



RCC Meeting
September 7, 2016
Agenda Item 7.8

Reliability Assessment Program
(NRAP)
HIGHLIGHT REPORT
Prepared for the
Reliability Coordinating Committee
September 7, 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



Reliability Assessment Program

HIGHLIGHT REPORT

Contents

<u>Reliability Standards</u>	1
Regional Standards Committee	1
Directories, Appendices & Criteria	3
Directory Development and Revision Manual	11
NPCC Glossary of Terms	11
Regional Standards	12
Regional Standards Development Procedure	14
<u>Compliance Enforcement and Organization Registration and Certification</u>	15
Compliance Committee	15
Documents	16
<u>Training, Education, and Operator Certification</u>	17
Task Force on Coordination of Operation	17
<u>Reliability Assessment and Performance Analysis</u>	18
Task Force on Coordination of Operation	18
Task Force on Coordination of Planning	21
Task Force on System Studies	23
Task Force on System Protection	24
Eastern Interconnection Reliability Assessment Group	25
ERAG Seasonal Working Group	26
NERC	27
Other	31
<u>Situation Awareness and Infrastructure Security</u>	32
Task Force on Coordination of Operation	32
Task Force on Infrastructure Security and Technology	33
<u>Administrative Services</u>	34
Members' Forums	34



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 is working with the CC to develop feedback loops to route issues identified with standards to the RSC to decide how best to address those issues and improve standards and reliability.</p> <p>Status/ Comments:</p> <p>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.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
RSC	Regional Standards Committee	The RSC continues to consider enhancements to the NPCC Website to provide further uniformity and consistency with that of NERC and other Regions.

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 1 (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. The regional variance for PRC-006-3 – Automatic Underfrequency Load Shedding drafting team met on April 26, 2016 to revise the proposed redline document. The redline document is approved by the members of RSC on June 22, 2016 to post for comments. The PRC-006-NPCC-01 Automatic UFLS drafting team met for the first time on June 3, 2016 and all requirements were reviewed by the SDT. The next step is to 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. Subsequent to NERC BOT approval, a petition to retire the regional standard is filed with FERC on June 9, 2016 and was filed with all Canadian Provinces on June 14, 2016. The 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.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

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

Status/ Comments:

The Task Force on Coordination of Planning (TFCP) and the Task Force on Coordination of Operation (TFCO) completed a collaborative review of Directory No. 1 in 2015.

Currently, the TFCP has rendered a 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 TFCP clarification provides guidance on the calculation of available resources and the treatment of capacity backed purchases as part of these calculations and is posted for comment until July 28, 2016.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-2	Emergency Operation	Appendix A – Definition of Terms Appendix B - Guideline and Procedure for Emergency Operation	TFCO TFCO TFCO	June 26, 2009
	Status/ Comments:	<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>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
	Status/ Comments:	<p>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.</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 “<u>Protection System Maintenance</u>.”</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-4	BPS Protection Criteria	<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>Status/ Comments:</p> <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>TFSP</p> <p>TFSP</p>	<p>September 30, 2015</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-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	October 11, 2012

Status/ Comments:

The TFCO and its CO1 Working Group anticipate reviewing the criteria in Directory No.5 during 2016 to consider the impact of recent ERO standard developments and approvals on the document.

Currently, the TFCO has provided a clarification on the criteria within Directory No. 5 that addresses the use of certain storage technology as synchronized reserve.

The TFCO clarification explains that storage resources with inverter technology may be considered as synchronized reserve provided they meet the other criteria governing such resources as outlined in Directory No. 5 (i.e. sustainability) and is posted for comment until July 28, 2016.

<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, 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 TFCP	July 9, 2013
	Status/ Comments:	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) in order to assess how these revisions will 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 ¹	October 22, 2010
	Status/ Comments:	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 is currently addressing comments received during a NPCC Open Process posting and anticipates an additional posting in the 3 rd Quarter of 2016.		

