



**RCC Meeting
June 7, 2023
Agenda Item 8.12**

**Reliability Assessment Program
(NRAP)
HIGHLIGHT REPORT**
*Prepared for the
Reliability Coordinating Committee
June 7, 2023*

Distributed to:

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Members, Compliance Committee
Members, Regional Standards Committee
Members, Task Force on System Studies
Members, Task Force on System Protection
Members, Task Force on Coordination of Planning
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Reliability Assessment Program

HIGHLIGHT REPORT

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RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program Regional Standards Committee

| Item | Name | Assignment |
|------|------------------------------|---|
| RSC | Regional Standards Committee | <p>The NPCC Regional Standards Committee (RSC), a committee of the NPCC Board, is charged with management and maintenance of the NPCC Regional Standard Processes Manual (approved by FERC Dec. 23, 2014). The RSC considers requests for new or revised regional standards and be available for advisement to the NPCC Board of Directors on standards related matters. The RSC works in coordination with the Regional Standards Process Manager (RSPM) who is the administrator for the NPCC Regional Standard Processes Manual. In addition, the RSC reviews, comments on, and develops ballot recommendations for the NERC Reliability Standards under review or development. The RSC also provides oversight for the NPCC Regional Reliability Directories which contain NPCC’s more stringent regional Criteria and supporting procedures and guidelines. The RSC also conducts and coordinates the NPCC Cost Effectiveness Analysis Procedure (CEAP) for evaluation of the cost effectiveness of NPCC’s Regional Standards and Directories. The RSC provides input to the NERC “Periodic Review Projects” and the NERC version of the CEAP being referred to as cost effectiveness and is providing input into the “Standards Efficiency Review” (SER) project. The SER allows the industry the opportunity to identify potential standard requirements which could be candidates for retirement. The RSC also discusses potential avenues to address potential reliability related issues as well as opportunities to enhance reliability associated with the deployment of Distributed Energy Resources (DER). In addition, the RSC coordinates work with the RCC and CC to address any issues identified with standards to improve standards and reliability. The RSC also is sanctioned in the Compliance Guidance Policy process to vet potential approaches to compliance prior to submission to NERC and is engaged in revising the NPCC Regional Standard Processes Manual. The RSC will also serve as a liaison for the Northeast Region to the NERC RSTC for any Standards related recommendations.</p> |

Status/ Comments:

The RSC is focused on the review of each of the NERC Reliability Standards (as they are developed, revised, or reviewed for reaffirmation or retirement). The RSC is currently reviewing all the FERC Orders and NOPRs that pertain to Reliability Standards. The RSC develops recommendations for membership on ballots when posted. The RSC also supports the NERC Standards Efficiency Review, Functional Model Working Group, NERC Standards Committee, and the NERC Standards Committee Process Subcommittee. The RSC is in the process of reviewing the NPCC Regional Reliability Standards Development Procedure, renamed the Regional Standard Processes Manual. The RSC continues to participate in the NERC Standard Processes Manual revisions and the Results Based Standards Initiative through its support of the Standards Committee Process Subcommittee and solicits members for the NERC drafting teams as necessary to ensure NPCC is adequately represented. The RSC has been overseeing the Strategic Review of NPCC Criteria.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

| Item | Name | Assignment |
|-------------|------------------------------|--|
| RSC | Regional Standards Committee | <p>The RSC continues to consider enhancements to the NPCC Website to provide further uniformity and consistency with that of NERC and other Regions.</p> <p>Status/Comments: The RSC is currently engaged in reviewing a potential approach to the penetration of utility-scale Distributed Energy Resources (DERs) on the distribution system, and its adverse impact on the BES. The Distributed Energy Resource BES impact reporting form is posted on the NPCC website. The RSC hosted three DER/VER forums in 2022 and the goal is to host three more forums in 2023. The DER Forums are open to the public. The next DER/VER Forum is tentatively scheduled for August 10, 2023. The DER/VER Forums are hosted on the second day of RSC meetings. The NPCC Standards staff developed Version 1, 2, and 3 of the DER Guidance Document which was endorsed by the members of RSC in 2019, 2020, and 2021. NPCC DER Guidance Document Appendix J is developed based on the DER/VER Forums held by the RSC in 2022. It is also posted for industry comments from September 23, 2022, to November 7, 2022. All industry comments are addressed and posted by the NPCC Standards Staff. The document also received endorsement from the RSC members on November 23, 2022.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--|--|--|------------------------|
| DIR-1 | Basic Criteria for the Design And Operation of the Bulk Power System | Appendix A – ERO Standards Appendix B – Guidelines and Procedures for NPCC Area Transmission Review Appendix C – Procedure for Testing and Analysis of Extreme Contingencies Appendix D – Guidelines for Area Review of Resource Adequacy Appendix E – Guidelines for Requesting Exclusions to Sections 5.4.1 (B) and 5.5.1 (B) of NPCC Directory No. 1 Design and Operation of the Bulk Power System Appendix F – Procedure for Operational Planning Coordination Appendix G – Procedure for Inter Reliability Coordinator Area Voltage Control | TFCP TFCP TFCP TFCP TFCO* TFCO* | September 30, 2015 |

Status/ Comments:

Currently the RCC is monitoring an Implementation Plan governing protection upgrades in New England. The TFCP has approved a Scope of Work, and a Joint Planning and Operations Working Group is currently reviewing Directory No. 1 in accordance with the TFCP Scope. The Working Group anticipates an initial posting of the document in mid-2023. The TFCP has proposed new footnotes to clarify how testing required by Tables 1, 2, and 3 of Directory No. 1 should be performed in locations where free standing or column-type current transformers (CT) are provided on only one side of a live tank circuit breaker protecting a transmission element. The footnotes were posted to the Open Process, comments were addressed and the RCC approved at its meeting on December 6, 2022.

A Roadmap to Implement Future Revisions to Directory No.1 has been developed to initiate a reliability discussion and provide a path forward to the appropriate NPCC technical groups and committees. The Roadmap document examines the current issues confronting the industry (Energy Adequacy (all hours), Resource Adequacy Metrics, Essential Reliability Services, Electrification Load Forecasting Issues) and highlights specific portions of Directory No. 1 that should be considered for revision in order to address these challenges. *The Roadmap to Implement Future Revisions to Directory No.1* was endorsed by the RSC and RCC at their respective December 2022 meetings.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--------------------------|--|----------------------|------------------------|
| DIR-2 | Emergency Operation | Appendix A – Definition of Terms Appendix B - Guideline and Procedure for Emergency Operation | TFCO TFCO TFCO | June 29, 2018 |
| | Status/ Comments: | The Task Force on Coordination of Operation (TFCO) and its CO-8 Working Group continues its triennial review of Directory No. 2 as part of TFCO’s 2023-24 Work Plan. | | |

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|---|--|----------------------|------------------------|
| DIR-3 | Maintenance Criteria for Bulk Power System Protection | Appendix A – Definition of Terms Appendix B – Guidelines and Procedures for Maintenance of Bulk Power System Protection | TFSP TFSP TFSP | Retired April 1, 2015 |
| | Status/ Comments: | <p>The Task Force on System Protection (TFSP) completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 <i>Protection System Maintenance</i> and recommended that the criteria in Directory No. 3 be retired.</p> <p>The RCC approved the TFSP recommendation and on October 15, 2014 the NPCC Full Membership voted to approve the retirement of Directory No. 3, effective April 1, 2015, upon the enforcement date of PRC -005-2 <i>Protection System Maintenance</i>.</p> | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--------------------------|---|----------------|------------------------|
| DIR-4 | BPS Protection Criteria | | TFSP | January 30, 2020 |
| | | Appendix A – Guideline for Bulk Power System Protection | TFSP | |
| | | Appendix B - Procedure for Reporting to TFSP New and Modified Protection Systems | TFSP | |
| | Status/ Comments: | The NPCC Full Member Committee approved the current version of Directory No. 4 on January 30, 2020. | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|-------------|--|----------------|------------------------|
| DIR-5 | Reserve | Appendix A – Monitoring Procedure for Operating Reserve Criteria Frequency Response | TFCO | September 27, 2019 |
| | | Appendix B – Procedures during Abnormal Operating Conditions | TFCO | |
| | | Appendix C – Participation Request Form – Simultaneous Activation of Reserve and ACE Diversity Interchange | TFCO | |
| | | Appendix D – Guidelines for Determining the Time T+0 | TFCO | |

