NPCC, Inc.

RCC Meeting
June 1, 2016
Agenda Item 6.8

Reliability Assessment Program

(NRAP)

HIGHLIGHT REPORT

Prepared for the

Reliability Coordinating Committee

June 1, 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

Item	Name	Assignment
RSC	Regional Standards Committee	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).
	Status/ Comments:	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 overseeing Phase II of the NPCC Directory project which will translate the criteria in the Directories into specific "requirements" on which compliance may be assessed.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

Item	Name	Assignment
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 l (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 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 will be drafted and filed with the FERC.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-1	**Basic Criteria for the Design And Operation of the Bulk Power System**		**TFCP**	**September 30, 2015**
		Appendix A – ERO Standards	TFCP	
		Appendix B – Guidelines and Procedures for NPCC Area Transmission Review	TFCP	
		Appendix C – Procedure for Testing and Analysis of Extreme Contingencies	TFCP	
		Appendix D – Guidelines for Area Review of Resource Adequacy	TFCP	
		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	TFCP	
		Appendix F – Procedure for Operational Planning Coordination	TFCO*	
		Appendix G – Procedure for Inter Reliability Coordinator Area Voltage Control	TFCO*	

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, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-2	**Emergency Operation**		**TFCO**	**June 26, 2009**
		Appendix A – Definition of Terms	TFCO	
		Appendix B - Guideline and Procedure for Emergency Operation	TFCO	

Status/ Comments:

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.

Phase 2 reformatting of Directory No. 2 is pending the Task Force on Coordination of Operation (TFCO) review of other TFCO Directories.

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.

Item	Name	Appendices	Lead TF	Current Version
DIR-3	**Maintenance Criteria for Bulk Power System Protection**		**TFSP**	**Retired**
		Appendix A – Definition of Terms	TFSP	
		Appendix B – Guidelines and Procedures for Maintenance of Bulk Power System Protection	TFSP	

Status/ Comments:

The Task Force on System Protection has completed a technical comparison of the criteria in Directory No. 3 with PRC-005-2 *Protection System Maintenance* 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.

The RCC approved the TFSP recommendation and on October 15, 2014 the NPCC Full Membership voted to approve the retirement of Directory No. 3 effective April 1, 2015 upon the enforcement date of PRC -005-2 Protection System Maintenance.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-4	**BPS Protection Criteria**		**TFSP**	**September 30, 2015**
		Appendix A – Guideline for Bulk Power System Protection	TFSP	
		Appendix B - Procedure for Reporting to TFSP New and Modified Protection Systems		

Status/ Comments:

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.

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.

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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

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

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.

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.

Item	Name	Appendices	Lead TF	Current Version
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

Item	Name	Appendices	Lead TF	Current Version
DIR-7	**Special Protection System**		**TFSP**	**July 9, 2013**
		Attachment 1 – Definition of Terms	TFSP	
		Appendix A – Guidance for Consideration in SPS Design Criteria	TFSP	
		Appendix B – Procedure for Review of Special Protection Systems	TFCP	
	Status/ Comments:	The RSC continues to monitor the development of NERC Board approved PRC -012-2 Remedial Action Schemes 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.		

Item	Name	Appendices	Lead TF	Current Version
DIR-8	**System Restoration**		**TFCO**	**October 22, 2010**
		Appendix A – Table 1 "Summary of Test Procedures For Critical Components of Key Facilities of the System Restoration Plan"	TFCO/TFSS [1]	
	Status/ Comments:	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 was posted to the Open Process through March 12, 2016 and the TFCO and the CO11 are currently reviewing comments received during the posting.		

[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

Item	Name	Appendices	Lead TF	Current Version
DIR-9	**NPCC Verification of Generator Gross and Net Real Power Capability**		**TFCO**	**December 29, 2011**
		Appendix A – Definition of Terms	TFCO/TFCP [1]	
		Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	TFCO/TFCP [1]	
	Status/ Comments:	Directory No. 9 was approved by the NPCC Full Membership on December 22, 2008. 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. The CO-7 Working Group has recommended that Directories No. 9 and No. 10 can be retired. Pending TFCO concurrence the recommendation will be posted to the Open Process by the TFCO.		

