



RCC Meeting  
December 4, 2018  
Agenda Item 7.9

**Reliability Assessment Program**  
**(NRAP)**  
**HIGHLIGHT REPORT**  
*Prepared for the*  
*Reliability Coordinating Committee*  
*December 4, 2018*

Distributed to:

Members, Reliability Coordinating Committee  
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  
Members, Task Force on Coordination of Operation  
Members, Task Force on Infrastructure Security and Technology  
Chairmen, Working Groups  
and  
NPCC Staff



# Reliability Assessment Program

## HIGHLIGHT REPORT

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# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program Regional Standards Committee

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
RSC	Regional Standards Committee	<p>The NPCC Regional Standards Committee (RSC), a committee of the NPCC Board, is primarily charged with management and maintenance of the NPCC Regional Standard Processes Manual (approved by FERC Dec. 23, 2014 superseding the NPCC Reliability Standards Development Procedure). The RSC considers requests for new or revised 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 associated with distribution level Distributed Energy Resources (DER). In addition, the RSC coordinates work with the 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. The RSC is also currently engaged in revising the NPCC Regional Standard Processes Manual.</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, which was approved by FERC December 23, 2014, and was filed with the Provincial Authorities. 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

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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>The RSC is currently engaged in reviewing a potential approach to penetration of DER and adverse impact on the BES. The Distributed Energy Resource (DER), BES impact reporting form has been posted onto the NPCC website. The RSC has been active with the development and approval of RSAR which addresses the scope of work and the review of PRC-006-NPCC-1 <i>Automatic Underfrequency Load Shedding</i> with its corresponding continent-wide NERC standard. The PRC-006-NPCC-01 Automatic Underfrequency Load Shedding drafting team has conducted a number of in-person meetings and conference calls. All requirements have been reviewed by the SDT and the draft standard was posted for a third 45-days comment period which will conclude on September 24, 2018. The drafting team convened on October 17-18, 2018 and addressed all comments and made the necessary modifications. All comment responses were posted onto NPCC website on November 24, 2018. PRC-006-NPCC-2 <i>Automatic Underfrequency Load Shedding</i> Standard is currently posted for a 30-day pre-ballot review and a subsequent 10-day ballot period through midnight December 22, 2018.</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	<b>Basic Criteria for the Design And Operation of the Bulk Power System</b>	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 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 their 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.



# 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 26, 2009

**Status/ Comments:**

The Task Force on Coordination of Operation (TFCO) and its CO-8 Working Group have 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 Open Process posting concluded on February 13, 2018 and TFCO has considered comments received and developed responses to the comments. Subsequent to RCC approval, the NPCC Full Member Committee approved the revised version of Directory No. 2 on June 29th, 2018.

<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

**Status/ Comments:**

The Task Force on System Protection 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	<p>Appendix A – Guideline for Bulk Power System Protection</p> <p>Appendix B - Procedure for Reporting to TFSP New and Modified Protection Systems</p>	TFSP TFSP	September 30, 2015
<b>Status/ Comments:</b>		The Task Force on System Protection is currently reviewing Directory No. 4 in advance of an anticipated Open Process posting during 2019.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-5	Reserve	<p>Appendix 1 – Monitoring Procedure for Interconnected System Frequency Response</p> <p>Appendix 2 – Monitoring Procedures for Reserve Criteria</p> <p>Appendix 3 – Procedures during Abnormal Operating Conditions</p> <p>Appendix 4 – Guidelines for SAR Allocation Following Radial Source Contingencies</p> <p>Appendix 5 – NPCC Control Performance Reporting Process</p> <p>Appendix 6 – Light Load Conditions</p> <p>Appendix 7 – Participation Request Form - Simultaneous Activation of Reserve and Ace Diversity Interchange</p>	TFCO TFCO TFCO TFCO TFCO TFCO TFCO	October 11, 2012

**Status/ Comments:** The Task Force on Coordination of Operation (TFCO) and its CO-1 Working Group are reviewing a draft version of Directory No. 5 which has been reformatted into NERC style requirements. The review will also include a comprehensive review of the criteria to ensure that it remains consistent with recently approved ERO standards. The TFCO anticipates posting the revised version of Directory No. 5 to the NPCC Open Process in early 2019.



