



**RCC Meeting  
March 2, 2016  
Agenda Item 7.9**

**Reliability Assessment Program  
(NRAP)  
HIGHLIGHT REPORT**  
*Prepared for the  
Reliability Coordinating Committee  
March 2, 2016*

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 development. The NPCC 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).</p> <p><b>Status/ Comments:</b></p> <p>The RSC is focused on the review of each of the NERC Reliability Standards (as they are developed or revised). 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 initiating Phase II of the NPCC Directory project to convert the criteria in the Directories to specific “requirements” on which compliance may be assessed.</p>



# 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 has also developed the Work Plan for 2016-2017 and revision of its Scope of Work; revisions have been approved by the NPCC Board of Directors I (BOD) at their February 2016 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. Also the retirement of PRC-002-NPCC-01 Disturbance Monitoring regional standard is currently in process and is scheduled to be brought before the next NPCC BOD meeting March 23, 2016.</p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

<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) have completed a collaborative review of Directory No. 1 through their respective Working Groups.

The combined CO7/CP11 Working Group reviewed the Directory as an integrated planning and operational document and examined all aspects of the criteria, posting Directory No. 1 to the Open Process for three 45 day comment periods.

Directory No. 1 (and an associated New England Implementation Plan) were approved by the RCC at their September 10, 2015 meeting. In accordance with the NPCC By-Laws the NPCC Full Membership voted to approve Directory No. 1 on September 30, 2015.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

<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>	<p>Directory No. 2 was approved by the Full Members on October 21, 2008 and NPCC Document A-3 was retired on the same date. The Automatic UFLS language formerly contained within Directory No. 2 was transferred into Directory No. 12 (UFLS Program Requirements) effective with the Full Member approval of Directory No.12 on June 26, 2009.</p> <p>Phase 2 reformatting of Directory No. 2 is pending the Task Force on Coordination of Operation (TFCO) review of other TFCO Directories.</p> <p>TFCO and its CO8 Working Group anticipate reviewing the criteria in Directory No. 2 during 2016 to consider the impact of recent ERO standard developments and approvals on the document.</p>		

<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>	<p>The Task Force on System Protection has completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 <i>Protection System Maintenance</i> and has recommended that the criteria in Directory No. 3 can be retired. The TFSP recommendation was posted to NPCC Open Process and all comments on the TFSP proposal have been addressed.</p> <p>The RCC approved the TFSP recommendation and on October 15, 2014 the NPCC Full Membership voted to approve the retirement of Directory No. 3 effective April 1, 2015 upon the enforcement date of PRC -005-2 Protection System Maintenance.</p>		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

<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> <p><b>Status/ Comments:</b></p> <p>The Task Force on System Protection (TFSP) has incorporated new protection system technology (IEC 61850) into the system protection criteria based on a SP-8 Working Group review during its current review of Directory No. 4.</p> <p>TFSP has 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>The revised version of Directory No. 4 was posted to the Open Process for two forty five day comment periods and the TFSP has reviewed and responded to all comments. 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><b>TFSP</b></p> <p>TFSP</p>	<p><b>September 30, 2015</b></p>



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

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

**Status/ Comments:** The Task Force on Coordination of Operation (TFCO) has addressed a number of key reserve issues that were unresolved when Directory No. 5 was approved in late 2010, including DCS compliance and wheeling radial source contingencies outside the region.

On October 11, 2012 the NPCC Full Membership voted to approve revisions to the criteria within Directory No. 5 Reserve which addressed these issues.

<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

**Status/Comments:** Directory No. 6 was developed in Phase 2 format and approved by the NPCC Full Membership on April 6, 2012.





# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

<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 TFCP	July 9, 2013
	<b>Status/ Comments:</b>	<p>The RSC continues to monitor the progress of NERC Project 2010-05.2 –<i>Special Protection Systems</i> in order to assess its impact on the NPCC criteria for Special Protection Systems in Directory No.7.</p> <p>At the request of the TFSP, the TFSS has reviewed the existing NPCC list of Special Protection Systems (SPS) to determine which protection systems conform to the proposed definition of Remedial Action Schemes (RAS) and which do not.</p>		

<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>	<p>The CO-11 Restoration Working Group is reviewing the initial Phase 2 draft of Directory No. 8 and will provide comments and recommendations to the TFCO. The CO-11 Restoration Working Group will also review the battery testing criteria in Directory No. 8 with PRC-005-2 Protection System Maintenance to address any duplicative requirements. Directory No. 8 is currently posted to the Open Process through March 12, 2016 to receive comments on the proposed TFCO/CO11 revisions to the document;..</p>		

<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 and Appendices

<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>	<b>December 29, 2011</b>
	<b>Status/ Comments:</b>	<p>Directory No. 9 was approved by the NPCC Full Membership on December 22, 2008.</p> <p>The Full Member Committee approved the Phase 2 reformatting of Directory No. 9 in December 2011. NPCC has completed a preliminary technical comparison between the criteria in Directory No. 9 and Directory No. 10 and the NERC requirements in MOD-025-2 which is enforceable on July 1, 2016. TFCO has assigned its CO7 Working Group to review this comparison and provide a recommendation to the TFCO regarding the criteria in Directory No.9 in consideration of MOD-025-2.</p>		

<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>	<b>December 29, 2011</b>
	<b>Status/ Comments:</b>	<p>Directory No. 10 was approved by the NPCC Full Membership on December 22, 2008.</p> <p>The Full Member Committee approved the Phase 2 reformatting of Directory No. 10 in December 2011. NPCC has completed a preliminary technical comparison between the criteria in Directory No. 9 and Directory No. 10 and the NERC requirements in MOD-025-2 which is enforceable on July 1, 2016. The TFCO has assigned its CO7 Working Group to review this comparison and provide a recommendation to the TFCO regarding the criteria in Directory No. 10 in consideration of MOD-25-2.</p>		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Standards Program

### Directories and Appendices

<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>	Directory No.12 was revised by the Task Force on System Studies (TFSS) in order 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.		



# 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 Forces 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).</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

<b>Item</b>	<b>Name</b>	<b>Assignment</b>	<b>Current Version</b>
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.	<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> New <b>Frequency of Reviews:</b> 3 years <b>Next Review Date:</b> October, 2014

**Status/ Comments:**

The NPCC Board approved the Standard on February 9, 2010. NERC accepted the technical content of the requirements and the Implementation Plan; however issues were identified with the construction of the VSLs. The VSLs were reworked, and only the VSL portion of the Standard was re-posted for a 30 day industry review and comment period. This was followed by submission to NPCC Members for approval. The VSLs were approved by ballot Oct. 31, 2010. The Standard and its Implementation Plan were submitted to the NERC BOT at its November 4, 2010 meeting and approved. Materials were reviewed by NERC and filed with FERC on May 31, 2011. A Filing was made with the appropriate Canadian authorities for their approvals on June 8, 2011. FERC approved PRC-002-NPCC-01 on October 20, 2011. The Task Force on System Protection (TFSP) responded to a Request for Interpretation regarding generators in Requirements R4, R5, and R6 which was approved by the NPCC Board of Directors. Four additional Requests for Interpretation have been resolved by TFSP. Three Requests for Clarification have been resolved by TFSP. The Drafting Team for PRC-002-NPCC-01 has been reconvened in response to a RSC approved RSAR to address the new BES definition, Paragraph 81, and the development of NERC’s PRC-002-2 Disturbance Monitoring and Reporting Requirements standard. Retiring PRC-002-NPCC-01 is to be considered if it is determined that it can be retired without sacrificing the ability to capture post-disturbance data. This work is dependent upon FERC’s approval of continent-wide standard PRC-002-2. The October, 2014 review date will be postponed pending outcome of this effort. The Standard Drafting Team has made a recommendation to retire the regional standard and on October 8 2015 the RSC initiated the retirement process in accordance with the NPCC Regional Standard Processes Manual (RSPM). The regional standard has been posted on the NPCC website for a thirty (30) day pre-ballot review period and subsequent ten (10) day ballot period. The ballot has passed with 97.10% approval. A recommendation for final Regional approval will be sent to the NPCC Board of Directors for consideration at their meeting on February 2, 2016. The retirement recommendation is also sent to NERC and it is posted for comments from January 6, 2016 to February 9, 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	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 NPCC Manager of Reliability Standards submitted a letter requesting the RCC to assign a drafting team, recommending the TFSS. 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 and Per the recommendation of the TFSS leadership, Dan Taft is appointed as the chair of the Drafting Team on January 25, 2016.