¹ 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	NPCC Verification of Generator Gross and Net Real Power Capability	Appendix A – Definition of Terms Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	TFCO TFCO/TFCP ¹ TFCO/TFCP ¹	December 29, 2011
	Status/ Comments:	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 is currently posted to the 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	NPCC Verification of Generator Gross and Net Reactive Power Capability	Appendix A – Definition of Terms Appendix B1 – Basic Flow Chart for Verification of Generator Gross and Net Reactive Power Capability Appendix B2 – Generator Reactive Capability Form	TFCO TFCO/TFCP ¹ TFCO/TFCP ¹ TFCO/TFCP ¹	December 29, 2011
	Status/ Comments:	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 is currently 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	<p>Appendix A – Guide to Time Synchronization of Substation Equip.</p> <p>Appendix B – Guide for Application of DME</p> <p>Appendix C – Guide for Generator Sequence of Events Monitoring</p>	<p>TFSP</p> <p>TFSP</p> <p>TFSP</p>	New
Status/ Comments:		<p>The Task Force on System Protection (TFSP) has posted a draft of a new Directory (Directory No. 11) for Disturbance Monitoring which incorporates the existing A-15 criteria and functionally related B guidelines and C procedures into one document.</p> <p>The development and approval of this Directory will facilitate the retirement of the NPCC Regional Standard PRC -002-NPCC-2 by ensuring that there are no inconsistencies with the continent-wide standard and the equipment installed as a result of the regional standard.</p> <p>The TFSP is presently reviewing comments.</p>		

<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	<p>TFSS</p> <p>TFSS</p>	July 9, 2013
Status/ Comments:		<p>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.</p> <p>The NPCC Full Membership approved the revised Directory No. 12 on July 9, 2013.</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-01	Criteria for Review and Approval of Documents		TFCP	March 2005

Status/ Comments: The TFCP has posted the A-01 document to the Open Process until August 12th, 2016.

<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

Status/ Comments: The TFCP is compiling comments on the A-10 methodology. These comments will be developed into a review scope for the CP-11 Working Group which will undertake the assessment.



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

Status/ Comments:

The Directory Development and Revision Manual was revised in 2013 to incorporate changes in the approval process for a Criteria Interpretation (clarification).

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.

The RSC has responded to all comments and on October 3, 2014 the RSC approved the revisions to the “Directory Development and Revision Manual.”

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.	Latest Version: Frequency of Reviews: Next Review Date:

New
3 years
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 Board 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 97.1% 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.

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. Subsequent to NERC Board approval, a petition to retire the Regional standard was filed with FERC on June 9, 2016 and was filed with all Canadian Provinces on June 14, 2016.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>
PRC-006 NPCC-1	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.	Latest Version: New Frequency of Reviews: 3 years Next Review Date: February 2016

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 for the first time on June 3, 2016 and all requirements were reviewed by the SDT. The next step is to work on a comparison table between the continent wide standard versus the Regional standard.

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

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

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

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	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.

Status/ Comments: At its March 2016 meeting, the Compliance Committee approved revised versions of Compliance Procedure documents.

At the April 2016 meeting, the Compliance Committee endorsed the outline of the process presented by NPCC to map the NERC and NPCC Risk Elements to the NERC Risk Factors. The mapping results are used by NPCC to perform 2016 Inherent Risk Assessments.

At the April 2016 meeting, NPCC presented the top three historically violated standards in the ERO along with a risk analysis. Afterward, the CC endorsed the concept of NPCC conducting a training/informational webinar for all registered entities on this information.

At the July 2016 meeting, NPCC presented top violated standards No. 4 through No. 6 along with a risk analysis. Afterward, the CC endorsed the continued concept of NPCC conducting a training/informational webinar for all registered entities on this information.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CCEP	Criteria Compliance and Enforcement Program	<p>The CC will maintain the “<i>NPCC Criteria Compliance and Enforcement Program Process Document</i>” (CCEP-1) 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>Status/ Comments: The 2016 CCEP Implementation Plan was presented and approved by the RCC at the December 1, 2015 meeting. All Reporting Full Members have completed their submittal of the 2015 CCEP Implementation Plan certification forms and the forms have been uploaded to the NPCC CC Restricted workspace. The 2015 Certification Forms along with the scorecard with the Summary of 2015 CCEP Submittals Certification Forms will be reviewed by the CC at their June 2016 meeting. The Assessment Report for the 2015 CCEP Implementation Plan will be presented to the RCC at the September RCC meeting. The CCEPWG will perform a review of the CCEP-1 program document and begin working to develop the 2017 CCEP Implementation Plan and revise the Certification Forms as necessary to present to the CC for their approval at the September CC meeting.</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>
	Status/ Comments:	<p>The 2016 Fall NPCC System Operator Seminar planning meeting will be held in early September; the Operator Seminar will be held in Fredericton, NB in early November. Presentations for the Seminar are being determined and will include summaries of recent events that occurred in each of the NPCC Areas and in PJM.</p> <p>The Spring Seminar included a Table Top exercise related to operating aspects of NERC standards; participating system operators were awarded Continuing Education Hour credits. The system operators also attended a tour of the NYISO Control Room.</p> <p>The CO-2 Working Group met in late June and shared approaches taken in their training programs to address the following topics: 1) the PER-005-2 standard and RSAW, 2) training metrics, 3) GridEx IV planning and 4) system restoration training.</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	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.

