



RCC Meeting  
March 1, 2017  
Agenda Item 7.11

**Reliability Assessment Program**  
**(NRAP)**  
**HIGHLIGHT REPORT**  
*Prepared for the*  
***Reliability Coordinating Committee***  
***March 1, 2017***

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



**NPCC, Inc.**

## **Reliability Assessment Program**

### **HIGHLIGHT REPORT**

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# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 NPCC RSC will consider requests for new or revised standards and be available for advisement to the NPCC Board on the standards. The NPCC RSC will work in coordination with the Regional Standards Process Manager (RSPM) who will be the administrator for the NPCC Regional Standard Processes Manual. In addition, the NPCC RSC will review, comment on and develop ballot recommendations for the NERC Reliability Standards under review or development. The RSC also provides oversight for the NPCC Regional Reliability Directories which contain the NPCC 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 continues to support NERC staff in the Paragraph 81 and Informal Standard Development efforts which are now being performed during the Periodic Review of the standards. The RSC has provided input to the NERC “Enhanced Periodic Review Project” and the NERC version of the CEAP entitled Cost of Risk Reduction Analysis (CRRA). In addition, the RSC coordinated efforts with the CC to develop a feedback mechanism to route issues identified with standards to the RSC to decide how best to address those issues and improve standards and reliability.</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). 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 Functional Model Working Group, NERC Standards Committee, and the NERC Standards Committee Process Subcommittee. The RSC has also revised the NPCC Regional Reliability Standards Development Procedure, renamed the Regional Standard Processes Manual, which was approved by FERC Dec. 23, 2014, and which has been 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 also solicits members for the NERC drafting teams as necessary to ensure NPCC is adequately represented. The RSC is actively supporting the Order 706 Cyber Security Standards development and revision process. The RSC has initiated and is currently overseeing Phase II of the NPCC Directory project which will translate the criteria in the Directories into specific “requirements” on which compliance may be assessed.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 has developed a draft Work Plan for 2017-2018 and a revision of its Scope of Work; these revisions were approved and are pending final approval RSC approval prior to submission to by the NPCC Board of Directors (BOD) at their February 2017 meeting. The RSC has been active with the development and approval of RSAR's which address the scope of work surrounding various regional standard issues including a regional variance for PRC-006-3 Automatic Underfrequency Load Shedding, and the review of PRC-006-NPCC-1 Automatic Underfrequency Load Shedding with its corresponding continent-wide NERC standard. The regional variance for PRC-006-3 Automatic Underfrequency Load Shedding drafting team has proposed revisions to the Quebec variance which conform with the unique characteristics of the Quebec system. The revised variance was approved by the members of RSC, and has been posted for comment. Pending reconciliation of comments the standard is currently in a 30-day scheduled to be posted for a 30-day pre-ballot review until March 1st, 2017 period followed by a 10-day ballot with a subsequent ballot during the first quarter of 2017. The PRC-006-NPCC-01 Automatic Underfrequency Load Shedding drafting team has conducted two meetings and has scheduled a third meeting. All requirements have been reviewed by the SDT and subsequent steps include further work on a comparison table between the continent-wide standard versus the regional standard. The proposal to retire PRC-002-NPCC-01 Disturbance Monitoring regional standard was approved by the NPCC BOD on March 23, 2016 and by the NERC Board on May 5, 2016. A petition to retire the regional standard was approved by FERC on August 16, 2016. RSC is also working with Quebec to determine an approach to address the concerns expressed as a result of the FERC NOPR on TPL-007-1 GMD.</p> <p>Additionally, the RSC will review and coordinate consensus regional comments on the draft Supply Chain standard (CIP-013) which is currently posted for comment until March 1, 2017.</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 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.

On September 7, 2016, the RCC approved a TFCP clarification on the criteria governing the Area review of Resource Adequacy as outlined in Criteria Requirement R4 and Appendix D of Directory No. 1. The clarification provides guidance on the calculation of available resources and the treatment of capacity backed purchases as part of these calculations.



