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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Reliability and Security Technical Committee Meeting

June 9, 2021

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Section 1600 Data Request

For GADS Conventional, GADS Wind, and GADS Solar

Donna Pratt, Manager, Performance Analysis
Reliability and Security Technical Committee
June 9, 2021

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Motion

- Motion to accept posting the GADS Section 1600 Data Request for a 45-day comment period.

Action Requested

- In 2017, the Planning Committee requested the GADS Working Group (now GADS User Group) determine the data reporting requirements for solar data reporting, with the goal of preparing a Section 1600 data request
- The Performance Analysis Subcommittee has reviewed and endorsed the proposed changes to the GADS Section 1600 Data Request
- RSTC Action Requested: Authorize posting to begin the 45-day public comment period in mid to late June for changes to the GADS Section 1600 Data Request in order to seek NERC Board approval in November, 2021

Background

- 2015: GADS Section 1600 data request extended to include wind reporting
- 2018: the GADS Solar project team, made up of industry solar plant owners/operators and national/international industry organizations, began developing the data reporting requirements, providing monthly updates to the GADS Working Group
  - The draft reporting instructions were completed in early 2020
- During the development of the data reporting requirements for solar facilities, gaps in the reporting requirements for wind reporting and conventional units were identified:
  - Wind: event reporting and connected energy storage
  - Conventional: design/configuration data
- The GADS Working Group created sub-teams to prepare changes for GADS Wind and Conventional GADS

Updates to GADS Section 1600

- NERC is seeking to update the GADS Section 1600 data request to add value by expanding GADS reporting to include:
  - Solar (new):
    - Inventory/configuration, event reporting, and performance data
    - Inventory/configuration of connected energy storage and performance data
  - GADS Wind extensions:
    - Event reporting and connected energy storage
    - Changes to configuration data to support event reporting, and
    - Expansion of mandatory data reporting fields
  - Conventional GADS extensions:
    - Unit design data that is comparable to the types of information being collected for wind and solar

Overview

Data Collection System	Who	Plant Criteria	Types of Data
New: GADS – PV / GADS Solar	NERC registered entities that are Generator Owners	Utility-scale photovoltaic facilities of 20 MW or greater, regardless of interconnection type Commissioned on or after January 1, 2010	Plant configuration, connected energy storage, performance and event reporting, mandatory equipment outage detail
Existing: GADS – W / GADS Wind	NERC registered entities that are Generator **Owners**	Wind facilities of **50** MW or greater Commissioned on or after January 1, **2000**	Connected energy storage and event reporting, EIA code, component (equipment) outage detail becomes mandatory
Existing: GADS / GADS Conventional	NERC registered entities that are Generator Owners	Conventional facilities of 20 MW or greater	Relevant design data and enhanced event reporting, contributing condition code

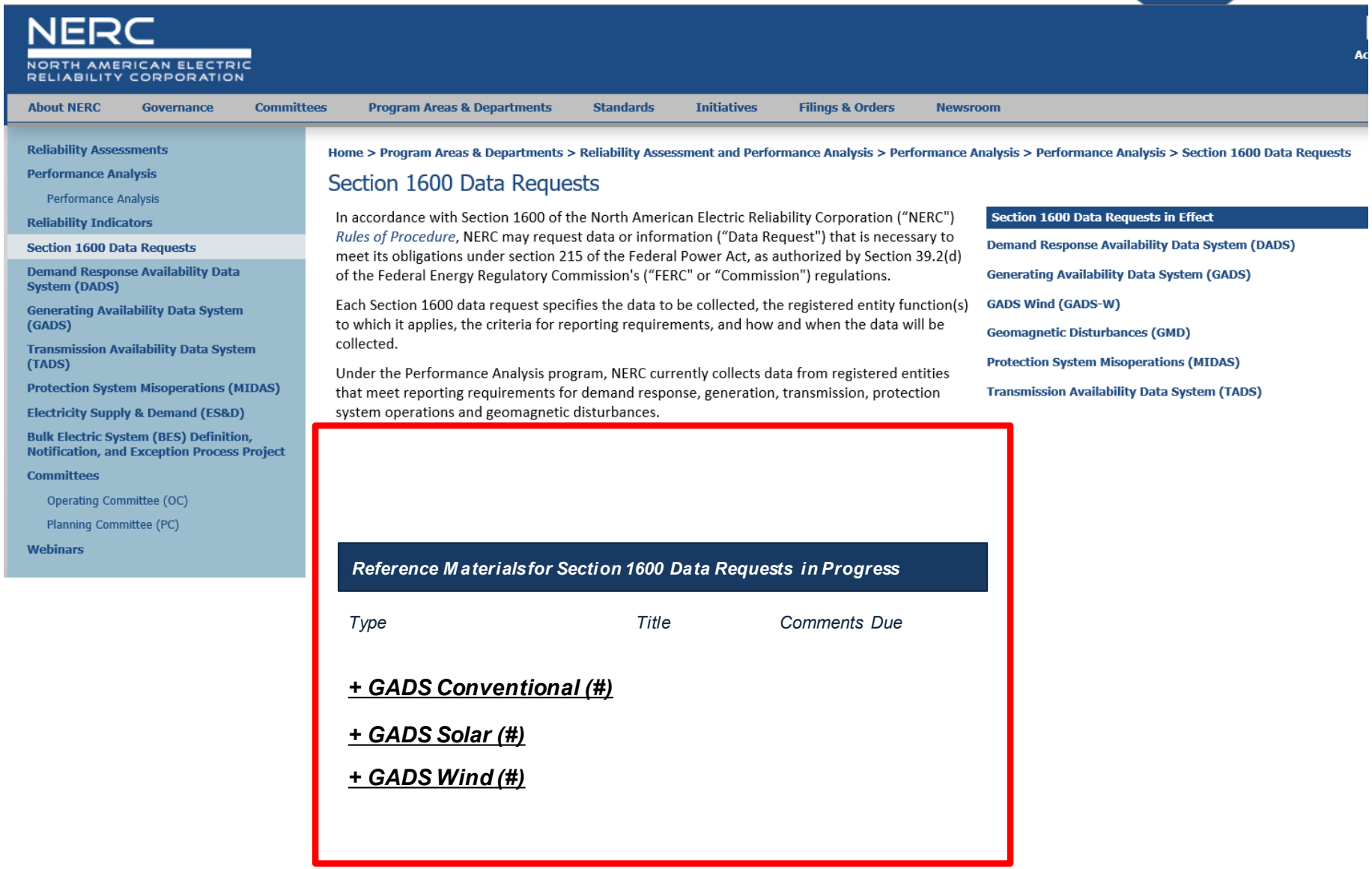
 * *Red text denotes a change to an existing reporting requirement*

Proposed Process Timeframes

- Review and Approval Process:
  - Proposed 45-day public comment period: mid-late June to mid-August
  - Review and disposition of comments with RSTC: September, 20201
  - Presentation to NERC Board: November 2021
- Proposed Reporting Timelines:
  - GADS Solar:
    - Late 2022*: Voluntary reporting
    - 1/1/2023: Mandatory reporting for plants 50 MW or greater
    - 1/1/2024: Mandatory reporting for plants 20 MW or greater
  - GADS Wind and GADS Conventional:
    - 1/1/2023: Reporting changes become effective

**Estimated dates, subject to organizational project priorities*
**Mid-year implementations may not begin until new calendar year*

Section 1600 Page on NERC.com



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About NERC | Governance | Committees | Program Areas & Departments | Standards | Initiatives | Filings & Orders | Newsroom

- Reliability Assessments
- Performance Analysis
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- Demand Response Availability Data System (DADS)
- Generating Availability Data System (GADS)
- Transmission Availability Data System (TADS)
- Protection System Misoperations (MIDAS)
- Electricity Supply & Demand (ES&D)
- Bulk Electric System (BES) Definition, Notification, and Exception Process Project
- Committees
  - Operating Committee (OC)
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- Webinars

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Section 1600 Data Requests

In accordance with Section 1600 of the North American Electric Reliability Corporation ("NERC") *Rules of Procedure*, NERC may request data or information ("Data Request") that is necessary to meet its obligations under section 215 of the Federal Power Act, as authorized by Section 39.2(d) of the Federal Energy Regulatory Commission's ("FERC" or "Commission") regulations.

Each Section 1600 data request specifies the data to be collected, the registered entity function(s) to which it applies, the criteria for reporting requirements, and how and when the data will be collected.

Under the Performance Analysis program, NERC currently collects data from registered entities that meet reporting requirements for demand response, generation, transmission, protection system operations and geomagnetic disturbances.