Item	Name	Appendices	Lead TF	Current Version
DIR-10	**NPCC Verification of Generator Gross and Net Reactive Power Capability**		**TFCO**	**December 29, 2011**
		Appendix A – Definition of Terms	TFCO/TFCP [1]	
		Appendix B1 – Basic Flow Chart for Verification of Generator Gross and Net Reactive Power Capability	TFCO/TFCP [1]	
		Appendix B2 – Generator Reactive Capability Form	TFCO/TFCP [1]	
	Status/ Comments:	Directory No. 10 was approved by the NPCC Full Membership on December 22, 2008. 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. The CO-7 Working Group has recommended that Directories No. 9 and No. 10 can be retired. Pending TFCO concurrence the recommendation will be posted to the Open Process by the TFCO.		

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories, Appendices & Criteria

Item	Name	Appendices	Lead TF	Current Version
DIR-11	**Disturbance Monitoring Equipment Criteria**		**TFSP**	**New**
		Appendix A – Guide to Time Synchronization of Substation Equip.	TFSP	
		Appendix B – Guide for Application of DME	TFSP	
		Appendix C – Guide for Generator Sequence of Events Monitoring	TFSP	
	Status/ Comments:	The TFSP has reviewed the draft of Directory No. 11 which has incorporated the existing A15 criteria and supporting functional guidelines. The TFSP has posted the initial draft to the Open Process through May 29, 2016 to receive comments.		

Item	Name	Appendices	Lead TF	Current Version
DIR-12	**UFLS Load Shedding Program Requirements**		**TFSS**	**July 9, 2013**
		Appendix A – Definition of Terms	TFSS	
	Status/ Comments:	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.		

Item	Name	Criteria	Lead TF	Current Version
A-10	**Classification of Bulk Power System Elements**		**TFCP**	**December 1, 2009**
	Status/ Comments:	TFCP is compiling NPCC Member concerns with the methodology to be transformed into a scope for the CP-11 Working Group which will undertake the review.		

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directory Development and Revision Manual

Item	Name	Assignment	Current Version
Directory	Directory Development and Revision Manual	The NPCC Directory Development and Revision Manual is intended to provide guidance regarding the process of establishing a new or revised Directory and will clarify the roles and responsibilities of the NPCC Task 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

Item	Name	Assignment	Current Version
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

Item	Name	Assignment	Current Version
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:** New **Frequency of Reviews:** 3 years **Next Review Date:** 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 97.10% 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.

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 will be drafted and filed with the FERC.

NPCC, Inc.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

Item	Name	Assignment	Current Version	
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 first Drafting Team meeting will be in May 2016 at NPCC's office.

Item	Name	Assignment	Current Version	
BAL-002-NPCC-01	Regional Reserve Sharing Groups	The Standard provides the measures for implementing Reserve Sharing Groups within NPCC 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

Item	Name	Assignment	Current Version
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.	**Latest Version:** **Dec, 23 2014** **Frequency of Reviews:** **3 years** **Next Review Date:** **Dec. 23, 2017**

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 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

Item	Name	Assignment
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 the following Compliance Procedure documents: 1) CP-01 "NPCC Implementation of the NERC Compliance Monitoring and Enforcement Program". Rev 4; and, 2) CP-07 "Technical Feasibility Exception Procedure", Rev. 2.

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RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

Item	Name	Assignment
CCEP	**Criteria Compliance and Enforcement Program**	The CC will maintain the *NPCC Criteria Compliance and Enforcement Program Process Document* (CCEP-1) which documents the process for actively monitoring and enforcing compliance on a subset of the Reliability Criteria. 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. 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.
	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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Training, Education, and Operator Certification Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
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.
	Status/ Comments:	The 2016 Spring NPCC System Operator Seminar was held in Saratoga Springs, New York on May 3, 4 and 5, 2016. 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 GridEx III and operator presentations on events that occurred in each of the NPCC Areas and in PJM. The system operators also attended a tour of the NYISO Control Room. The CO-2 Working Group will meet in late June and discussion topics will include shared approaches on operator training to ensure recent industry changes and effects on training program content needed to take into account recent NERC standard changes.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-1	Control Performance	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.
	Status/ Comments:	The CO-1 Working Group met in May and has a meeting scheduled for August, 2016. The CO-1 Working Group will address NERC with concerns regarding confidentiality in BAL-001-2 Real Power Balancing control Performance requirements, 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 January 29, 2016, and filed supplemental information March 31, 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 widely recognized that time error correction is no longer a reliability concern.CO-1 submitted comments on BAL-005-1Automatic Generation Control. CO-1 continues to generate the NERC Disturbance Control Standard Report.