Status/ Comments:

The Task Force on Coordination of Operation (TFCO) completed a comprehensive review of Directory No. 5 in 2019 with the NPCC Full Membership approving the revised version of Directory No.5 on September 27, 2019. The review considered the impact of evolving ERO standards, NPCC Glossary updates and revisions, revised synchronized reserve criteria, and retired procedures detailed within the Appendices. A Criteria Clarification request, submitted by the NYISO, addressing sustainability requirements upon the activation of reserves was approved by the RCC in September 2022.

The TFCO approved at its January 2023 meeting a Scope of Work for the next triennial review of the Directory in 2023. In addition to other items, the triennial review will address the Simultaneous Activation of 10-Minute Reserve program in conjunction with recent events from Winter Storm Elliott and the 2022 Criteria Clarification request.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--------------------------|-------------------|----------------|------------------------|
| DIR-6 | Regional Reserve Sharing | | TFCO | September 27, 2019 |

Status/Comments:

The Task Force on Coordination of Operation (TFCO) and its CO-8 Working Group has initiated its triennial review of Directory No. 6. as part of TFCO's 2023-24 Work Plan.

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|-------------------------|---|----------------|------------------------|
| DIR-7 | Remedial Action Schemes | Attachment 1 – Definition of Terms | TFCP | Dec. 22, 2020 |
| | | Appendix A – Guidance for Consideration in SPS Design Criteria | TFSP | |
| | | Appendix B – Procedure for Review of Special Protection Systems | TFSP | |
| | | | TFCP | |

Status/ Comments:

The NPCC Full Member Committee approved the most recent version of Directory No.7 on December 22, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| Item | Name | Appendices | Lead TF | Current Version |
|-------------|--------------------------|--|----------------|------------------------|
| DIR-8 | System Restoration | <p>Appendix A - “Standard Test Procedures for Key Facilities and Associated Critical Components Required for System Restoration.</p> <p>Appendix B: NERC ERO Reliability Standards</p> <p>Appendix C - Comparison of Test Procedures for Critical Components of Key Facilities of the System Restoration Plan</p> | TFCO | February 2, 2023 |
| | Status/ Comments: | <p>The Task Force on Coordination of Operation (TFCO) completed a comprehensive review of Directory No. 8 in 2023 with the NPCC Full Membership approving the revised version of Directory No. 8 on February 2, 2023. The review considered the impact of evolving ERO standards, NPCC Glossary updates and revisions, and proposed language for certain Test Procedures to better align with available technology and computer systems that may be subject to testing requirements.</p> | | |

| Item | Name | Appendices | Lead TF | Current Version |
|-------------|--|--|---|------------------------|
| DIR-9 | NPCC Verification of Generator Gross and Net Real Power Capability | <p>Appendix A – Definition of Terms</p> <p>Appendix B – Basic Flow Chart for Verification Generator Gross and Net Real Power Capability</p> | <p>TFCO</p> <p>TFCO/TFCP ¹</p> <p>TFCO/TFCP ¹</p> | Retired July 1, 2019 |
| | Status/ Comments: | <p>The NPCC Full Membership voted to approve the retirement of NPCC Regional Reliability Directory No. 9 <i>Verification of Real Power Capability</i>, and seven existing NPCC Glossary terms contained solely within Directories No. 9 and No. 10, effective July 1, 2019. Directory No. 9 is posted on the NPCC website marked with a ‘retired’ watermark.</p> | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--|--|--|------------------------|
| DIR-10 | NPCC Verification of Generator Gross and Net Reactive Power Capability | Appendix A – Definition of Terms Appendix B1 – Basic Flow Chart for Verification of Generator Gross and Net Reactive Power Capability Appendix B2 – Generator Reactive Capability Form | TFCO TFCO/TFCP ¹ TFCO/TFCP ¹ TFCO/TFCP ¹ | Retired July 1, 2019 |

Status/ Comments:

The Task Force on Coordination of Operation has completed a technical comparison of the Directory No. 10 criteria with the requirements of MOD-25-2 and concluded that Directory No. 10 can be retired without creating a reliability gap. On August 3, 2017, the NPCC Full Member Committee voted to approve the retirement of NPCC Regional Reliability Directory No. 10 Verification of Reactive Power Capability, and seven existing NPCC Glossary terms contained solely within Directories No. 9 and No.10, effective July 1, 2019. Directory No. 10 is posted on the NPCC website marked with a ‘retired’ watermark.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|---|--|----------------|------------------------|
| DIR-11 | Disturbance Monitoring Equipment Criteria | | TFSP | February 11, 2022 |
| | | Appendix A – Guide to Time Synchronization of Substation Equipment | TFSP | |
| | | Appendix B – Guide for Application of DME | TFSP | |
| | | Appendix C – Guide for Generator Sequence of Events Monitoring | TFSP | |

Status/ Comments:

On October 24, 2016, the NPCC Full Member Committee voted to approve regional Reliability Directory No. 11 *Disturbance Monitoring Equipment Criteria*. Also approved was the concurrent retirement of the following NPCC documents:

- A-15 – “*Disturbance Monitoring Criteria*”
- B-25 – “*Guide to Time Synchronization of Substation Equipment*”
- B-26 – “*Guide for Application Disturbance Monitoring Equipment*”
- B-28 – “*Guide for Generator Sequence of Events Monitoring*”

Directory No. 11 augments PRC-002-2 *Disturbance Monitoring and Reporting Requirements* and guides effective application of equipment necessary to capture the data required by the NERC standard.

The NPCC Full Member Committee approved the most recent version of Directory No. 11 on February 11, 2022.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Appendices</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--|---|----------------|------------------------|
| DIR-12 | UFLS Load Shedding Program Requirements | Appendix A – Definition of Terms | TFSS TFSS | July 9, 2013 |
| | Status/ Comments: | The Task Force on System Studies (TFSS) posted a retirement recommendation for Directory No. 12 on April 28, 2021 for a 45- day comment period. The TFSS has recommended that Directory No. 12 can be retired effective October 1, 2021 to coincide with the enforcement date of PRC –006-NPCC –02 in all jurisdictions. On October 19, 2021, the NPCC Full Member Committee voted to approve the retirement of Directory No. 12 effective October 1, 2021. | | |

| <u>Item</u> | <u>Name</u> | <u>Criteria</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--|---|----------------|------------------------|
| A-01 | Criteria for Review and Approval of Documents | | TFCP | Retired Sept. 25, 2018 |
| | Status/ Comments: | The Regional Standards Committee (RSC) updated the NPCC <i>Directory Development and Revision Manual</i> , and relevant sections of the A-01 <i>Criteria for Review and Approval of Documents</i> have been incorporated into the Directory Manual for the purposes of retiring the A-01. The revised and updated NPCC Directory Manual, including sections of the A-01 document, was approved by the RSC in August 2018. Concurrent with the RSC review of the revised Directory Manual, the RCC approved the retirement of the A-01 document and on September 25, 2018 the NPCC Full Membership approved the retirement of the A-01 Document. | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

| <u>Item</u> | <u>Name</u> | <u>Criteria</u> | <u>Lead TF</u> | <u>Current Version</u> |
|-------------|--|-----------------|----------------|------------------------|
| A-10 | Classification of Bulk Power System Elements | | TFCP | March 27, 2020 |

Status/ Comments:

The Task Force on Coordination of Planning (TFCP) and its CP-11 Working Group conducted a review of the A-10 methodology. The CP-11 Working Group effort focused on three objectives as highlighted by the TFCP in the project scope: 1) Identify critical facilities for the applicability of NPCC Directories; 2) improve consistency of application and outcome across the region; and 3) simplify the methodology to make it less resource intensive.