Section 1600 Data Requests in Effect

- Demand Response Availability Data System (DADS)
- Generating Availability Data System (GADS)
- GADS Wind (GADS-W)
- Geomagnetic Disturbances (GMD)
- Protection System Misoperations (MIDAS)
- Transmission Availability Data System (TADS)

Reference Materials for Section 1600 Data Requests in Progress

Type	*Title*	*Comments Due*
+ GADS Conventional (#)		
+ GADS Solar (#)		
+ GADS Wind (#)		

During and After Public Comment Period

- NERC will collect, track, and review public comments
- GADS User Group and GADS Solar project team will review and provide feedback on public comments
- Section 1600 data request materials will be revised as needed in response to the comments
- NERC will:
  - Present to the RSTC the summary of public comments and actions taken
  - Seek endorsement from the RSTC to present the proposed GADS Section 1600 data request to NERC's Board of Trustees for approval
  - Prepare materials and presentation for the November Board of Trustees meeting

Questions and Answers

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DO NOT CITE OR USE THE DATA IN THIS PRESENTATION – Preliminary Data and Results

2021 State of Reliability Report

Preview

John Moura, Director of Reliability Assessment
Donna Pratt, Performance Analysis Manager
June 8, 2021

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The State of Reliability: Objective

- Provide objective, credible, and concise information to policy makers, industry leaders, and the NERC Board of Trustees on issues affecting the reliability and resilience of the North American bulk power system (BPS)
  - Identify system performance trends and emerging reliability risks
  - Determine the relative health of the interconnected system
  - Measure the success of mitigation activities deployed

Key Findings (PRELIMINARY)

- Unprecedented conditions in 2020 challenged BPS resilience:
  - COVID-19 Pandemic
  - Historic hurricane season
  - Extreme heat with load shed and wildfires in the West
  - October 2020 ice storm in Texas
  - December 2020 supply chain compromise
- Escalated resource adequacy risk and a wide-spread heatwave across the Western Interconnection led to substantial load shedding in August
- Cybersecurity attacks and vulnerabilities remain a significant concern
- Favorable Trends
  - Improving restoration times of transmission system outages after extreme weather
  - Continued reduction in the misoperations rate
- Unfavorable Trends:
  - Highest AC circuit unavailability due to extreme weather
  - Highest transmission-related events that resulted in load loss

The North American BPS – By the Numbers

4,588,062,000 MWh
2020 Actual Energy

1,048,944 MW
2020 Summer Peak Capacity

503,551 mi
Total Transmission Circuit Miles > 100kVm

6,009
Number of Conventional Generating Units > 20MW

99.745%
Time with no operator-initiated firm load shedding associated with EEA-3 (13.8 GWh energy unserved or 0.0003% of total energy served)

0
Category 3, 4, or 5 Events (non-weather related)

Reliability Indicator Categories

The reliability indicators below represent four core aspects to system performance that are measurable and quantifiable:

- **Resource Adequacy** - Does the system have enough capacity, energy, and ancillary services?
- **Transmission Performance and Availability** - Is the transmission system adequate?
- **Generation Performance and Availability** - What is the outage performance of the generation fleet?
- **System Protection and Distribution Performance** - Can the system remain stable and withstand disturbances?