# 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
	<b>Status/ Comments:</b>	The Task Force on Coordination of Operation and its CO8 Working Group will begin a review of a reformatted draft version of Directory 2 at its February 21-22, 2017 meeting to verify consistency of the content with the criteria of the currently active Directory No. 2 document. The review is anticipated to continue throughout 2017 and in addition to the effort to reformat the criteria into NERC style requirements, will consider the impact of recent ERO standard approvals and revisions on the document.		

<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
	<b>Status/ Comments:</b>	The Task Force on System Protection completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 “ <u>Protection System Maintenance</u> ” 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 “ <u>Protection System Maintenance</u> .”		



# 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>	<p>The Task Force on System Protection (TFSP) incorporated new protection system technology (IEC 61850) into the system protection criteria based on a SP-8 Working Group review.</p> <p>The TFSP also developed five new NPCC specific Glossary terms which support the new IEC 61850 technology as well as other aspects of the criteria. Additionally, enhanced criteria for the monitoring of tele –protection communication channels as recommended by the TFSP during their evaluation of the proposal to retire Directory No. 3 have been incorporated into the Directory No. 4 criteria.</p> <p>Directory No. 4 was approved by the RCC at its September 10, 2015 meeting and in accordance with the NPCC By-Laws, Directory No. 4 was approved by the NPCC Full Membership on September 30, 2015.</p> <p>In December, 2016 the RCC approved a TFSP clarification on the criteria governing the design of breaker failure protection and related trip coil monitoring requirements.</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-7	Special Protection System	Attachment 1 – Definition of Terms Appendix A – Guidance for Consideration in SPS Design Criteria Appendix B – Procedure for Review of Special Protection Systems	TFSP TFSP TFSP	July 9, 2013
	<b>Status/ Comments:</b>	The RSC continues to monitor the development of PRC -012-2 “ <i>Remedial Action Schemes</i> ” and the revised definition of Remedial Action Scheme (RAS) to assess how these revisions may impact the NPCC criteria for Special Protection Systems in Directory No. 7.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-8	System Restoration	Appendix A – Table 1 “Summary of Test Procedures For Critical Components of Key Facilities of the System Restoration Plan”	TFCO TFCO/TFSS <sup>1</sup>	October 22, 2010
	<b>Status/ Comments:</b>	The CO-11 Restoration Working Group has revised the battery testing criteria in Directory No. 8 to eliminate any duplicative requirements with the recently approved PRC -005-2 “ <i>Protection System Maintenance</i> .” The CO-11 Working Group addressed comments received during an Open Process posting. Because of the substantive revisions made to Directory No. 8 to address the comments received, it was re-posted for an additional industry review that closed February 6, 2017. The CO-11 Working Group is reviewing and addressing the comments received.		

<sup>1</sup> Indicates that the Task Force responsible for review of the Appendix is not the same as the lead Task Force for the respective Directory.



# 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-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 TFCO/TFCP <sup>1</sup> TFCO/TFCP <sup>1</sup>	December 29, 2011
	<b>Status/ Comments:</b>	The 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 TFCO recommendation was posted to the NPCC Open Process and pending TFCO comment review will be presented to the RCC and balloted by the NPCC Full Member Committee.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-10	<b>NPCC Verification of Generator Gross and Net Reactive Power Capability</b>	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
	<b>Status/ Comments:</b>	The TFCO 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. The TFCO recommendation was posted to the Open Process and pending TFCO comment review will be presented to the RCC and balloted by the NPCC Full Member Committee.		