<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 (RSMP) 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 Dec. 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 BOT at its August 14, 2014 meeting. The RSPM was approved by FERC Dec. 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 (CC) 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). With regard to 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 its December, 2015 meeting the Compliance Committee approved revised versions of the following Compliance Procedure documents:</p> <ol style="list-style-type: none"><li>1) CP-02 "Procedure for Conducting On-Site Compliance Audits". Rev 5;</li><li>2) CP-03 "Procedure for Conducting Off-Site Compliance Audits", Rev. 4;</li><li>3) CP-06 "Procedure for Guided Self-Certification and Self Reporting", Rev 3</li></ol> <p>The Compliance Committee approved the following two documents, for submittal to the NPCC Board of Directors, in January, 2016: 1) the Compliance Committee 2016-2017 Work Plan and 2) a revised version of the Scope of Work for NPCC Compliance Committee. Both documents were subsequently approved by the Board of Directors at their February, 2016 meeting.</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

# Compliance Enforcement and Organization Registration and Certification Program

### NPCC Compliance Committee

#### Documents

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
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 CC 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 CC 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 2016 CCEP Implementation Plan was presented and approved by the RCC at the December 1, 2015 meeting. The Reporting Full Members have begun to submit the 2015 CCEP Implementation Plan certification forms which will be reviewed by the CC in 2016.</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 2015 Fall NPCC System Operator Seminar was held in Montreal, Quebec on November 3, 4 and 5, 2015. The Seminar included a Table Top exercise related to operating aspects of NERC standards and participating system operators were awarded Continuing Education Hour credits. Presentations at the Seminar included: 1) the 1965 Blackout Events and effects of the power Industry, 2) Changes in the revised BAL-002-2 “Disturbance Control Standard—Contingency Reserve for Recovery from a Balancing Contingency Event” and 3) operator presentations on events that occurred in reach of the NPCC Areas and in PJM. The system operators attended a presentation on the history of Hydro Quebec and the development of the Quebec power system and a tour of the HQ TransÉnergie Control Room.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-1	Control Performance	<p>The Working Group insures 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>
	<b>Status/ Comments:</b>	<p>The CO-1 Working Group met in August and has a meeting scheduled in early December, 2015. The BAL-002-2 “Disturbance Control Standard – Contingency Reserve draft revised standard in September but it still needs NERC Board of Trustees and FERC approval before it becomes effective. It was the 7th version as it had been voted down six times. The NERC Drafting Team has recommended retirement of the BAL-004 “Time Error Correction” standard and that is going through the NERC approval process. Other topics recently addressed by CO-1 include: 1) analysis of recent SAR events, 2) revised Balancing Standard BAL-005 effects on NPCC, and 3) Periodic monitoring of operating reserve, control performance and frequency.</p> <p>The actual frequency response has been reviewed and analyzed for 48 generators greater than 400 MVA in the Eastern Interconnection portion of NPCC. Governor and control system setups were reviewed along with the actual response of the generating unit against many actual system frequency deviations. All 55 were reviewed but 7 were typically not on-line and insufficient samples were available during large frequency drop events to confidently classify them. For generators between 100 MVA and 400 MVA, the frequency response of 203 generators have been reviewed and analyzed. All 239 were reviewed but 36 were typically not on-line and insufficient samples were available during large frequency drop events to confidently classify them. A final report on the NPCC frequency response work has been prepared to discuss the sampling method, the method for analyzing the actual responses of generators, the review of the plant controls, and the review of the actual event samples. This report is being provided to the RCC at their December 1, 2015 meeting to document the work.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

Item	Name	Assignment
CO-7	Operational Planning Working Group	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>		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.

