



**RCC Meeting
March 2, 2022
Agenda Item 8.12**

**Reliability Assessment Program
(NRAP)
HIGHLIGHT REPORT**
*Prepared for the
Reliability Coordinating Committee
March 2, 2022*

Distributed to:

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Members, Task Force on System Protection
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NPCC, Inc.

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 the 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 penetration of utility-scale Distributed Energy Resources (DERs) on the distribution system, and adverse impact on the BES. The Distributed Energy Resource BES impact reporting form is posted on the NPCC website. The RSC hosted three DER forums in 2021 and one Offshore Wind forum. The DER and Offshore Wind Forums are open to the public. The next DER Forum is tentatively scheduled for May 2022. The DER Forums are hosted on the second day of RSC meetings. The goal is to host three DER Forums in 2022. The NPCC Standards staff developed Version 1 and 2 of the DER Guidance Document which was endorsed by the members of RSC in 2019 and 2020. All comments from the DER Guidance Document comment period were reviewed and responded to by the NPCC Standards staff and members of RSC. Version 3 of the NPCC DER Guidance Document is posted for comments at the end of 2021. The comment period ended on January 27, 2022. NPCC staff will review and address all the comments, responses to industry comments will be posted onto the NPCC website after 30 days. The plan is to review and update the document towards the end of the year 2022 based on the information provided by the May and August 2022 DER Forums.</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:

The Task Force on Coordination of Planning (TFCP) and the Task Force on Coordination of Operation (TFCO) completed a collaborative review of Directory No. 1 in 2015. The NPCC Full Member committee approved the most recent version of Directory No. 1 on September 30, 2015.

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 has begun the review of this document.



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 posted a revised version of Directory No. 2 *Emergency Operations* to the Open Process on December 30, 2017.

The Directory No. 2 criteria has been reformatted into NERC style requirements and has been reviewed to ensure the criteria is consistent with recently approved ERO Standards.

The NPCC Full Member Committee approved the revised version of Directory No. 2 on June 29, 2018. Directory No. 2 is on TFCO's 2022-23 Work Plan to conduct a comprehensive triennial review. CO-8 WG discussed and laid its initial work plan for the subject review at its February 16-17, 2021 meeting.

<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:

The Task Force on System Protection (TFSP) completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 *Protection System Maintenance* and recommended that the criteria in Directory No. 3 be retired.

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 *Protection System Maintenance*.



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	Appendix A – Guideline for Bulk Power System Protection Appendix B - Procedure for Reporting to TFSP New and Modified Protection Systems	TFSP TFSP	January 30, 2020
	Status/ Comments:	An updated version of Directory No. 4 was approved at the December 3, 2019 RCC meeting. The NPCC Full Membership approved the proposed RCC revisions to 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.

Errata corrections to Requirement 4.3, Attachments B - C, and Appendix C were incorporated in January and April 2020.

The next triennial review of Directory No.5 has been added to the RCC-approved, 2023 TFCO Work Plan.



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 completed a comprehensive review of Directory No. 6 and posted a revised version of the document to the NPCC Open Process. The TFCO review considered the impact of evolving ERO standards, emerging industry technologies and the recommendations contained in the Phase 2 Final Report on the A-10 Methodology. An updated version of Directory No. 6 was approved by the RCC for approval at its September 4, 2019 meeting. The NPCC Full Membership approved the revised version of Directory No.6 on September 27, 2019.