# 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	April 6, 2012
	<b>Status/Comments:</b>	Directory No. 6 was developed in Phase 2 format and approved by the NPCC Full Membership on April 6, 2012. The Task Force on Coordination of Operation has a periodic comprehensive review of Directory No. 6 scheduled for 2019 as part of TFCO's 2019-20 Work Plan.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-7	Special Protection System		TFSP	July 9, 2013
		Attachment 1 – Definition of Terms	TFSP	
		Appendix A – Guidance for Consideration in SPS Design Criteria	TFSP	
		Appendix B – Procedure for Review of Special Protection Systems	TFCP	
	<b>Status/ Comments:</b>	The Task Force on System Protection (TFSP) is currently reviewing Directory No. 7 in advance of an anticipated NPCC Open Process posting during 2019. In parallel with the TFSP review of the Directory No. 7 criteria, the Task Force on Coordination of Planning (TFCP) is coordinating a review of Directory No. 7 Appendix B to consider revisions to the Appendix to ensure the review and approval process for a Special Protection System (SPS) is consistent with PRC -012-2 <i>Remedial Action Schemes</i> and the revised definition of Remedial Action Schemes (RAS). The TFCP will also provide a recommendation on revisions to the NPCC Glossary definition for SPS.		





# 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	<b>System Restoration</b>	Appendix A – Table 1 “Standard Test Procedures for key facilities and associated critical components required for system restoration. Appendix B: NERC ERO Reliability Standards Appendix C-Table 2: Comparison of Test Procedures for Critical Components of Key Facilities of the System Restoration Plan	<b>TFCO</b>	<b>October 6, 2017</b>
	<b>Status/ Comments:</b>	On October 6, 2017 the Full Member Committee approved revisions to Directory No. 8, which included reformatting the criteria into NERC style requirements, elimination of certain duplicative battery testing requirements contained in PRC -005 and revisions to three restoration Glossary terms. During 2018, the TFCO collaborated with the Task Force on System Protection (TFSP) and has recommended further revisions to the Directory No. 8 criteria in order better align the criteria with the requirements of PRC -005-6. The RCC approved a revised version of Directory No. 8 and on September 25, 2018 the Full Member Committee approved the revisions.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-9	<b>NPCC Verification of Generator Gross and Net Real Power Capability</b>	Appendix A – Definition of Terms Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	TFCO/TFCP <sup>1</sup> TFCO/TFCP <sup>1</sup>	<b>December 29, 2011</b>
	<b>Status/ Comments:</b>	The Task Force on Coordination of Operation (TFCO) has completed a technical comparison of the Directory No. 9 criteria with the requirements of MOD-25-2 and concluded that Directory No. 9 can be retired without creating a reliability gap. The RCC approved TFCO’s recommendation to retire Directory No. 9 along with seven existing NPCC Glossary terms contained solely within Directories No. 9 and No. 10 at its May 31, 2017 meeting, with the effective date to coincide with the completion of the MOD-25-2 Implementation Plan. On August 3, 2017, the NPCC Full Member Committee 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.		



# 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 <sup>1</sup> TFCO/TFCP <sup>1</sup> TFCO/TFCP <sup>1</sup>	December 29, 2011

**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. RCC approved TFCO’s recommendation to retire Directory No. 10 along with seven existing NPCC Glossary terms contained solely within Directories No. 9 and No. 10 at its May 31, 2017 meeting, with the effective date to coincide with the completion of the MOD-25-2 Implementation Plan. 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.