Item	Name	Assignment
CO-8	System Operations Managers Working Group	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.
<b>Status/ Comments:</b>		The CO-8 Working Group has worked with the TFCO to revise and update the two NPCC Procedures, C-01, “NPCC Emergency Preparedness Communications Procedures” and C-15, “Procedures for Solar Magnetic Disturbances Which Affect Electric Power Systems. Both revisions have been complete and approved by the Task force for Coordination of Operation and the update versions will be posted on the NPCC Open Process webpage for review for a period of 45 days, allowing industry comment, as per NPCC Document A-1, “Criteria for Review and Approval of Documents”. Additionally, in response to TFCO’s assignment, the CO-8 WG will serve as the primary Working Group to conduct a comprehensive review of the Regional Reliability Reference Directory No. 2, “Emergency Operations” document and present the results of the review to the Task Force on Coordination of Operation (TFCO)..



## 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. Annually reviews the restoration plans of the NPCC Reliability Coordinator areas to identify in each individual plan the physical points of 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. 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, “System Restoration from Blackstart Resources”, and EOP-006, “System Restoration Coordination”, CO-11 coordinates input to the NPCC Task Force on Coordination of Operation and the NPCC Regional Standards Committee as revisions to these Standards are posted, proposed for incorporation, and weighed for implementation.</p>
	<b>Status/ Comments:</b>	<p>The NPCC Restoration Working Group conducted reviews of the ISO - New England Restoration Plan at its meeting on March 1, 2016. A summary of the general elements of the Restoration Plan was provided, together with an identification of the Key Facilities which make up the Basic Minimum Power System as defined by NPCC. The review also included descriptions of the elements of coordination of the restoration plans with neighboring Reliability Coordinators (desired points of interconnection and control parameters).</p>

Item	Name	Assignment
CO-12	Seasonal Assessment Working Group	<p>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.</p>
	<b>Status/ Comments:</b>	<p>The CO-12 Working Group completed the 2015-2016 Winter NPCC Assessment Report and it will be up for approval by RCC at their December 1 meeting. 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

<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>	<p>The Scope and Schedule for the 2016 NPCC Long Range Adequacy Overview (LRAO) was approved at the December 1, 2015 RCC meeting.</p> <p>The NPCC Winter 2015 – 2016 Multi-Area Probabilistic Reliability Assessment was approved at the September 10, 2015 RCC meeting.</p> <p>The TFCP approved the 2015 NPCC Tie Benefits Study at their February 19, 2016 meeting, recommending RCC approval at their March 2, 2016 meeting</p>

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
CP- 2016S	Summer 2016 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Area reliability for the year 2016 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>	<p>The proposed assumptions for the 2016 Summer NPCC Multi-Area Probabilistic Reliability Assessment being developed by the CP-8 Working Group were approved by the Task Force on Coordination of Planning at their December 15, 2015 meeting.</p> <p>Preliminary results will be presented at the March 2, 2016 RCC meeting.</p>



## 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>CP- 2015W</b>	Winter 2015-2016 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Inc. 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 RCC approved the assessment at their September 10, 2015 meeting.

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>LRAO</b>	NPCC 2015 Long Range Adequacy Overview	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 2015 LRAO was approved at the December 1, 2015 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>CP-11</b>	<i>NPCC Basic Criteria For Design and Operation of the Bulk Power System Review Working Group</i>	<p>This Working Group is charged with the revision of the NPCC Inc. 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.</p>
	<b>Status/ Comments:</b>	<p>The combined CO7/CP11 Working Group reviewed the Directory as an integrated planning and operational document and examined all aspects of the criteria, posting Directory No. 1 to the Open Process for three 45 day comment periods.</p> <p>The revised Directory No. 1 (and associated New England Implementation Plan) was submitted to the RCC and approved for NPCC Membership ballot at their September 10, 2015 meeting. In accordance with the NPCC By-Laws the NPCC Full Membership voted to approve Directory No. 1 on September 30, 2015.</p>