<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 Task Force on Coordination of Planning (TFCP) and the Task Force on System Protection (TFSP) completed a comprehensive review of Directory No. 7 to ensure that the existing regional review process and the specific criteria attributes within the document are consistent with PRC-012-2. The title of the document and the existing NPCC Glossary term for Special Protection Systems was revised to be consistent with NERC’s Glossary term for Remedial Action Scheme. The RCC recommended the NPCC Full Member Committee approval of these changes at its December 1, 2020 meeting. The NPCC Full Membership approved the revised version of Directory No.7 on December 22, 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-8	System Restoration	<p>Appendix A - Table 1 “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 - Table 2: Comparison of Test Procedures for Critical Components of Key Facilities of the System Restoration Plan</p>	TFCO	September 25, 2018
	Status/ Comments:	<p>The Directory No. 8 Triennial Review Team, consisting of CO-11 Working Group members and NPCC Transmission Operator representatives, conducted focused review sessions of Directory No. 8 every three weeks in 2021. The review addressed non-substantive, deferred NPCC member comments from the previous triennial review (2018), test procedures for Critical Components, RCC-approved Criteria Clarification Requests, and proposed new testing procedure language for certain requirements for better alignment with current system and computer technologies. Through the Task Force on Coordination of Operations, the Task Force on System Protection (TFSP) was also requested to review Testing Procedures in Directory No. 8 to ensure the criteria remains more specific and stringent to recent changes made to PRC-005.</p> <p>In accordance with the NPCC Directory Development and Revision Manual, a Cost Effectiveness Analysis (CEA) review was also completed to describe enhanced reliability attributes and resilience components of the criteria. The CEA will seek NPCC member comment to identify if there are any potential alternatives achieving the same reliability outcome.</p> <p>TFCO reviewed the proposed Directory redlines, NPCC Glossary of Terms Changes and CEA at its January 12-13, 2022 meeting and approved an NPCC Open Process Posting on February 4, 2022. Comments on the proposed revisions to Directory #8 will be received for forty-five days beginning in Q1-2022.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-9	NPCC Verification of Generator Gross and Net Real Power Capability	Appendix A – Definition of Terms Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	TFCO TFCO/TFCP ¹ TFCO/TFCP ¹	Retired July 1, 2019

Status/ Comments:

The NPCC Full Membership voted to approve the retirement of NPCC Regional Reliability Directory No. 9 *Verification of Real Power Capability*, 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.

Item	Name	Appendices	Lead TF	Current Version
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	October 24, 2016
		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 Task Force on System Protection has completed its periodic review of Directory No.11 and the revised and updated document is on the November 30, 2021 RCC Agenda for approval.



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	Retired Oct. 1, 2021
	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	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.	October 2020
	Status/ Comments:	<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>	



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>	October 26, 2011



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:

The proposal to retire PRC-002-NPCC-01 *Disturbance Monitoring* 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.

FERC issued an approval letter for the retirement of Regional Reliability Standard PRC-002-NPCC-01 *Disturbance Monitoring* on August 16, 2016.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

Item	Name	Assignment	Current Version	
PRC-006 NPCC-1	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:	3 years
			Next Review Date:	Feb. 2023

Status/ Comments:

FERC approved PRC-006-NPCC-1 and its Implementation Plan on February 21, 2013. Based on the FERC approved Implementation Plan the enforcement date for requirements R1 – R7 is January 1, 2016. Requirements R8 – R23 became on enforceable on July 1, 2015.

As a result of developments regarding NERC PRC-006-1/PRC-006-2 *Automatic Underfrequency Load Shedding*, PRC-024-1/PRC-024-2 *Generator Frequency and Voltage Protective Relay Settings*, Project 2014-01 *Standards Applicability for Dispersed Generation Resources*, NPCC Directory No. 12 *Underfrequency Load Shedding Program Requirements*, and the 2013 *NPCC UFLS Adequacy Assessment*, a Regional Standard Authorization Request (RSAR) for revision of Automatic Underfrequency Load Shedding PRC-006-NPCC-1 was approved by the Regional Standards Committee at its June 23, 2015 meeting. The RCC approved the Regional Standards Committee’s request to assign the TFSS to the project scope outlined in the RSAR and to populate the Drafting Team. On October 7, 2015, the RSC approved the drafting team roster as per the recommendation of the TFSS leadership. The PRC-006-NPCC-01 Automatic UFLS drafting team met eleven times and three conference calls. All requirements have been reviewed by the SDT and the draft standard was posted for three open process comment periods and for a 90-day pre-ballot review. A ballot was then conducted which closed on February 10, 2019. The ballot achieved 80.95% quorum and approval of 76%. Due to an ERRATA, the standard was re-approved by the NPCC Board at their September 5, 2019 meeting. It was approved at the November 5, 2019 BOT meeting. The petition for approval is sent to FERC on December 23, 2019 and FERC has assigned Docket RD20-1-000 open for comment period which closed on January 22, 2020. The PRC-006-NPCC-02 was endorsed by FERC on February 18, 2020.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

