



**RCC Meeting
March 1, 2012
Agenda Item 7.10**

**Reliability Assessment Program
(NRAP)
HIGHLIGHT REPORT**
*Prepared for the
Reliability Coordinating Committee
March 1, 2012*

Distributed to:

Members, Reliability Coordinating Committee
Members, Compliance Committee
Members, Regional Standards Committee
Members, Task Force on System Studies
Members, Task Force on System Protection
Members, Task Force on Coordination of Planning
Members, Task Force on Coordination of Operation
Members, Task Force on Infrastructure Security and Technology
Chairmen, Working Groups
and
NPCC Staff



Reliability Assessment Program
HIGHLIGHT REPORT

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RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 Standards Development Procedure and Regional Standards, under a sector based voting structure as described in the NPCC, Inc. Bylaws. 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 Standards Development Procedure. In addition, the NPCC RSC will review, comment on and develop ballot recommendations for the NERC Reliability Standards under development. The NPCC RSC also provides oversight for the NPCC Reliability Directories which contain the NPCC more stringent regional Criteria and supporting information. The RSC also conducts and coordinates the Cost Effectiveness Analysis Procedure or CEAP for evaluation of the cost effectiveness of NPCC's Regional Standards.

Status/ Comments:

The Regional Standards Committee is focusing 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 participates in the NERC Functional Model Working Group, NERC Standards Committee, NERC Standards Committee Process Subcommittee, and the NERC Regional Standards Group. The RSC is also producing a revision to the NPCC Regional Reliability Standards Development Procedure, which has been posted for comment. The RSC is continually participating in the NERC Reliability Standards Manual revisions and the Results Based Standards Initiative through the Standards Committee Process Subcommittee and also soliciting members for the NERC drafting teams as necessary to ensure NPCC is sufficiently represented. The RSC is actively supporting the Order 706 Cyber Security Standards development and revision process. The RSC has developed and is maintaining a Regional Reliability Standards Development Process which has been approved by the NPCC BOD and filed with the FERC as part of the Regional Delegation Agreement. The RSC is overseeing and managing the development of a Regional Reserve Sharing Group Standard. The Disturbance Monitoring Standard has been approved by the NPCC General Membership, the NPCC Board of Directors, NERC Board of Trustees, and FERC. Provincial Government approval is pending. The Underfrequency Load Shedding Standard has been approved by the NPCC General membership, and the NPCC Board of Directors. It is pending approval of the NERC Board of Trustees, FERC, and Provincial Government authorities. The RSC has initiated Phase II of the NPCC Directory project to convert the criteria in the Directories to specific “requirements” on which compliance may be assessed.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
RSC	Regional Standards Committee	<p>The RSC is developing and will maintain a work plan for completion of this project. Also the RSC is developing enhancements to the NPCC Website to provide further uniformity and consistency with that of other Regions and participating in various drafting efforts of those regions.</p> <p>In addition, the RSC has developed and is utilizing a “triage process” to evaluate standards in an effective and efficient manner.</p> <p>The RSC has also developed a Cost Effectiveness Analysis Procedure to evaluate if developing standards provide a cost effective solution to achieving a standard’s reliability objective and considers the economics of the implementation. The RSC has also developed the Work Plan for 2012-2013 and a revised Scope of Work, both of which have been approved by the NPCC BOD. In addition a new NPCC Glossary of Terms was developed as well as a NPCC Reliability Directory Development Manual and posted these on the NPCC website for member use.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories and Appendices

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-1	Basic Criteria for the Design And Operation of the Bulk Power System	Appendix A – Definition of Terms 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 #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 TFCO* TFCO*	December 1, 2009

Status/ Comments:

Directory No. 1 received Full Member approval on December 1, 2009 and NPCC Document A-2 was retired on the same date. Additionally, NPCC documents B4, B8, B10, C4, C13, C18, and C40 were incorporated within Directory No. 1 and retired.

TFCP has assigned the CP-11 Working Group to begin the triennial review of Directory No. 1 and the working group is presently drafting a new version of Directory No. 1 that will reformat existing NPCC criteria into NERC style requirements. The reformatted version of Directory No.1 will highlight the more stringent and specific criteria while also facilitating program compliance.

TFCP has also requested that TFCO and TFSS review the draft document and TFCO has assigned the CO8 Working Group to review the Transmission Operating criteria.. Directory #1 will be posted for its initial Open Process posting upon conclusion of the TFSS and TFCO/CO8 Working Group review. Open Process posting expected in early Spring , 2012.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories and Appendices

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-2	Emergency Operation	Appendix A – Definition of Terms Appendix B - Guideline and Procedure for Emergency Operation	TFCO TFCO TFCO	October 21, 2008
	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>Phase 2 reformatting of Directory No. 2 pending TFCO resources.</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	July 14, 2009
	Status/ Comments:	<p>Directory No. 3 was approved by the NPCC Full Membership on July 11, 2008 and NPCC Documents A-4 and B-23 were retired on the same date.</p> <p>In 2009 TFSP conducted a review of Directory No. 3 to clarify specific intent on a number of requirements. Additional language was also incorporated into Appendix B of the document to provide guidance that credit can be obtained for normal breaker operations if the equipment design permits verification and documentation of breaker tripping by each individual trip coil. The above changes to Directory No. 3 were approved by the Full Members on July 14, 2009.</p> <p>Phase 2 reformatting of Directory No. 3 is pending TFSP resources.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories and Appendices