# 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>	As part of Task Force on System Studies’ work plan in 2015, the SS-38 Working Group has conducted the NPCC Overall Transmission Reliability Assessment (OTA) as projected for 2020. The Terms of Reference for this ORA was approved at the March 4, 2015 RCC Meeting. The final results and report of this study was presented and approved at the December 1, 2015 RCC meeting. The Working Group will follow-up with the sensitivity analysis on the impact of Distributed Generation and provide an addendum to this report at the March 2, 2016 RCC meeting.

<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 – Completed:</b> In June 2015, the SS-37 Working Group completed the 12 Power Flow Cases for 2015 NPCC Library of Cases. The completed NPCC cases were submitted in July 2015 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 December 2015.</p> <p><b>Dynamic Models – Ongoing:</b> In July 2015, the SS-37 Working Group assembled the dynamic data for the 2015 NPCC Library of Cases. The completed dynamic models were submitted in August 2015 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 Eastern Interconnection dynamic models has slipped from January 18, 2016 to 2016 Q1. The outstanding issues being resolved relate to issues with Governors/Exciters. 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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 results of the SP-7 Working Group on Protection System Misoperation Review as completed through the Third Quarter 2015, and will be presenting the misoperations results for the three quarters in 2015 as compared to the cumulative quarterly average misoperations since 2011 using the NERC cause codes for protection misoperations at the March 2, 2016 RCC meeting.</p> <p>The SP-7 Working group has also reviewed submittals for Special Protection System (SPS) operations and misoperations for the Third Quarter of 2015 as requested by NERC using the new SPS reporting Template. There were no reported SPS misoperations during this Quarter. There are 109 SPSs on the NPCC SPS List as approved at the March 2015 RCC meeting.</p> <p>The SP-7 Working Group will be reviewing the Fourth Quarter 2015 Protection System and SPS Misoperations data and will be reporting the data to NERC by April 15, 2016.</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> <p><b>Status/ Comments:</b></p> <p>The NERC MOD-032-1 Reliability Standard places the requirement for accurate models of system equipment on the Planning Coordinators. Requirement 4 in MOD-032-1 calls for the ERO to indicate a Designee to develop the steady state and dynamics base cases utilizing those system equipment models (below):</p> <p>R4. Each Planning Coordinator shall make available models for its planning area reflecting data provided to it under Requirement R2 to the Electric Reliability Organization (ERO) or its designee to support creation of the Interconnection-wide case(s) that includes the Planning coordinator’s planning area.</p> <p>The ERAG Multi-Regional Modeling Working Group has performed the base case compilation function since 2007. However, because of the open-ended nature of some of NERC’s proposed requirements for a Designee, the 6 Regional Entities (REs) that make up ERAG initially decided not to apply to become Designee. Additionally, there have been no other applicants to become the Designee. NERC has recently agreed to revise the Designee requirements and the 6 Eastern Interconnection REs are currently reconsidering becoming the Designee under the revised terms. In its main reliability assessment role ERAG is continuing to conduct seasonal system studies. ERAG recently completed a weather-scenario assessment considering system limitations under 4 conditions:</p> <ul style="list-style-type: none"> <li>✓ Summer Peak Load--Hot South (drought) and Cool North conditions;</li> <li>✓ Winter Peak Load--Cold North (polar vortex) and Mild South conditions;</li> <li>✓ Summer Peak Load--Hot West (drought) and Cool East conditions; and,</li> <li>✓ Summer Peak Load--Hot East (drought) and Cool West conditions.</li> </ul> <p>Very large transfers were simulated to model system conditions under these scenarios. Generally, the identified system limits confirmed expectations.</p> <p>Discussions have also been held by the ERAG Steering Committee on the assessment(s) that ERAG will conduct during 2016.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
ERAGWG	ERAG Seasonal Working Group	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.