# 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 Equip.	TFSP	
		Appendix B – Guide for Application of DME	TFSP	
		Appendix C – Guide for Generator Sequence of Events Monitoring	TFSP	
	<b>Status/ Comments:</b>	<p>On October 24, 2016 the NPCC Full Member Committee voted to approve regional Reliability Directory No. 11 <i>Disturbance Monitoring Equipment Criteria</i>.</p> <p>Also approved was the concurrent retirement of the following NPCC documents:</p> <ul style="list-style-type: none"> <li>● A-15 – “<i>Disturbance Monitoring Criteria</i>”</li> <li>● B-25 – “<i>Guide to Time Synchronization of Substation Equipment</i>”</li> <li>● B-26 – “<i>Guide for Application Disturbance Monitoring Equipment</i>”</li> <li>● B-28 – “<i>Guide for Generator Sequence of Events Monitoring</i>”</li> </ul> <p>Directory No. 11 will augment PRC-002-2 <i>Disturbance Monitoring and Reporting Requirements</i> and guide the effective application of equipment necessary to capture the data required by the NERC standard.</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-12	UFLS Load Shedding Program Requirements	Appendix A – Definition of Terms	TFSS TFSS	July 9, 2013
	<b>Status/ Comments:</b>	<p>Directory No. 12 was revised by the Task Force on System Studies (TFSS) to synchronize the UFLS program tolerance bands in Directory No. 12 with those in the UFLS Regional Standard PRC-006-NPCC-1, allowing Regional entities to implement a program that is consistent with the Regional Standard and the SS-38 Working Group design recommendations as part of the ongoing six-year UFLS Implementation Plan. The NPCC Full Membership approved the revised Directory No. 12 on July 9, 2013.</p> <p>Currently a Regional Standard Drafting Team is reviewing PRC-006-NPCC-1 and will also review Directory No. 12 to ensure that all required program performance characteristics in the Directory No. 12 criteria have been incorporated into the Regional Standard. Pending all approvals of the revised Regional Standard Directory No. 12 will be considered for retirement.</p>		
<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	April 21, 2017
	<b>Status/ Comments:</b>	<p>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 Member Committee approved the retirement of the A-01.</p>		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories, Appendices & Criteria

<b>Item</b>	<b>Name</b>	<b>Criteria</b>	<b>Lead TF</b>	<b>Current Version</b>
A-10	Classification of Bulk Power System Elements		TFCP	December 1, 2009

**Status/ Comments:**

The Task Force on Coordination of Planning and its CP-11 Working Group are conducting a review of the A-10 methodology.

The CP-11 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 CP-11 during Phase I of the review in 2017. These proposals included revisions to the existing methodology and two new methodologies. The CP-11 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. Subsequent to RCC approval of the recommended methodology revisions to the A-10 document will be developed for Member comment and approval.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directory Development and Revision Manual

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>
<b>Directory</b>	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.	<b>October 3, 2014</b>
	<b>Status/ Comments:</b>	<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. The RSC is currently considering further revisions to the Directory Manual to incorporate a cost-effective evaluation into the periodic Task Force review of each Directory.</p>	

### NPCC Glossary of Terms

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>
<b>Glossary</b>	NPCC Glossary of Terms	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. 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. The Glossary is located in the Directory section of the NPCC website.	<b>October 26, 2011</b>



# 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.	<b>Latest Version:</b>	<b>Retired</b>
			<b>Date:</b>	<b>August 16, 2016</b>

**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

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>	
<b>PRC-006 NPCC-1</b>	Under Frequency Load Shedding (UFLS)	This Standard will provide the requirements for implementing an automatic under frequency load shedding program in order to effectively respond to system under frequency events.	<b>Latest Version:</b>	<b>New</b>
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	<b>February 2016</b>

**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 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. The draft standard was posted for a third 45-days comment period which will conclude on September 24, 2018. The drafting team convened on October 17-18, 2018 and addressed all comments and made the necessary modifications. All comment responses were posted onto NPCC website on November 2, 2018. PRC-006-NPCC-2 Automatic Underfrequency Load Shedding Standard is currently posted for a 30-day pre-ballot review and a subsequent 10-day ballot period through midnight December 22, 2018.





# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Regional Standards

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>
<b>BAL-002-NPCC-01</b>	Regional Reserve Sharing Groups	The Standard provides the measures for implementing Reserve Sharing Groups within NPCC in order to meet their reserve obligations.	Latest Version: <b>New</b> <b>Frequency of Reviews: 3 years</b> <b>Next Review Date:</b>
	<b>Status/ Comments:</b>	The RSAR has been developed and approved by the RSC. The RCC has assigned the 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