# 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 <u>“Disturbance Monitoring Equipment Criteria.”</u></p> <p>Also approved was the concurrent retirement of the following NPCC documents:</p> <ul style="list-style-type: none"> <li>• A-15 – <u>“Disturbance Monitoring Criteria”</u></li> <li>• B-25 – <u>“Guide to Time Synchronization of Substation Equipment”</u></li> <li>• B-26 – <u>“Guide for Application Disturbance Monitoring Equipment”</u></li> <li>• B-28 – <u>“Guide for Generator Sequence of Events Monitoring”</u></li> </ul> <p>Directory No. 11 will augment PRC-002-2 <u>“Disturbance Monitoring and Reporting Requirements”</u> 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.</p> <p>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	March 2005
	<b>Status/ Comments:</b>	<p>In accordance with the NPCC Reliability Assessment Program the TFCP is reviewing the A-01 Criteria for Review and Approval of Documents. The TFCP has posted the A-01 document to the Open Process for two postings and has considered all comments received, has evaluated initial comments and has reposted the A-01 for a second comment period.</p> <p>The TFCP is proposing an expedited 30-day comment period for a ‘C’ Procedure document when the Task Force having jurisdiction identifies potential implementation issues. TFCP also included language governing how certain errata and other non- substantive revisions to the criteria are reviewed and approved.</p>		



# 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	December 1, 2009
	<b>Status/ Comments:</b>	The TFCP and its CP11 Working Group will lead a review of the A-10 methodology to consider any Member concerns with the existing methodology.  The TFCP is finalizing a scope of work for the CP-11 review which will be presented to the RCC in March 2017. Pending final approval of the CP-11 scope other 2017 deliverables include a CP-11 action plan consistent with the scope of work and the development of recommended methodologies for identifying those critical facilities required to meet the applicable NPCC criteria.		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directory Development and Revision Manual

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>
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 Forces responsible for Directory content.	October 3, 2014
<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).</p> <p>The RSC approved an additional posting to the NPCC Open Process to consider revisions to the Manual that incorporate cost considerations for new or revised NPCC criteria.</p> <p>The RSC has responded to all comments and on October 3, 2014 the RSC approved the revisions to the “<i>Directory Development and Revision Manual</i>.”</p>	

### NPCC Glossary of Terms

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>
Glossary	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.	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.	<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. Subsequent to NERC Board approval, a petition to retire the regional standard is 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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
<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 two times and all requirements were reviewed by the SDT. The next step is to review comparison table between the continent-wide standard versus the regional standard in detail.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
<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.	<b>Latest Version:</b>	<b>New</b>
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	

**Status/ Comments:**

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 Processes Manual	The NPCC Regional Standard Processes Manual describes the procedures, policies, and practices implemented to ensure an “open, fair, and inclusive” process for the transparent initiation, development, implementation and revision of the NPCC Regional Standards necessary for the reliable operation of the Interconnected Bulk Power System in northeastern North America.	<b>Latest Version:</b>	<b>Dec, 23 2014</b>
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	<b>Dec. 23, 2017</b>

**Status/ Comments:**

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.



## 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 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> The Compliance Committee approved revised Scope and Work Plan documents at its December 8, 2016 meeting. These documents were presented to the NPCC Board of Directors and approved at the February 1, 2017 BOD meeting.</p> <p>On the January 18, 2017 and the February 15, 2017 CC conference calls, the Committee discussed a 2017 NPCC initiative to develop a comprehensive and sortable registration database of elements, which will merge existing and BESnet data.</p> <p>On the February 15, 2017 CC conference call, the Committee approved a revised version of Compliance Procedure CP-04, Registration and Certification.</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</i>” (CCEP-1) 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 2017 CCEP Implementation Plan was approved at the December 6, 2016 RCC meeting. The 2017 CCEP Certification Forms were approved by the CC at its December, 2016 meeting. During 2017, the CCEPWG will look at the possibility of expanding the scope of the CCEP to incorporate additional monitored and enforceable criteria.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Training, Education, and Operator Certification Program

#### TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-2	System Operator Training	<p>This Working Group establishes a program for system operator training relating to NPCC Inc. inter-Area matters, Working Group criteria, terminology, policies, and operating instructions. It prepares and presents material at system operator training sessions, exchanges information on internal system operator training methods. The CO-2 Working Group also evaluates and proposes new techniques and training aids as they become available.</p> <p><b>Status/ Comments:</b></p> <p>The 2017 Spring 79<sup>th</sup> NPCC System Operator Seminar planning meeting will be held on March 1-2, 2017 in Montréal, Québec, with the corresponding Seminar taking place on May 2-4, 2017 in Ottawa, Ontario. The CO-2 Working Group will be reviewing attendee evaluations from past System Operator Seminars and coordinate Table Top exercises and discussion topics with the CO-8 System Operations Managers Working Group. System Operators will also discuss summaries of recent events that occurred in each of the NPCC Areas and in PJM.</p> <p>System operators and meeting participants will also attend a tour of the Chaudière Falls No. 2 Powerhouse.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-1	Control Performance	<p>The Working Group ensures coordination between adjacent control areas in establishing interchange schedules, Working Group 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><b>Status/ Comments:</b> The CO-1 Working Group met February 9-10, 2017, with its next meeting scheduled for May 2017. In response to TFCO’s assignment, CO-1 has begun the review of a reformatted draft version of Directory No. 5 to verify consistency of the content with the criteria of the currently active Directory No. 5 document. The review, which began in December 2016, is anticipated to continue throughout 2017 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.</p> <p>The CO-1 Working Group continues to generate the NERC Disturbance Control Standard Report and conducts periodic monitoring as required. CO-1 is also reviewing the recent FERC approval of BAL-002-2, “<i>Contingency Reserve for Recovery from a Balancing Contingency Event</i>” and is generating a response to TFCO. The CO-1 Working Group continues to closely monitor developments to their relevant standards.</p>
CO-7	Operational Planning Working Group	<p>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.”</p> <p><b>Status/ Comments:</b> Currently the CO7 Working Group is reviewing a draft comparison between the criteria in Directories No. 9 and No. 10 with MOD 25-2-2.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 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 is conducting a triennial periodic review of the Regional Reliability Reference Directory No. 2, “<u>Emergency Operations</u>” document. The CO-8 Working Group is also working on providing comments on the Directory No. 5, “<u>Reserve</u>” to the CO-1 Working Group which was tasked by the TFCO to lead the triennial review effort of the Directory No. 5. The WG will be reviewing a version of Directory No. 2, which has been reformatted into the NERC style requirements against the current and developing ERO standards to consider the impacts and develop recommendations for revisions or potential retirement of the NPCC criteria defined in Directory No. 2. The first round of review and recommendations is expected to be discussed at the CO-8 Working Group’s February 2017 meeting.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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, "System Restoration Coordination". 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><b>Status/ Comments:</b></p> <p>The NPCC CO-11 Restoration Working Group conducted a review of the NYISO Restoration Plan at its meeting on February 15, 2017. 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 reviewed the comments received from the Directory No. 8 "<i>System Restoration</i>" posting, and suggested revisions that were accepted by TFCO. Directory No. 8 was re-posted for comments with a comment period that closed February 6, 2017. The CO-11 Working Group is reviewing the comments received.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF PLANNING

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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>	<p>The CO-12 Working Group has begun work on the 2017 Summer NPCC Assessment Report and will present an initial summary presentation of preliminary findings to the RCC in March 2017. A final draft of the Report is due to TFCO on April 7, 2017, with presentation of the results to the NPCC Board no later than April 26, 2017. The final report will be presented to the NPCC BOD on May 3<sup>rd</sup> 2017, with the NPCC media teleconference scheduled for May 4, 2017. The CO-12 Working Group is anticipating the Final Report to be issued and posted to the NPCC website on Friday, May 5, 2017.</p> <p>The CO-12 Working Group completed a final “draft for approval” of the 2016-2017 Winter NPCC Assessment Report; which was approved by the TFCO as well as the RCC, and posted to the NPCC website on December 7, 2016. It includes the deterministic assessment conducted by the CO-12 Working Group and the probabilistic assessment conducted by the CP-8 Working Group.</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF PLANNING

