NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Reliability Issues Steering Committee

April 1, 2020 | 3:00-4:00 p.m. Eastern
Conference Call

Dial-in: 1-415-655-0002 | Acess Code: 470 596 053| Attendee Code: If asked, just press #

Webex Link

Introduction and Chair's Remarks

NERC Antitrust Compliance Guidelines*

Agenda Items

1. **RISC 2020 Proposed Work Plan Activities* – Discussion**
2. **Framework to Address Known and Emerging Reliability and Security Risks* – Review**
3. **Other Matters**

*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.

Agenda Item 1
Reliability Issues Steering
Committee Meeting
April 1, 2020

RISC 2020 Proposed Work Plan Activities

Action

Discussion

Summary

The Reliability Issues Steering Committee (RISC) will review the proposed 2020 RISC Work Plan Activities and set its priorities for the year.

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NERC Reliability Issues Steering Committee Work Plan Activities

2020

RELIABILITY | RESILIENCE | SECURITY




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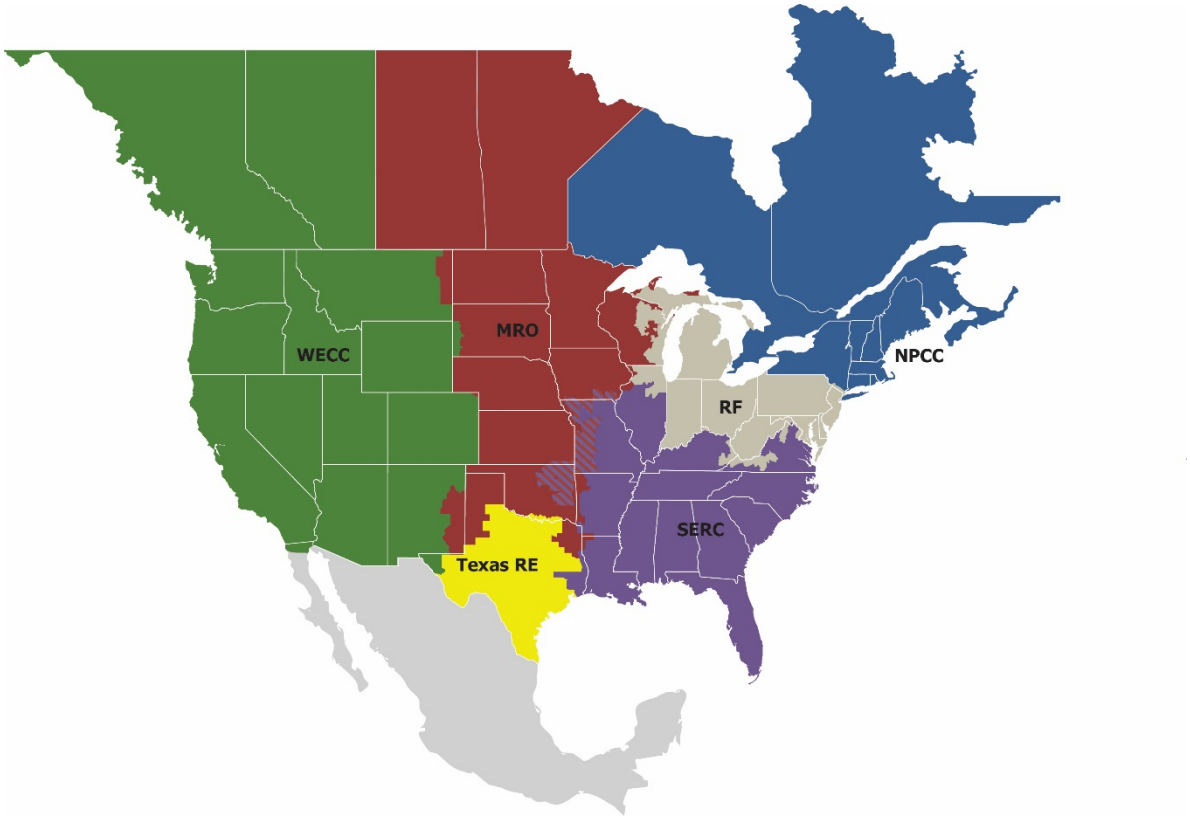
Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Region while associated Transmission Owners/Operators participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

RISC Meeting Schedule

NERC Calendar

2020 Meeting Dates	Time	Location	Hotel	Objectives/Goals
March 16, 2020	11:00 a.m.-12:00 p.m.	Via conference Call	None	• Review Proposed RISC 2020 Work Plan Activities
Others TBD				

Questions for consideration:

- How frequent should the committee meet?
- Do we desire an in-person meeting(s)?