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	<p>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.</p>	<p>Latest Version: Nov. 2020</p>	<p>Frequency of Reviews: 3 years</p>	
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>			
<p>Next Review Date: Nov. 2023</p>				



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

Compliance Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CC	NPCC Compliance Committee	<p>The NPCC Compliance Committee provides objective stakeholder input for 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. As part of its role, the CC will endorse the compliance procedures (CP) used by the NPCC Compliance Staff in the conduct of the CMEP. In addition, the CC is responsible for reviewing Directory certification forms and providing non-monetary sanction recommendations to the RCC for incidents of non-compliance with aspects of monitored Reliability Criteria.</p> <p>Status/ Comments: At the January 13, 2021 meeting, the 2021 CC Scope and CC Work Plan were discussed and approved. Both documents were approved by the NPCC Board on January 27, 2021. On the January through May 2021 CC calls, NPCC Staff shared with the CC updates and explanations on the transition from the CDAA compliance reporting tool to the new ERO compliance tool, which will occur through 3 Releases in 2021. The new tools are Align and the Secure Evidence Locker. A prioritized Align/SEL training plan for stakeholder users was developed by NPCC Staff and accepted by the CC on March 17, 2021. The CC was presented with the draft NPCC criteria for incorporating entity Performance Considerations in the development of Compliance Oversight Plans (COPs). Due to CC questions, a small working group was set-up to review the criteria in an objective fashion to propose updates at the May 26, 2021 CC meeting where the revised PC Criteria was accepted by the CC. NPCC status and progress on the implementation of the new Align/SEL tool, including stakeholder training were presented to the CC at each monthly meeting in 2021.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CCEP	Criteria Compliance and Enforcement Program	<p>The CC will maintain 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 the RCC an annual CCEP Implementation Plan for approval 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. The Compliance Committee also provides the RCC an annual written assessment of the submitted Reliability Criteria Certification forms for approval which includes recommendations as necessary of non-monetary sanctions for incidents of non-compliance.</p> <p>Status/ Comments: The CCEP Working Group has updated the CCEP-1 process document and it was presented and endorsed by the CC on April 22, 2020. It was provided to the RCC and posted on the NPCC website. In addition, the CC provided a recommendation to the RCC on April 23, 2020 on how issues with Full Member Directory noncompliance due to COVID response should be documented. On July 15, 2020 the CC developed and endorsed the 2019 CCEP Assessment Report which was presented for acceptance at the September 9, 2020 RCC meeting. The 2021 CCEP Implementation Plan and the blank forms for the 2021 Implementation Plan (IP) were approved at the September 16, 2020 CC meeting. The 2021 CCEP IP was accepted at the December 1, 2020 RCC meeting. The last of the CCEP certification forms for the 2020 CCEP year were due on May 20, 2021. The CC developed the 2021 CCEP Assessment Report in time for discussion at the July which was then presented (and accepted by) to the RCC on September 8, 2021. The 2022 CCEP Implementation Plan will be presented at the November 30, 2021 RCC meeting. In October 2021, a Directory No. 8 draft certification form for TOs to certify to Key Facility testing under the 2023 CCEP Implementation Plan was shared by the CC Chair with Task Force on Coordination of Operation.</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 Seminar	<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>
	Status/ Comments:	<p>The 2022 Spring 88th NPCC System Operator Seminar will be held on May 3 - 5, 2022, with a CO-2 working Group planning meeting scheduled for March 8-9, 2022. Consistent with past practice, system operator feedback from the 2021 Fall 87th NPCC System Operator Seminar will be used to develop the program agenda, in coordination with the CO-8 Working Group. The seminar will include topics related to Human Performance Improvement (HPI), review of recent and notable system events.</p> <p>As a follow-up from the 2021 Fall 87th NPCC System Operator Seminar, the Working Group held a follow-up meeting to discuss applied practices of Psychological Safety across the region with CO-8 and HPI Expert Dr. Jake Mazulewicz on February 17, 2022. Working Group members shared updates on their respective HPI programs and opportunities for improving psychological safety in operations. Follow-up materials on the subject were shared with CO-8 and CO-2 working group members; HPI will remain a focus of system operator training going forward.</p> <p>The CO-2 Working Group members continue to discuss and make enhancements to their respective training programs, monitor System Operator Credential Maintenance under pandemic related restrictions, and share lessons learned to provide system operators with the necessary Continuing Education Hours and safe training opportunities to support reliable system operations during COVID-19 pandemic protocols.</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 met on February 8 – 9, 2022 and on December 9 – 10, 2021. The working Group will meet next on April 27 – 28, 2022.</p> <p>The CO-1 Working Group continues to conduct periodic monitoring as required by NERC and NPCC Control Performance and Reserve Criteria, and in coordination with the CO-8 Working Group and the TFCO. No discernable operational trends have been identified. In addition to the regular periodic Control Performance monitoring activities, the CO-1 Working Group continues to closely follow the activities of the BAL-003.1 Phase II Standards Drafting Team and the NERC Resources Subcommittee.</p> <p>The Working Group continues to hold VER-integration discussions with regards to potential enhancements to applicable Directory No.5 criteria, at the request of the TFCO.</p>