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."
	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

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.
	Status/ Comments:	The CO-8 Working Group 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 have completed the NPCC Open Process, as per NPCC Document A-1, "Criteria for Review and Approval of Documents" with no substantive comments received for either document and a single editorial comment submitted for C-15 Procedure. Both revised documents will be posted on the NPCC site, replacing the previous versions. 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). First set of revisions is expected to be discussed at the CO-8 Working Group's August 2016 meeting.

NPCC, Inc.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
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 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. 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, "System Restoration from Blackstart Resources", and EOP-006, "System Restoration Coordination". CO-11 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 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 plan with neighboring Reliability Coordinators (desired points of interconnection and control parameters). CO-11 is reviewing the comments received from the Directory No. 8 System Restoration posting. It is also reviewing the FERC-NERC-Regional Entity Joint Review of Restoration and Recovery Plans which was made public, and will provide comments to TFCO.

Item	Name	Assignment
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 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 also posted on April 28, 2016.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
CP- 8	Working Group on Review of Resource and Transmission Adequacy	Review the overall reliability of the NPCC Areas and perform pre-seasonal resource adequacy assessments.
	Status/ Comments:	The assumptions for the NPCC Winter 2016 – 2017 Multi-Area Probabilistic Reliability Assessment are being developed and will be presented to the Task Force on Coordination of Planning for consideration at their June 9, 2016 meeting. In addition, the CP-8 Working is reviewing the load shape assumption for the 2016 NPCC Long Range Adequacy Overview, including consideration of the load shape experienced in 2015. The CP-8 Working Group has also been asked by the TFCP to draft an interpretation regarding the use of Tie Benefits for NPCC Resource Adequacy Assessments specified in NPCC Directory No. 1.

Item	Name	Assignment
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.

Item	Name	Assignment
CP- 2016W	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.
	Status/ Comments:	The assumptions for the NPCC Winter 2016 – 2017 Multi-Area Probabilistic Reliability Assessment are being developed and will be presented to the TFCP for consideration at their June 9, 2016 meeting.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

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Item	Name	Assignment
LRAO	NPCC 2016 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.
	Status/ Comments:	The CP-8 Working group is developing the assumptions for the 2016 LRAO, and will review the requirements associated with the NERC Probabilistic Assessment once finalized.

Item	Name	Assignment
CP-11	*NPCC Basic Criteria For Design and Operation of the Bulk Power System Review Working Group*	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.
	Status/ Comments:	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. 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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

Item	Name	Assignment
SS-38	Inter-Area Dynamic Analysis Working Group	Assigned to analyze dynamic phenomena, which may affect interconnected system reliability, especially in the area of low frequency oscillations.
	Status/ Comments:	The SS-38 Working Group is conducting additional simulations to further assess the impact of Distributed Generation under other stressed transfer scenarios in several areas of NPCC. A report will be provided at the September RCC meeting. The SS-38 Working Group will be conducting additional studies to measure the static & dynamic reactive capability on the transmission system and to determine any potential reliability risks resulting from lower system inertia. This effort is expected to be completed this fall with a report provided at the December RCC meeting.