RISC 2020 Proposed Work Plan Activities

Website: RISC
Chair: Nelson Peeler
Vice-Chair: Brian Slocum
Hierarchy: Reports to Board of Trustees
NERC Lead: Mark Lauby

#	Task Description	Items/Questions for Consideration	Proposed Actions	Assignment	Target Completion	Status
1	Document RISC Process and Refine as Needed	• In anticipation of the 2021 RISC Leadership Summit and ERO Risk Report – what worked well in 2019? • What do we need to refine?	• Develop a template for production of the Leadership Summit with a project scope and timeline	•		
2	Document Risk Identification and Mitigation Framework	•	• Appoint a subteam within RISC to develop this documentation	•		
3	Develop Risk Triage Approach with RSTC	• How will the RISC work play into the RSTC Work Plan? • How does the committee see the risk triage approach?	• Appoint a RISC member to be the RSTC liaison that will coordinate and collaborate with RSTC to ensure that work plans are aligned appropriately with the RISC Priorities Report	•		
4	Reliability Indicators Improvements	• What additional work/improvements are needed on the reliability indicators	• Have the subgroup report out on this item on proposed recommendations of continued improvements	•		
5	Review RISC Charter	• What changes are needed in the RISC charter to ensure it encompasses current work and missions of the committee?	• Collective RISC committee review on an upcoming call	•		
6	2021 ERO Reliability Risk Priorities Report	• Begin Planning for the report • Do we complete the Emerging Risks Survey again? If yes, what refinements are needed?	• Collective RISC committee discussion and planning	•		
7	2021 Reliability Leadership Summit	• Begin planning for the summit • Initial ideas for panel topics? • Initial thoughts on speakers?	• Collective RISC committee discussion and planning	•		

Framework to Address Known and Emerging Reliability and Security Risks

Action
Review

Declaration
The Electric Reliability Organization (ERO) Enterprise requires a consistent framework to Identify, prioritize, and address known and emerging reliability and security risks.

Background
During the last ten years, the ERO Enterprise has expanded its implementation of risk-based approaches across its program areas. During this transition, NERC has continued to lead industry in reliability, resilience, and security initiatives to identify known and emerging risks, and to engage industry in a collaborative approach to mitigating that risk. The primary reliability, resilience and security toolkit for risk mitigation the ERO currently deploys includes, but is not limited to: outreach events such as webinars and conferences, Reliability Guidelines, Alerts, Reliability Standard development, registration and certification, and compliance monitoring and enforcement. In addition, the ERO Enterprise can engage Forums such as the North American Transmission Forum (NATF) and the North American Generator Forum (NAGF), as well as the industry trade associations, to assist with development of best practices, increased awareness, Implementation Guidance, and other solutions used to address identified risks.

Additionally, a set of industry indicators has been developed to measure reliability and security. These indicators need further refinement, maturation and linkage to industry performance as they are key to evaluating the effectiveness of mitigation efforts, identifying the residual risk that remains, and considering whether the remaining risk is at acceptable levels.

This framework is meant to guide the ERO Enterprise in the prioritization of risks and provide guidance on the application of its toolkit, to inform resource allocation and project prioritization. Additionally, the framework accommodates measuring residual risk after mitigation is in place, enabling the ERO Enterprise to evaluate the success of its efforts in mitigating risk, which provides a necessary feedback for future prioritization, mitigation efforts, and program improvements.

The successful reduction of risk is a collaborative process between the ERO Enterprise and Industry. The framework provides a transparent process using industry experts in parallel with ERO Enterprise experts throughout the process, from risk identification, deployment of mitigation strategies, to monitoring the success of these mitigations.

Six-step Framework

Six specific steps have been identified, consistent with risk management frameworks used by other organizations and industries: 1) Risk Identification; 2) Risk Prioritization; 3) Mitigation Identification and Evaluation; 4) Deployment; 5) Measurement of Success; and 6) Monitoring.