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:</p> <p>The CO-7 Working Group has been populated in preparation for the 2021-22 TFCO/Task Force on Coordination of Planning coordinated comprehensive triennial review of NPCC Directory No. 1. A new 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>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

Item	Name	Assignment
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:</p> <p>At its February 16-17, 2022 meeting the CO-8 Working Group members, including representative from PJM reviewed Areas' Winter 2021-22 operations, to date and status of Covid-19 pandemic related operations activities and de-escalation plans. The CO-8 WG discussed and laid its initial work plan for the review of the Directory No. 2, as part of TFCO's 2022-23 Work Plan to conduct a comprehensive triennial review. The Working Group also reviewed and suggested cyber-event coordination enhancements to the C-01 Procedure for TFCO's consideration. The CO-8 Working Group joined by members of CO-2 Working Group held a Q&A/"Apply-to-practice" discussion facilitated by Dr. Jake Mazulewicz on the topic of "How to Build Psychological Safety", which was presented during the November 3, 2021 NPCC System Operator Seminar.</p> <p>The CO-8 Working Group continues to hold weekly Emergency Preparedness calls to discuss pandemic operations and any anticipated system operations challenges. As of February 21, 2022 the NPCC Emergency Preparedness Conference Call procedure was used by the system operation managers nine times thus far during 2022.</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 and 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 will meet on March 29-30, 2022.</p> <p>The CO-11 working group and TOP representatives have been meeting on a three-week basis throughout 2021 and in 2022 to complete the triennial review of Directory No. 8. Proposed redlines, changes to the NPCC Glossary of Terms and a Cost Effectiveness Analysis was presented to the TFCO at its January 12-13, 2022 meeting. The TFCO approved an NPCC Open Process Posting on February 4, 2022 and comments on the proposed revisions to Directory No. 8 will be received for forty-five days beginning in Q1-2022.</p> <p>The CO-11 working group also conducted the 2021 NPCC Wide Area RC-to-RC Restoration Exercise virtually on Wednesday, October 20, 2021 with 35 participants, including operators from all five NPCC Reliability Coordinators. The tabletop exercise was conducted with the support PSS/e software to practice restoration steps under select scenarios. High level reviews of Area Restoration Plans were performed, and discussions included extreme natural events and critical infrastructure interdependencies. A follow-up report summarizing the exercise was developed and shared with the TFCO and CO-8 at their respective meetings in Q1-2022. Findings from the report will be used for planning the 2022 NPCC Wide Area RC-to-RC Restoration Exercise, scheduled for October 19, 2022.</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 Seasonal conditions.
	Status/ Comments:	<p>The CO-12 working group held their kickoff meeting for the 2022 NPCC Summer Reliability Assessment on January 28, 2022 and is coordinating it's activities in Spring 2022 with the CP-8 Working Group. At the direction of the Coordination of Operation (TFCO), the CO-12 Working Group will work with the CP-8 Working group to develop enhancements and sensitivities to the summer assessment in order to account for abnormal weather conditions. Preliminary findings on the assessment will be presented to the RCC and TFCO at their respective meetings in March 2022.</p> <p>The Working Group is also developing on the NERC SRA request in conjunction with the NPCC CP-8 Working Group. The request was received in January 2022 and will be reviewed by the NERC Reliability Assessment Subcommittee (RAS) at their April 13 – 14, 2022 meeting. Efforts are being made to ensure alignment of the NERC SRA with the 2022 NPCC Summer Reliability Assessment. The 2022 NERC SRA is scheduled to be released on May 18, 2022.</p>