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>
<b>RSPM</b>	Regional Standard	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.	<b>Latest Version:</b> Dec, 23 2014  <b>Frequency of Reviews:</b> 3 years  <b>Next Review Date:</b> Dec. 23, 2017
	<b>Status/ Comments:</b>	<p>The Regional Standard Processes Manual (RSPM) is posted on the NPCC Website. The RSC is actively reviewing 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. The RSPM was posted for a 45-day comment period December. 7, 2011. It was reposted June 6, 2013 through July 22, 2013 for comments. The Regional Standard Processes Manual passed the ballot that was posted November 12, 2013 through January 17, 2014. The document was approved by the NPCC Board of Directors and NERC Board at its August 14, 2014 meeting. The RSPM was approved by FERC on December. 23, 2014. During the June 20, 2018 RSC meeting, a small team is formed to review the current RSPM for any potential updates. The goal is to finalize all the updates by December 5, 2018 so it can be reviewed by the rest of the RSC members during the December 2018 RSC meeting.</p>	



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Compliance Enforcement and Organization Registration and Certification Program

#### Compliance Committee

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CC	NPCC Compliance Committee	<p>The NPCC Compliance Committee is charged with providing independent policy input for the NPCC Compliance Monitoring and Enforcement Program (CMEP). The NPCC CMEP covers compliance assessment and enforcement of NERC Reliability Standards, Regional Reliability Standards, and NPCC Reliability Criteria (NPCC Directories). Regarding NERC Reliability Standards and Regional Reliability Standards, the CC provides an oversight role to the NPCC Compliance Staff's implementation of the CMEP. In this oversight 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 providing non-monetary sanction recommendations to the RCC for incidents of non-compliance with monitored Reliability Criteria.</p> <p><b>Status/ Comments:</b> At the September 26, 2018 CC meeting, revisions to Compliance Procedures CP-02 (On Site Audits), CP-03 (Off Site Audits,) and CP-06 (Guided Self Certifications and Self Reporting) were approved by the CC.</p> <p>A subgroup of the CC performed an assessment of the NPCC Staff implementation of the audit process on October 16-17, 2018. The positive observations and recommendations will be shared with the entire CC at the December meeting.</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	<b>Criteria Compliance and Enforcement Program</b>	<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 will provide 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 will provide to the RCC for approval an annual 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><b>Status/ Comments:</b> The Compliance Committee shared the assessment report associated with the 2017 CCEP Implementation Plan at the September 2018 RCC meeting. The report was accepted by the RCC. The Compliance Committee approved the 2019 CCEP Implementation Plan at their June 2018 meeting and will present it at the December 2018 RCC meeting.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Training, Education, and Operator Certification Program

#### TASK FORCE ON COORDINATION OF OPERATION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CO-2	System Operator Training	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.
	<b>Status/ Comments:</b>	The CO-2 Working Group held the 2018 Fall 82nd NPCC System Operator Seminar in King of Prussia, Pa. on November 6, 7 and 8, 2018. The Seminar training activities included: 1) Human Performance/teamwork exercise, 2) Table top exercise addressing load-generation balancing, NPCC system characteristics, system restoration and loss of EMS tool functionality, 3) description of NPCC functions, staffing and structure, 4) PJM external event resilience training, 5) operator presentations on notable events or developments in each of the participating Areas. The next Seminar will be the Spring 2019 Seminar to be held in St. John's, Newfoundland.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF OPERATION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CO-1	Control Performance Working Group	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.
	<b>Status/ Comments:</b>	<p>The CO-1 Working Group met November 28-29, 2018, with its next meeting scheduled for February 2019. In response to TFCO's request, the CO-1 Working Group is continuing their review of the reformatted draft version of Directory No. 5 to verify consistency of the reformatted criteria with the currently active Directory No. 5 document. The review, which began in December 2016, is anticipated to continue in 2018 and in addition to reformatting the criteria into NERC style requirements, will consider the impacts of recent ERO standard developments and revisions on the document. The CO-1 Working group will present the draft formatted document to the TFCO at its meeting on December 6-7, 2018.</p> <p>The CO-1 Working Group continues to generate the NERC Disturbance Control Standard Report and conducts periodic monitoring as required. The CO-1 Working Group continues to closely monitor developments to their relevant BAL and FAC standards.</p>