The RCC approved testing of three proposed methodologies developed by the CP-11 Working Group during Phase I of the review in 2017. These proposals included revisions to the existing methodology and two new methodologies. The CP-11 Working Group Final Report concluded that a revised and improved existing methodology is the most effective of the proposals in identifying those facilities critical to the design and operation of the BPS. The recommended improvements include revisions to the overall testing strategy (i.e., where to begin and conclude testing), base case set-up (i.e., load levels, interface stress and generation patterns) and the use of performance requirements to assess testing outcomes. The RCC approved the CP-11 Working Group's recommendations in December of 2018 and these recommendations have been incorporated into a revised version of the A-10 Document.

The TFCP posted a revised version of the A-10 to the Open Process for two Open Process comment periods and the TFCP has responded to all comments. The RCC approved the revised A-10 Document and an associated implementation plan at its February 27, 2020 meeting. The NPCC Full Member Committee voted to approve the revised A-10 Document on March 27, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directory Development and Revision Manual

| Item | Name | Assignment | Current Version |
|-------------|---|--|------------------------|
| Directory | Directory Development and Revision Manual | <p>The NPCC Directory Development and Revision Manual is intended to provide guidance regarding the process of establishing a new or revised Directory and will clarify the roles and responsibilities of the NPCC Task Force responsible for Directory content.</p> <p>Status/ Comments:</p> <p>The Directory Development and Revision Manual was revised in 2013 to incorporate changes in the approval process for a Criteria Interpretation (clarification) and to consider revisions to the Manual that incorporate cost considerations for new or revised criteria.</p> <p>A revised version of the Directory Manual which incorporated relevant sections of the A-01 document to facilitate retirement of the A-01 was approved by the RSC in August 2018. A repeatable cost- effective evaluation has also been incorporated into the Directory Manual to ensure a cost- effective evaluation of the criteria during periodic Task Force reviews of each Directory. The RSC approved minor updates to the Manual in October 2020.</p> | October 2020 |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

NPCC Glossary of Terms

| Item | Name | Assignment | Current Version |
|-----------------|-------------------------------|---|------------------------|
| Glossary | NPCC Glossary of Terms | <p>The NPCC Glossary of Terms has replaced the A7 document and was approved by the RSC on October 26, 2011. The Glossary contains the definitions of all terms found within NPCC Directories, Guidelines, and Procedures.</p> <p>The Glossary is organized in sections containing those terms found in Directories (including Appendices) which support the NPCC criteria and another Section for definitions found within remaining NPCC B and C documents.</p> <p>The Glossary is in the Directory section of the NPCC website.</p> | August 10, 2021 |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

| <u>Item</u> | <u>Name</u> | <u>Assignment</u> | <u>Current Version</u> | |
|-----------------|-------------------------------|---|------------------------|------------------------|
| PRC-002-NPCC-01 | Disturbance Monitoring | This Standard establishes the technical and reporting requirements for disturbance monitoring equipment. This will lead to improved system reliability by providing the resources to do post event analyses. | Latest Version: | Retired |
| | | | Date: | August 16, 2016 |
| | Status/ Comments: | <p>The proposal to retire PRC-002-NPCC-01 <i>Disturbance Monitoring</i> regional standard was approved by the NPCC Board on March 23, 2016 and by the NERC Board of Trustees on May 5, 2016. After NERC Board approval, a petition to retire the regional standard was filed with FERC on June 9, 2016 and it was filed with all Canadian Provinces on June 14, 2016.</p> <p>FERC issued an approval letter for the retirement of Regional Reliability Standard PRC-002-NPCC-01 <i>Disturbance Monitoring</i> on August 16, 2016.</p> | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

| Item | Name | Assignment | Current Version | |
|-------------------|---|--|------------------------------|------------------|
| PRC-006 NPCC-3 | Under Frequency Load Shedding (UFLS) | This Standard will provide the requirements for implementing an automatic under frequency load shedding program to effectively respond to system under frequency events. | Latest Version: | Feb. 2020 |
| | | | Frequency of Reviews: | 5 years |
| | | | Next Review Date: | Feb. 2025 |

Status/ Comments:

The PRC-006-NPCC-02 was endorsed by FERC on February 18, 2020.

A Regional Standard Authorization Request (RSAR) for revision of Automatic Underfrequency Load Shedding PRC-006-NPCC-3 was sent to the Regional Standards Committee at its May 24, 2023, meeting. The RSC members raised additional concerns and the RSAR is remanded back to the Manager of Reliability Standards (MRS). NPCC MRS will work with the RSAR requester and update the RSAR with additional concerns raised by the members of the RSC. The revised RSAR will be sent to the RSC for a 60-day review period.

| Item | Name | Assignment | Current Version | |
|---------------------|--|---|------------------------------|----------------|
| BAL-002- NPCC-01 | Regional Reserve Sharing Groups | The Standard provides the measures for implementing Reserve Sharing Groups within NPCC to meet their reserve obligations. | Latest Version: | New |
| | | | Frequency of Reviews: | 3 years |
| | | | Next Review Date: | |

Status/ Comments:

A Regional Standard Authorization Request (RSAR) has been developed and approved by the RSC. The RCC has assigned the Task Force on Coordination of Operation (TFCO) to act as the drafting team and a request for drafting team members was sent to the NPCC membership. At its meeting of April 14 and 15, 2011, the TFCO established a sub-group of TFCO members and NPCC staff that will work on the Reserve Sharing Groups Standard's development. The development of Regional Standards has been held in abeyance pending further direction from NERC.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Development Procedure

| Item | Name | Assignment | Current Version | |
|-------------|---|--|------------------------------|------------------|
| RSPM | Regional Standard Processes Manual | The NPCC Regional Standard Processes Manual describes the procedures, policies, and practices implemented to ensure an “open, fair, and inclusive” process for the transparent initiation, development, implementation and revision of the NPCC Regional Standards necessary for the reliable operation of the Interconnected Bulk Power System in northeastern North America. | Latest Version: | Nov. 2020 |
| | | | Frequency of Reviews: | 3 years |
| | | | Next Review Date: | Nov. 2023 |
| | Status/ Comments: | <p>The Regional Standard Processes Manual (RSPM) is posted on the NPCC Website. The RSC actively reviewed the activities at the NERC level to ensure the regional procedure is consistent with the NERC Standard Processes Manual and achieves a consistency with the NERC common attributes adhered to by the other Regions. During the June 20, 2018, RSC meeting, a small team was formed to review the current RSPM for any potential updates. The RSC reviewed and updated the existing RSPM. The revised RSPM was approved by the RSC for comment posting on August 7, 2019. The RSPM was posted for a 45-day comment period from September 11, 2019, to October 26, 2019. The RSPM was posted for a ballot period from January 17, 2020, to February 25, 2020. The results of the ballot were as follows: 81.65% quorum and 100% approval. The RSPM was approved by the NPCC Board at their meeting on May 6, 2020.</p> <p>The NPCC RSPM was posted by NERC for a 45-day industry wide comment period that concluded on July 29, 2020. The proposal to approve Regional Standard Processes Manual was submitted to the NERC Board of Trustees and approved at their August 19-20, 2020, meeting. NERC and NPCC filed the joint petition to FERC on September 10, 2020. On November 23, 2020, FERC issued a letter order endorsing the revised NPCC Regional Standard Processes Manual. Docket Number: RR20-7-000.</p> | | |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program Compliance Committee