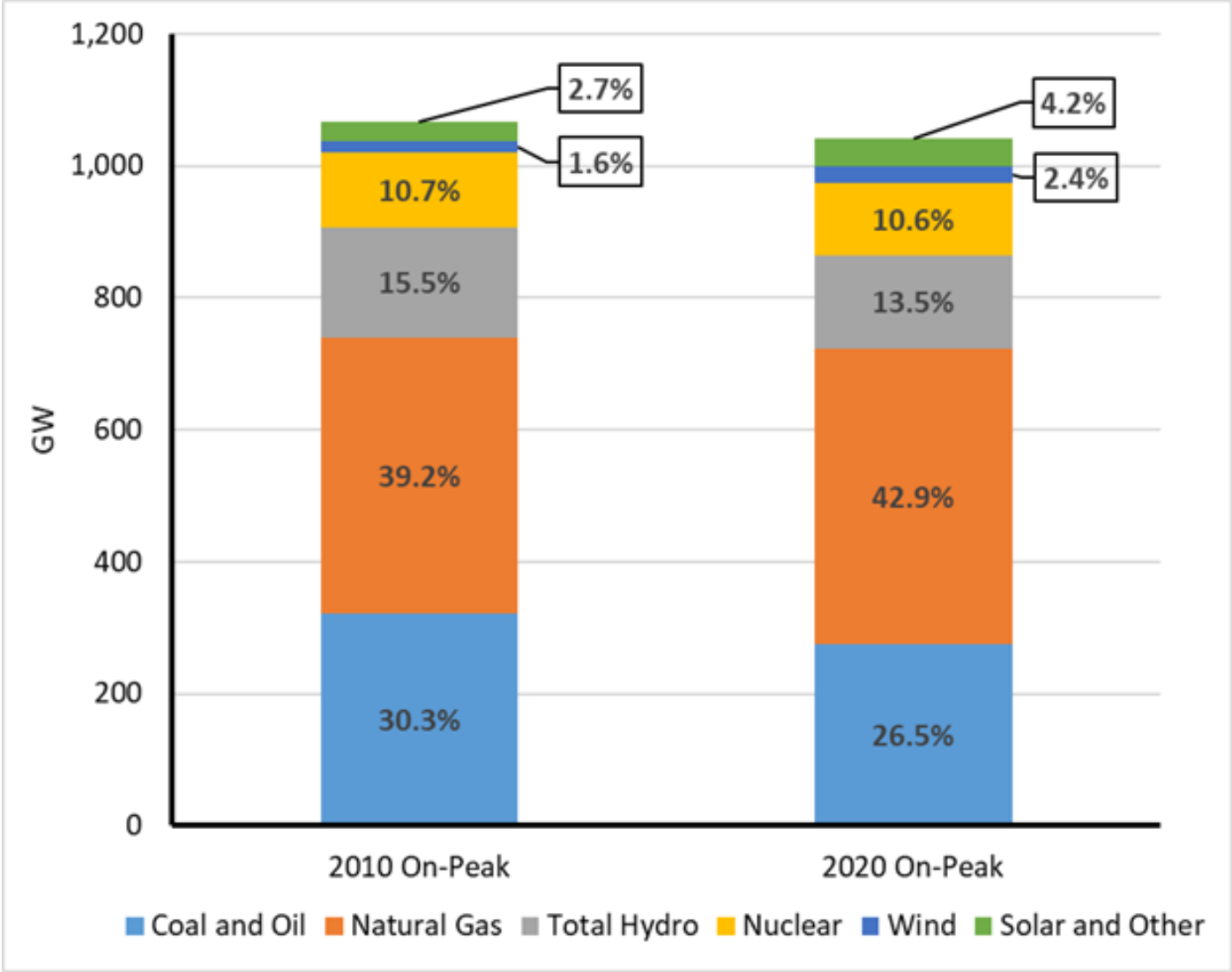
Red – Actionable, key finding

Yellow – Declining, heightened monitoring

White – Stable or no change

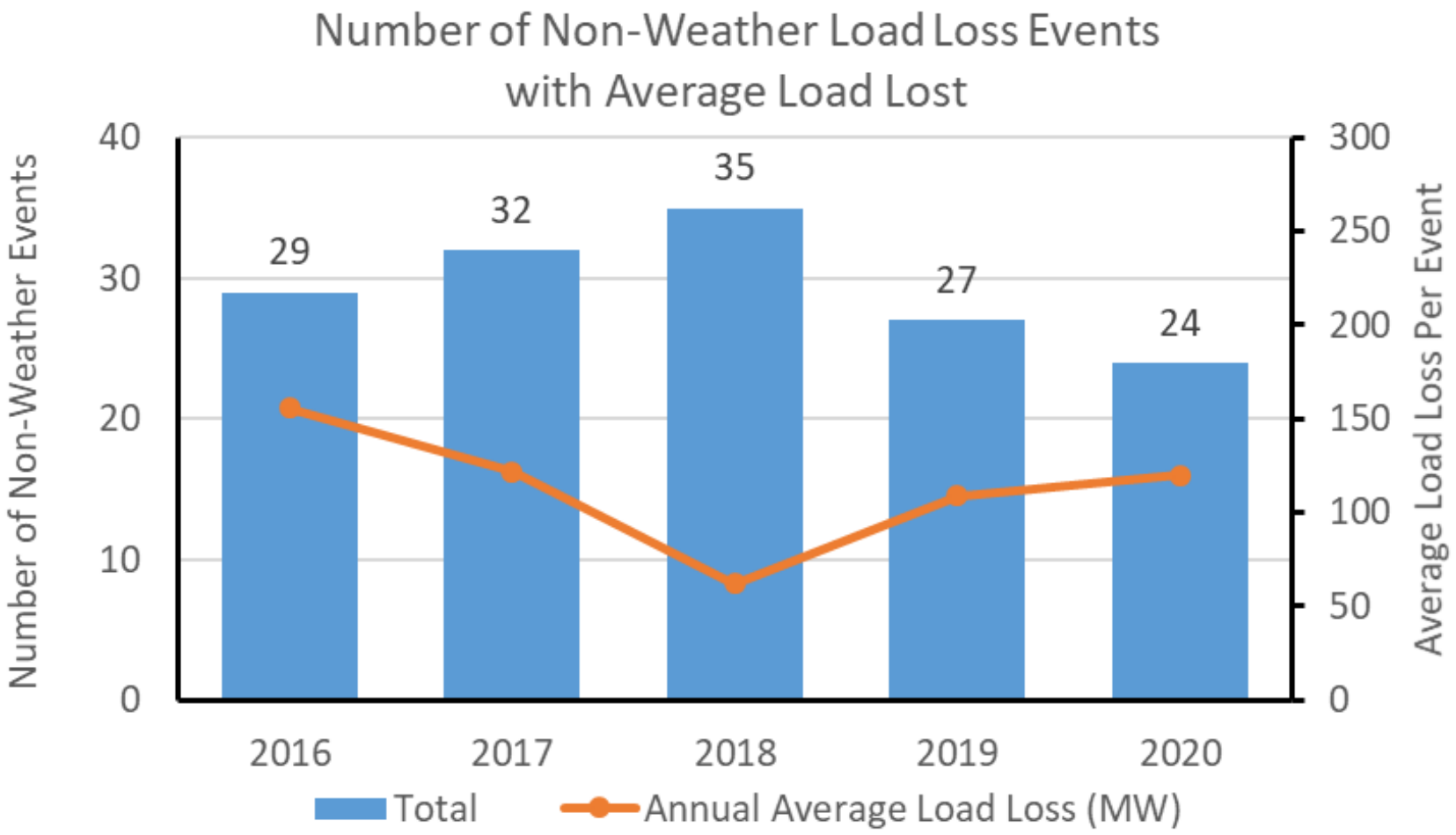
Green – Improving

NERC-Wide Resource Mix
On-Peak Capacity 10-Year Comparison

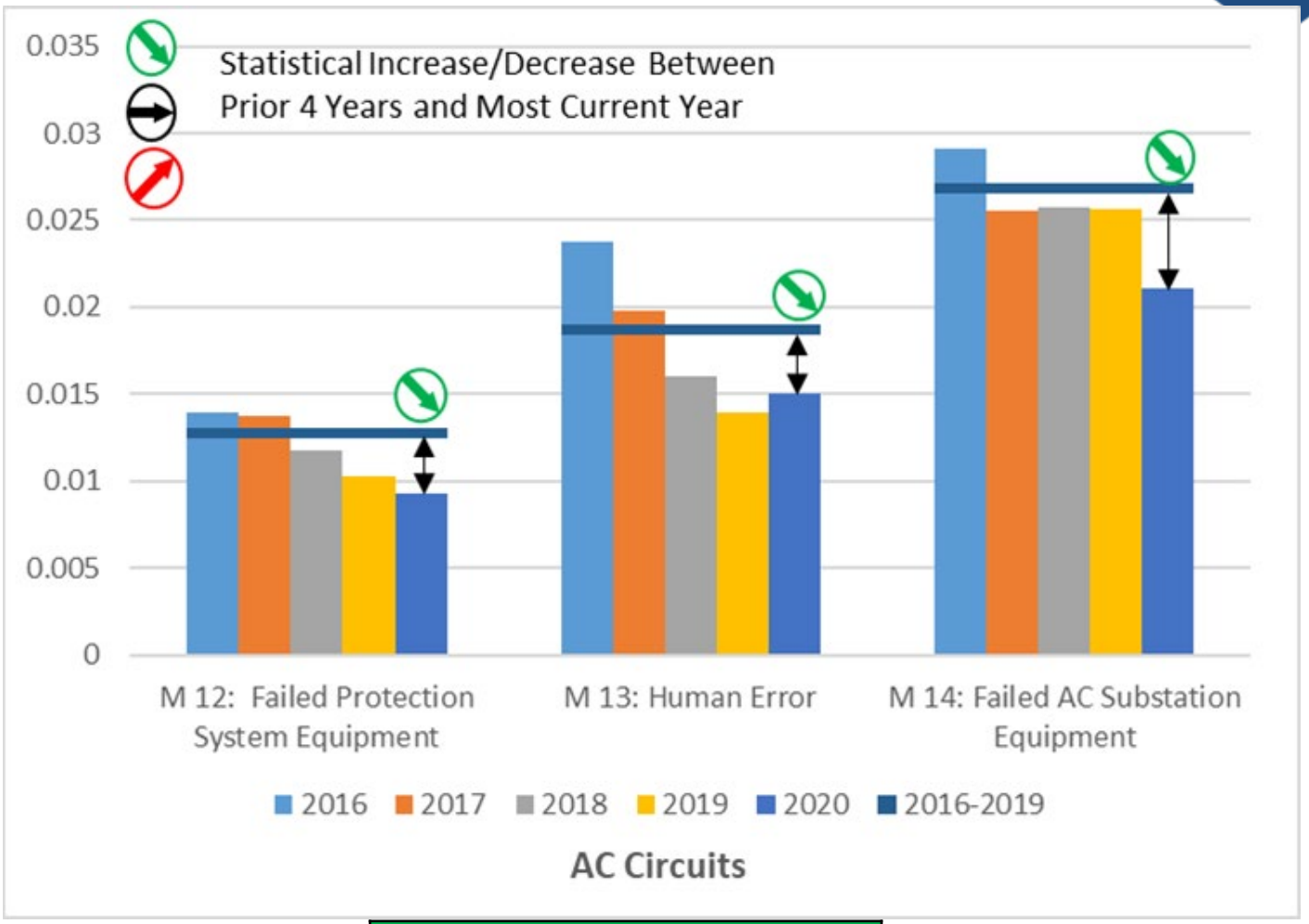


2020 Events and Trends