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CO-7	Operational Planning Working Group	The Working Group CO-07 was restructured to serve the Task Force on Coordination of Operation 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."
	<b>Status/ Comments:</b>	There are currently no active CO-7 Working Group assignments.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF OPERATION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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><b>Status/ Comments:</b> In response to TFCO's assignment, the CO-8 Working Group has concluded a triennial periodic review of the Regional Reliability Reference Directory No. 2, <i>Emergency Operations</i> document. The revised version of Directory No. 2 was approved by the NPCC Full Member Committee on June 29th, 2018. The CO-8 Working Group is also coordinating with and working on providing comments on the Directory No. 5, <i>Reserve</i> to the CO-1 Working Group which was tasked by the TFCO to lead the triennial review effort of the Directory No. 5. The CO-8 WG will be the lead Working Group assigned by TFCO to perform the periodic comprehensive review of Directory No. 6 scheduled for 2019 as part of TFCO's 2019-20 Work Plan.</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. Coordinates Reliability Coordinator restoration exercises and develops and supervises annual wide-area restoration drills. CO-11 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>
	<b>Status/ Comments:</b>	<p>The NPCC CO-11 Restoration Working Group conducted a review of the New Brunswick Restoration Plan at its meeting on September 26-27, 2018. The review included descriptions of the elements of coordination of the restoration plans with neighboring Reliability Coordinators (desired points of interconnection and control parameters). The CO-11 Working Group hosted the 2018 NPCC RC-to-RC Restoration Exercise on October 24-25, 2018 in Montreal, Quebec. A lessons learned report was developed at its November 29-30, 2018 meeting that will be presented to the TFCO at their December 6-7, 2018 meeting.</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF OPERATION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CO-12	Seasonal Assessment Working Group	Review the overall reliability of the generation and transmission system in the NPCC Region for the Summer and Winter Seasonal conditions. Working Group CO-12 has been renamed the “Seasonal Assessment Working Group” to avoid confusion with the restructured Working Group CO-07.
	<b>Status/ Comments:</b>	The CO-12 Working Group began work on the 2018-19 NPCC Winter Reliability Assessment in mid-September. TFCO approved the final assessment via teleconference on November 15, 2018. Following RCC approval at their December 4, 218 meeting, the assessment will be posted on the NPCC web site.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF PLANNING

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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.
	<b>Status/ Comments:</b>	The RCC is scheduled to approve the <i>2018 NPCC Long Range Adequacy Overview</i> at their December 4, 2018 meeting. The RCC is also scheduled to approve the Maritimes, New England and Quebec Interim Reviews of Resource Adequacy, and the Ontario and New York Comprehensive Reviews of Resource Adequacy at their December 4, 2018 meeting.
<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CP- 2018S	Summer 2018 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.
	<b>Status/ Comments:</b>	The Task Force on Coordination of Planning approved the assessment on April 20, 2018.
<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CP- 2018-19W	Winter 2018-2019 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.
	<b>Status/ Comments:</b>	The Task Force on Coordination of Planning reviewed the <i>NPCC Winter 2018 – 2019 Multi-Area Probabilistic Reliability Assessment</i> at its August 14-15, 2018 meeting and agreed to postpone seeking RCC approval until the December 4, 2018 RCC meeting.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF PLANNING

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>LRAO</b>	NPCC 2018 Long Range Adequacy Overview (LRAO)	On a consistent basis, evaluate the near-term seasonal and long-range (five year) adequacy of NPCC Areas', reflecting neighboring regional plans proposed to meet their respective resource adequacy criteria through multi-area probabilistic assessments.
	<b>Status/ Comments:</b>	The <i>NPCC 2018 Long Range Adequacy Overview</i> will be presented for RCC approval at their December 4, 2018 meeting.
<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>CP-11</b>	<i>NPCC Basic Criteria For Design and Operation of the Bulk Power System Review Working Group</i>	.
	<b>Status/ Comments:</b>	See above A-10 Summary.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON SYSTEM STUDIES

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
SS-38	Inter-Area Dynamic Analysis Working Group  <b>Status/ Comments:</b>	Assigned to analyze dynamic phenomena, which may affect interconnected system reliability, especially in the area of low frequency oscillations.  The SS-38 Working Group completed development of the base cases for 2017-2018 NPCC UFLS Assessment. The Working Group completed development of the generator relay models, capacitor protection models, and the underfrequency load shedding models necessary to perform simulations of the NPCC UFLS program. Baseline simulations were completed in August. Final results of the assessment will be presented at the December 4, 2018 RCC meeting.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### TASK FORCE ON SYSTEM STUDIES