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 Scope and Schedule for the 2017 NPCC Long Range Adequacy Overview drafted by the CP-8 Working Group was approved by the RCC at their December 6, 2016 meeting. The RCC also reviewed and approved the New England, New York, Ontario, and Quebec Interim Reviews of Resource Adequacy, and the Maritimes Comprehensive Review of Resource Adequacy at their December 6, 2016 meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP- 2017S	Summer 2017 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>	Preliminary results of the 2017 NPCC Summer Multi Area Probabilistic Assessment will be presented to the RCC at their March 1, 2017 meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP- 2017-18W	Winter 2017-2018 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>	Work will begin on the NPCC Winter 2017 – 2018 assessment following completion of the NPCC 2017 Summer assessment; the NPCC Winter 2017 – 2018 assessment is planned to be reviewed and approved by the RCC at their September 2017 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 2016 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 2016 LRAO report, including the requirements associated with the NERC Probabilistic Assessment, was approved by the RCC at their December 6, 2016 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>	This Working Group is charged with the revision of the NPCC Basic Design Criteria Directory No. 1 and the NPCC Glossary of Terms Document A-07. In addition, the Task Force on Coordination of Planning (TFCP) charged the CP-11 Working Group with the development of the A-10 Classification of BPS Elements document.
	<b>Status/ Comments:</b>	The Task Force on Coordination of Planning (TFCP) has begun a review of the A-10 methodology. The TFCP anticipates assigning this review to the CP11 Working Group and is currently considering the Scope of Work of the review prior to formally assigning it to the CP11 Working Group. The TFCP has requested its members to provide contacts for updating the CP-11 Roster.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### TASK FORCE ON SYSTEM STUDIES

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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.
	<b>Status/ Comments:</b>	The SS-38 Working Group completed a report documenting the additional follow-on effort requested by the RCC following its approval in March 2016 of the <i>“Addendum to the 2015 NPCC Overall Transmission Assessment Report: Sensitivity Study on the Impact of Distributed Generation.”</i> This report was approved by the RCC at their December 2016 meeting. The RCC also approved the SS-38 Working Group report on <i>“Reactive Capability and Composite Short Circuit Ratio”</i> which addressed Measure 7 and Measure 10 identified in the 2015 NERC Essential Reliability Services Task Force (ERSTF) Framework Report.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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>Power Flow Cases –Complete:</b> In June 2016, the SS-37 Working Group prepared 12 Power Flow Cases for the 2016 NPCC Library of Cases. The completed NPCC cases were submitted in July 2016 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 from the six regions within the Eastern Interconnection into the Eastern Interconnection power flow cases. The Eastern Interconnection power flow cases were completed and published in October 2016.</p> <p><b>Dynamic Models –Ongoing:</b> The completed dynamic models for the 2016 NPCC Library of Cases were submitted in September 2016 to the Multiregional Modeling Working Group (MMWG) of the Eastern Interconnection Reliability Assessment Group (ERAG). The MMWG has the responsibility to aggregate the dynamic models from the six regions within the Eastern Interconnection into the Eastern Interconnection dynamic models. The scheduled completion date for the dynamic models was originally January 20, 2017. This has changed to 2017 Q1. The SS-37 Working Group will remain engaged with the MMWG during development of the Eastern Interconnection dynamic models to provide technical expertise and support on behalf of NPCC.</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>
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.
	<b>Status/ Comments:</b>	<p>The Task Force on System Protection has reviewed the status of SP-7 Working Group on Protection System Misoperation Review as completed through the 3rd Quarter (Q3) of 2016. The total number of misoperations for Q3 (by cause) are generally lower or not significantly higher compared to the quarterly average.</p> <p>There were three reported SPS operations in Q3 2016, of which one is a misoperation of a Type I SPS. This misoperation was caused by a combination of the outage of a line and the failure of a battery cell at the substation. The battery cell was subsequently replaced. The entity reported plans to replace this SPS in the future,</p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### Eastern Interconnection Reliability Assessment Group