| Item | Name | Assignment |
|-------------|---------------------------|--|
| CC | NPCC Compliance Committee | <p>The NPCC Compliance Committee provides a forum for objective stakeholder input for NPCC Staff consideration in the implementation of the NPCC Compliance Monitoring and Enforcement Program (CMEP). The NPCC CMEP covers compliance assessment and enforcement of NERC Reliability Standards and NPCC Regional Reliability Standards. In addition, the CC is responsible for annually reviewing Directory certification forms and developing an annual report for e RCC acceptance for incidents of non-compliance with monitored Reliability Criteria.</p> <p>Status/ Comments: At the December 2022 CC meeting, the 2023 CC Scope and CC Work Plan were discussed and approved. Both documents were approved by the NPCC Board on January 18, 2023. Throughout 2022, NPCC Staff provided the CC with updates and explanations on the transition to the new Align/SEL compliance tool and provided updates on the NPCC generator winter preparation outreach efforts.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

| Item | Name | Assignment |
|-------------|--|--|
| CCEP | Criteria Compliance and Enforcement Program | <p>The CC maintains the <i>NPCC Criteria Compliance and Enforcement Program Process Document (CCEP-1)</i> which documents the process for actively monitoring and enforcing compliance on a subset of the Reliability Criteria.</p> <p>The Compliance Committee provides to the RCC for approval an annual CCEP Implementation Plan which identifies the Reliability Criteria that will be monitored in the upcoming CCEP compliance year and identifies the due dates for the Reliability Criteria Certification forms.</p> <p>The Compliance Committee annually provides to the RCC a written assessment of the submitted Reliability Criteria Certification forms which will include recommendations as necessary of non-monetary sanctions for incidents of non-compliance.</p> <p>Status/ Comments: On April 14, 2022, the CC approved the update to the CCEP-1 process document to Revision 9. Over the Summer/Fall 2022 timeframe, the CC took efforts to develop the 2021 CCEP Assessment Report and the 2023 CCEP Implementation Plan. On September 14, 2022, the CC endorsed the 2021 CCEP Assessment Report which was then presented for acceptance at the September 2022 RCC meeting. On October 19, 2022, the 2023 CCEP Implementation Plan and the blank forms for the 2023 Implementation Plan (IP) were approved. The 2023 CCEP IP was approved via the consent agenda at the December 6, 2022 RCC meeting.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Training, Education, and Operator Certification Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|---|--|
| CO-2 | System Operator Training Working Group | <p>This Working Group establishes a program for system operator training relating to NPCC Inc. inter-Area matters, Working Group criteria, terminology, policies, and operating instructions. It prepares and presents material at system operator training sessions, exchanges information on internal system operator training methods. The CO-2 Working Group also evaluates and proposes new techniques and training aids as they become available.</p> <p>Status/ Comments:</p> <p>The 2023 Spring 90th NPCC System Operator Seminar was conducted on May 16 - 18, 2023 in Portland, ME. The agenda and specific topics for the Spring Seminar was prepared by the CO-2 Working Group at their March 2023 meeting and included input from the CO-8 Working Group. System operator feedback and evaluations from previous seminars were considered for the seminar. It included presentations on the December 24, 202 OP-4 Capacity Scarcity Event (ISO-NE), HVDC Operations, Scheduling, & Impacts (HQ), Maritime Perspective: Dec. 24 '22 & Feb 3-5 '23 (NBP-SO), Winter Storm Elliott SAR Coordination (NYISO), Ontario – Winter Storm Elliott & Feb. 2-4 Cold Snap (IESO), New York System & Resource Outlook (NYISO), Maritime Link & Traditional Generation Retirement (NBP-SO), Psychological Impacts during Sustained Stress (ISO-NE), and Seminar Tabletop Exercise (NPCC CO-2). The Seminar was attended by 30 participants and included operators from all five NPCC Reliability Coordinators.</p> <p>The CO-2 Working Group is scheduled to meet next on June 14-15, 2023 in Toronto, ON as hosted by the Ontario IESO.</p> <p>The 2023 Fall 91st NPCC System Operator seminar will be conducted on November 7 – 9, 2023 in Fredericton, NB. A planning meeting will be held by the CO-2 WG on September 20-21, 2023.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|--|---|
| CO-1 | Control Performance Working Group | <p>The Working Group ensures coordination between adjacent control areas in establishing interchange schedules, reviews time error correction procedures, and monitors the conformance of the Areas with NPCC Control Performance Criteria and Operating Reserve Criteria. At the request of the Task Force on Coordination of Operation (TFCO), it conducts investigations of control performance problems.</p> <p>Status/ Comments:</p> <p>The CO-1 Working Group most recently met on April 19-20, 2023; the next meeting is scheduled for August 1-2, 2023. The CO-1 Working Group has closely tracked the developments of the BAL-003-2 SDT and updates by SDT members continue to occur at quarterly CO-1 Working Group meetings.</p> <p>The CO-1 Working Group presented a draft scope of work for the next triennial review of Directory No. 5. The scope includes the recently approved criteria clarification request from the New York ISO along with additional considerations developed by the CO-1 Working Group. The TFCO members reviewed the scope document and provided some additional suggestions for consideration. The TFCO approved the scope of work. The CO-1 Working Group continues its efforts towards the ongoing triennial review of Directory No. 5.</p> <p>The CO-1 Working Group continues to conduct periodic monitoring as required by NERC and NPCC Control Performance and Operating Reserve Criteria, and in coordination with the CO-8 Working Group and the TFCO. No discernable operational trends have been identified. The Working Group continues to closely follow industry related storage integration discussions and monitor developments to their relevant BAL and FAC standards.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|---|--|
| CO-7 | Operational Planning Working Group | <p>The Working Group CO-07 was restructured to serve the Task Force on Coordination of Operation (TFCO) as an Ad Hoc Working Group, populated and charged to address specific issues as required to assist the TFCO. It has been renamed the “Operational Planning Working Group.</p> <p>Status/ Comments: The CO-7 Working Group roster was approved at the May 26, 2021, RCC meeting. The CO-7 Working Group, jointly with the CP-11 Working Group is performing a comprehensive review of the Directory No. 1.</p> |
| CO-8 | System Operations Managers Working Group | <p>Provide a forum for the Managers of the NPCC control centers to identify and discuss security concerns in the operation of the interconnected bulk power supply system, and specific concerns related to the integration of operation between and among the evolving ISOs. The System Operations Managers Working Group will also assist the Task Force on Coordination of Operation (TFCO) in their work on issues related to system security and the operation of the ISOs, and provide advice to the TFCO, as requested.</p> <p>Status/ Comments: At the February 22-23, 2023, meeting, the CO-8 Working Group, as well as a representative from the PJM, discussed winter operating conditions, to date. The CO-8 Working Group discussed the two cold weather events of the season: December 2022 Winter Storm Elliott and the February 3-5, 2023, cold snap. The discussion covered specific challenges each Area faced, and the coordination activities and communications during the events. At the same meeting, the CO-8 Working Group reviewed and discussed work plans for the triennial review of the four documents assigned to the Working Group as part of the 2023-24 TFCO Work Plan, including Directories No. 2, 5 and 6, as well as the C-01 Procedure document. The Working Group also discussed coordination among the CO-8, CO-2 and the CO-11 Working Groups to look for CEH opportunities from the RC SOs’ participation in various NPCC training activities, such as the semi-annual SO seminars, the annual RC to RC restoration exercise and the biannual GridEx exercise.</p> <p>At the May 1-2, 2023 meeting, the CO-8 Working Group reviewed NPCC Area operating conditions since the February meeting as well as PJM’s summer preparations and forecasted summer resource and transmission adequacy conditions. The CO-8 Working Group continued its triennial review of the four documents referenced above as part of the 2023-24 TFCO Work Plan. The CO-2 Working Group joined the CO-8 Working group to provide their feedback and facilitate a discussion between the two group around a possibility of developing material and curriculum for the NPCC System Operator Seminar and RC to RC exercise to meet Individual Learning Activity (ILA) requirements to have an option to receive CEHs for the participants.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|---------------------------|---|
| CO-11 | Restoration Working Group | <p>The CO-11 Restoration Working Group facilitates effective and coordinated power system restoration among the NPCC Reliability Coordinator areas, and with adjacent Regions. It annually reviews the restoration plans of the NPCC Reliability Coordinator areas to identify in each individual plan the physical points requiring coordination, the general elements of the restoration plan, the Key Facilities associated with the restoration plan, the communication protocols employed, and the roles and responsibilities of the restoration participants. It identifies opportunities for mutual assistance during restoration and the extent to which each system can rely on its neighbors for assistance, and coordinates Reliability Coordinator restoration exercises, develops, and supervises annual wide area restoration drills. The CO-11 working Group monitors the NERC Reliability Standards EOP-005, <i>System Restoration from Blackstart Resources</i>, and EOP-006, <i>System Restoration Coordination</i>. The CO-11 Working Group provides comments to the NPCC Task Force on Coordination of Operation and the NPCC Regional Standards Committee as revisions to these Standards are posted for consideration and weighed for implementation.</p> <p>Status/ Comments:</p> <p>The CO-11 Working Group most recently met on May 31 – June 1, 2023 and conducted a review of the New England Restoration Plan; the next meeting is scheduled for September 27-28, 2023 in Fredericton, NB.</p> <p>The 2023 NPCC RC-to-RC Wide Area Restoration Exercise has been scheduled for October 24-25, 2023 at the HQ offices in Montréal, Québec; planning efforts are underway.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|--|--|
| CO-12 | Operations Planning Working Group | Review the overall reliability of the generation and transmission system in the NPCC Region for the Summer and Winter Operating Periods. |
| | Status/ Comments: | <p>The CO-12 Working Group held a kickoff call for the 2023 NPCC Summer Reliability Assessment on January 23, 2023 with subsequent meetings in February 2023 to review the scope, schedule, and assessment enhancements. Preliminary findings on the assessment were presented at the March 1, 2023 RCC and at the March 15-16 Task Force on Coordination of Operation (TFCO) meetings. The CO-12 Working Group had a joint in person meeting at the NYISO with the CP-8 Working Group on March 23 and March 24, 2023 to coordinate forecast assumptions and draft the report. A final draft report was issued to TFCO/TFCP for their approval and to RCC for their comment on April 3, 2023. Approval from both Task Forces was requested by April 21, 2023. A presentation by NPCC staff was given to the NPCC Board of Directors on May 3, 2023. The final 2023 NPCC Summer Assessment and summary report was released to Media on May 4, 2023.</p> <p>The CO-12 Working Group also coordinated NPCC-regional input for the 2023 NERC Summer Reliability Assessment (SRA) with the NPCC CP-8 Working Group. A draft of the NERC SRA was reviewed at the April 11-12, 2023 NERC Reliability Assessment Subcommittee meeting in Austin, TX. Consistent with past practice, efforts were being made to ensure alignment of the 2023 NERC SRA with the 2023 NPCC Summer Reliability Assessment. The 2023 NERC SRA was released on May 17, 2023.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------------|------------------------------------|---|
| CO-14 | Operations Load Forecast WG | The CO-14 Working Group promotes information sharing among NPCC Reliability Coordinators, Balancing Authorities and Transmission Operators in producing accurate and timely load forecast products. |
| | Status/ Comments: | The CO-14 Working Group most recently met on April 4-5, 2023 in Springfield, MA. The group held discussions around forecasting challenges and anomalies surrounding the December 21-26, 2022 and February 2-5, 2023 cold weather events that impacted the NPCC region along with other areas of North America. The CO-14 Working Group is scheduled to meet next on September 19-20, 2023 in Halifax, NS. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