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
SS-37	Base Case Development Working Group	On an annual basis, develop a library of solved power flow cases and associated dynamic data.
	<b>Status/ Comments:</b>	<p><b>2018 Power Flow Cases - Ongoing</b> The SS-37 Working Group completed development of an interchange schedule, tie line list, and contingency files that will be used during development of the 2018 Series cases. In June 2018, the power flow cases were assembled and submitted to the Multiregional Modeling Working Group (MMWG) of the Eastern Interconnection Reliability Assessment Group (ERAG). The MMWG has the responsibility to aggregate the power flow cases received from the Planning Coordinators within the Eastern Interconnection into the Eastern Interconnection power flow cases. The Eastern Interconnection power flow cases were completed and published on October 25, 2018.</p> <p><b>2018 Dynamics Models - Ongoing</b> In August 2018, the SS-37 Working Group assembled dynamics data for the 2018 NPCC Library of Cases. The completed dynamics models were submitted on September 7, 2018 to the MMWG. The MMWG has the responsibility to aggregate the dynamics models received from the Planning Coordinators within the Eastern Interconnection into the Eastern Interconnection dynamics models. The dynamics models are scheduled to be complete and published in January 2019.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON SYSTEM PROTECTION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>SP-7</b>	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.
	<b>Status/ Comments:</b>	<p>The Task Force on System Protection reviewed the status of the SP-7 Working Group on Protection System Misoperation Review as completed through the 2nd Quarter (Q2) of 2018. The total number of misoperations for Q2 is 45 compared to the NPCC Q2 quarterly average of 44 misoperations. The misoperation rate for Q2 2018 is 5.31%. This is the lowest misoperation rate for Q2 since 2014. Note that during this quarter, 847 operations were reported compared to the Q2 quarterly average of 688 operations.</p> <p>There were eight reported SPS operations in Q2 2018 and one reported misoperations. The misoperation was due to “Logic Error”, the AND logic was incorrectly programmed in “OR” logic of SPS B package relay.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### Eastern Interconnection Reliability Assessment Group

Item	Name	Assignment
ERAG	Eastern Interconnection Reliability Assessment	The Eastern Interconnection Reliability Assessment Group (ERAG) oversees the Multi-Regional Modeling Group steady state and dynamics base case development, Eastern Interconnection interregional assessment activities and other interregional matters of interest.
	<b>Status/ Comments:</b>	<p>ERAG conducted a follow-up assessment to the previously completed NERC Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System. The primary focus of the assessment was to determine how the Eastern Interconnection Planning Coordinators (PCs) addressed, or are addressing, the recommendations from the NERC Special Reliability Assessment.</p> <p>The ERAG assessment was conducted in two phases. Initially, ERAG surveyed (Phase 1) the Eastern Interconnection Planning Coordinators (PCs) to obtain feedback on any work the PCs have performed to address NERC’s recommendations. To supplement the survey results, ERAG conducted a Peer Review workshop (Phase 2) on September 25-26, 2018 for Eastern Interconnection PCs that have a significant portion of their supply resources provided by gas-fired (or dual fuel) generation.</p> <p>ERAG has developed the next steps below as a follow-up to the Planning Coordinator Peer Review:</p> <ul style="list-style-type: none"> <li>• The Eastern Interconnection Planning Coordinators concentrate on understanding, coordinating and mitigating any potential Bulk Power System impacts due to Severe Disruptions on the Natural Gas System – ERAG will review these to determine if any electric system impacts between Areas could be expected and require power system impact analysis.</li> <li>• ERAG will conduct follow-up work to the NERC Special Reliability Assessment: Potential Bulk Power System Impacts Due to Severe Disruptions on the Natural Gas System – ERAG may conduct a follow-on analysis to the NERC study for the Eastern Interconnection, if warranted and resources with proper expertise are available. ERAG will leverage previous gas-electric coordination study efforts and develop a scope to conduct this study in 2019. The effort may include a collaboration with Planning Coordinators to identify impacted power plants and ensure dual-fuel capability or other existing mitigating options are available. Analysis considerations would include a screening of impacted units to assess voltage and thermal issues. This work would support Planning Coordinators as they conduct more localized system studies.</li> </ul>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

ERAG Seasonal Working Group

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>ERAGWG</b>	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.
	<b>Status / Comments:</b>	The ERAG Working Group is and will remain 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)