Item	Name	Assignment
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:	**Power Flow Cases – Ongoing:** In June 2016, the SS-37 Working Group will prepare 12 Power Flow Cases for the 2016 NPCC Library of Cases. The completed NPCC cases will be 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. **Dynamic Models – 2015 Completed / 2016 Ongoing**: **2015** The MMWG 2015 Series dynamic models have been completed and approved as final as of May 12, 2016. **2016** In July 2016, the SS-37 Working Group will assemble the dynamic data for the 2016 NPCC Library of Cases. The completed dynamic models will be submitted in August 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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM PROTECTION

Item	Name	Assignment
SP-7	Working Group on Review of Protection System Misoperations	Review and analyze misoperations of transmission and generation protection systems and special protection systems on the bulk electric system and report on the statistics of misoperations as they occur in the NPCC region including lessons learned and implementation of corrective action plans by registered entities.

Status/ Comments:

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 Fourth Quarter 2015, and will be presenting the misoperations results for the four quarters in 2015 as compared to the cumulative quarterly average misoperations since 2011 using the NERC cause codes for protection misoperations at the June 1, 2016 RCC meeting.

The SP-7 Working group has also reviewed submittals for Special Protection System (SPS) operations and misoperations for the Fourth 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 2016 RCC meeting.

The SP-7 Working Group is reviewing the First Quarter 2016 Protection System and SPS Misoperations data and will be reporting the data to NERC by July 15, 2016.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

Eastern Interconnection Reliability Assessment Group

Study Committees

Item	Name	Assignment
ERAG	Eastern Interconnection Reliability Assessment Group	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.
	Status/ Comments:	The six Eastern Interconnection Regions have a signed Agreement with NERC to be the Designee and conduct this function through ERAG. ERAG will follow the NERC requirements for the Designee and compile and produce the annual sets of Eastern Interconnection power flow and dynamic simulation base cases. The ERAG Multi-Regional Modeling Working Group has performed the base case compilation function since 2007. In its main reliability assessment role ERAG is continuing to conduct seasonal system studies. ERAG has extended the scope of the weather-scenario assessment that had considered system limitations under 4 conditions: ✓ Summer Peak Load--Hot South (drought) and Cool North conditions; ✓ Winter Peak Load--Cold North (polar vortex) and Mild South conditions; ✓ Summer Peak Load--Hot West (drought) and Cool East conditions; and, ✓ Summer Peak Load--Hot East (drought) and Cool West conditions. The extended scope of study includes simulation of N-1-1 contingencies on a wide-Area view of the system to determine if second contingencies in adjacent areas cause overloads. This is meant to investigate seams issues that may be present in the system. The system studies will need to account for established operating procedures and normal system operator actions (e.g. redispatch to mitigate overloads) prior to determining system transfer limits. In association with becoming the Eastern Interconnection Base case, the Development Designee ERAG will work with NERC to develop a process to create event replication base cases to analyze any major disturbances that occur in the Eastern Interconnection. These base cases could be used for investigations done as part of the Event Analysis Process. Work has started on this and it will require: 1) gathering of real-system data, 2) determining the optimum system analysis power system modeling software and environment in which to conduct the event analysis investigation work, 3) transmittal of data and proper formats, 4) proper staff to conduct each step in the process.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

ERAG Seasonal Working Group

Item	Name	Assignment
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 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. The ERAG Working Group (WG) is scheduled to present initial assessment results to the ERAG SC and MC on June 8, 2016.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
RAS	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.

Status/ Comments:

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:

- Incorporate NERC ERS Measure 6 analysis; and.
- Limited inclusion of Probabilistic metrics.

In addition, NERC issued a February 19, 2016 Supplemental Data Request for:

- Hourly Load Data; and,
- New Technology Integration.

There is an ongoing effort this year to align the LTRA resource data with the MMWG Planning Cases.

The 2016 LTRA is scheduled to be completed by December 2016, and will presented to the NERC Board for approval.

The RAS has also been reviewing the NERC 2016 Summer Reliability Assessment, to be presented to the NERC Planning Committing for approval at their June 2016 meeting,

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
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 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 to the NERC Planning Committee at their June 2016 meeting, with approval to follow by e-mail ballot.