Status/ Comments:

The CO-1 Working Group met August 11-12, 2016, with its next meeting scheduled for December, 2016. The CO-1 Working Group discussed the impact of BAL-001-2 “*Real Power Balancing Control Performance*” requirements becoming effective July 1, 2016, and other issues needing clarification. NERC petitioned FERC for approval of BAL-002-2 Disturbance Control Standard – “*Contingency Reserve for Recovery from a Balancing Contingency Event*” on January 29, 2016, and filed supplemental information March 31, 2016. NERC commented on the FERC NOPR July 25, 2016. The frequency event information reporting data for 2016 required for BAL-003-2 “*Frequency Response and Frequency Bias Setting*” is intended to be test data. Industry approved the retirement of BAL-004-0 “*Time Error Correction*.” It is to be filed with FERC for approval. It is widely recognized that time error correction is no longer a reliability concern. CO-1 submitted comments on BAL-005-1 “*Automatic Generation Control*.” NERC petitioned FERC for approval April 20, 2016, with supplemental information filed June 14, 2016. The CO-1 Working Group continues to generate the NERC Disturbance Control Standard Report.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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.”

Status/ Comments:

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.



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	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.
	Status/ Comments:	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 first set of revisions is expected to be discussed at the CO-8 Working Group's August 2016 meeting.



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	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.

Status/ Comments:

The NPCC CO-11 Restoration Working Group conducted reviews of the Hydro-Quebec TransEnergie Restoration Plan at its meeting on June 29, 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 plan 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 System Restoration posting, and made appropriate revisions. It is also participating in the FERC-NERC-Regional Entity Joint Review of Restoration and Recovery Plans.

<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.

Status/ Comments:

The CO-12 Working Group completed the 2016 Summer NPCC Assessment Report; it was approved by the RCC and was issued on April 28, 2016. It includes the deterministic assessment conducted by the CO-12 Working Group and the probabilistic assessment conducted by the CP-8 Working Group. The associated media release and summary report was released on April 28, 2016.



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.
	Status/ Comments:	The CP-8 Working Group’s recommendation regarding the load shape assumption to be used in the 2016 NPCC Long Range Adequacy Overview was also approved by the TFCP. The CP-8 Working Group’s interpretation regarding the use of Tie Benefits and firm capacity in the calculation of Area Resource Adequacy within Appendix D of Directory No. 1 and was posted to the NPCC Open Process from June 13, 2016 to July 28, 2016. The TFCP addressed all comments received, and in accordance with the NPCC “ <i>Directory Development and Revision Manual</i> ” the criteria clarification will be presented to the Reliability Coordinating Committee (RCC) for approval at their September 7, 2016 meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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.
	Status/ Comments:	The TFCP approved the 2016 NPCC Summer Multi Area Probabilistic Assessment on April 19, 2016.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP- 2016W	Winter 2016-2017 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Area reliability by estimating projected use of Area Operating Procedures designed to mitigate resource shortages for the winter (November through March) period.
	Status/ Comments:	The assumptions for the NPCC Winter 2016 – 2017 Multi-Area Probabilistic Reliability Assessment were approved by Task Force on Coordination of Planning; the Assessment have been completed and will be recommended to the RCC for approval at their September 7, 2016 meeting by the TFCP.



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>
LRAO	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.
	Status/ Comments:	The CP-8 Working Group is drafting the 2016 LRAO report, including the requirements associated with the NERC Probabilistic Assessment, for review at the November 2016 TFCP meeting.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP-11	<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.
	Status/ Comments:	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 CP1 Working Group.