1. **Risk Identification and Validation:** The ERO and industry subject matter experts continuously work together identifying and validate risks to the reliable and secure operation of the bulk power system based on analysis of ongoing performance of the system. In addition, the Reliability Issues Steering Committee (RISC) has successfully brought together industry experts to identify and prioritize emerging risks, as well as suggest mitigation activities. A partnership between ERO Enterprise leadership and the RISC enables input from the ERO program areas, industry Forums and trade associations to provide additional context in risk identification. Validation of the magnitude and priority of the risk includes working with NERC' Committees, and socializing it with Forums, government and research organizations. The ERO Enterprise has a number of ways that is identifies risks:
    1. ERO Enterprise stakeholder supported technical organizations, Compliance, Forums, and associated subject matter experts
    2. Focused Compliance monitoring activities
    3. Reliability Assessments
    4. Events Analysis d
    5. Analysis of Availability Data Systems (TADS, GADS, DADS, MIDAS, etc.)
    6. Frequency Response, Inertia, and other essential reliability service measurements
    7. Interconnection simulation base case quality and fidelity metrics
    8. Reliability Issues Steering Committee (RISC) Biennial Risk Report
    9. Regional Risk Assessments
    10. External parties (DOE, DHS, Natural Resources Canada, EPRI, etc.)
    11. Shared public and/or government intelligence and emphasis (e.g., continued emphasis on cybersecurity among all industries, focus in journalism, and expressed public policy focus by all branches of government)
2. **Risk Prioritization:** Prioritizing risks is accomplished through an analysis of their exposure, scope, and duration as well as impact and likelihood. The primary sources of data used to support this analysis come from the Risk Identification step. Deciding if the risk requires near-term mitigation or continued monitoring is informed by technical expertise. Depending on the complexity of the risk, new models, algorithms and processes may need to be developed to better understand the potential impacts of the risk, which is necessary to develop risk mitigation tactics. The process would be consistent with other risk management frameworks in use, and was recently successfully tested in collaboration with industry through a survey issued by the RISC, based upon the risks that group prioritized in early 2019.
3. **Mitigation Identification and Evaluation:** The right mix of mitigation activities is balanced against both the effective and efficient use of resources and the potential risk impact and likelihood. Determining the best mix depends on a number of factors. Namely:

1. What is the potential impact or severity of the risk?
2. How probable is the risk? Is it sustained, decreasing or growing?
3. Is the risk here today or anticipated in the next 3-5 years?
4. How pervasive is the risk?
5. Is mitigation expected to be a one-time action, or ongoing?
6. Have we had experience with events being exacerbated by the risks, or there is no experience, but the probability is growing (i.e. cyber or physical)?
7. Have previous mitigation efforts been deployed? If so, were they effective? Why or why not?
8. What is an acceptable residual risk level after mitigating activities have been deployed?
9. Is the risk man-made or by natural/human-error causes?

Input from, and allocation of, subject matter expertise through multiple sources is part of this consideration, including resources within the ERO Enterprise and its stakeholders (such as standing technical committees and their subgroups, or standard drafting teams), and external parties, such as the North American Transmission and Generation Forums (NATF and NAGF), North American Energy Standards Board (NAESB), the Institute of Electrical and Electronic Engineers (IEEE), and EPRI, to name a few. Coordination is key to avoid duplication and provide supportive, rather than conflicting actions.

For prioritized risks, the ERO Enterprise, NERC Committees, Forums, and industry subject matter experts recommend potential mitigations and assess their anticipated effectiveness. Examples of mitigation activities within the ERO's reliability toolkit include:

- Reliability Standards, with Compliance and Enforcement
  - Sustained, moderate to severe impact, and likely
  - Sustained, severe impact, and unlikely
  - Focused monitoring based on risk, and in response to major events
- Reliability Guidelines
  - Sustained, low to moderate impact, and likely
- Lessons Learned
  - Sustained, low impact, and likely
- Assist Visits
  - Focused topics
  - Generally on specific industry or entity practices or conditions
- Analysis of Major Events
  - Used after a Major Event (e.g., Category 3 or higher)
  - Discreet/one-time, severe impact, unlikely

- Evaluations to identify recommended reliability improvements or best practices and lessons learned

- Analysis of "Off-Normal" Events
  - Used after an unusual operation condition has occurred and likely not a categorized event.
  - Discreet/one-time, moderate impact, unlikely
  - Evaluations to identify recommended reliability improvements or best practices and lessons learned
- Advisories, Recommendations or Essential Actions1:
- Alerts2
- Technical Conferences and Workshops

Mitigation Deployment: Mitigation projects will be deployed by the ERO and/or industry stakeholder groups, as determined by the "Mitigation Identification and Evaluation" step. A number of delivery approaches are used by the ERO Enterprise:

a. ERO endorsement of industry-developed Compliance Implementation Guidance
b. Partnerships with th organizations in the reliability ecosystem such as the Forums, professional organizations, researchers and government.
c. Annual Risk Elements to focus CMEP activities
d. SARs to improve and adapt Reliability Standards to emerging risks
e. Presentations and Reports
f. Webinars
g. Websites
h. Site Visits
i. Regulatory or legislative intervention/support
j. Industry notices, newsletters, and bulletins
k. Workshops, conferences and technical meetings

From time-to-time, the Federal Energy Regulatory Commission (FERC) may order the development of Standards, which can occur in this step.