#### Study Committees

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
ERAG	Eastern Interconnection Reliability Assessment Group	<p>The Eastern Interconnection Reliability Assessment Group (ERAG) Management Committee (MC) oversees the Multi-Regional Modeling Group steady state and dynamics base case development, all Eastern Interconnection interregional assessment activities and other interregional matters of interest. Eastern Interconnection assessment forums include: RFC-NPCC, RFC-SERC East and RFC-MRO-SPP-SERC West.</p>
	<b>Status/ Comments:</b>	<p>The Eastern Interconnection Reliability Assessment Group (ERAG) is meeting coincident with the RCC meeting on March 1, 2017 and continuing March 2, 2017. The agenda for the March 2017 ERAG meeting includes the following items:</p> <ul style="list-style-type: none"> <li>• ERAG Work on NERC Short Circuit Model Collection</li> <li>• Review Changes in Revised ERAG Agreement. The Agreement was revised when ERAG became the official Designee for development of the Eastern Interconnection powerflow and dynamics base cases (based on MOD-32-1, Requirement R4).</li> <li>• Review Powertech Proposal for Power Flow Database</li> <li>• Report on MMWG Activities               <ul style="list-style-type: none"> <li>○ 2016 Series Review</li> <li>○ 2017 Series Overview and Status</li> <li>○ Trial 1 Error Tracking Report</li> </ul> </li> <li>• Strategic Plan Overview</li> <li>• NERC Primary Frequency Response Study (study methodology and results to date).</li> </ul> <p>NERC has requested that the Eastern Interconnection Regions to coordinate and resolve significant differences in the Planning Coordinator (PC) short circuit case system representations, especially at Reliability Coordinator Area borders. Initially, NERC had requested development of an Eastern Interconnection-wide short circuit base case; in response to Regional concerns, the request was scaled back to “coordinate and mandate best (enforceable) practices; such as requiring PCs to model short-circuit case complete with sequence data and mutual coupling three busses away into the neighboring area, adding procedures in PC processes to assure adequate coordination.</p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### Eastern Interconnection Reliability Assessment Group

#### Study Committees

Item	Name	Assignment
ERAG	Eastern Interconnection Reliability Assessment Group	<p>The Eastern Interconnection Reliability Assessment Group (ERAG) Management Committee (MC) oversees the Multi-Regional Modeling Group steady state and dynamics base case development, all Eastern Interconnection interregional assessment activities and other interregional matters of interest. Eastern Interconnection assessment forums include: RFC-NPCC, RFC-SERC East and RFC-MRO-SPP-SERC West.</p>
	<p><b>Status/ Comments:</b></p>	<p>This effort is intended to foster and ensure coordination of short circuit data. ERAG is seeking that each PC or a group of PCs provide their coordinated, short-circuit case complete with sequence data and mutual coupling modeling for their footprint. On January 31, 2017, NPCC formally requested short circuit model data from its PCs. The data request requirements were to provide:</p> <ul style="list-style-type: none"> <li>• Short Circuit Case Year: 2018 Summer or the near-term case which will be used for 2017 TPL-001-4 studies (detailed model which includes all BES elements). If either of these were unavailable, the near-term case that was used for the 2016 TPL-001-4 studies would be acceptable. Data is requested in a text output file format. However, it is up to the PC to provide the case data in the software text file format they use to calculate short circuit values (e.g., CAPE, ASPEN, others).</li> <li>• Data dictionary (between neighboring PC short-circuit cases if different naming conventions; and between short-circuit cases and Planning Cases) using the file ‘Data Dictionary Template.xls’ that was provided.</li> </ul> <p>The PCs were requested to respond no later than March 31, 2017. Upon receipt of the short circuit model data, NERC and the Regional Entities will perform specific data checks:</p> <p>Between PC short-circuit cases:</p> <ul style="list-style-type: none"> <li>• Tie-lines and topology at boundary areas</li> <li>• Compare modeling of all BES elements such as transformer windings</li> </ul> <p>Between PC short-circuit and MMWG planning cases:</p> <ul style="list-style-type: none"> <li>• Ensuring generation resources are reasonably matched between the cases</li> <li>• Fault current level at substation buses within an acceptable <math>\pm 10\%</math> difference margin</li> </ul>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program ERAG Seasonal Working Group