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.
	Status/ Comments:	The SS-38 Working Group is developing a draft report documenting the additional follow-on effort requested by the RCC following its approval in March 2016 of the <u>“Addendum to the 2015 NPCC Overall Transmission Assessment Report: Sensitivity Study on the Impact of Distributed Generation.”</u> This draft report will be submitted for review and comments at the September 2016 Task Force on System Studies meeting before it will be submitted for RCC approval at their December 2016 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.
	Status/ Comments:	<p>Power Flow Cases – Ongoing: 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 will be completed and published in October 2016. The SS-37 Working Group will remain engaged with the MMWG during development of the Eastern Interconnection power flow cases to provide technical expertise and support on behalf of NPCC.</p> <p>Dynamic Models –Ongoing: In July 2016, the SS-37 Working Group assembled dynamics data for the 2016 NPCC Library of Cases. The completed dynamic models will be 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 dynamic models will be complete and published in January 2017. 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.
	Status/ Comments:	<p>The Task Force on System Protection (TFSP) has reviewed the status of SP-7 Working Group on Protection System Misoperation Review as completed through the First Quarter (Q1) 2016. The misoperations results for Q1 2016 as compared to the cumulative quarterly average misoperations since 2011 using the NERC cause codes for protection misoperations will be presented to the RCC at their September 7, 2016 meeting.</p> <p>The SP-7 Working group has also reviewed submittals for Special Protection System (SPS); there were no SPS operations for Q1 2016. There were 114 SPSs on the NPCC SPS List as approved at the March 2016 RCC meeting.</p> <p>The reporting of protection system misoperations and operations that occurred in the 2nd Quarter 2016 has been implemented via the new NERC Misoperation Information Data Analysis System (MIDAS). MIDAS provides a uniform reporting process for all NERC Regions.</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>Status/ Comments:</p> <p>The ERAG Management Committee met on August 9-10, 2016. ERAG is considering increasing the coordination of its system assessment activities with the ERO-RAPA group. ERAG has developed a draft Strategic Plan for years 2017-2019.</p> <p>ERAG is the Eastern Interconnection Designee for development of base cases. The ERAG Multi-Regional Modeling Working Group has performed the base case compilation function since 2007 and is now continuing this role as official Designee. MMWG has reviewed the Designee requirements and has identified three areas where there are gaps and has initiated mitigating measures to address each of these.</p> <p>ERAG and NERC have jointly developed an event replication model build process to use to create base cases to use as a starting point for analysis of major disturbances that might occur in the Eastern Interconnection. This analysis could be done as part of the ERO Event Analysis Process.</p> <p>Presently, ERAG is conducting an N-2 Eastern Interconnection N-2 contingency analysis assessment. This work is trying to identify potential contingency pair concerns, especially if they occur in adjacent Planning Coordinator Areas.</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-2 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-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.

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 results from the N-2 analysis will identify when the monitored element is from a different area than the area(s) associated with either the first or second contingency. The identified list will include all N-2 overloads even if, after review of these line items, it is determined to not be an issue of concern or an operating guide is available to mitigate the overload.

The ERAG WG is scheduled to provide a draft report for review at the October ERAG SC meeting.



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>
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>Status/ Comments:</p> <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 are due to NERC by June 10, 2016; the associated narratives are due June 24, 2016. The NPCC CP-8 Working Group is preparing to respond to the requests. The 2016 LTRA will:</p> <ul style="list-style-type: none"> • Incorporate NERC ERS Measure 6 analysis; and, • Limited inclusion of Probabilistic metrics. <p>In addition, NERC issued a February 19, 2016 Supplemental Data Request for:</p> <ul style="list-style-type: none"> • Hourly Load Data; and, • New Technology Integration. <p>There is an ongoing effort this year to align the LTRA resource data with the MMWG Planning Cases.</p> <p>The 2016 LTRA is scheduled to be presented to the NERC Board for approval in December 2016.</p> <p>Narrative requests for the 2016 - 2017 NERC Winter Assessment were issued to the Regional Executives on August 9, 2016. Each NERC Region is to submit the requested summary of winter issues for each Assessment Area. NERC will utilize the 2016 LTRA data provided by RAS members for the 2016- 2017 winter data analysis. All data is to be reviewed with the RAS utilizing an abbreviated peer review process. The assessment is expected to be released in November 2016.</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>
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 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 four 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 reference document to help identify enhancement opportunities and serve as the foundation of the PAITF’s final work plan. The guidance reference document was approved by the NERC Planning Committee via e-mail ballot in August 2016.

<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 August 16-18, 2016 at Hydro One Network’s office in Toronto, Canada. The next face to face meeting will be on January 24-26, 2016 at FRCC’s office in Tampa, Florida. Beginning in 2015, the existing scope of TADS was expanded to include inventory and Automatic Outage data for power system Elements below 200kV. Two additional voltage classes were amended, namely, less than 100kV and 100-199kV. This reporting change was established through the NERC Rules of Procedure 1600 Data Request so that TADS data collection would align with the implementation of the FERC approved Bulk Electric System (BES) definition