Transmission greater than 100kV



Reliability Indicators:
Transmission Outages



Protection System
Human Error
AC Substation Equipment

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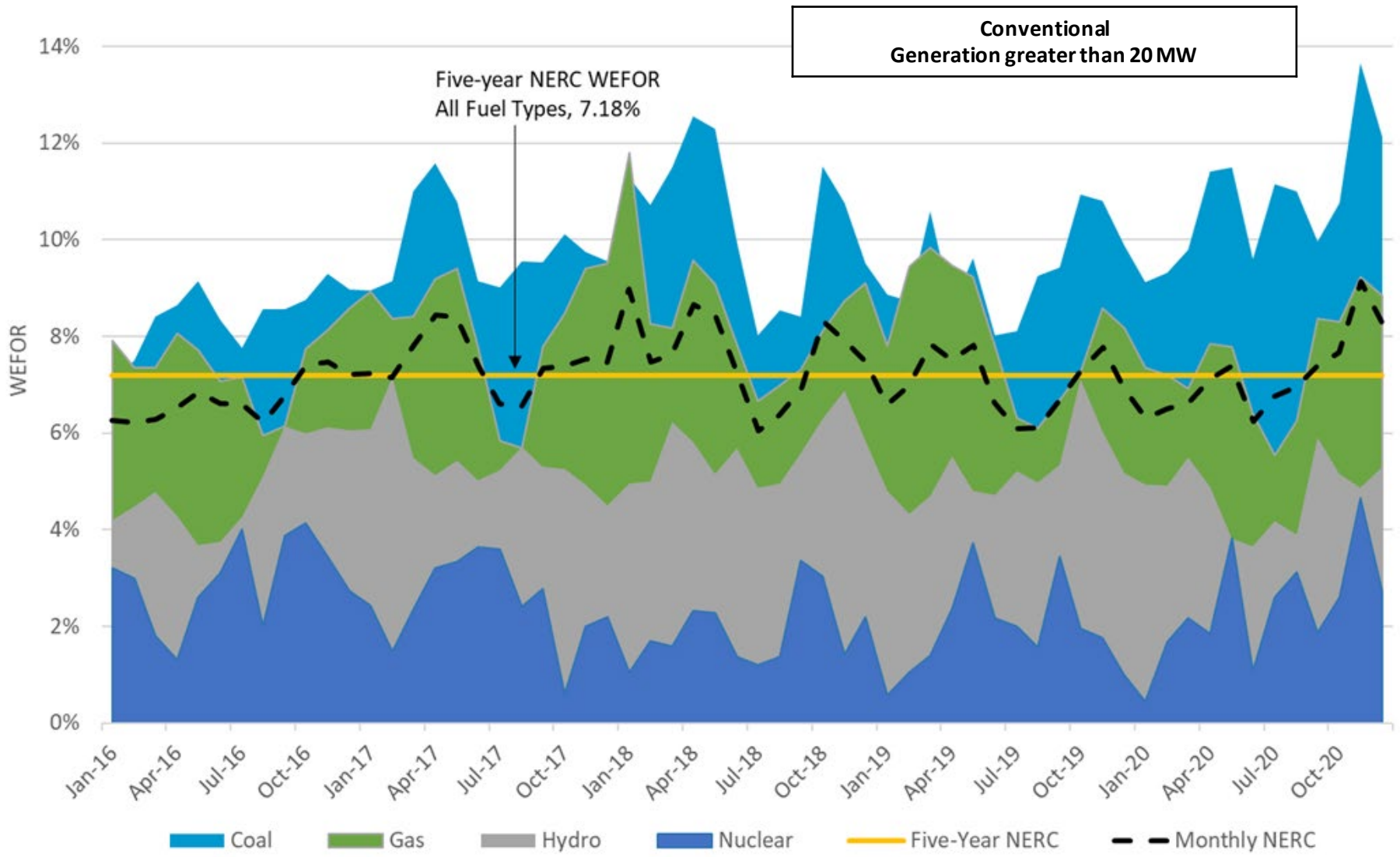
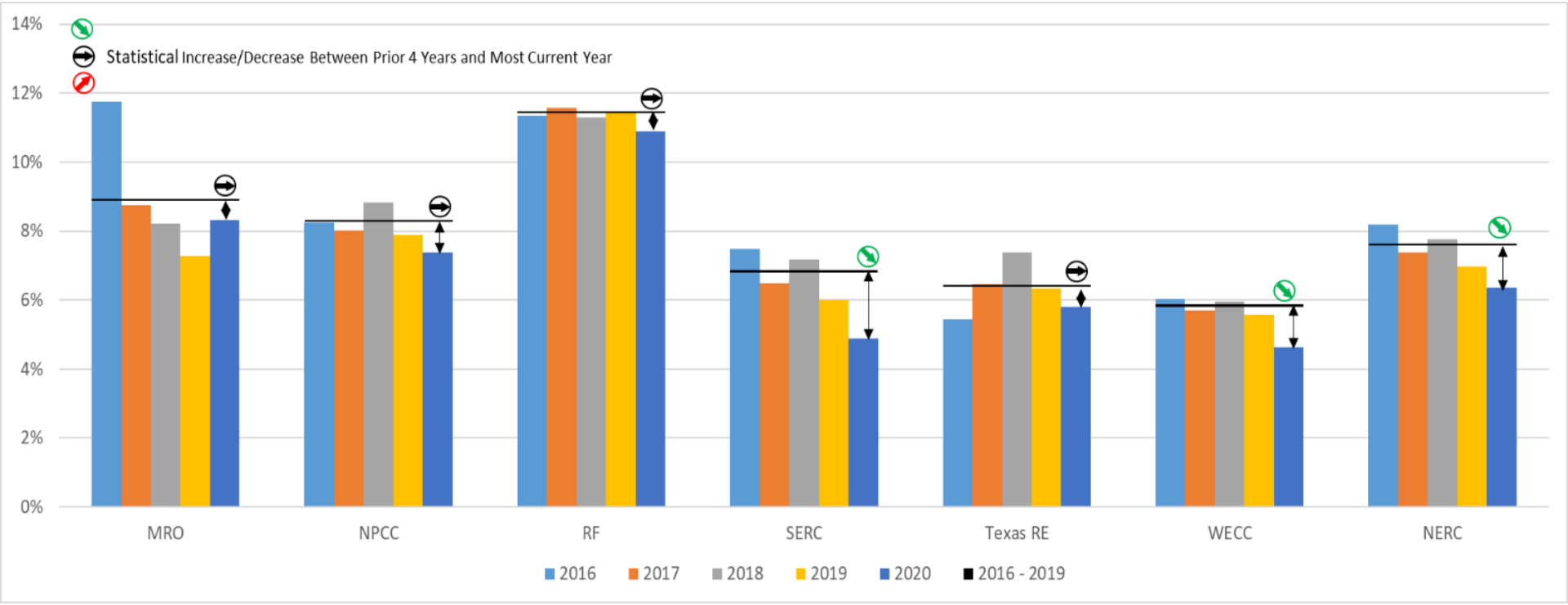
Conventional Generation Availability by Major Fuel Type