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	Review the overall reliability of the NPCC Areas and perform pre-seasonal resource adequacy assessments.
	Status/ Comments:	The CP-8 Working Group has completed the <i>NPCC 2021 Long Range Adequacy Overview</i> ; the RCC approved the report at its November 30, 2021 meeting.
Item	Name	Assignment
CP- 2022S	Summer 2022 Multi-Area Probabilistic Reliability Assessment	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.
	Status/ Comments:	The Task Force on Coordination of Planning approved the Scope of Work and assumptions for the Summer 2022 Multi-Area Probabilistic Assessment at their February 8-9 2022 meeting; work is currently underway by the CP-8 Working Group.
Item	Name	Assignment
CP- 2021-22W	Winter 2021-2022 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Area reliability by estimating projected use of Area Operating Procedures designed to mitigate resource shortages for the winter (November through March) period.
	Status/ Comments:	The CP-8 Working Group completed the NPCC Winter 2021-2022 Multi-Area Probabilistic Assessment; the assessment was approved by the RCC at their November 30, 2021 meeting.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
TIE	NPCC 2021 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:	<p>The Task Force on Coordination of Planning (TFCP) approved the Scope of Work for the <i>NPCC 2021 Tie Benefits Report</i> at its February 10, 2021 meeting. The CP-8 Working Group completed the analysis following the finalization of the NERC Long Term Reliability Assessment data by the NERC Reliability Assessment Subcommittee in July 2021.</p> <p>The TFCP approved the draft <i>NPCC 2021 Tie Benefits Report</i> at its February 8-9, 2022; meeting; RCC approval will be requested at their March 2, 2022 meeting.</p>



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 2021 Power Flow Cases In October the MMWG finalized the twelve (12) 2021 Series power flow cases. The SS-37 Working group commenced case development activities in April and continued to update the power flow cases through the various trials throughout the year leading up to the October approval. The SS-37 Working Group also developed an additional 2026 Spring Light Load case on the recommendation of the Task Force on System Studies.</p> <p>MMWG 2021 Dynamic Cases The SS-37 Working Group submitted the initial dynamics case data package to the MMWG Coordinator in August and will continue to address dynamic case issues as they arise throughout the trials conducted by the MMWG Coordinator. Providing Composite Load Model Data (CMLD) for all eight (8) dynamics cases is required by the MMWG for the 2021 series; SS-37 members are working to meet this requirement.</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. Prioritizing the power flow build as that is the first major build for SS-37 Working Group. The power flow and dynamics text recognition tool is currently under a testing process to find operational bugs and provide feedback for the developers.</p> <p>Short Circuit Sub-Group The SS-37 Short Circuit Sub-Group held a meeting on October 13 to continue discussions on methods for achieving consistency in their models at boundary buses and share best practices. It was agreed to conduct an exercise similar to the one conducted during 2020 in which short circuit MVA calculations made independently at boundary buses by two neighbors are compared. This effort is expected to be complete by December 1, 2021.</p>



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 will meet in April 2022 to develop the Terms of Reference for the UFLS Adequacy Assessment and will follow with the development of the base case for this assessment. The Working Group has been asked to conduct an additional assessment related to increasing levels of DER on individual distribution feeders where blocks of UFLS are tripped within the UFLS program. The UFLS is expected to be completed by the end of 2023.



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 objectives of the Working Group are to share lessons learned as the first geomagnetic disturbance vulnerability assessment is undertaken, adopt a continuous improvement process for future GMD efforts, and update the whitepaper developed in 2021 recommending voluntary guidelines for meeting Requirement R3 and developing methodologies among NPCC members for performing the GMD Benchmark (R4) and Supplemental (R8) GMD Vulnerability Assessments as required by NERC Standard TPL-007-4.