| Item | Name | Assignment |
|--------------|---|--|
| CP- 8 | Working Group on Review of Resource and Transmission Adequacy Status/ Comments: | <p>Review the overall reliability of the NPCC Areas and perform pre-seasonal and long-term resource adequacy assessments.</p> <p>The CP-8 Working Group most recently met on May 5, 2023 and is scheduled to meet next on June 23, 2023. The Working Group is coordinating the initial narrative and data response for the NERC 2023 Long Term Reliability Assessment (LTRA) which is scheduled to be submitted to NERC by June 16, 2023 deadline. The group recently completed the <i>NPCC 2022 Long Range Adequacy Overview</i> and the <i>2022-2023 NPCC Winter Reliability Assessment</i>, which were approved at the December 6, 2022 RCC meeting and posted to the NPCC website. At the request of the Task Force of Coordination of Planning in January 2023, the Working Group is performing a periodic review of its Scope.</p> |
| CP- 2023S | Summer 2023 Multi-Area Probabilistic Reliability Assessment Status/ Comments: | <p>Assess NPCC Area reliability by estimating the projected use of Area Operating Procedures designed to mitigate resource shortages for the summer (May through September) period.</p> <p>The CP-8 Working Group completed the assessment along with approval and approved by the NPCC Task Forces on April 21, 2023; a presentation was given to the NPCC Board of Directors on May 3, 2023. The 2023 NPCC Summer Reliability Assessment and summary report was released on May 4, 2023.</p> |
| CP- 2022-23W | Winter 2022-2023 Multi-Area Probabilistic Reliability Assessment Status/ Comments: | <p>Assess NPCC Area reliability by estimating projected use of Area Operating Procedures designed to mitigate resource shortages for the winter (November through March) period.</p> <p>The CP-8 Working Group completed the NPCC Winter 2022-2023 Multi-Area Probabilistic Assessment in November 2022. The RCC approved the report at its December 6, 2022 meeting.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

| Item | Name | Assignment |
|-------------|--------------------------------------|---|
| TIE | NPCC 2023 Tie Benefits Report | Estimate NPCC Area Annual Tie Benefits for a five-year period, assuming a hypothetically “At Criteria” and “As Is” system representation, applying consistent methodology and assumptions to all NPCC Areas, using the same multi-area reliability model. |
| | Status/ Comments: | The CP-8 Working Group is developing a draft objective and scope of work to perform the seasonal Tie Benefit analysis for the Task Force on Coordination of Planning’s consideration of approval in end of the second quarter in 2023. The CP-8 Working Group will begin the analysis following the finalization of the NERC Long Term Reliability Assessment data by the NERC Reliability Assessment Subcommittee in July 2023. The RCC is anticipated to consider review and approve the report in December 2023. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