4. **Measurement of Success:** Once a set of solutions has been deployed, the effectiveness of the mitigation must be measured to determine if the residual risk has achieved an

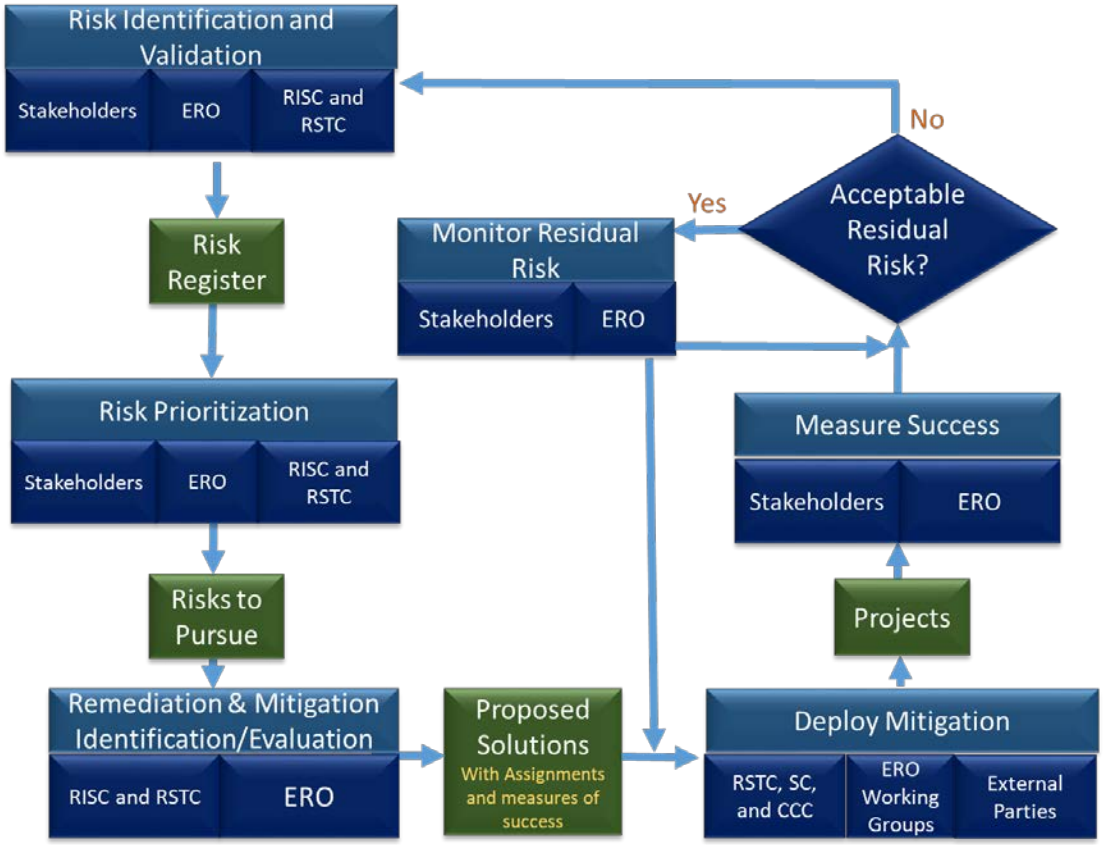
[1] LEVEL 1 (Advisories) – purely informational, intended to advise certain segments of the owners, operators and users of the Bulk Power System of findings and lessons learned; LEVEL 2 (Recommendations) – specific actions that NERC is recommending be considered on a particular topic by certain segments of owners, operators, and users of the Bulk Power System according to each entity's facts and circumstances; LEVEL 3 (Essential Actions) – specific actions that NERC has determined are essential for certain segments of owners, operators, or users of the Bulk Power System to take to ensure the reliability of the Bulk Power System. Such Essential Actions require NERC Board approval before issuance.

[2] ALERT 1: Industry Action Requested: Fast moving or recently detected, impacts moderate, ALERT 2: Industry Action Required: Fast moving or recently detected, impacts moderate to severe, ALERT 3: Industry Action Mandatory: Fast moving or recently detected, impacts moderate to severe

acceptable level. Effectively, if the desired level of desired risk mitigation is not met, the risk is fed back to Step 1, enabling a new prioritization of risks, factoring in historic mitigation, ensuring resource allocation is adapting to the changing risk landscape. This step also informs future mitigation efforts, as industry and the ERO learn from the effectiveness of mitigation mixes for reducing risk.