On February 11, 2022, the Chair of the SERC Geomagnetic Disturbance (GMD) Working Group attended the SS-39 Working Group meeting as a guest. The SERC GMD Chair made a presentation describing the structure and objectives of the SERC group. The SS-39 Working Group held a follow-up meeting on February 18, 2022 to discuss lessons learned from the previous week.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

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 is discussing and developing a detailed 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 Q3 of 2021. The total number of misoperations for Q3 2021 is 42 compared to the NPCC Q3 quarterly average of 40 misoperations. This is the second highest misoperation reported for the Q3 in the past four years.</p> <p>The misoperation rate for Q3 2021 is 8.79%. This is the highest misoperation rate reported for the past four years in Q3. The cumulative misoperation rate as of 2017 is 8.11%. Note that during this quarter, only 478 operations were reported compared to the Q2 quarterly average of 581 operations.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
ERAG	Eastern Interconnection Reliability Assessment Group	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.
	Status/ Comments:	<p><u>Eastern Interconnection (EI) MOD-032 Designee</u> A new MOD-032 designee agreement continues to be developed for execution by NERC and the EI Regional Executives to codify ERAG as the permanent MOD-032 designee. A meeting will take place between NERC Legal and executive management to review a draft agreement prior to presentation to ERAG members. Upon receipt of the draft updated agreement from NERC, ERAG will incorporate the document into its revised ERAG agreement and request NPCC Legal to review and comment. Currently, ERAG is operating under an interim MOD-032 designee agreement.</p> <p><u>Multiregional Modeling Working Group (MMWG) Update</u> The MMWG Chair provided an update to ERAG on MMWG activities. Key items of interest included the approved 2021 Series MMWG steady-state cases were released for use on October 8, 2021. Work on the dynamics cases is currently in progress.</p> <p>The MMWG is determining potential liability issues with planning coordinators sharing automation scripts. Although scripts reduce case development time and identify data quality issues, there is concern that adverse results from their use could result in liability by the developer of the scripts. RF Legal provided a draft disclaimer statement that could potentially accompany automation scripts. ERAG members plan to review the draft disclaimer statement and finalize it during the next meeting.</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><u>NERC Acceptable Model List</u> ERAG members discussed ways to better provide input to NERC on acceptable models in dynamics cases. Prior to the dissolution of NERC SAMS in 2020, subject matter experts collectively determined whether a model should be considered acceptable. Currently, there is no national forum that exists for this task. ERAG members considered developing plans for a special group consisting of a variety of participants from industry like those who participated in NERC SAMS, but for the purpose of evaluating models for dynamics cases. Additional discussions with NERC will take place on this topic.</p> <p><u>Planning Coordinator Assessment – EMT Modeling</u> ERAG members discussed the possibility of holding a Workshop in 2022 on the topic of EMT modeling. The focus would be on presentation of assessment results by speakers along with understanding the differences between EMT and dynamics modeling. Additional discussion will take place at the next meeting, during which a topic will be finalized.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

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	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.
	Status/ Comments:	The NERC Reliability Assessment Subcommittee (RAS) met on February 8 – 9, 2022 to discuss the 2022 Summer Reliability Assessment (SRA), the 2022 Long-Term Reliability Assessment (LTRA), and the 2022 Probabilistic Assessment (ProbA). The RAS will meet next on April 13-14, 2022, to review the draft 2022 SRA. The RAS also reviewed the NERC Probabilistic Assessment Working Group (PAWG)-developed, preliminary 2022 ProbA Regional Risk Scenarios.
		NERC 2022 SRA
		The RAS requested each Region’s Assistance for assessing the reliability of the region for the 2022 summer season on January 13, 2022. The NPCC CO-12 and CP-8 Working Groups are coordinating the preliminary narrative and data submissions by the NERC deadline of April 7, 2022. The draft SRA will be reviewed by the RAS and endorsed by the Reliability and Security Technical Committee (RSTC). The final assessment will be released by May 18, 2022.
		NERC 2022 Long-Term Reliability Assessment
		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) on February 17, 2022. Initial narrative and data responses, coordinated by the NPCC CP-8 Working Group, are due to NERC by June 17, 2022. The RAS will complete a peer review process in July 2022 and final responses will be due by July 29, 2022. NERC is targeting a release of the public report by December 15, 2022, following the RAS, NERC RSTC, and NERC Board of Trustees review(s).