**Status / Comments:**

**2016 ERAG Reliability Assessment: N-1-1 Contingency Analysis - Ongoing**

The ERAG Steering Committee (SC) has initiated the 2016 ERAG Reliability Assessment that builds on the 2015 Weather-Scenario Assessment to consider N-1-1 contingency analysis. An initial assessment will be performed using Summer and Winter cases from last year's weather-based transfer analysis. Results of the initial assessment will be reviewed with the ERAG SC and ERAG Management Committee (MC) to finalize the study scope and timeline.



## 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>RAS</b>	Reliability Assessment Subcommittee (RAS)	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.
	<b>Status/ Comments:</b>	<p>The data and corresponding narrative request for the 2016 Long-Term Reliability Assessment (LTRA) was issued by NERC on January 23, 2016; the initial LTRA data and corresponding narratives are due to NERC by June 24, 2016; the NPCC CP-8 Working Group is preparing to respond to the request. The 2016 LTRA will:</p> <ul style="list-style-type: none"> <li>• Incorporate of ERS Measure 6</li> <li>• Limited inclusion of Probabilistic metrics</li> </ul> <p>In addition, NERC issued a February 19, 2016 Supplemental Data Request for:</p> <ul style="list-style-type: none"> <li>• Hourly Load Data</li> <li>• New Technology Integration</li> </ul> <p>The 2016 LTRA is scheduled to be completed by December 2016, following NERC Board approval.</p>

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
<b>RADWG</b>	Reliability Assessment Data Working Group	Serve as the electric utility industry’s coordinator with the Department of Energy (DOE) and the Energy Information Administration (EIA) in submitting yearly data and in negotiating the requirements for data submission to the EIA.
	<b>Status/ Comments:</b>	At their September meeting, the NERC Planning Committee agreed with the Reliability Assessment Subcommittee’s (RAS) proposal to disband the group; the RADWG duties and responsibilities have been transferred under the auspices of the RAS.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
ProbA	NERC Probabilistic Assessment	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.

**Status/ Comments:**

The NERC Planning Committee (PC) tasked the Probabilistic Assessment Improvement Task Force (PAITF) to identify and create a work plan to implement improvement opportunities to enhance the Probabilistic Assessment in the following 4 improvement areas in support of NERC's Long-Term Reliability Assessment (LTRA): 1. Process and Coordination, 2. Data Coordination and Needs, 3. Assumptions, Criteria, and Requirements, and 4. Modeling Software Requirements. In continuation of this effort, under the guidance of the NERC Reliability Assessment Subcommittee (RAS), the PAITF is developing a guideline document to help identify enhancement opportunities and serve as the foundation of the PAITF's final work plan. The guidance document is expected to be presented for PC approval at their June meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
TADS	Transmission Availability Data System	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.

**Status/ Comments:**

The NERC TADS Working Group (TADSWG) met on January 20-22, 2016 at PERA Club in Phoenix, Arizona. The next face to face meeting will be on May 17-19, 2016.

The Working Group reviewed the status of TADS Planned Outage Reporting. A full 1600 data request process (incl. a survey of industry stakeholders) was undertaken. NERC staff and TADSWG members prepared the content for a 1600 data request. Following NERC and FERC review periods, the associated survey was sent to Transmission Owners (TO). Responses to the survey were reviewed by the TADSWG at this August meeting. The large majority of TO responses indicated support to discontinue collection of TADS Planned Outage data and continue collection of TADS Operational Outage data. On November 5, 2015, the NERC Board of Trustees approved the discontinuation of Planned Outages in the Transmission Availability Data System (TADS).