5. **Monitor Residual Risk:** Once the level of residual risk is at an acceptable level, the risk is monitored through ongoing performance measures to ensure that risk remains at acceptable risk levels. If the risk levels heighten, or increased mitigation efforts are necessary due to the changing nature of the bulk power system, the risk can be fed back into Step 1 for prioritization and the development of additional mitigation approaches.

The figure below provides a pictorial flow chart of the process outlined above.



More about Risk Mitigation: The ERO Enterprise's mission ultimately exists to serve the public interest, and it must serve that interest by developing and using the right reliability tools to monitor and mitigate risks to the BPS, appropriately balancing the use of those tools by considering not just what is possible against what is reasonable and necessary. Further, reliability is also focused on improving the resilience (see Attachment A) of the system by building the robustness to withstand events, supporting graceful degradation when the event is beyond design basis (such as Adequate Level of Reliability), and supporting restoration after events.

Five of NERC's most significant reliability risk mitigation tools are Reliability Standards, Reliability Guidelines, Technical Engagement, Reliability Assessment, and Alerts.

1. **Reliability Standards** are the common tool to use when addressing sustained risks with moderate impacts which are likely (e.g. planning models), and high

impacts, whether likely or unlikely (e.g. vegetation management and geomagnetic disturbances). Standards provide the greatest degree of certainty for risk mitigation. Following NERC's and Regional Entity's Reliability Standards should be not seen as a burden but rather an outcome of good reliability performance, and desired outcome not only on a single system, but the interconnection as a whole.

a. As a matter of public policy, Reliability Standards should credibly address those primary sustained, high impact, and likely risks. (i.e., there's an expectation for this that relates to the original impetus for a mandatory and enforceable construct following the blackout of 2003).

b. Establishing a baseline of Reliability Standards assures accountability for the public's benefit when minimum expectations of performance or behavior are not met (the public expects a regulator to be able to enforce accountability on at least those actions related to sustained, high impact, and likely risks within its scope of oversight).

2. **Reliability Guidelines are the common tool to use when addressing moderate impact** sustained risks that are unlikely, and low impact sustained risks that are unlikely or likely (such as reduced or lack of equipment maintenance resulting in the loss of an individual element which is a low impact to BPS reliability, while the probability of failure increases over time). Reliability Guidelines are also used for those items that are or are not in the ERO Enterprise's jurisdiction, but are practices that improve reliability.

   a. Together with a strong minimum baseline fabric of standards, guidelines can be a strong tool in addressing risk

   b. Reliability Guidelines enable the ERO Enterprise to highlight expectations or priorities on appropriate practices for a given subject area

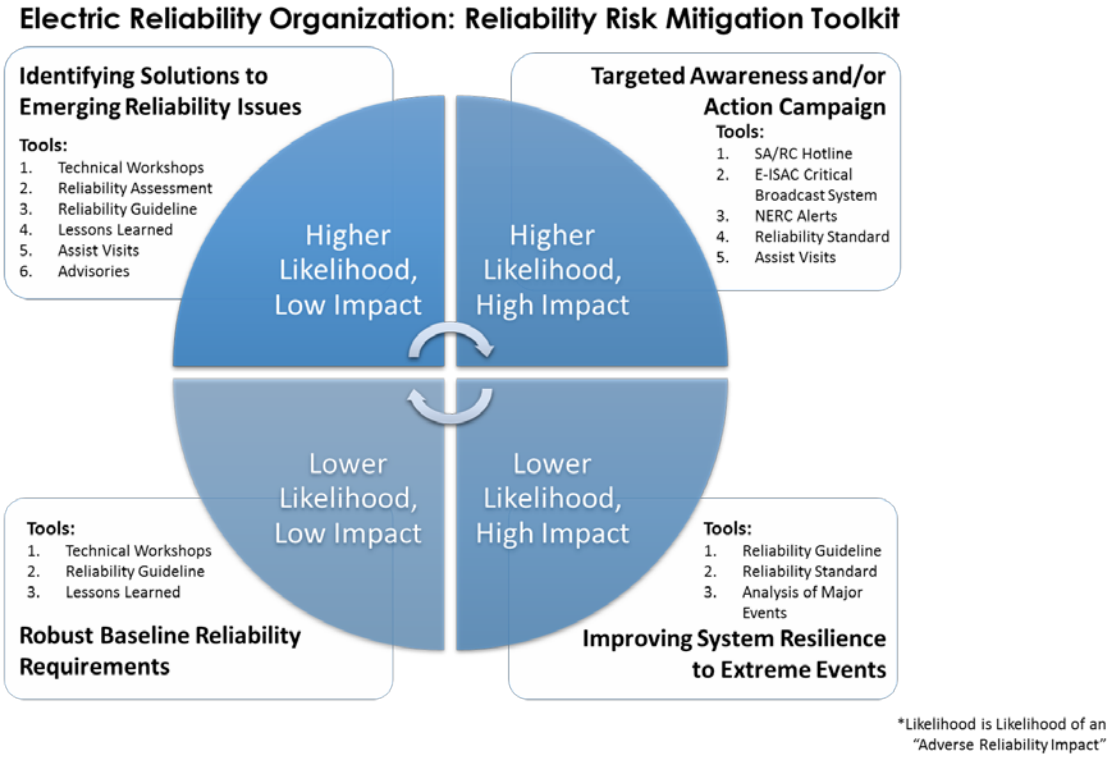
   c. Reliability Guidelines may also be used to establish performance expectations for emerging risks prior to codifying those expectations into Reliability Standards.