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:	<p>The NERC Probabilistic Assessment Working Group (PAWG) most recently met on February 23, 2022 to discuss the 2022 NERC Probabilistic Assessment (ProbA) planning efforts. The PAWG is reviewing draft request documents, including data forms, narratives and schedule. The formal request is expected to be released on May 16, 2022.</p> <p>The PAWG is actively developing a whitepaper on Probabilistic Planning for Tail Risks. This whitepaper is exploring best practices and modelling approaches to extreme events in probabilistic resource adequacy planning processes and is expected to be completed in Q4 – 2022.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
TADSUG	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>In December 2020, the TADS Working Group became the TADS User Group (TADSUG). The TADSUG performs the same functions as the TADSWG; however, it no longer reports into the NERC Committee structure. Instead, it reports to the NERC Performance Analysis Department. The User Group holds monthly calls; the last one was conducted on February 15, 2022.</p> <p>TADSUG worked on the Data Reporting Instructions (DRI) for TADS. The 2022 DRI is now on the TADS website.</p> <p>NERC conducted a training on November 9, 2021. The training was comprised of ten modules. The modules were background, data entry demo, checklist completion, in service state / TADS reportable, outage types, cause codes, fault types, outage modes, outage ID and event ID Codes and examples to cause code. Training is intended for all members of industry with roles relating to TADS. Examples of roles include data gathering, data entry, and data quality reviews. Benefits of attending include learning the essentials of cause coding transmission outages as well as learning effective methods for avoiding common hurdles and best practices for TADS reporting. The training material/WebEx recording will be posted on the NERC's TADS website.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
DADSUG	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)

Item	Name	Assignment
GADSUG	Generator Availability Data System	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.
	Status/ Comments:	<p>In December 2020, the GADS Working Group became the GADS User Group (GADSUG). The GADSUG performs the same functions as the GADSWG, however, it no longer reports into the NERC Committee structure. Instead, it reports to the NERC Performance Analysis Department. A conference call held on January 25, 2022.</p> <p>2020 was the first year of having complete data for GADS Wind. Mandatory Reporting for all wind plants with a Total Installed Capacity of 75 MW or greater. The full year of the phased in reporting for GADS Wind will be completed at the end of March 2021. After the completion of phased in reporting, additional GADS wind Validations may be developed.</p> <p>In 2021, a virtual training was offered on conventional reporting for GADS. The purpose of the training was to assist reporters in using a uniform approach to reporting and measuring North American generating plant availability, performance, and other related reliability data.</p> <p>The GADS Wind Turbine Generation Data Reporting Instructions have been developed to assist wind plant personnel in reporting information to NERC’s GADS Wind Reporting application. The instructions detail the procedures, schedule, and format to follow when reporting data. Wind plants with a Total Installed Capacity of 75 MW or more with a commissioning date of January 1, 2005 or later will be required to report on a quarterly basis.</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:</p> <p>In December 2020, the MIDAS Working Group became the MIDAS User Group (MIDASUG). The MIDASUG performs the same functions as the MIDASWG; however, it no longer reports into the NERC Committee structure. Instead, it reports to the NERC Performance Analysis Department. The User Group holds monthly calls. A WebEx call was held on December 15, 2021.</p> <p>The 2022 MIDAS Data Reporting Instructions have been posted to NERC’s website. This is the official published version of the document for 2022, not a draft. This document is intended only to provide guidance for MIDAS reporting as detailed in the Section 1600 Data Request, it is not intended as guidance for any NERC Standards Compliance. This document should be used for topics such as identifying Composite Protection Systems that should be reported in MIDAS, determining the number of Composite Protection System Operations to report quarterly, identifying and coding Misoperations, etc.</p> <p>Training was given in October of 2021. MIDASUG will conduct another training by the end of 2022. The purpose of the Misoperations reporting and MIDAS Portal training is to assist reporters in using a uniform approach to reporting misoperations and protection system operations using the Misoperation Information Data Analysis System (MIDAS) portal. Benefits of attending include learning the essentials of reporting misoperations as well as learning effective methods for avoiding common hurdles and best practices for MIDAS reporting.</p> <p>The regions discussed their process of collecting Remedial Action Schemes (RAS) Operations/Misoperations quarterly reports. The MIDASUG is in the process of requesting an interpretation by the PRC-004 Standard Drafting Team for the definition of Misoperation. The MIDASUG also discussed compliance requirement DP-UFLS entities.</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 IPSAC held a WebEx meeting on December 10, 2021. Agenda items included a presentation of the NREL/DOE Atlantic Offshore Wind Transmission Study Scope, a Regional Planning Needs and Solutions update from PJM, ISO New England, and the New York ISO; discussion of Interconnection Queue coordination; and the NCSP Scope. The next stakeholder meeting is scheduled for May 16, 2022.