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-4	BPS Protection Criteria	Appendix A – Guideline and Procedure for Bulk Power System Protection	TFSP TFSP	December 1, 2009
	Status/ Comments:	<p>Directory No. 4 received Full Member approval on December 1, 2009. The approval of Directory No. 4 resulted in the retirement of NPCC documents A5, B5, B7, B24, and C22.</p> <p>The RCC has approved an implementation plan to achieve the recommended reduction in BPS risk pertaining to redundant protection systems and/or battery systems on BPS facilities. The TFSP expects to begin the Phase 2 review of Directory No.4 in early 2012.</p>		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-5	Reserve	Appendix 1 – Monitoring Procedure for Interconnected System Frequency Response Appendix 2 – Monitoring Procedures for Reserve Criteria Appendix 3 – Procedures during Abnormal Operating Conditions Appendix 4 – Guidelines for SAR Allocation Following Radial Source Contingencies Appendix 5 – NPCC Control Performance Reporting Process Appendix 6 – Light Load Conditions Appendix 7 – Participation Request Form - Simultaneous Activation of Reserve and Ace Diversity Interchange	TFCO TFCO TFCO TFCO TFCO TFCO TFCO	December 2, 2010
	Status/ Comments:	<p>Directory No. 5 was approved by the NPCC Full Members on October 15, 2010 and became effective on December 2, 2010. The approval of Directory No. 5 resulted in the retirement of NPCC documents A6, B2, C8, C9, C11, C12, C20, C37, and C38.</p> <p>After the approval of Directory No. 5 the TFCO committed to addressing several open issues including how imports are wheeled within the region. The TFCO has revised Directory No. 5 and resolved these issues, posted the document to the Open Process and responded to comments.</p>		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories and Appendices

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-6	Regional Reserve Sharing		TFCO	Draft (New)
	Status/Comments:	The TFCO has posted the initial draft of the new Directory No. 6 to the NPCC Open Process. Directory No. 6 posting concluded on October 24, 2011 and the TFCO has responded to comments in advance of presenting the document to the RCC.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-7	Special Protection System		TFSP	December 27, 2007
		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	TFSP	
	Status/ Comments:	Directory No. 7 was approved by the NPCC Full Members on December 27, 2007. The Task Force on System Protection has initiated a review of Directory No.7, including a review of Appendix B which details the process for SPS approval, modification, or retirement. The TFCP, TFSS, and the TFCO are coordinating their comments on Appendix B and the overall Directory review with TFSP which is the lead Task Force for Directory No. 7. Additionally, the TFSP has been provided with an initial Phase 2 draft of Directory No. 7 and will incorporate the results of the above ongoing review into the phase 2 Directory format. TFSP anticipates posting the initial Phase 2 draft of Directory No. 7 incorporating the above revisions in June of 2012.		



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Directories and Appendices

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-8	Black Start System Restoration	Appendix A – Definition of Terms	TFCO TFCO/TFSS ¹	October 22, 2010
	Status/ Comments:	<p>Directory No. 8 was approved by the NPCC Full Membership on Oct. 22, 2020.</p> <p>The CO11 Working Group has recently made revisions to the Directory No. 8 criteria. These revisions will be held and incorporated into the Phase 2 reformatting of Directory No. 8 which will be addressed by CO8 in the Spring of 2012.</p>		

<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 22, 2008
	Status/ Comments:	<p>Directory No. 9 was approved by the NPCC Full Membership on December 22, 2008.</p> <p>The Full Member Committee approved the Phase 2 reformatting of Directory No. 9 in December 2011.</p>		

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 and Appendices

<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 22, 2008

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.

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-12	UFLS Load Shedding Program Requirements	Appendix A – Definition of Terms	TFSS TFSS	March 3, 2010

Status/ Comments:

Directory No. 12 was developed from the Automatic Under frequency Load Shedding requirements contained within existing NPCC Directory No. 2 *Emergency Operations* and also from the recommendations and implementation plans provided in the 2006 Assessment of Under frequency Load Shedding Adequacy; and the 2008 Assessment of Under frequency Load Shedding Adequacy – Québec Area, both of which were approved by the Reliability Coordinating Committee on November 19, 2008. Directory No. 12 and a six year program implementation plan were approved by ballot of the NPCC Full Members on June 26, 2009. Directory No. 12 and its implementation plan were further revised to consider UFLS requirements for certain small entities and these revisions were approved by the NPCC Full Members on March 3, 2010.