Item	Name	Assignment
ERAGWG	ERAG Seasonal Working Group	<p>The ERAG Seasonal Working Group (ERAGWG) 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.</p>
	<p><b>Status / Comments:</b></p>	<p><b>2016 ERAG Reliability Assessment: N-2 Contingency Analysis - Ongoing</b></p> <p>The ERAG Steering Committee (SC) has initiated the 2016 ERAG Reliability Assessment that builds on the 2015 Weather-Scenario Assessment to consider N-2 contingency analysis. An initial assessment was performed using Summer and Winter cases from last year’s weather-based transfer analysis. Results of the initial assessment were reviewed with the ERAG SC and ERAG Management Committee (MC) on June 8, 2016. Based on the initial assessment results, the assessment was expanded to include the analysis on the “South to North, South exporting from 100% load reduction with North importing 100% from generation reduction” case.</p> <p>The expanded 2015 Special Weather Study performs an N-2 contingency analysis to evaluate the impacts to the 300 kV and above lines and 100 kV and above NERC Flowgates in the Eastern Interconnection. The assessment was limited to N-2 simulations around N-1 outages identified in the 2015 study as potentially overloading transmission facilities in neighboring areas. This assessment identified numerous overloads that resulted from N-2 contingencies where a limiting element was from a different power flow area than either of the power flow area(s) associated with either the first or second contingencies. While many of the identified overloads have planned or currently existing mitigating action, not all of the identified overloads have mitigation plans. For those overloads which do not have an associated mitigation plan, it is recommended that the affected power flow areas evaluate the need for developing mitigation plans.</p> <p>The ERAG Steering Committee and ERAG Working Group presented the report to the ERAG Management Committee for review at its December meeting. The N-2 Contingency Analysis report was completed and issued in 2016. No assessment work presently in progress.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
RAS	Reliability Assessment Subcommittee (RAS)	<p>Conduct an annual review of the overall reliability of the existing and planned generation and transmission systems of the eight 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 eight Regional Reliability Entities.</p>
	<p><b>Status/ Comments:</b></p>	<p>The NERC Planning Committee approved the “<u>2016 Long-Term Reliability Assessment</u>” (“<u>2016 LTRA</u>”) via an email vote. Voting concluded on November 23, 2016. Following review by NERC’s Technical Publications Team for formatting enhancements and NERC Executive Management review, the “<u>2016 LTRA</u>” was submitted to the NERC Board of Trustees and approved in December 2016.</p> <p>The NERC Planning Committee also approved the “<u>2016-17 Winter Reliability Assessment</u>” (“<u>2016-17 WRA</u>”) via email vote on October 28, 2016. The “<u>2016-17 WRA</u>” was provided to NERC’s Technical Publications Team for formatting enhancements and NERC Executive Management review prior to release on November 15, 2016.</p> <p>The NERC Reliability Assessment Subcommittee (RAS) meet on November 15-16, 2016 at FRCC’s Tampa office; activities included discussion of the data definition, collection and schedule being developed for the 2017 NERC Long-Term Reliability Assessment; the need for an hourly forecast load request; the use of the Reliability Assessment Database, review of data instructions for Demand Response in conjunction with the NERC Performance Analysis Subcommittee, the EIA 411 Schedule 9 – Smart Grid Supplemental data request, and, MOD 31/32 requirements.</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>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>	The NERC ProbA report detailing the assumptions, methods and results of the probabilistic assessment associated with the 2016 NERC LTRA will be presented to the NERC Planning Committee for review and approval at their March 2017 meeting.
<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>TADS</b>	<b>Transmission Availability Data System</b>	Serve as the Regional Entity Coordinator (REC) in support of the NERC TADS outage data collection and the analysis of the NPCC Transmission Owners (TO) outage information. As the REC, 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 January 24-26, 2017 at FRCC’s office in Tampa, Florida. The next face-to-face meeting will be on June 13-15, 2017 at NERC’s office in Washington DC.</p> <p>NERC staff confirmed changes to TADS reporting based on the approved 1600 to discontinue reporting of TADS Non-automatic Planned Outage data.</p> <p>NERC has posted TADS training videos to the TADS website. The Regions have reviewed the historical outages with cause code of “Unknown” and have contacted entities to collect more information about these cases</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>DADS</b>	Demand Availability Database System	Serve as the Regional Entity Coordinator (REC) in support of the DADS data collection and analysis for NPCC. As the REC, oversee the collection of the data in the NERC Internet based data management tool – web DADS.
	<b>Status/ Comments:</b>	<p>The NERC Demand Response Availability Data System Working Group (DADSWG) held a face to face meeting in October 11-12, 2016. The next face-to-face meeting will be on April 19- 20 at NERC’s Atlanta, Georgia office.</p> <p>The group worked on finalizing an outreach plan that was discussed at the October meeting.</p>
<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>GADS</b>	Generator Availability Data System	Serve as the Regional Entity Coordinator (REC) in support of the Generator Availability data collection and Data System analysis for NPCC. As the REC, oversee the collection of the data in the NERC Internet based data management tool – web E-GADS.
	<b>Status/ Comments:</b>	<p>NERC held two GADS training workshops in 2016; the latest one was held on June 27-28, 2016 at WECC’s office in Salt Lake City, Utah. The next face-to face meeting of the GADS Working Group is scheduled for March 21-22, 2017 at the NERC’s Atlanta office.</p> <p>NERC has posted the GADS Wind Data Reporting Instructions (DRI) - GADS Wind DRI version 1.2. Currently, GADS does not include wind, solar or other renewable technology generating assets.</p> <p>Wind performance data reporting requirements have been developed and a phased in reporting process will begin in 2017 through 2020. Reporting data requirements for Solar have been initiated with a target goal of beginning data submittal by 2021.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### OTHER