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>
DADS	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.
	Status/ Comments:	<p>The NERC Demand Response Availability Data System Working Group (DADSWG) held a face to face meeting in Atlanta, Georgia on July 26-27, 2016. The next face to face meeting will be on October 11-12, 2016 at NYISO’s office in Albany, NY.</p> <p>The group developed an outreach plan that was discussed at the July meeting. The following activities are planned to occur:</p> <ul style="list-style-type: none"> • Send outreach e-mail during week of September 6, 2016 to Balancing Authority or Distribution Provider; • Each DADS regional contact to receive a list of entities that were included in outreach; • Outreach responses requested by October. 12, 2016; and, • Replies to be collected via e-mails to DADS@nerc.net and tracked in a spreadsheet for the near term.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
SEWG	Spare Equipment Working Group	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.
	Status/ Comments:	<p>The NERC Spare Equipment Working Group (SEWG) last 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. The NERC Planning Committee will consider disbanding the Spare Equipment Working Group at its September 2016 meeting. NERC staff plans to discontinue SED collection, and will participate instead in other on-going programs under the auspices of EEI, DOE, and Grid Assurance.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
GADS	Generator Availability Data System	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.
	Status/ Comments:	<p>The NERC GADS Working Group (GADSWG) held a face to face meeting on March 8-9, 2016 at NERC’s Office Atlanta Georgia. NERC scheduled two GADS trainings 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 will be on September 27-28, 2016 at TRE’s office in Austin, Texas.</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 the comments.</p> <p>Currently, GADS does not include wind, solar or other renewable technology generating assets. 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.
	Status/ Comments:	The IPSAC last met (via WebEx) on Monday, May 9, 2016. The agenda included a review of the NCSP15, an update on system needs that could have potential interregional solutions, projects with potential cross border impacts, and next steps.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-10	Operational Tools Working Group	<p>The Operational Tools Working Group (CO-10) is responsible for taking a lead role in the development of NPCC and NERC operational tools (e.g. electronic tagging, the NERC Interchange Distribution Calculator and electronic scheduling), including hardware, software and integrated systems. The Operational Tools Working Group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of operational tools.</p> <p>Status/ Comments:</p> <p>The CO-10 Working Group continues to be engaged in the 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 also prepared a new NPCC Critical Operating Tools Failure Analysis survey in order for each organization to provide the WG with the current practice regarding the power system network model representation for EMS applications as well as the EMS performance and infrastructure monitoring applications. Each new survey supplements the previous survey's results. At present, responses are in and being compiled and analyzed. A report similar to the 2014 survey results will be prepared and ultimately presented to TFCO.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY (TFIST)

Item	Name	Assignment
IST-1	Infrastructure Security and Technology Workshop	Periodic workshops presentations to address timely issues and update member system personnel associated with the provision of on-line computer systems for operation of the power system.
		Last Workshop: May 2016
	Status/ Comments:	NPCC Spring 2016 Standards & Compliance Workshop includes several presentations devoted to CIP topics, including a TFIST update and a Transient Devices presentation

Item	Name	Assignment
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
	Status/ Comments:	At its December 2015 meeting, the RCC accepted the annual Cross-Border Emergency Telecommunications Report. In July 2016, the IST-2 Working Group started updating its Ring Down whitepaper based on the CO-8 Working Group's feedback.

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.
	Status/ Comments:	The EMS-SCADA Working Group has been designated as an Ad-hoc Working Group by TFIST.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Administrative Services

MEMBERS' FORUMS

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
General	NPCC General Meeting	To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial, and State regulatory and/or Governmental authorities and senior executives within NPCC to identify and discuss emerging issues related to the reliability of the NPCC Region.
	Status/ Comments:	The 2016 NPCC General Meeting will be held on December 7, 2016 in Montreal, Quebec. The Agenda for the meeting is being finalized.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
Gov/Reg	NPCC Governmental Regulatory Affairs Advisory Group	To provide a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region and share actionable information related to regional energy and reliability matters.
	Status/ Comments:	The NPCC Governmental/Regulatory Affairs Advisory Group received an update regarding the reliability considerations of the EPA Clean Power Plan (CIP) SIP development via Webinar on March 30, 2016. Results of the on-going NPCC CPP Reliability Assessment is planned to be presented at the December 6, 2016 meeting, held in conjunction with the December 6, 2016 RCC meeting.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
PIC	Public Information Committee	To highlight and summarize NPCC activities and accomplishments and disseminate appropriate information to the media, as well as respond to related requests for information.
	Status/ Comments:	NPCC continues to participate in communications coordination with NERC and the Regions. The NPCC Media Event for the release of the 2016 NPCC Summer Reliability Assessment was held April 28, 2016.