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
<b>DADS</b>	Demand Availability Database System	<p>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.</p> <p><b>Status/ Comments:</b></p> <p>The NERC Demand Response Availability Data System Working Group (DADSWG) held a face to face meeting on Tampa, Florida on January 12-13, 2016. The next face to face meeting will be at TRE’s office in Austin, Texas on March 29-30, 2016.</p> <p>The group worked on a set of metrics for DADS 2015 State of Reliability report. Below are the purpose of 4 metrics that were designed:</p> <p>Entities that are only LSEs will still have to report for the Summer 2015 reporting period because the effective date of the order related to LSEs was 10/15/15, which is after the end date of the Summer 2015 reporting period.</p> <ul style="list-style-type: none"> <li>• Metric 1: Shows the amount of demand response reduction (in MW) provided during all the reliability events deployed in a given month by time of day.</li> <li>• Metric 2: Reflects the cumulative megawatts of demand reduction dispatched by service type in reliability event days per month at the NERC and region level.</li> <li>• Metric 3: Reflects the cumulative time weighted megawatts of demand reduction realized by service type in reliability event days per month at the NERC and region level</li> <li>• Metric 4: Allows for the creation of a demand response realization rate for reliability events to be established and trending</li> </ul> <p>At the January 12-13 DADSWG meeting, NERC clarified if an entity is only a PSE and has no other functional entity code, they are not required to report into DADS for the Summer 2015 reporting period because the effective date of the order related to PSEs was 3/19/15, which is before the start of the dates in the Summer 2015 reporting period. According to Legal, the PSEs and LSEs may still report into DADS, but are not required to do so after the Summer 2015 reporting period.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
SEWG	Spare Equipment Working Group	<p>Serve as the Regional Entity Coordinator (REC) in support of the Spare Equipment Database and analysis for NPCC. As the REC, oversee the collection of the data in the NERC Internet based data management tool.</p> <p><b>Status/ Comments:</b></p> <p>The NERC Spare Equipment Working Group (SEWG) held a face-to-face meeting on February 24-25, 2015 at NERC’s office in Washington D.C and a conference call on April 9, 2015.</p> <p>The Working Group will have one face-to-face meeting per year and one conference call per quarter. Meetings will be held in public, but there may be times when attendance at the meetings will be limited to the SEWG voting members to allow discussion of confidential information. The SEWG voting members may also invite guests to provide input on specific areas.</p> <p>The group reviewed the spare equipment chapter for the 2014 State of Reliability report and provided its updates to Performance Analysis Subcommittee (PAS). Also the SEDWG will work with Department of Energy, (DOE) to update their report/paper on “Large Power Transformers and the U.S. Electric Grid. Below are the topics that will be included on the paper:</p> <ul style="list-style-type: none"> <li>• “National Strategy for Reducing Risk from the Loss of Large Power Transformers”</li> <li>• Supply chain considerations: electrical steel and bushings</li> <li>• Transformer transportation—challenges and opportunities</li> <li>• Mobile transformers</li> <li>• NERC Reliability Standards (GIC and Physical standards)</li> <li>• Security and protective measures (manufacturers’ efforts)</li> <li>• Re-manufacturing or refurbishing of transformers</li> </ul>





# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Reliability Assessment and Performance Analysis Program

### NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
GADS	Generator Availability Data System	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>The NERC GADS Working Group (GADSWG) held a face to face meeting on September 30- October 1, 2015 at NERC’s Office Atlanta Georgia conducted and a Ready Talk conference call on February 16, 2016. The next face to face meeting will be on March 8-9, 2016 at NERC’s Office Atlanta Georgia</p> <p>NERC requested public comment, on its proposal to add Generator Operators that operate wind turbine facilities of 75 MW or greater to the existing Generating Availability Data System. The group discussed the preparation needed to integrate the wind DRI into GADS. The GADSWG reviewed the Wind GADS Section 1600 Public Comments and consolidated all comments into 4 categories:</p> <ol style="list-style-type: none"> <li>1. Burden</li> <li>2. Reporting Requirements</li> <li>3. DRI Clarification</li> <li>4. General Comments</li> </ol> <p>Wind generation continues to grow at a robust pace and will probably exceed hydro generation around 2017. As a result some bulk power distributors are already seeing impacts to their planning and reserve requirements. Completion of the revised Wind DRI depends upon the perceived urgency by the PC. If the PC review and public comment go smoothly, mandatory reporting for wind could occur as early as 2016.</p> <p>NERC is scheduling two GADS trainings in 2016 which will be held in April in Atlanta and in June in Salt Lake City.</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>RADS</b>	Reliability Assessment Data System	<p>The purpose of the ERO Reliability Assessment Data System (RADS) is to facilitate the collection of data used for the development of NERC's reliability assessments. RADS-Phase 2 was initiated by the ERO-EMG to identify and document the differences and similarities of existing data collection processes among the Regions/Assessment Areas.</p>
	<b>Status/ Comments:</b>	<p>NERC's 2015 Long-term Reliability Assessment (LTRA) will be using the newly developed Reliability Assessment Data System (RADS). This database was created to provide increased support and accuracy for the LTRA data provided by ERO members. With more secure and better aligned data dating back to 1990, NERC is better able to insure data integrity upon import of annual submissions and more quickly able to access additional tools for ongoing trending and analysis.</p> <p>As a result, NERC's 2016 Long-Term Reliability Assessment will be incorporating several changes to the data and instructions requests from the prior year's collection efforts. NERC held a Webinar on December 2, 2015 to familiarize the Reliability Assessment Subcommittee members with these changes.</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	<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). The NCSP outlines activities conducted jointly by ISO New England, New York ISO, and PJM.</p>
	<b>Status/ Comments:</b>	<p>The IPSAC last met (via WebEx) on Friday, December 14, 2016. The main purpose of the meeting was to update stakeholders on interregional planning activities, including:</p> <ul style="list-style-type: none"><li>▪ Regional Planning Needs and Plans for Each of the ISO/RTOs</li><li>▪ Interregional Planning Timelines in the Context of Order 1000</li><li>▪ Queue Interconnection Studies and Other Projects Potentially Affecting Neighboring Systems</li></ul>



## 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>
	<b>Status/ Comments:</b>	<p>The CO-10 Working Group continues to be completely engaged in the review of tool failures and their lessons learned as generated from the EAP program.. Also, CO-10 WG is preparing a 2015 year-end summary report for presentation to TFCO at their March 2016 meeting.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program

#### TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY

Item	Name	Assignment
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. <span style="float: right;"><b>Last Workshop:</b> November 2015</span>
	<b>Status/ Comments:</b>	NPCC Fall 2015 Standards & Compliance Workshop included one day devoted to CIP topics.

Item	Name	Assignment
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 EMS-SCADA Working Group has been designed as an Ad-hoc Working Group by TFIST.

Item	Name	Assignment
IST-4	TFIST Cyber Security Working Group	Provide a forum to identify, discuss and advance the technology of Cyber Security for the reliable operation of the NPCC Bulk Power System. The Cyber Security Working Group (IST-4) will also support TFIST in their work on issues related to Cyber Security.
	<b>Status/ Comments:</b>	In December 2015, the RCC agreed with TFIST's recommendation to disband IST-4 since TFIST will handle these assignments.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY

<b>Item</b>	<b>Name</b>	<b>Assignment</b>
IST-5	TFIST Physical Security Working Group	Provide a forum to identify, discuss and advance the use of Physical Security for the reliable operation of the NPCC Bulk Power System. The Physical Security Working Group (IST-5) will also support TFIST in their work on issues related to Physical Security.
	<b>Status/ Comments:</b>	In December 2015, the RCC agreed with TFIST's recommendation to disband IST-5 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 2015 NPCC General Meeting was held December 2, 2015 in Albany, New York; presentations included: <ul style="list-style-type: none"> <li>✓ New York's Reforming the Energy Vision Initiative;</li> <li>✓ Evolution of the Ontario Supply Mix; and,</li> <li>✓ 2015/2016 Winter Reliability Programs.</li> </ul>

<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 met the afternoon of December 1, 2015 in conjunction with the NPCC 2015 General Meeting in Albany, New York to discuss reliability considerations or EPA Clean Power Plan SIP development.

<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 2016 Media Event for the release of the 2016 NPCC Summer Reliability Assessment is scheduled to be held April 28, 2016.