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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.
	<b>Status/ Comments:</b>	The IPSAC met on December 9, 2016 via WebEx; the 2017 IPSAC Work Plan, related 2017 Interregional Planning Activities, and Regional Planning Needs and Solutions were discussed.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program TASK FORCE ON COORDINATION OF OPERATION

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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><b>Status/ Comments:</b></p> <p>The CO-10 Working Group continues to review of tool failures and associated lessons learned as generated from the Event Analysis Program. The CO-10 Working Group develops regional insights templates from the review of said lessons learned to further aid NPCC entities in utilizing these valuable lessons. The CO-10 Working Group is preparing to present to TFCO at its March 2017 meeting the latest Critical Operating Tool Failure Analysis (COTFA) report. The outcome of this presentation will assist in the development of this year's NPCC Critical Operating Tools Failure Analysis survey which will be distributed to each organization to provide the CO-10 Working Group with the information and feedback on the current practices regarding the power system network EMS applications as well as the EMS performance and infrastructure monitoring applications.</p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Situation Awareness and Infrastructure Security Program

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 2016
	<b>Status/ Comments:</b>	NPCC Fall 2016 Standards & Compliance Workshop includes several presentations devoted to CIP topics, including a TFIST update and a Physical Security Workshop.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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>	The RCC accepted the 2016 annual Cross-Border Emergency Telecommunications Report at its December 6, 2016 meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
IST-3	TFIST EMS-SCADA Working Group	Provide a forum to identify, discuss and advance the technology of EMS-SCADA for the reliable operation of the NPCC Bulk Power System. The EMS-SCADA Working Group (IST-3) will also support TFIST in their work on issues related to EMS-SCADA.
	<b>Status/ Comments:</b>	The RCC agreed with TFIST's recommendation to disband IST-3 Working Group since TFIST will handle these assignments.



# 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 2017 NPCC General Meeting will be held on December 6, 2017 in Boston, MA. The Agenda and program is currently under development.

<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 NPCC Governmental/Regulatory Affairs Advisory Group reviewed the status of the NPCC CPP Reliability Assessment at their December 6, 2016 meeting, held in conjunction with the December 6, 2016 RCC meeting.

<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 2017 NPCC Summer Reliability Assessment is scheduled for May 4, 2017.