3. **Technical Engagement** can be used to address sustained risks or one-and-done activities with low impacts, whether likely or unlikely. This includes not only ERO Enterprise, but also amplifying engagement through the reliability ecosystem, such as the Forums research organizations, and government. It also serves as an important tool to promote future sustained risk mitigation or support for using Reliability Guidelines or Reliability Standards where data suggests the tool has not been effective at mitigating the risks.

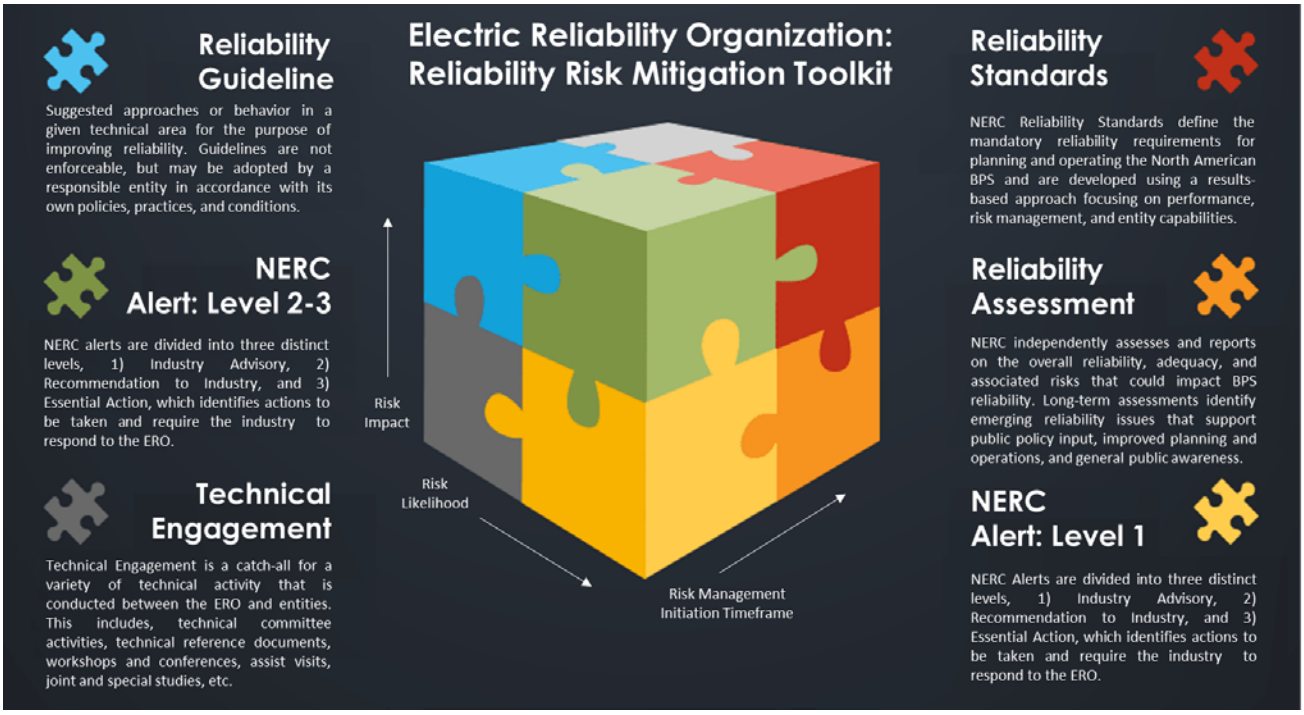
4. **Reliability Assessments** can be used to address longer-term risks, whether likely or unlikely. Generally, reliability assessments are used to inform and influence policymakers, industry leaders, and the general public about important public and energy policy issues impacting BPS reliability.