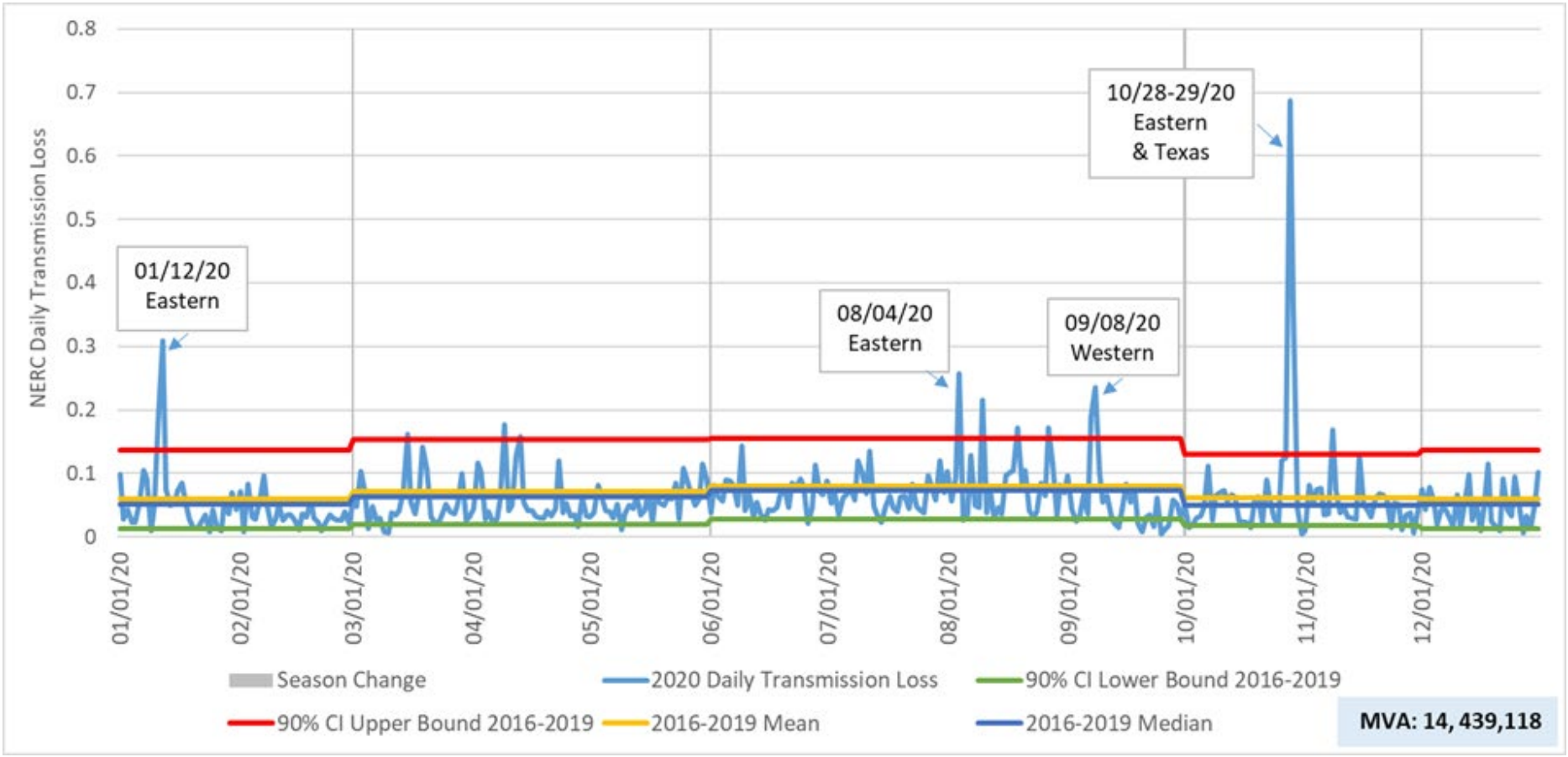


Reliability Indicators:
Protection System Misoperations

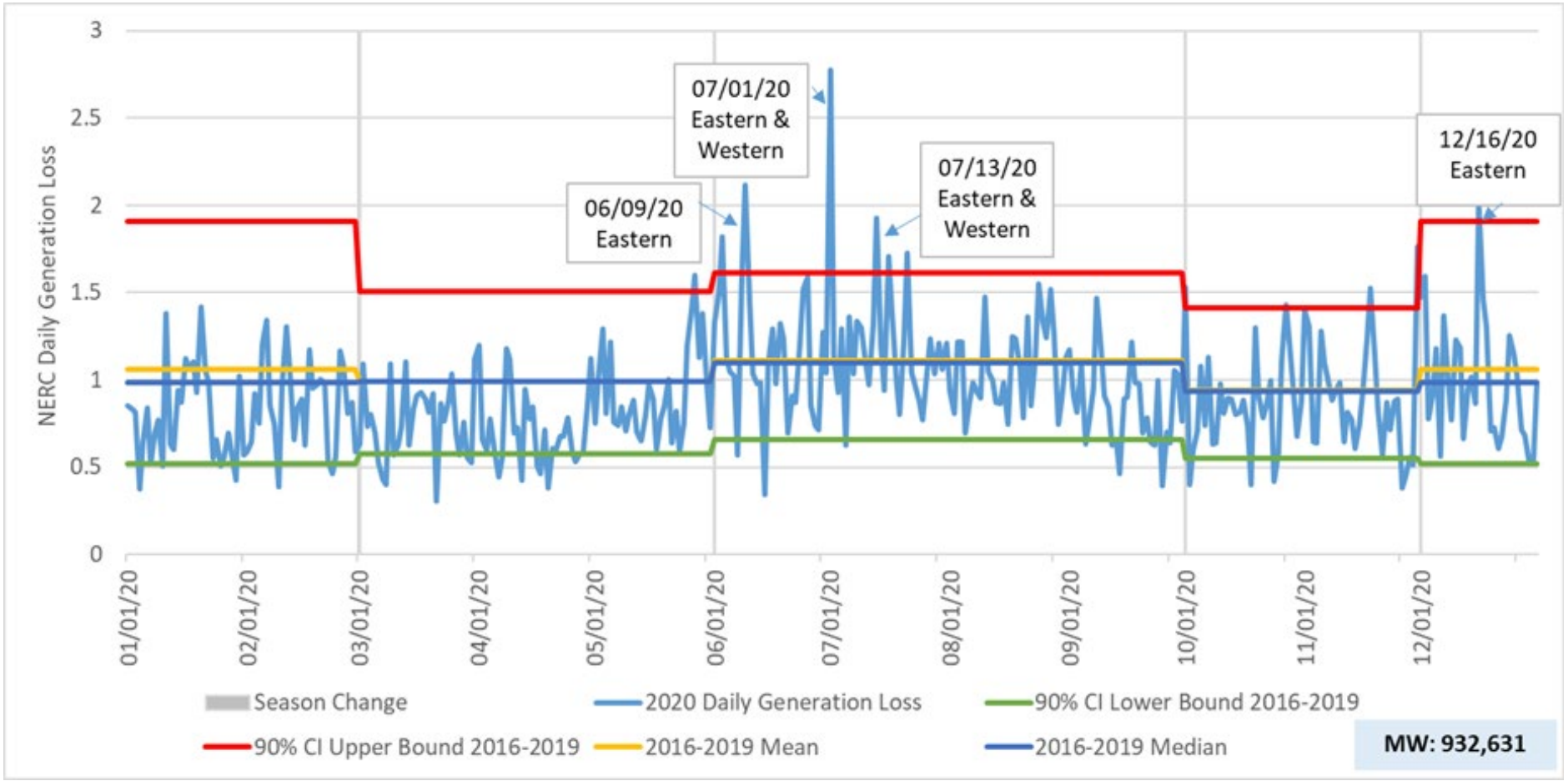


BES Protection Systems

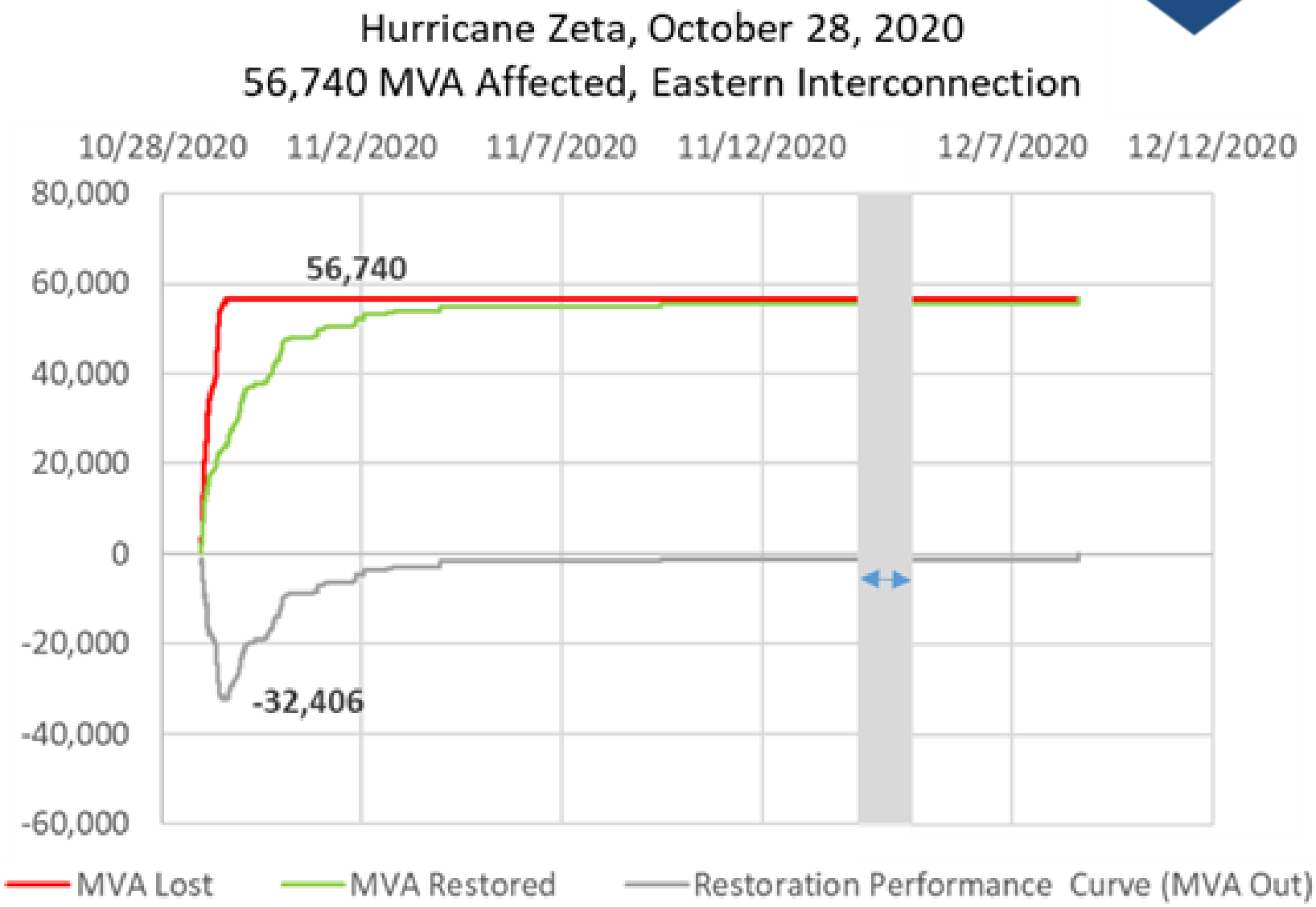
Priority Reliability Issues Example: Extreme Natural Events - Transmission



Priority Reliability Issues Example: Extreme Natural Events - Generation



Example: Transmission Outage Restoration Analysis



2021 SOR Release Schedule

Date	Milestone
July 17	Electronic Voting Deadline for Report Endorsement by the Reliability Security and Technical Committee
July 23	NERC Board of Trustees Review
August 12	NERC Board of Trustees Acceptance
August 13	Target Release

Questions and Answers

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2020 NERC Probabilistic Assessment

Regional Risk Scenario Sensitivity Case Report

Andreas G. Klaube, NPCC, NERC Probabilistic Assessment Working Group Chair
NERC Reliability and Security Technical Committee
June 9, 2021

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Motion

Motion to approve the Probabilistic Assessments Working Group (PAWG) 2020 ProbA Scenario Case Study Report.

Overview

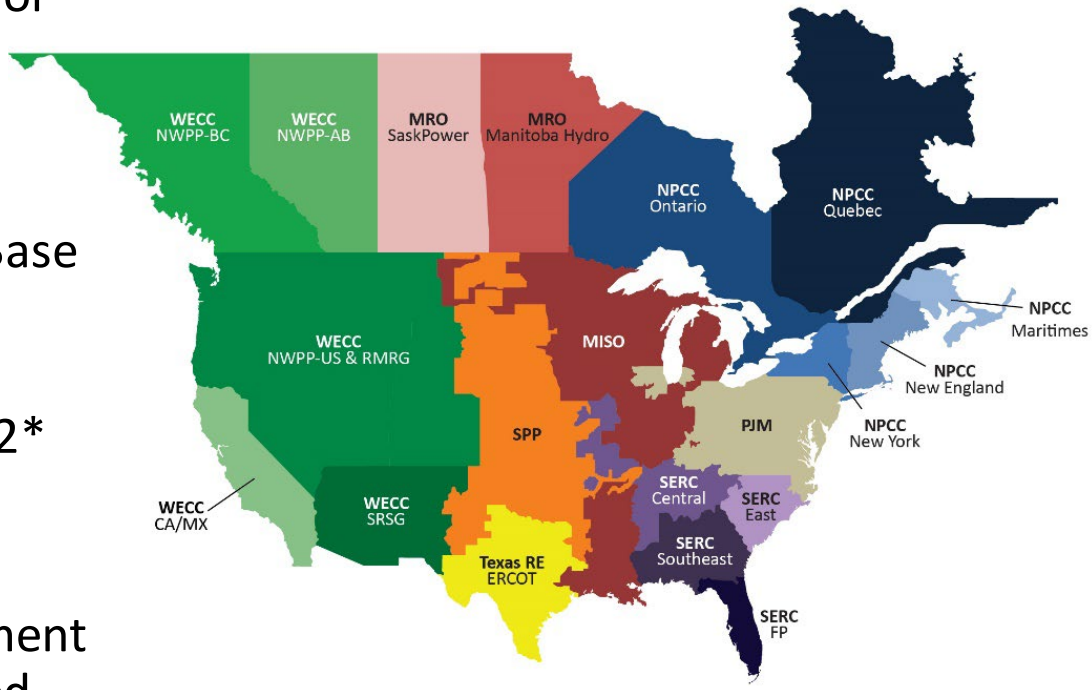
- On a biennial basis, the NERC PAWG performs a Probabilistic Assessment (ProbA) Base Case to supplement the annual NERC Long Term Reliability Assessment (LTRA) analysis
  - 2020 ProbA Base Case published in the 2020 LTRA (Dec. 2020)

- PAWG encouraged regional flexibility in the 2020 ProbA Sensitivity Case by developing a Regional Risk Scenarios Model
  - Planners studied area-specific reliability risks and underlying uncertainties using probabilistic methods (EUE, LOLH indices)

- Assessment utilized a comprehensive peer-review process in coordination with the RAS (2019 – 2021)

Approach

- Maintained the calculation of EUE and LOLH probabilistic indices for Base and Scenario Cases
- Evaluate sensitivities against purported risks by comparing Base and Scenario Cases
- Required year 4, optional year 2* for Sensitivity Case
  - LTRA: 10-year study period
  - *Regional Entity and Assessment Area discretion based on need and anticipated resource changes as reported in the LTRA



Approach: Study Scenarios

- Unique scenarios utilized by Region (6), Assessment Area (20) to study Reliability Assessment risks identified in the LTRA
- Scenarios intentionally stressed assumptions to study their associated impacts
- 2020 ProbA Sensitivity Scenarios:
  - Increased demand response resources as a percentage of total resources **(MISO)**
  - Low hydro conditions and external limitations **(Manitoba Hydro, SaskPower)**
  - Low wind resource reliability risks **(SPP, ERCOT)**
  - Planned/expected future capacity or resources may not materialize **(NPCC, PJM)**
  - Planned maintenance outage system risks **(SERC)**
  - Potential coal retirement resource adequacy risks **(WECC)**