Item	Name	Assignment
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 May 17-19, 2016 at TRE's office in Austin, Texas. The next face to face meeting will be on August 16-18, 2016 at Hydro One Network's office in Toronto, Canada. The TADS Working Group worked on preparing the materials for the NERC State Of Reliability Report (SOR). 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 so that TADS data collection would align with the implementation of the FERC approved Bulk Electric System (BES) definition. Also, for the calendar year 2015, Non-Automatic Planned Outage reporting was discontinued.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
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:	The NERC Demand Response Availability Data System Working Group (DADSWG) held a face to face meeting in Austin, Texas on March 29-30, 2016. The next face to face meeting will be announced in June. The group worked on a set of metrics for DADS 2015 State of Reliability report. Below are some of the observations: Over the 2013 – 2015 period, the total registered capacity of demand response increased slightly year over year in both the summer (2% - 10%) and winter (4%) reporting periods. The DADS Working Group believes this is consistent with demand response programs reaching a level of saturation, however, the Working Group will continue to monitor and report on trends of enrollment. The Realized Demand Reduction Rate during the summers of 2014 and 2015 was well above 90%, which the Working Group believes was due to events that did not include:Voluntary and Emergency demand response programs. Additionally, performance rates exceeded 90% during events in the winter periods when Voluntary and Emergency demand response programs were not deployed. During the summer of 2013, demand response performed at 82% of its committed capacity when the deployment of Voluntary and Emergency types of demand response, which typically perform at a much lower rate than other categories of demand response, were deployed. The variability at which demand response is deployed may be a function of the demand response program's design and not an indication of extensive reliability issues in a region.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
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:

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.

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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.

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 is working with the 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:

- "National Strategy for Reducing Risk from the Loss of Large Power Transformers";
- Supply chain considerations: electrical steel and bushings;
- Transformer transportation—challenges and opportunities;
- Mobile transformers;
- NERC Reliability Standards (GIC and Physical standards);
- Security and protective measures (manufacturers' efforts); and,
- Re-manufacturing or refurbishing of transformers.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
GADS	Generator Availability Data System	Serve as the Regional Entity Coordinator (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:	The NERC GADS Working Group (GADSWG) held a face to face meeting on March 8-9, 2016 at NERC's Office Atlanta Georgia. NERC has scheduled two GADS training sessions in 2016; one at NERC's Atlanta office and one at WECC's Salt Lake City office. 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. 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 NERC Planning Committee. 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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
RADS	Reliability Assessment Data System	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.
	Status/ Comments:	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. 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.

RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

OTHER

Item	Name	Assignment
IPSAC	Interregional Planning Stakeholder Advisory Committee	The Interregional Planning Stakeholder Advisory Committee (IPSAC) is an open stakeholder group that provides input for the development of the Northeast Coordinated System Plan (NCSP). The NCSP outlines activities conducted jointly by ISO New England, New York ISO, and PJM.
	Status/ Comments:	The IPSAC 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

Item	Name	Assignment
CO-10	Operational Tools Working Group	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.
	Status/ Comments:	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 Working Group is preparing a 2015 year-end summary report for presentation to TFCO at their March 2016 meeting.

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 February 2016, the IST-2 Working Group asked the CO-8 Working Group for feedback on its Ring Down whitepaper.

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

Item	Name	Assignment
General	NPCC General Meeting	To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial, and State regulatory and/or Governmental authorities and senior executives within NPCC to identify and discuss emerging issues related to the reliability of the NPCC Region.
	Status/ Comments:	The 2016 NPCC General Meeting will be held on December 7, 2016 in Montreal, Quebec. The Agenda for the meeting is under development.

Item	Name	Assignment
Gov/Reg	NPCC Governmental Regulatory Affairs Advisory Group	To provide a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region and share actionable information related to regional energy and reliability matters.
	Status/ Comments:	The NPCC Governmental/Regulatory Affairs Advisory Group received an update regarding the reliability considerations or EPA Clean Power Plan SIP development via Webinar on March 30, 2016.

Item	Name	Assignment
PIC	Public Information Committee	To highlight and summarize NPCC activities and accomplishments and disseminate appropriate information to the media, as well as respond to related requests for information.
	Status/ Comments:	NPCC continues to participate in communications coordination with NERC and the Regions. The NPCC Media Event for the release of the 2016 NPCC Summer Reliability Assessment was held April 28, 2016.