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
RAS	Reliability Assessment Subcommittee (RAS)	Conduct an annual review of the overall reliability of the existing and planned generation and transmission system of the seven 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 seven Regional Reliability Entities.
	<b>Status/ Comments:</b>	The NERC RAS reviewed the Assessment Area data, narratives, discuss initial responses from the peer review at its July 17-19, 2018 meeting in Toronto, Ontario and was presented with preliminary Proba results at its August 21-22, 2018 meeting at PJM in Audubon, PA. The NERC Planning Committee received a pre-publication version draft of the report in October 2018 – following NERC Planning Committee endorsement on December 5, 2018, the NERC Board of Trustees approval of the 2018 LTRA is scheduled for the second week of December 2018.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>ProbA</b>	<b>NERC Probabilistic Assessment</b>	Trial assessment to determine if probabilistic reliability metrics based on the NERC Long Term Reliability Assessment can be used to supplement NERC regional reliability outlooks.
	<b>Status/ Comments:</b>	<p>The NERC Probabilistic Assessment Working Group (PAWG) has developed the assumptions, methods and data request related for the probabilistic assessment to be conducted in conjunction with the 2018 NERC Long-Term Reliability Assessment. The data and narrative request were sent by NERC to the Regional Executives on May 1, 2018.</p> <p>First draft of the Base-Case results was due to NERC on August 17, 2018, with the final draft of the short dashboard narratives to the LTRA on September 4, 2018. Final Area probabilistic Assessments, including sensitivity analysis are due by December 2018.</p>



# 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.
	<b>Status/ Comments:</b>	<p>The NERC TADS Working Group (TADSWG )met on October 2-3, 2018 at NPCC’s office in New York City. The next face-to-face meeting will be on February 5-6, 2019 at FRCC’s office in Tampa, FL.</p> <p>NERC staff provided the working group with an update on the *ADS Quality Control document posted to NERC’s website under the Performance Analysis page.</p> <p>NERC staff provided the working group with a briefing of the TADS portions of the State of Reliability as they appeared in the final publication, focusing on the Transmission Outage Severity (TOS) calculation. The calculation attempts to demonstrate the unexpected loss of transmission elements on any given day throughout the year. The TADSWG suggested that it might be beneficial to perform the analysis on an interconnection basis for a more accurate representation and to identify any potential localized events and/or common causes.</p> <p>NERC staff informed the TADSWG that the group had been re-assigned the creation of a data collection system for reactive devices. The group felt that there was sufficient expertise within the current members and that adding new members specifically for this task was unnecessary at this time. It is expected that the data collection will be incorporated into the TADS 1600 data request and the group would like to use this opportunity to re-evaluate what information is currently being collected and whether said information needs changed.</p> <p>TADSWG will conduct an in-person training session on October 23-25, 2018 at the NERC offices in Atlanta, GA.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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.
	<b>Status/ Comments:</b>	<p>The next face-to-face meeting will be announced in 2018. The DADSWG worked on its Scope to develop a process for soliciting and evaluating DADS changes and has recommended selected improvements, such as changes to definitions, metrics, Demand Response Programs. The group also discussed the Severity Risk Index (SRI) correlation with Demand Response Event Days. The group has started working on clarification of DADS reporting criteria.</p> <p>The DADS Working Group has reviewed the Demand Response overview and appendix for the draft 2018 State of Reliability Report.</p> <p>The DADS Working Group is working on its training materials and is planning to have a training session in 2019. NERC Training expects to complete the video during Q1 2019.</p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### North American Electric Reliability Corporation (NERC)

Item	Name	Assignment
GADS	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.
	<b>Status/ Comments:</b>	<p>The NERC GADS Working Group (GADSWG) held a face-to-face meeting on September 26-27, 2018 at Southern Company Services - Energy Center Complex in Birmingham, AL. The next meeting is scheduled on December 18, 2018 and January 15, 2019. NERC has scheduled and has completed three GADS/GADS-Wind trainings in 2018.</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>NERC has posted the GADS Wind Data Reporting Instructions (DRI), GADS Wind DRI version 1.2. This update to the DRI reflects minor changes to instructions associated with an authorized request for data and was approved by the Planning Committee on September 13, 2016.</p> <p>Beginning January 1, 2018, quarterly reporting for all wind plants with a Total Installed Capacity of 200 MW or larger is mandatory. Additional phased-in mandatory reporting is as follows:</p> <ul style="list-style-type: none"> <li>• January 1, 2019: Mandatory reporting begins for plants with a Total Installed Capacity of 100 MW and greater.</li> <li>• January 1, 2020: Mandatory reporting begins for plants with a Total Installed Capacity of 75 MW and greater.</li> </ul> <p>Reporting data requirements for Solar have been initiated with a target goal of beginning data submittal by 2021. In the April 17, 2018 meeting for solar data reporting instructions (DRI), the preliminary assessment was completed for the required inventory and performance fields.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