5. **Alerts** are the likely tool for sharing information, especially time-sensitive information, to request action or direct action. They can also serve as a more nimble, foundational activity for other tools

From a likelihood and impact perspective, the tools above overlap based on the specifics of each risk being mitigated. In addition, there are a host of additional tools that work together to manage risks, such as engagement with the reliability ecosystem, (e.g. Forums, professional organizations (IEEE-PES, CIGRE, etc.), and government). A combination of tools can be used towards gaining industry action, setting the stage for standards as well as addressing a risk while a standard is being developed. Likelihood and impact has a bearing when a Reliability Standard is required. Below provides an illustration that is representative of the principles:



Application of the reliability toolkit provides a multi-dimensional approach to address risks. Namely, some of the tools can be put in place swiftly, while others require industry collaborative action which can take more time. Further, there are time considerations on the speed of tool deployment, as well as the speed at which a risk should be addressed. The figure below provides a risk time horizon perspective.



Tools that are used from the toolkit are largely dependent on the likelihood that a given risk would impact reliability. For example, reliability issues that have occurred are generally more likely than those that have not occurred. Risks/issues that have occurred are likely to occur again.

Therefore, tools used to mitigate risks that have occurred may be different than tools used to mitigate longer-term issue that haven't impacted reliability yet. For instance, after analysis of major and/or off-normal events, depending on the potential impacts and reoccurrence likelihood, strong action can be taken by the ERO Enterprise with nearly immediate response by issuing up to three levels of NERC Alerts, Assist Visits, followed by Reliability Guidelines, technical conferences, and enhancement of Reliability Standards.

Generally, industry action to address medium to high impact and likelihood risks employs Reliability Standards which provide the highest certainty of risk mitigation. Following Reliability Standards is mandatory, but provide a high value creating comfort and certainty to interconnected organizations for the expectations and roles, ensuring that the adequate level of reliability will be maintained. In the end, following the Reliability Standards is an outcome of good industry reliability performance, rather than a burden.

High-Impact Low-Frequency-type risks generally do not have a historical record of technical information. Longer-term risks can be difficult to quantify—therefore, much of the work the ERO can do is to assemble industry experts and stakeholders to agree on and validate what the reliability risk is and how it should be considered and addressed within the ERO toolkit, including the full reliability ecosystem. These risks require more collaborative effort and more time towards developing technical references, convening industry stakeholders, and conducting independent reliability assessments to determine the best way to mitigate the risk.

Attachment A

ERO Enterprise Resilience Model as a Framework to Apply Reliability and Security Tools

Background

In August 2017, the Department of Energy (DOE) issued a Staff Report to the Secretary on Electricity Markets and Reliability (DOE Grid Report) regarding reliability and resilience in light of the changing energy environment. One recommendation in the DOE Grid Report stated that NERC should consider adding resilience to its mission and broadening its scope to address resilience. In response to the DOE report and NERC assessments, the NERC Board of Trustees (NERC Board) directed the Reliability Issues Steering Committee (RISC) to develop a model for resilience and examine resilience in today's environment.

In accordance with the NERC Board's directive, the RISC worked with NERC stakeholders to reexamine the meaning of resilience in today's changing environment and how resilience impacts NERC activities. Meanwhile, the DOE and Federal Energy Regulatory Commission (FERC) have continued evaluating the relationship of resilience and reliability.

NERC has developed, filed with FERC, and later updated a definition of the adequate level of reliability (ALR) along with a technical report to guide Reliability Standards development, Reliability Assessments, guideline development, data collection, system analysis and standing committee work. In particular, the ALR, or design basis of the system, is defined as the state that design, planning, and operation the BES will achieve when five performance objectives are met.[3] Each objective addresses Reliable Operation of the BES over four time frames:

1. **Steady state:** the period before a disturbance and after restoration has achieved normal operating conditions
2. **Transient:** the transitional period after a disturbance and during high-speed automatic actions in response
3. **Operations response:** the period after the disturbance where some automatic actions occur and operators act to respond
4. **Recovery and system restoration:** the time period after a widespread outage through initial restoration rebounding to a sustainable operating state and recovery to a new steady state

[3] The ALR Performance Objectives are as follows:

1. The BES does not experience instability, uncontrolled separation, Cascading, or voltage collapse under normal operating conditions and when subject to predefined Disturbances.
2. BES frequency is maintained within defined parameters under normal operating conditions and when subject to predefined Disturbances.
3. BES voltage is maintained within defined parameters under normal operating conditions and when subject to predefined Disturbances.
4. Adverse Reliability Impacts on the BES following low probability Disturbances (e.g., multiple contingences, unplanned and uncontrolled equipment outages, cyber security events, and malicious acts) are managed.
5. Restoration of the BES after major system Disturbances that result in blackouts and widespread outages of BES elements is performed in a coordinated and controlled manner.