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> <p>Status/ Comments:</p> <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.</p> <p>At its November meeting, the CO-10 Working group scheduled an additional WebEx meeting to complete the analysis of the development of the Critical Operating Tool Failure Analysis (COTFA) report which was required to incorporate the 2021 year- end data to be obtained to complete. The report will be finalized at the CO-10 WG’s February 10-11, 2022 meeting before presenting it to TFCO in March 2022. The group will also be conducting a review of the C-46 Document <i>Procedure for Operations Planning Model Data Exchange</i>” on schedule for a comprehensive, triennial review. Additionally, at the request of TFCO, the CO-10 Working Group will take on the review of the findings from the “FERC and ERO Enterprise Joint Report on Real-time Assessments” and report back to TFCO any findings and/or recommendations.</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: November 2019

Status/ Comments:

The Task Force on Infrastructure Security & Technology (TFIST) presented at NPCC’s Fall 2019 Standards & Compliance Workshop. TFIST expected to present at the NPCC’s 2020 Standards & Compliance Workshops; however, the virtual workshop format did not allow time for a TFIST update. The TFIST expects to present at NPCC’s Spring 2022 Standards and Compliance 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 provided their 2020 annual report at the May 26, 2021 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 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. The Task Force on Infrastructure Security and Technology (TFIST) endorsed IST-4's responses which did not change the whitepaper. In August 2021, TFIST and TFCO separately endorsed the CIP-012 Whitepaper for Reliability Coordinating Committee's (RCC) approval. The RCC approved this whitepaper at its September 8, 2021 meeting. This whitepaper is available on the public portion of the NPCC web site.



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 develop the living “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 2021 Q4 meeting was held on December 15 2021, in a virtual setting. Items on the agenda for discussion were unmanned aerial surveillance and countermeasures, emerging threats and trends and collaboration with the Gas Sector. Meetings will continue to be held in virtual settings until the end of the COVID-19 pandemic. AGA, through the attendance of their Managing Director, Security and Operations and Intelligence analysts shared intelligence on what they considered emerging threats and trends and their security strategies to combat those issues. The Q1 PSWG meeting is scheduled for March 2022; the final date to be determined.</p> <p>Members of the Working Group and NPCC staff continue to work closely with the NERC E-ISAC and Pacific Northwest National Labs to develop a virtual version of the Design Basis Threat program. An NPCC Registered Entity has volunteered their site to be used for development of a generic site with attributable characteristics removed so the site cannot be identified. 2021. GPS mapping, assessment and characterization of the site was completed in October 2021. A final 3d model of the site is expected to be completed by April 2022. Three NPCC Registered Entities continue to express an interest in conducting a DBT exercise face to face at their sites when Pandemic restrictions are lifted.</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:	Due to the current COVID-19 pandemic, the timing of next the NPCC General meeting will be reviewed later in 2022.
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:	Due to the current COVID-19 pandemic, the timing of the next NPCC Governmental/Regulatory Affairs Advisory Group meeting will be reviewed later in 2022.
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. On May 6, 2021, the <i>NPCC 2021 Summer Reliability Assessment</i> Media statement was released. A Media statement was released on December 18, 2021 regarding the <i>NPCC 2021-2022 Winter Reliability Assessment</i> .