitating replacement of equipment (including transformers) following disastrous events. This voluntary program is available to NATF members for an additional cost. RESTORE is intended to be supplemental to other industry programs.	Catastrophic event or physical attack within service territory resulting in loss of load or affecting grid stability	Transmission-owning entities. As of October 2022, RESTORE included 18 total companies (40 individual utilities), according to NATF.
Grid Assurance	Subscription-based initiative that owns and maintains equipment at secure, strategically located warehouses and provides preplanned logistics to expedite equipment transportation to affected sites. Grid Assurance charges a cost-based subscription fee to facilitate subscribers' ability to recover expenses.	Self-declared qualifying events like physical attacks, electromagnetic pulses, solar storms, cyberattacks, earthquakes, and severe weather events	Transmission-owning entities. According to Grid Assurance, 31 companies covering parts of 28 states subscribed as of March 2023.



Distribution Transformer Efficiency Standards

December 28, 2022 - Initial Proposal

April 4, 2024 – Final Rule



<https://www.energy.gov/articles/doe-proposes-new-efficiency-standards-distribution-transformers>
<https://www.powermag.com/doe-eases-requirements-in-final-transformer-efficiency-standards-amid-supply-chain-strain/>



Edison Electric
INSTITUTE

Questions?



THANK YOU

Join us for our next Tech Talk -
May 20th

GO/GOP Standards

RF SME's - Shon Austin and Ash
Chappell

Internal Controls Best Practices

DTE's - Jason Smith, Jeff Wallace
and Chris Plensdorf

[Webinar Link](#)