| Item | Name | Assignment |
|-------------|--|---|
| SS-38 | Inter-Area Dynamic Analysis Working Group | Assigned to analyze dynamic phenomena, which may affect interconnected system reliability, especially in the area of low frequency oscillations. |
| | Status/ Comments: | The SS-38 Working Group members are conducting dynamic analyses in accordance with the 2022/2023 NPCC UFLS Assessment Terms of Reference reviewed and approved by the Task Force on System Studies (TFSS) on June 30, 2022. The SS-38 WG continues to make progress on the NPCC UFLS study and sensitivity analyses. The documentation of the UFLS study results and the sensitivity analyses will be presented at the September TFSS and RCC meetings. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

| Item | Name | Assignment |
|-------|--|---|
| SS-37 | Base Case Development Working Group Status/ Comments: | <p>On an annual basis, develop a library of solved power flow cases and associated dynamic data.</p> <p>MMWG 2022 Series Dynamic Cases The MMWG Coordinator completed the 2022 Series dynamics case build and released the eight (8) dynamics cases on April 11, 2023. The SS-37 Working Group supported the release of completed dynamics case data by continuously working with the MMWG Coordinator and submitting case corrections on time throughout the case trials.</p> <p>MMWG 2023 Series Cases The SS-37 Working Group held a spring meeting on April 27, 2023, to initiate the development of the MMWG 2023 Series cases. The power flow contingency list, master tie line file, and the area interchange schedule are actively being worked on by SS-37 working group members. During the spring meeting NYISO and ISO-NE delivered presentations on how DERs are currently being modeled within their studies and how to continue to incorporate DERs. The SS-37 Working Group will meet on June 13 – 14, 2023, to begin development of the twelve (12) 2023 Series power flow cases. The meeting will take place in a hybrid format, it will be held at the NYISO office with a WebEx option for those who cannot attend in person. The power flow contingency list and master tie line file are on track to be submitted in time to meet the MMWG deadline. The area interchange schedule is actively being worked on by the NPCC areas and is also on track to be agreed upon by the NPCC areas and submitted on time to meet the MMWG schedule.</p> <p>Automation Sub-Group The SS-37 Automation Sub-Group continues to develop tools to make the power flow and dynamic case building process more efficient. The Automation Sub-Group is focusing on leveraging existing tools and efficiencies deployed by NPCC PC's and update those tools to account for the NPCC footprint.</p> <p>Short Circuit Sub-Group The SS-37 Short Circuit Sub-Group met on April 14, 2023, to continue discussions on methods for achieving consistency in their models at boundary buses and share best practices from industry. The Short Circuit Sub-Group reviewed their 2022 activity results, discussed short circuit coordination efforts with the ReliabilityFirst Protection Subcommittee, and the development of a ERAG short circuit database.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

| Item | Name | Assignment |
|-------------|--|---|
| SS-39 | Geomagnetic Disturbance Working Group | Develop a White Paper recommending voluntary guidelines to address R3, R4, and R8 of NERC Standard TPL-007-4. |

Status/ Comments:

The SS-39 Working Group continues to provide high value to member utilities through education, sharing of information, and collaborative discussions. The New York ISO presented results of their vulnerability assessment on February 24, 2023. ISO New England presented results of their vulnerability assessment on March 31, 2023. Hydro-Québec presented results of their vulnerability assessment on May 12, 2023. The SS-39 Working Group members will continue to present results when available and share lessons learned. During the latter part of 2023, the Working Group will shift focus on updating the whitepaper developed in 2022.

| Item | Name | Assignment |
|-------------|--|---|
| SS-40 | Load Modeling for Transient Stability Studies Working Group | Coordinate development and assessment of load models in dynamic simulations, which include benchmarking the load models with actual system events, exploring potential impact of dynamic load models on inter-area dynamics and transfer capabilities, ensuring consistency & accuracy of load model fractions, and investigating practical methods for observability into the distribution system. |

Status/ Comments:

The SS 40 Working Group has developed a detailed two-year work plan which was approved by TFSS at its March meeting. This effort and the Working Group's participation supporting NERC Load Modeling Working Group is on-going. There has been a delay the Working Group's effort due to technical issues experienced during the simulations in one Area which is under investigation. Another Area has revised its plan to benchmark its simulations against actual events rather than conducting fault simulations as described in the two-year work plan.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM PROTECTION

| Item | Name | Assignment |
|-------------|---|--|
| SP-7 | Working Group on Review Of Protection System Misoperations | Review and analyze misoperations of transmission and generation protection systems and special protection systems on the bulk electric system and report on the statistics of misoperations as they occur in the NPCC region including lessons learned and implementation of corrective action plans by registered entities. |
| | Status/ Comments: | <p>The Task Force on System Protection reviewed the status of SP-7 Working Group on Protection System Misoperation Review as completed through Q4 of 2022. The total number of misoperations for Q4 2022 is 28 compared to the NPCC Q4 quarterly average of 35 misoperations. This is the lowest number of misoperations reported for the past Q4 of the past six years.</p> <p>The misoperation rate for Q4 2022 is 7.84%. This is the lowest misoperation rate for the past six years. The cumulative misoperation rate as of 2017 is 8.19%. Note that during this quarter, 357 operations were reported compared to the Q4 quarterly average of 336 operations.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

| Item | Name | Assignment |
|-------------|---|---|
| ERAG | Eastern Interconnection Reliability Assessment Group | <p>The Eastern Interconnection Reliability Assessment Group (ERAG) oversees the Multi-Regional Modeling Group (MMWG) steady state and dynamics base case development, Eastern Interconnection interregional assessment activities and other interregional matters of interest.</p> <p>Status/ Comments:</p> <p><u>Eastern Interconnection Regional Entity (ERAG) Agreement</u> An updated Eastern Interconnection Regional Entity (ERAG) Agreement has been developed by ERAG members and reviewed by each Region’s legal staff. The new agreement removes references to SPP and FRCC as NERC Regional Entities. Upon completion of all reviews, the document will be presented to the Eastern Interconnection Regional Entity CEOs for signature.</p> <p><u>Acceptable Model Working Group</u> The Acceptable Model Working Group (AMWG) is under development and will consist of subject matter experts from industry who will develop an acceptable model list for use by the Multiregional Modeling Working Group (MMWG) and contribute to the maintenance of the NERC acceptable model list. A call for participants has been made, resulting in over 20 volunteers. Additional organizations will be approached requesting participation. The first meeting is expected to take place during Q3 of 2023.</p> <p><u>Multiregional Modeling Working Group (MMWG) Update</u> The MMWG Chair provided an update on activities. The 2022 Series MMWG dynamics case development effort is complete, and cases are available for use. The 2023 Series cases will be developed in PSSE Version 35. The next MMWG meeting is scheduled to take place on July 26 & 27, 2023.</p> <p><u>Future Studies</u> ERAG members held additional discussions for an assessment planned to be undertaken by ERAG and entitled Resource Mix Change Assessment. The purpose of the assessment is to determine how the changing generation mix will impact the amount of power, incremental above normal base power transfers, can be transferred over the transmission network in a reliable manner to load pockets and between ISO/RTO/Bas in the Eastern Interconnection. The assessment will also determine the effect of high penetration of IBRs on system inertia and frequency response.</p> <p><u>Short Circuit Database</u> The Short Circuit Database is a recommendation by the EIPC Model Coordination Working Group to promote consistent data collection and sharing between organizations. Software vendors will be requested to provide cost estimates for the development and maintenance of a short circuit database.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