2021 Review Timeline

- March RSTC Presentation and request for reviewers:
  - *Volunteers: Carl Turner, Brian Evans-Mongeon, David Jacobson, Wayne Guttormson, David Mulcahy, Robert Reinmuller*
- PAWG met extensively to address all 40+ comments received:
  - All comments supportive and non-substantive (report results unchanged)
  - Base and Scenario Case results tables added for each Assessment Area
- April RAS endorsement of PAWG responses and authorization to proceed to the RSTC

Results

- Sensitivity results varied across the Assessment and are dependent on underlying study assumptions
  - Some Areas demonstrated purported risks were insignificant or could be mitigated using preventive planning and operating measures

- Results provide an understanding of the reliability across all hours using probabilistic methods (instead of just the peak hour)
  - Provides NERC a way to characterize more “what-ifs” scenarios and the ability to benchmark system risks

Results

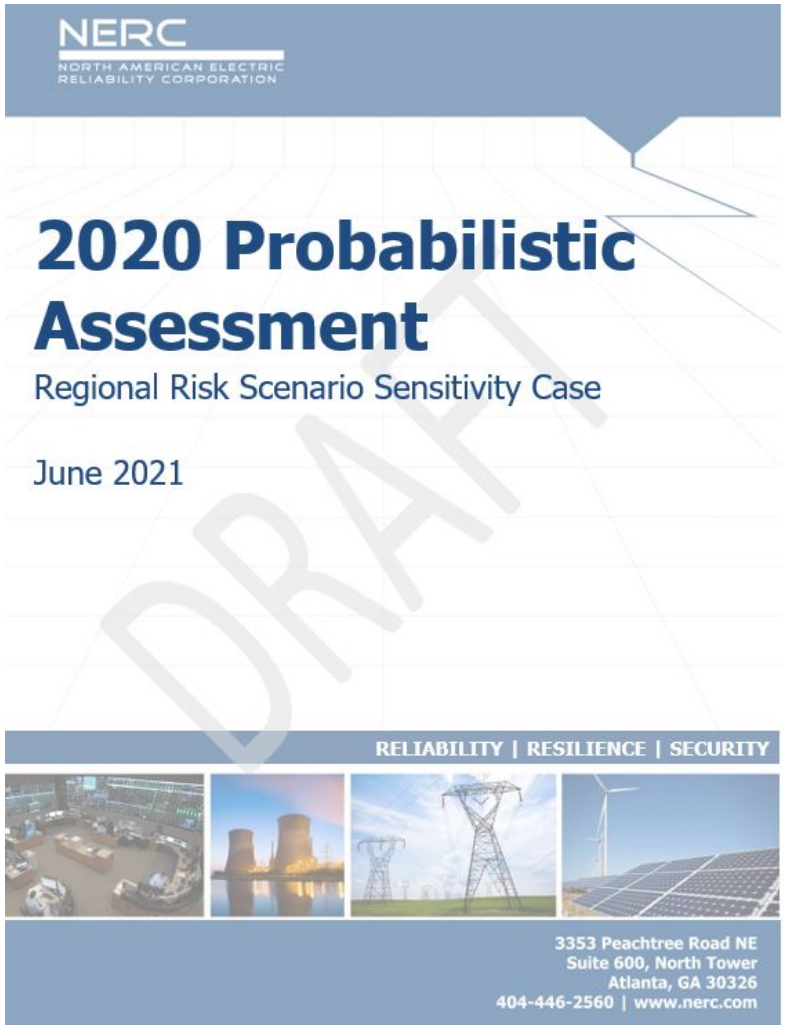
- PAWG recommends increasing coordination between industry operations and planning personnel to further develop assumptions for probabilistic reliability assessments to strengthen and reinforce both processes to meet future reliability needs

- RAS and PAWG will review findings and consider supplementing the 2021 Long-Term Reliability Assessment (LTRA) analysis; *due in December 2021*

Request

- Seeking RSTC approval to post and complete this Work Plan item

(April RAS endorsement of PAWG responses and authorization to proceed to the RSTC)



Questions and Answers

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Data Collections Technical Reference Document

Approaches for Probabilistic Assessments

Andreas G. Klaube, NPCC, NERC Probabilistic Assessment Working Group Chair
NERC Reliability and Security Technical Committee
June 9, 2021

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Motion

Motion to approve the PAWG Data Collections Technical Reference Document.

Overview

- The NERC PAWG promotes the coordination and alignment of probabilistic assessments across North America, identifying recommended best practices and improvement opportunities

- Reference document provides technical considerations to advise industry planners in performing probabilistic resource adequacy studies

- Supplements recommendations from the Probabilistic Adequacy and Measures Report (PC approved, 2018) and 2020 LTRA
  - Provides a foundation for the ERO and industry to advance probabilistic assessments and improve techniques

Summary Points

- Provides general data inputs and related considerations for loss-of-load probabilistic assessments commonly used by industry system planners
- Major data input categories and methods considered:
  - demand, thermal resources, energy-limited resources, emergency operating procedures, and transmission representation
- Raises industry awareness of available probabilistic methods and techniques to conduct reliability assessments for complex systems under increasing uncertainties

Data Considerations

- **Demand**
  - Load Scenarios
  - LFU Considerations, including weather
- **Thermal Resources**
  - Outage management
  - Capacity constraints
- **Energy Limited Resources**
  - Major categories and related management
- **Emergency Operating Procedures**
  - Parameter and collections methods
- **Transmission Representation**
  - Modelling and methods

Data Considerations

- Resource and system demand uncertainties can be addressed through proper data techniques, such as scenario or load-level development, distributions, and available weather data

- System planners across the North American BPS rely upon a wide range of data sources and mechanisms to develop key assumptions and conduct probabilistic studies
  - (i.e., government sources, Registered Entities, GADS)

- Careful understanding of a system's underlying operational characteristics to ensure that data sources, assumptions and techniques are appropriate

2021 Review Timeline

- March RSTC Presentation and request for reviewers:
  - *Volunteers: Carl Turner, Brian Evans-Mongeon, David Jacobson, Wayne Guttormson, David Mulcahy, Robert Reinmuller*
- PAWG met extensively to address all RSTC/RAS comments received:
  - All comments supportive and non-substantive (report results unchanged)
- April RAS endorsement of PAWG responses and authorization to proceed to the RSTC

Results and Future Work

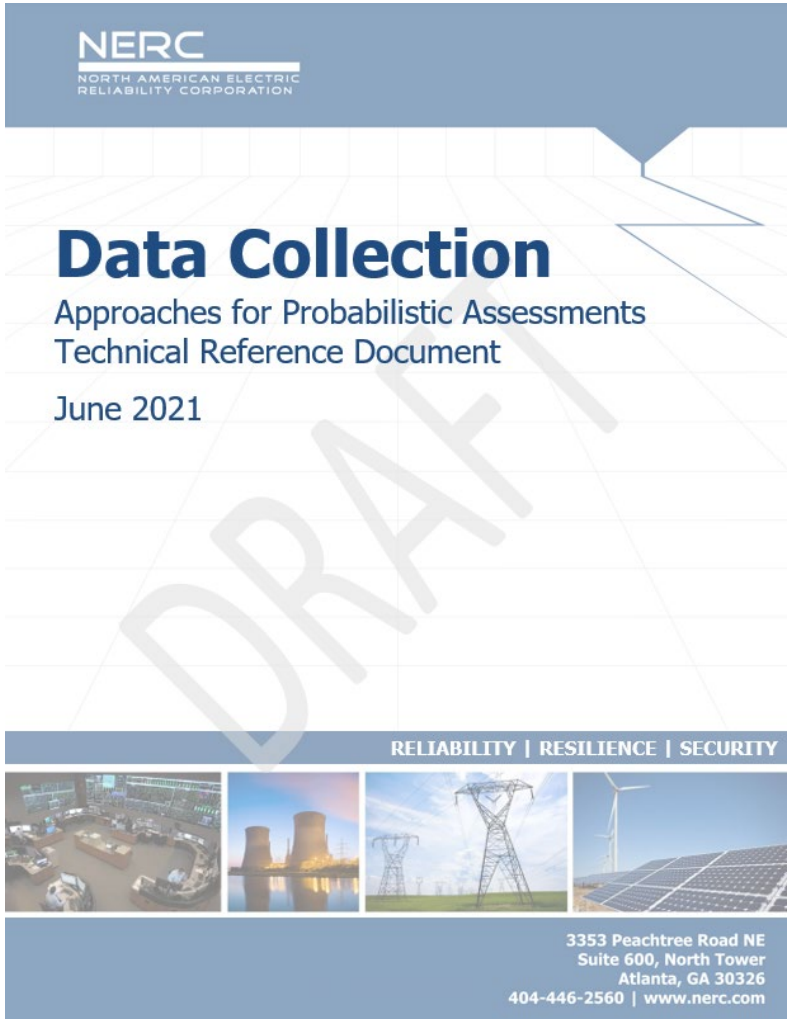
- Assessment evaluations and techniques should continue to evolve to address the future needs and uncertainties of the system

- Probabilistic studies require a wide range and quantity of data that may or may not be publicly available to planners, entities
  - Efforts should be made, where possible, to ensure that industry planners can access data needed to conduct probabilistic studies

Request

- Seeking RSTC approval to post and complete this Work Plan item

(April RAS endorsement of PAWG responses and authorization to proceed to the RSTC)



Questions and Answers

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DER Modeling Survey

Kun Zhu, SPIDERWG Chair
June RSTC Meeting
June 8-9, 2021

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DER Modeling Survey

- SPIDERWG performed an informal survey to its members regarding DER modeling practice.
- Responders included Balancing Authorities, Planning Coordinators, Transmission Planners and other entities.
  - Requests were send to 63 entities
  - Survey had 17 questions
  - Responses received from 45 entities
- Whitepaper was written based on the responses

DER Modeling Survey Results –Key Findings

- Installed DER - Over 30% of respondents have over 1,000 MW, 60% - more than 100 MW, and about 40% - less than 100 MW.
- DER tripping during faults – reported by 40% of respondents. Few entities were able to report a quantitative amount of DER tripping due to limited data available.
- Shift in peak or light net load hours due to the increased penetration of DERs - 40% of respondents reported in planning timeframe or real-time horizon.
- Receiving operational DER information (i.e., DER output) for individual DERs above a size threshold - about 50% of respondents. The majority of remaining respondents do not receive any operational data regarding DERs in their system, even in an aggregated manner.