North American Electric Reliability Corporation (NERC)

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>MIDASWG</b>	<b>Misoperation Data Analysis System Working Group</b>	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.
	<b>Status/ Comments:</b>	<p>The NERC MIDAS Working Group (MIDASWG) had its kickoff conference call on July 16, 2018. The group had its first face-to-face meeting on November 14, 2018 at NERC’s office in Atlanta, GA</p> <p>The following items will be in the scope of MIDASWG:</p> <ul style="list-style-type: none"><li>● Draft and maintain MIDAS Data Reporting Instructions (DRI);</li><li>● Assist with development of addition industry assisting content (i.e. training);</li><li>● Solicit and/or evaluate recommended changes and improvements to MIDAS data collection (1600 &amp; Portal);</li><li>● Assist with development and production of public reports; and,</li><li>● Develop additional specialized analysis reports.</li></ul> <p>The MIDASWG will focus on a better alignment of how the system protection Operation/Misoperation data is being reported.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### OTHER

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
IPSAC	Interregional Planning Stakeholder Advisory Committee	<p>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).</p> <p>The NCSP outlines activities conducted jointly by ISO New England, New York ISO, and PJM.</p>
	<b>Status/ Comments:</b>	<p>The IPSAC a WebEx on December 10, 2018. Agenda items included an update on New England, New York and PJM system needs that could have potential interregional solutions, projects with potential cross border impacts, and next steps.</p>



# 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>
	<b>Status/ Comments:</b>	<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 also develops regional insights templates from the review of said lessons learned to further aid NPCC entities in utilizing these valuable lessons.</p> <p>Upon obtaining the Task Force of Coordination of Operation (TFCO) approval to proceed at their May 2018 meeting, the CO-10 Working Group prepared and distributed the NPCC Operating Tools Failure Analysis survey to all the NPCC RC/BA and TO/TOPS in order for them to provide their current practice regarding the power system network model representation for EMS applications, as well as, the EMS performance and infrastructure monitoring applications. The CO-10 WG is in the process of collecting the completed surveys, analyzing the responses and will provide summary results to the TFCO at their March 2019. After obtaining TFCO approval these results will be distributed to the respondents to help them benchmark their current practices against NPCC best practices for both RC/BA and TO/TOP sets of reliability entities.</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program

#### TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
IST-1	Infrastructure Security and Technology 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. <b>Last Workshop:</b> November 2018
	<b>Status/ Comments:</b>	TFIST will present at NPCC's Spring 2019 Standards & Compliance Workshop.

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
IST-2	TFIST 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 TFIST in their work on issues related to Telecommunications
	<b>Status/ Comments:</b>	TFIST presented the 2017 annual Cross Border Emergency Telecommunications report at the RCC's February 28, 2018 meeting.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Administrative Services

### MEMBERS' FORUMS

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>General</b>	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.
	<b>Status/ Comments:</b>	The 2018 NPCC General Meeting is planned for December 5, 2018 in Toronto, Ontario. The theme of the meeting is "Reliability through Security and Fuel Assurance."

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>Gov/Reg</b>	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.
	<b>Status/ Comments:</b>	The 2018 NPCC Governmental/Regulatory Affairs Advisory Group meeting will be held in conjunction with the NPCC 2018 General Meeting. The focus of the Agenda is on NERC and NPCC Distributed Energy Resource initiatives.

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>PIC</b>	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.
	<b>Status/ Comments:</b>	NPCC continues to participate in communications coordination with NERC and the Regions. The NPCC Media Event for the release of the 2018 NPCC Summer Reliability Assessment was held on May 15, 2018. NPCC participated in the November 5, 2018 NERC Regional Communication Group Meeting.