ERAG Seasonal Working Group

| Item | Name | Assignment |
|---------------|------------------------------------|---|
| ERAGWG | ERAG Seasonal Working Group | The ERAG Seasonal Working Group conducts appraisals of the Eastern Interconnection. Appraisals are conducted for weather scenarios, including drought and polar vortex type conditions, to determine the impacts on power flows across the Eastern Interconnection. |
| | Status / Comments: | The ERAG Working Group remains inactive until an ERAG-conducted system study is initiated. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| Item | Name | Assignment |
|-------------|--|---|
| RAS | Reliability Assessment Subcommittee (RAS) | <p>Conduct an annual review of the overall reliability of the existing and planned generation and transmission system of the six Regional Reliability Entities for the ten-year horizon. Conduct semiannual, seasonal assessments of the overall reliability of the existing generation and transmission systems of the six Regional Reliability Entities.</p> <p>Status/ Comments:</p> <p>The NERC RAS most recently met on April 11-12, 2023 in Austin, TX to discuss the: 2023 NERC Long Term Reliability Assessment (LTRA), the 2022 NERC Probabilistic Assessment (ProbA) Regional Risk Scenarios Report, the 2023 NERC Summer Reliability Assessment (SRA), a 2022-2023 Winter Operations overview, the 2023-2024 Winter Reliability Assessment (WRA), and the 2023 Probabilistic Analysis Forum (PAF). The RAS will meet next on July 11-13, 2023 in Indianapolis, IN to review the preliminary 2023 LTRA and conduct peer reviews of Assessment Areas.</p> <p><u>2023 Long Term Reliability Assessment (LTRA)</u></p> <p>On February 27, 2023, the RAS requested each Region’s assistance in assessing the long-term (10-year) reliability of their Region (as outlined in the ERO Reliability Assessment Process Document). Initial narrative and data responses, coordinated by the NPCC CP-8 Working Group, should be provided to NERC by June 16, 2023. The NPCC CP-8 Working Group will assist the RAS to complete a peer review process in July 2023 and submit final responses by July 28, 2023. NERC is targeting a release of the public report by December 13, 2023, following the NERC RAS, NERC Reliability and Security Technical Committee, and NERC Board of Trustees review(s).</p> <p><u>2023 Summer Reliability Assessment (SRA)</u></p> <p>The NERC RAS requested each Region’s assistance in assessing reliability risks for the 2023 summer season in January 2023. The NPCC CO-12 and the CP-8 Working Groups coordinated the narrative and data submissions by the NERC deadline of April 6, 2023. NERC released the public report on May 17, 2023.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| Item | Name | Assignment |
|-------------|--|---|
| PAWG | NERC Probabilistic Assessment Working Group | Advance the work initiated by the NERC Generation & Transmission Reliability Planning Models Task Force (GTRPMTF) and the Probabilistic Assessment Improvement Task Force (PAITF) in the conduct of NERC's Core probabilistic assessments. Coordinate and promote the alignment of probabilistic resource adequacy assessments conducted by the ERO and industry. |
| | Status/ Comments: | The NERC Probabilistic Assessment Working Group (PAWG) met on May 16, 2023 to kick off a discussion on the potential changes and direction to the NERC 2024 Probabilistic Assessment (ProbA) efforts. The aim of the ProbA evolution is to have the 2024 LTRA explain the energy risks in more fidelity with an updated ProbA that specifically mentions resource modeling (VER energy contributions) and load profiles. The next steps include the development of detailed plan for the PAWG to consider. The 2024 ProbA data request will go out in May 2024. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| Item | Name | Assignment |
|-------------|--|--|
| TADS | Transmission Availability Data System | Serve as the Regional Entity Coordinator in support of the NERC TADS outage data collection and the analysis of the NPCC Transmission Owners (TO) outage information. Oversee the use of and the data entry of automatic outage information by the TO in the NERC Internet based data management tool - webTADS. |
| | Status/ Comments: | <p>The User Group holds monthly calls; the last one was conducted on April 18, 2023.</p> <p>NERC conducted a training on October 11-12, 2022. The Transmission Availability Data System User Group (TADSUG) implements a uniform approach to reporting and measuring North American BES transmission inventory, availability, and other related reliability data. Training was intended for all members of industry with roles relating to TADS. Examples of roles include data gathering, data entry, and data quality reviews.</p> <p>The members reviewed the draft 2023 State of Reliability TADS Metrics.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| Item | Name | Assignment |
|-------------|--|--|
| DADS | Demand Availability Database System | Serve as the Regional Entity Coordinator in support of the DADS data collection and analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – web DADS. |
| | Status/ Comments: | <p>In December 2020, the DADS Working Group became the DADS User Group (DADSUG). The DADSUG performs the same functions as the DADSWG; however, it no longer reports into the NERC Committee structure. Instead, it reports to the NERC Performance Analysis Department. In response to the recent coronavirus (COVID -19) developments, NERC extended the Q1 reporting deadline for all Section 1600 applications to June 29, 2020.</p> <p>The DADS User Group worked on its Scope to develop a process for soliciting and evaluating DADS changes and recommend selected improvements, such as changes to definitions, metrics, Demand Response Programs. The DADS User Group also discussed the Severity Risk Index correlation with Demand Response Event Days. The DADS User Group has started working on clarification of DADS reporting criteria.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| <u>Item</u> | <u>Name</u> | <u>Assignment</u> |
|-------------|---|---|
| GADS | Generator Availability Data System | <p>Serve as the Regional Entity Coordinator in support of the Generator Availability data collection and Data System analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – web E-GADS.</p> <p>Status/ Comments:</p> <p>A conference call held on January 31, 2023.</p> <p>The GADS Solar team continues to make progress on the Data Reporting Instructions (DRI). Site-level event reporting criteria and cause codes for events are in development. Solar reporting will be similar to the GADS Wind application. A phased in approach will be used. Configuration and performance reporting will be at the inverter sub-group level.</p> <p>Based on recent solar outage studies conducted by NERC staff, the following revisions have been made to define the event reporting threshold for solar resources:</p> <ul style="list-style-type: none">▪ Event Start: The plant output at the point of interconnection experiences a decrease in Actual Generation of at least 20 MW below the Expected Generation.▪ Event End: The difference between Expected and Actual Generation is less than 5% and the plant is producing 10% of the plant’s capacity or 5MW of energy, whichever is greater, or 95% of the equipment unavailable due to the event cause has been returned to service. <p>NERC has posted the 2023 Data Reporting Instructions (DRI) for GADS on the following link. A new Cause Code- 4741 – Frequency Trip (81 Relay) has been added to the Appendix B of this DRI.</p> <p>Multiple entities have requested clarification around the event criteria. As a result, NERC has prepared updates to the Data Reporting Instructions to clarify.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

| Item | Name | Assignment |
|----------------|---|--|
| MIDASUG | Misoperation Data Analysis System User Group | <p>Serve as the Regional Entity Coordinator in support of the Misoperation data collection and Data System analysis for NPCC. Oversee the collection of the data in the NERC Internet based data management tool – MIDAS.</p> <p>Status/ Comments: The User Group holds monthly calls. A WebEx call was held on May 2, 2023.</p> <p>The 2023 MIDAS Data Reporting Instructions have been posted to NERC’s website. The document is intended to provide guidance for MIDAS reporting as detailed in the Section 1600 Data Request and is not intended as guidance for any NERC Standards Compliance. The document is used for identifying Composite Protection Systems that should be reported in MIDAS, determining the number of Composite Protection System Operations to report quarterly, and identifying and coding Misoperations.</p> <p>The group discussed NERC State of Reliability Report’s MIDAS Analysis Review. The group reviewed the MIDAS Analysis section of the draft 2022 State of Reliability report. At this time, the impact score is telling us that most misoperations’ impact isn’t changing significantly for the past five years.</p> <p>In 2022, virtual training was offered on reporting for MIDAS on November 14-15. The purpose of the training was to assist reporters in using a uniform approach to reporting and measuring North American composite protection system operations and misoperations.</p> <p>MIDAS training included items such as how MIDAS data is used, accurately reporting composite protection system operation counts, identifying, coding, and reporting misoperations, as well as how to use the MIDAS Portal application.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