DER Modeling Survey Results –Key Findings

- Explicit DER modeling - 45% of respondents have some representation of the aggregate level of DERs in their system.
  - Most of those respondents model the aggregate DER using a generator record in the simulation tools.
  - 40% of respondents use a negative load or embed DERs into load forecasts (i.e., no DER representation in study).
  - 15% use a mix of explicit representation and net load reduction.
  - Entities responding that they use negative load or embedded in the load forecasts stated they do not have tools to represent DERs, do not have enough data to represent DERs in study, or have DER capacity too small to make an impact on the BPS.

DER Modeling Survey Results –Key Findings

- Threshold for modeling utility-scale DERs - about 50% of respondents do not have it, and do not model U-DERs in their studies. The remaining respondents use some threshold ranging from less than 1 MW to above 10 MW.
- Threshold for modeling retail-scale DERs - 62% of respondents stated that they do not model R-DER to represent aggregate levels of DER. 20% use a threshold less than 1 MW and 16% use a threshold between 1 MW and 5 MW.
- DER aggregation - Over 50% of respondents stated that they are not modeling DERs in any aggregated manner in their studies. 22% aggregate based on connection point (i.e., T-D substation). 16% aggregate based on size, fuel type, and connection point.

DER Modeling Survey Results –Key Findings

- Modeling DER in dynamic studies - 73% of respondents stated that they do not model DERs in dynamic; 27% reported that they do model DERs in dynamic studies. Reasons for not modeling DERs in dynamic studies were low amount of DERs in their footprint, unavailability of DER models or tools, and lack of DER information to populate the dynamic models in a meaningful way.
- Those that are modeling DERs in dynamic studies are using primarily either the DER_A dynamic model or the more detailed second-generation renewable energy system models.
- No entities reported using the obsolete PV1 or PVD1 models. One entity reported using their own in-house dynamic model.

DER Modeling Survey Results –Key Findings

- Distributed energy storage - about 70% of respondents stated they do not model distributed energy storage in their models; about 30% reported that they do model distributed energy storage.
- For those that do model distributed energy storage, about 70% stated that they model both full injection and full absorption scenarios; 23% reported modeling the distributed battery at maximum injection level only; one entity reported modeling their distributed storage off-line in studies presently.

Recommendations and Next Steps

- The survey highlights that DER penetrations are rising yet DER data collection, modeling, and modeling practices need to improve across the industry.
- SPIDERWG will continue to support industry education of DER modeling and studying their impacts to BPS reliability through workshops, webinars, guidelines, and technical reports.
- SPIDERWG recommends the following to all TPs and PCs to improve DER modeling practices:
  - **TPs and PCs with minimal DER penetration**: should continue monitoring DER forecasts and be prepared to incorporate DER models to understand their potential impacts to BPS reliability. Regardless of DER penetration level, all entities should ensure that DER tracking and data collection is in place to account DER appropriately.

Recommendations and Next Steps

- **TPs and PCs with DER penetrations but lack of available DER modeling information**: should incorporate the recommendation in NERC Reliability Guideline: DER Data Collection for Modeling in Transmission Planning Studies, and work with their respective Distribution Providers to ensure that DER information is collected and available for BPS reliability studies. Without this information reliability assessments in the planning horizon may not be accurate.
- **Distribution Providers are strongly recommended to review NERC Reliability Guideline:** Bulk Power System Reliability Perspectives on the Adoption of IEEE 1547-2018 and ensure DER data is being collected and provided to the TP and PC for the purposes of BPS planning assessments.
- **TPs and PCs seeking guidance for recommended DER modeling practices**: should review the recommendations provided in NERC reliability guidelines pertaining to recommended DER modeling practices, and improve their modeling capabilities for representing aggregate levels of DERs. Modeling DERs is paramount to identifying any potential reliability issues that may be presented with increasing levels of DERs; hence, entities cannot assess impact without DER information and models to study those impacts.

Recommendations and Next Steps

- SPIDERWG recommends that the NERC Reliability and Security Technical Committee (RSTC) should consider the current state of DER modeling practices and ensure that barriers to the collection of DER information for the purposes of executing planning assessments are addressed and broken down appropriately.
- The white paper illustrates that DERs are having an impact on the BPS, particularly tripping during fault events, and that entities are using limited or no DER modeling practices in some cases. Further, the extent of DER modeling in dynamic studies is fairly minimal considering the current and projected forecasts of DERs in many footprints. Limitations to DER modeling include lack of information regarding DER installations and limited DER modeling capability.

Questions and Answers

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Energy Reliability Assessments Task Force (ERATF) Update

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RSTC Status Report – Energy Reliability Assessment Task Force (ERATF)

Chair: Peter Brandien
June 8-9, 2021

On Track
Schedule at risk
Milestone delayed

Purpose: The ERATF is tasked with assessing risks associated with unassured energy supplies stemming from the variability and uncertainty from renewable energy resources, limitations of the natural gas system and transportation procurement agreements, and other energy-limitations that inherently exist in the future resource mix.

Recent Activity:

- Reviewed the white paper, scope and work plan.
- Developed a Resource Map of RSTC subcommittees and working groups to assist in addressing the Focus Areas.
- Developed common worksheets to manage deliverables.
- Coordinated with the RSTC subcommittee and working group leadership.

Items for RSTC Approval/Discussion:

- **Discussion**: Update the RSTC on the coordination activities between the ERATF and RSTC subcommittees and working groups.

Upcoming Activity:

- Industry coordination on energy assessments, metrics, analysis, and unique considerations based on geography.
- Assist the RSTC subcommittee and working groups on their work plans and completion of the ERATF worksheets that facilitate coordination.

Workplan Status *(6 month look-ahead)*

Milestone	Status	Comments
Assemble the subject matter experts for Focus Areas.		On track.
The subject matter experts complete the deliverables as outlined in the work plan.		On track.
Engage industry research and development organizations to validate work from Focus Areas		On track.

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Standing Committees Coordinating Group Quarterly Report

Second Quarter, 2021 Update

Stephen Crutchfield

RSTC Meeting

June 9, 2021

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Standing Committees Coordinating Group Status Report

Compliance and Certification Committee (CCC)

Chair: Jennifer Flandermeyer Vice-Chair: Scott Tomashefsky
April 29, 2021

Purpose: The CCC will engage, support, and advise the NERC Board and NERC Management regarding all facets of the NERC Compliance Monitoring and Enforcement Program, and Organization Registration and Certification Programs and specific elements of the Reliability Standards Development Process.

Top Priorities for SCCG Discussion:

- Issue Triage Process
  - CMEP and ORCP recommendations from RSTC subordinate groups
- Efficient Stakeholder Perception / Feedback engagement with CCC

What information/guidance/support is needed from another committee?

- RSTC (Facility Ratings, DER / BESS / Order 2222)
- SC (SER Advisory Group collaboration)
- All Committees (Stakeholder Perception Feedback input)
- RISC (Review of draft RISC Reliability priorities)

Recent Risk Identification, Mitigation, Monitoring Activity

- Supply Chain Risk Management CMEP implementation
- Facility Ratings Risk Evaluation
- Functional Model Evaluation completion
- Compliance Oversight Plans
- Continued support of ERO Program Alignment topics

Upcoming Risk Identification, Mitigation, Monitoring Activity

- Stakeholder Perception Feedback Plan execution
  - Risk Based Standards
  - Certification Program Consistency
  - Information Governance (CMEP)
- Distributed Energy Resources / BESS (Registration perspective)
- Changes to Internal Audit / CCC engagement

Standing Committees Coordinating Group Status Report

Personnel Certification Governance Committee (PCGC)

Chair: Cory Danson Vice-Chair: Michael B. Hoke
April 29, 2021

Purpose: The PCGC shall be to provide oversight to the policies and processes used to implement and maintain the integrity and independence of NERC's System Operator Certification Program.

Top Priorities for SCCG Discussion:

- None at this time

What information/guidance/support is needed from another committee?

- CCC
- RISC
- RSTC
- SC

- None at this time.

Recent Risk Identification, Mitigation, Monitoring Activity

- N/A

Upcoming Risk Identification, Mitigation, Monitoring Activity

- N/A

Standing Committees Coordinating Group Status Report

Reliability Issues Steering Committee (RISC)

Chair: Nelson Peeler Vice-Chair: Brian Allen Slocum
April 29, 2021

Purpose: The RISC is an advisory committee that triages and provides front-end, high-level leadership and accountability for nominated issues of strategic importance to bulk power system reliability.