The ALR also lists two assessment objectives for purposes of assessing risks to reliability:

1. BES transmission capability is assessed to determine availability to meet anticipated BES demands during normal operating conditions and when subject to predefined Disturbances.
2. Resource capability is assessed to determine availability to the Bulk Electric System to meet anticipated BES demands during normal operating conditions and when subject to predefined Disturbances.

Resilience Model: In November of 2018, the NERC Board accepted the RISC's Report, titled "Reliability Issues Steering Committee Resilience Report." This report summarizes the results of the RISC's examination of resilience, including the RISC Resilience Model (See Figure 1).

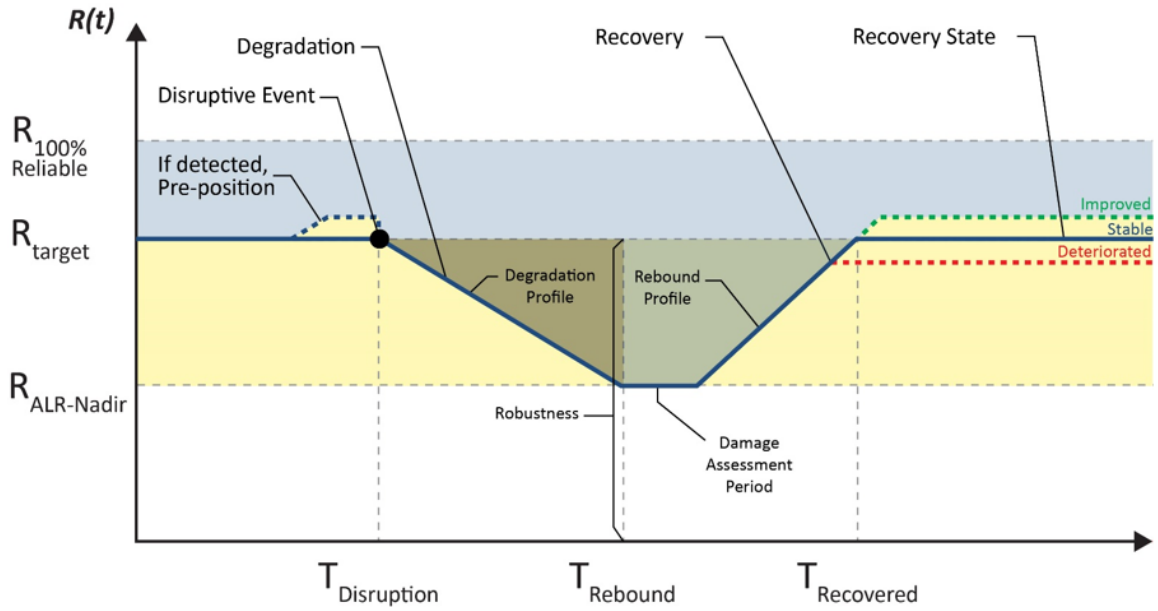


Figure 1 RISC Resilience Model

As shown the Figure 1, there are five resilience indicators:

1. **Robustness:** the measured ability to withstand certain threats (R_{target})
2. **Amplitude:** a measure of the impact on BPS performance ($R_{target} – R_{ALR\text{-}Nadir}$)
3. **Degradation:** a measure of a change in system response with respect to an impact of varying amplitude (average slope between $T_{Disruption}$ and $T_{Rebound}$)
4. **Rebound:** a measure of the rate at which the system returns (rebounds) to a normal or stable state after the disruptive event (average slope between $T_{Rebound}$ and $T_{Recovered}$)
5. **Recovery state:** the state of BPS performance following the recovery period.
    a. Stable (R_{target})
    b. Improved ($R_{Improved}$)
    c. Deteriorated ($R_{Deteriotated}$)

Application of the Resilience Model: Not only does the resilience model clearly define the reliability domain in which the ERO operates, it also provides a useful framework to discuss the applications of a variety of tools the ERO deploys to accomplish its mission.
For example, the development and compliance to a NERC or Regional Reliability Standard should improve or support one or more of the five resilience indicators provided above. Similarly, this is true of Guidelines, Reliability Assessments, Events Analysis, Situation Awareness and Information Sharing, lessons learned, NERC Alerts, data collection and analysis, system analysis, etc. developed to address risks to the reliable operation of the bulk power system.