OTHER

| Item | Name | Assignment |
|-------------|--|---|
| IPSAC | Interregional Planning Stakeholder Advisory Committee | The Interregional Planning Stakeholder Advisory Committee (IPSAC) is an open stakeholder group that provides input for the development of the Northeast Coordinated System Plan (NCSP). The NCSP outlines activities conducted jointly by ISO New England, New York ISO, and PJM. |
| | Status/ Comments: | The last IPSAC meeting was held on May 23, 2023. Agenda items included discussion of PJM/ISO-NE/NYISO Regional Planning Needs and Solutions, Interconnection Coordination, Interconnection Queue and Long-Term Firm Transmission Requests. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON COORDINATION OF OPERATION

| Item | Name | Assignment |
|-------|---------------------------------|--|
| CO-10 | Operational Tools Working Group | <p>The Operational Tools Working Group (CO-10) is responsible for taking a lead role in the development of NPCC and NERC operational tools (e.g., electronic tagging, the NERC Interchange Distribution Calculator and electronic scheduling), including hardware, software, and integrated systems. The Operational Tools Working Group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of operational tools.</p> |
| | Status/ Comments: | <p>The CO-10 Working Group continues to review of tool failures and associated lessons learned as generated from the NERC Event Analysis Program and develops regional insights templates from the review of NERC EMS/SCADA lessons learned to further aid NPCC entities in utilizing these valuable lessons. Once obtaining Task Force on Coordination of Operation (TFCO) approval of the Critical Operating Tools Survey Report (COTSR), the CO-10 Working Group successfully distributed the report to all participants in the survey.</p> <p>Once sufficient responses and enough data from the survey were received, a discussion and analysis of the Critical Operating Tool (COT) data was held during the November 3-4, 2022 CO-10 meeting. A draft of the report, which was created following the meeting, was reviewed during the February 9-10, 2023 meeting. The decision was made to continue to revise the draft report at the CO-10 meeting in May, 2023. Once completed, the report will assess the implementation of best practices from the survey and provide recommendations. The completed the Critical Operating Tools Survey Report (COTSR) will then be presented to the Task Force on Coordination of Operation at their next available meeting.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

| Item | Name | Assignment |
|-------------|--|--|
| IST-1 | Infrastructure Security and Technology (TFIST) Workshop | Periodic workshops presentations to address timely issues and update member system personnel associated with the provision of on-line computer systems for operation of the power system. Last Workshop: October 2022 |
| | Status/ Comments: | The Task Force on Infrastructure Security & Technology (TFIST) hosted an Operational Technology Workshop on October 5, 2022. This virtual workshop included presentations by Idaho National Laboratory, Cybersecurity and Infrastructure Security Agency, Multi-State Information Sharing and Analysis Center and DOE's Office of Cybersecurity, Energy Security and Emergency Response. TFIST expects to present at NPCC's Fall 2023 Compliance and Reliability Workshop. |
| Item | Name | Assignment |
| IST-2 | Telecommunications Working Group | Provide a forum to identify, discuss and advance the technology of Telecommunications Infrastructure for the reliable operations of the NPCC Bulk Power System. The Telecommunications Working Group (IST-2) will also support the Task Force on Infrastructure Security & Technology in their work on issues related to Telecommunications. |
| | Status/ Comments: | The Working Group will provide their 2022 annual report at the June 7, 2023 RCC meeting. The IST-2 Working Group continues to support this testing. |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

Item
IST-4

Name
Cyber Security

Assignment

The purpose of the Cyber Security Working Group is to address specific cyber security issues that are assigned by the TFIST. Although these cyber security topics are assigned by the TFIST, they may be developed by any Task Force or Working Group that require a response or a coordinated effort between Task Forces regarding a cyber security matter.

Status/ Comments:

At its August 14-15, 2019 meeting, the Task Force on Coordination of Operation (TFCO) discussed the recently filed for regulatory approval CIP-012-1 standard and its implementation plan. TFCO members agreed that the impacted NPCC RCs, BAs and TOPs would benefit from a coordinated approach to meeting the requirements of the CIP-012-1 standard. On November 10, 2019, the TFCO requested the Task Force on Infrastructure Security & Technology (TFIST) consider standing-up ad-hoc Working Group IST-4.

IST-4's whitepaper was posted for Open Process comments from June 14, 2021 to July 29, 2021. TFIST approved IST-4's responses which did not change the whitepaper. In August 2021, TFIST and the TFCO recommended the CIP-012 Whitepaper for Reliability Coordinating Committee's (RCC) approval. The RCC approved this whitepaper during its September 8, 2021 meeting.

Building on top of that whitepaper, IST-4 worked with NPCC's CIP Compliance on corresponding audit expectations. Compliance presented at NPCC's 2022 Fall Compliance and Reliability Workshop.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

| Item | Name | Assignment |
|-------------|--|--|
| IST-5 | Physical Security Working Group | <p>The Physical Security Working Group exchanges information regarding approaches to physical security to enhance the reliability and resiliency of the BPS. The Physical Security Working Group (IST-5) also supports TFIST in their work on issues related to Physical Security.</p> |
| | Status/ Comments: | <p>The Working Group continues to maintain an “Emerging Trends” guidance document through collaboration with industry physical security experts and Physical Security Working Group (PSWG) members regarding reemerging threat vectors, suggested mitigation practices, technologies and continued lessons learned as a result of the current COVID-19 pandemic. Member entities continue to contribute changes and adaptations that are needed to their Security plans as new issues and situations arise. This will continue to be an ongoing exercise to address both emerging threat trends and new issues regarding the COVID-19 pandemic. Members of the PSWG continue to share physical security approaches and mitigations to unique situations posed by the COVID-19 pandemic. The Working Group held their 2022 Q3 meeting on September 22, 2022 with the Q4 meetings scheduled for December 13, 2022. September meeting agenda included another collaborative gas and electric sectors security threats joint discussion with participation of American Gas Association (AGA) representatives, emerging threats and trends, and training and conferences opportunities. Members of IST-5 WG, also participated in the Fall 2022 Threat Discussion forum organized by Avangrid and held in Boston on October 6, 2022. Forum agenda included presentations on various physical and cyber security topics, including threat overview presentation by E-ISAC and DHS.</p> |



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Administrative Services

MEMBERS' FORUMS

| Item | Name | Assignment |
|----------------|-----------------------------|---|
| General | NPCC General Meeting | To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial, and State regulatory and/or Governmental authorities and senior executives within NPCC to identify and discuss emerging issues related to the reliability of the NPCC Region. |
| | Status/ Comments: | The need for next the NPCC General meeting will be reviewed later in 2023. |

| Item | Name | Assignment |
|----------------|--|---|
| Gov/Reg | NPCC Governmental Regulatory Affairs Advisory Group | To provide a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region and share actionable information related to regional energy and reliability matters. |
| | Status/ Comments: | The Advisory Group's activities are currently being provided by the NPCC DER/VER Forums and ERO State/Provincial Outreach initiatives. |

| Item | Name | Assignment |
|-------------|-------------------------------------|--|
| PIC | Public Information Committee | To highlight and summarize NPCC activities and accomplishments and disseminate appropriate information to the media, as well as respond to related requests for information. |
| | Status/ Comments: | NPCC continues to participate in communications coordination with NERC and the Regions. The <i>NPCC 2023 Summer Reliability Assessment</i> Media Release was issued May 4, 2023. |