Top Priorities for SCCG Discussion:
How to best coordinate between the RSTC and RISC, ensure effective communication, and execution of RISC identified areas for risk mitigation.

What information/guidance/support is needed from another committee?

- RSTC and RISC to work in collaboration to develop appropriate work plans to address identified risks in the 2021 RISC Report

Recent Risk Identification, Mitigation, Monitoring Activity

- The RISC report will be published in August. This report will identify all relevant risks to BPS reliability and their relativity against other risks. It will also identify mitigating activities and attempt to define responsible parties for mitigating those risks. This mitigation will largely happen through the efforts of the RSTC and associated sub-committees.

Upcoming Risk Identification, Mitigation, Monitoring Activity

- The RISC report will be published in August. This report will identify all relevant risks to BPS reliability and their relativity against other risks. It will also identify mitigating activities and attempt to define responsible parties for mitigating those risks. This mitigation will largely happen through the efforts of the RSTC and associated sub-committees.

Standing Committees Coordinating Group Status Report

Reliability and Security Technical Committee (RSTC)

Chair: Greg Ford Vice-Chair: David Zwergel
April 29, 2021

Purpose: The RSTC strives to advance the reliability and security of the BPS by creating a forum for ideas and interests to support the ERO's mission, and leveraging such expertise to identify solutions to study, mitigate, and/or eliminate emerging risks.

Top Priorities for SCCG Discussion:

- Continue to monitor progress on RSTC work plan
- Prioritize and incorporate RISC report risks into RSTC work plan
- Incorporate metrics into Reliability Guidelines

What information/guidance/support is needed from another committee?

- CCC – Participate in FRTF and SCTF as needed.
- PCGC – N/A
- RISC – Quarterly coordination meeting will continue as the RISC report is developed. Coordination in risk identification and prioritization.
- SC – IRPWG SAR on revisions to TPL-001 is on the June RSTC Agenda. A companion SAR for revisions to TPL-001 from the SPIDERWG is expected to be ready for the September RSTC meeting. The SPIDERWG is also considering revisions to a previously rejected SAR regarding MOD-032. The subgroup leadership is planning to seek RSTC Executive Committee input regarding the appropriate course of action soon. These SARs will be submitted to the SC for action if endorsed by the RSTC. We are also coordinating with SC/NERC legal on the potential for a CIP-002 field test.

Recent Risk Identification, Mitigation, Monitoring Activity

- Approved the *Reliability Guideline: Model Verification of Aggregate DER Models used in Planning Studies* and the *Battery Energy Storage Systems (BESS) and Hybrid Power Plant Modeling and Performance Guideline*.
- Approved the scope and work plan of the Energy Reliability Assessment Task Force (ERATF).

Upcoming Risk Identification, Mitigation, Monitoring Activity

- Revisions to several documents for approval: Reliability Guideline: ACE Diversity Interchange; Reliability Guideline: Operating Reserve Management; Balancing and Frequency Control Reference Document; Reliability Guideline: Gas and Electrical Operational Coordination Considerations; Security Guideline for the Electricity Sector: Assessing and Reducing Risk; MOD-032 Technical Reference Document
- Endorse TPL-001-5 SAR for BPS-Connected Inverter-based Resources
- Accept PAWG 2020 ProbA Scenario Case Study Report

Standing Committees Coordinating Group Status Report

Standards Committee (SC)

Chair: Amy Casuscelli Vice-Chair: Todd Bennett
April 29, 2021

Purpose: The SC oversees the development of NERC Reliability Standards as its members review actions to ensure the standards development process is being followed.

Top Priorities for SCCG Discussion:

- 2020 and 2021 Periodic Reviews - Standards Grading
- Standards Efficiency Review
- Standards Committee Process Subcommittee (SCPS)

What information/guidance/support is needed from another committee?

- CCC – Participate and support standards efficiency review as needed.
- PCGC – Conduct investigation into potential impacts of CEH reduction and publish white paper in support of Modifications to PER-003 project.
- RISC – N/A
- RSTC – Participate and support standards grading and standards efficiency review as needed. Technical support and input on Project 2021-03 CIP-002 Transmission Owner Control Centers.

Recent Risk Identification, Mitigation, Monitoring Activity

- Project 2019-06 Cold Weather current posting ending April 26, 2021
- Project 2015-09 Establish and Communicate System Operating Limits final ballot ending April 28, 2021
- Project 2016-02 Virtualization upcoming posting in May 2021

Upcoming Risk Identification, Mitigation, Monitoring Activity

- Project 2020-06 Verification of Models and Data for Generators
- Project 2021-01 Modifications to MOD-025 and PRC-019
- Project 2021-02 Modifications to VAR-002

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Questions and Answers

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NERC Membership Sector Changes

Lauren Perotti, Senior Counsel
Reliability and Security Technical Committee Meeting
June 9, 2021

RELIABILITY | RESILIENCE | SECURITY




Sectors 1-9, 12

- Sectors 1-9 and 12:
  - Defined entities, *plus*
  - not-for-profit associations that coordinate and help represent the interests of the members of the Sector, unless the majority of the Sector members object.
- Previously, consultants, vendors, agents, attorneys, and the like were permitted to join the Sector if they provided services to or otherwise represented the interests of the Sector.

Sector 9, Small End-Use Customers

- Sector 9, Small End-Use Electricity Customer
  - Now includes persons or entities such as associations, state consumer advocates, or other advocacy organizations that represent the collective interests of groups of small electricity end users.

Sector 13, Associate

- New Sector 13, Associate
  - Candidates for membership that do not meet the definition of another Sector.
- Rights and Duties
  - All rights and duties, except right to nominate and elect MRC representatives
  - May serve as a representative of a Sector on the MRC or another Committee with Sector representation, at the request of the Sector
  - May serve as proxy for a Sector representative
  - May coordinate and deliver Sector's policy input
  - May serve as at-large members on Committees with at-large representation

NERC Membership Renewal Timeline

Date	Action
July 7, 2021	Corporate Secretary sends registration renewal request to current members
August 6, 2021	Deadline for submission of registration renewals
September 20, 2021	Date on which a member may be removed from the membership roster for non-renewal of membership

For Further Assistance

- Questions about NERC Membership
  - nercmembership@nerc.net
- NERC Members Page
  - https://www.nerc.com/gov/Pages/Members.aspx
- ERO Portal Assistance
  - https://support.nerc.net
- Membership Renewal Webinar – June 17, 2021 at 1 pm Eastern

Questions and Answers

North American Generator Forum RSTC Update

Allen D. Schriver, P.E.
Senior Manager NERC Reliability Compliance
NextEra Energy
and
COO North American Generator Forum
Allen.Schriver@nexteraenergy.com
June 8, 2021

NAGF Mission

The NAGF mission is to promote the safe, reliable operation of the generator segment of the bulk electric system through generator owner and operator collaboration with grid operators and regulators.

Agenda

- NERC Standard Projects
- Resilience
- NAGF 2021 Annual Meeting

NERC Standard Projects

NERC Standards Projects

- The NAGF is actively engaged in the following NERC Projects to help ensure the generator sector perspective is heard and understood:
  - NERC Project 2017-01: Modifications to BAL-003
  - NERC Project 2019-04: Modifications to PRC-005-6
  - NERC Project 2019-06: Cold Weather
  - NERC Project 2021-01: Modifications to MOD-025 and PRC-019
  - NERC Project 2021-02: Modifications to VAR-002

NAGF Physical Security Working Group

- Focused on the sharing of generator physical security issues as well as promoting physical security practices, threat mitigation strategies, incident prevention/response, training, and other relevant topics to enhance generator physical security and reliability.

Resilience

- NAGF will be presenting at the RF Operational Resilience Webinar on June 8th

- NAGF continuing to:
  - Collaborate with the NATF on opportunities to enhance resilience based on information from the southwest cold weather event of 2021
  - Develop the Generator Resilience Maturity Model

NAGF 2021 Annual Meeting

- NAGF Annual Meeting
  - The NAGF 2021 Annual Meeting WebEx is scheduled for October 12th, 13th and 14th
  - If the RSTC would like the opportunity to present or have a discussion with the NAGF please contact Al Schriver or Wayne Sipperly (wsipperly@generatorforum.org)
- IRPWG
  - Webinar on BESS and Hybrid Systems currently scheduled for Thursday July 15th from 1-3 PM

NAGF
the power to make a difference

Q & A

NAGF

the power to make a difference

Thank you!

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NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

RSTC 2021 Calendar Review

RELIABILITY | RESILIENCE | SECURITY




RSTC 2021 Calendar Review

2021 Meeting Dates	Time*	Location	Hotel	Comments
September 1, 2021 – Executive Session	2:00-4:00 p.m.	WebEx	None	Adjusted based on the September date change.
September 8, 2021* September 9, 2021	Note Time Change: 11:00 a.m. to 4:30 p.m. 11:00 a.m. to 4:30 p.m.	WebEx	None	*A reminder to members if unable to attend an RSTC meeting you may send a proxy per the RSTC Charter noting the following: • RSTC member notifies the RSTC Chair, Vice Chair, or Secretary of the proxy at least one week in advance of the meeting for approval by the Chair. • A proxy must meet the RSTC's membership eligibility requirements.
December 7, 2021 Executive Session	2:00-4:00 p.m.	WebEx	None	
December 14, 2021 December 15, 2021	Please reserve entirety of both days	TBD	TBD	