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 Procedure	The NPCC Directory Development and Revision Manual is intended to provide guidance regarding the process of establishing a new or revised Directory and in particular will clarify the roles and responsibilities of the NPCC Task Forces which are responsible for Directory content.	<p>Latest Version: New</p> <p>Frequency of Reviews: 3 years</p> <p>Next Review Date: N/A</p>
Status/ Comments:		The Regional Standards Committee (RSC) approved the Directory Manual on October 26, 2011.	

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.	<p>Latest Version: New</p> <p>Frequency of Reviews: 3 years</p> <p>Next Review Date: : October, 2014</p>
Status/ Comments:		The DME Regional Standard and its Implementation Plan were posted for ballot December 17, 2009, and approved by the NPCC Full Members on January 16, 2010. The NPCC Board approved the Standard on February 9, 2010. The Standard was submitted to NERC for review. 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 was submitted to the NERC BOT at its November 4, 2010 meeting and approved. Materials were reviewed by NERC and filed with FERC on May 31, 2011. A Filing was made with the appropriate Canadian authorities for their approvals on June 8, 2011. FERC approved PRC-002-NPCC-01 on October 20, 2011.	



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>
PRC-006	Under Frequency Load shedding	This Standard will provide the measures for implementing an automatic under frequency load shedding program in order to effectively respond to system under frequency events.	<p>Latest Version: New</p> <p>Frequency of Reviews: 3 years</p> <p>Next Review Date:</p>
	Status/ Comments:	<p>The NPCC UFLS Regional Standards Drafting Team (RSDT) continues its effort to draft a regional standard while addressing a number of significant issues surrounding UFLS in the region. The UFLS RSDT has been supported in its work by the SS38 Working Group which has studied program tolerances, applicability and generator coordination on behalf of the drafting team. Other significant issues addressed by the DT include the standard’s implementation, and requirements for the program’s under voltage inhibit.</p> <p>The RSDT responded to all comments received during the second Open Process posting of the document which concluded on July 9, 2010. An approval ballot conducted between January 18, 2011 and January 28, 2011 did not achieve the required quorum from among NPCC voting sectors and the draft standard has been remanded to the Task Force acting as the Drafting Team for further development. The RSDT reviewed all comments received during the ballot and revised the draft standard accordingly. The standard was reposted (3rd posting) to the Open Process on May 6, 2011 for a 45 day comment through June 20, 2011.</p> <p>A 10 day ballot was conducted in November 2011 during which PRC-006-NPCC-01 was approved</p> <p>The NPCC BOD approved PRC -006-NPCC-01 on Nov. 30, 2011 and the draft standard was presented to the NERC BOT on Feb. 9th, 2012.</p>	



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Standards Program

Regional Standards

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
BAL-002-NPCC-01	Regional Reserve Sharing Groups	This Standard will provide 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 that a sub-group of TFCO members and NPCC staff will work on the Reserve Sharing Groups Standard’s development.

Regional Standards Development Procedure

<u>Item</u>	<u>Name</u>	<u>Assignment</u>	<u>Current Version</u>	
RRSDP	Regional Reliability Standards Development Procedure	The NPCC Regional Reliability Standards Development Procedure 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:	Sept. 19, 2007
			Frequency of Reviews:	3 years
			Next Review Date:	Nov. 8, 2011

Status/ Comments:

The Regional Reliability Standards Development Procedure 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 RRSDP was posted for a 45 day comment period Dec. 7, 2011. Comments received are in the process of being reviewed and necessary revisions will be incorporated. The revised document will be presented to the NPCC Board of Directors for approval.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

Compliance Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CC	NPCC Compliance Committee	<p>The NPCC Compliance Committee (CC) shall be 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 shall provide 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. The CC shall be responsible for final approval of compliance assessments related to NPCC Reliability Criteria, which includes non-monetary sanction recommendations.</p> <p>Status/ Comments:</p> <p>The report on the 2010 CCEP assessment results was presented and approved by the RCC at the November 29, 2011 RCC meeting.</p> <p>The NPCC staff developed and distributed a total of 165 NPCC Culture of Compliance Surveys, covering all 287 NPCC registered entities. The staff evaluated 100% of the 146 survey responses received. The evaluation consisted of reviewing the material sent by each registered entity, conducting one-on-one assessment phone calls with each survey submitter, rating each registered entity, and identifying Examples of Excellence and Best Practices. The survey initiative is documented in the "Report on 2011 NPCC Culture of Compliance Survey Initiative", which is posted on the NPCC Website and available on the CDAA portal to all registered entities. The report includes a compilation of the Examples of Excellence and the Best Practices identified which present potential mechanisms or corrective action programs for registered entities to consider when reviewing or enhancing their internal compliance programs.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Compliance Enforcement and Organization Registration and Certification Program

NPCC Compliance Committee

Documents

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CCEP - 1, 2	Criteria Compliance and Enforcement Program	The process and requirements are defined , in these documents, for compliance monitoring, assessment and enforcement of NPCC reliability criteria.
	Status/ Comments:	The CCEP-1 (Compliance Criteria Enforcement Program Process Document) and CCEP-2 (2011 Implementation Plan) were approved by the NPCC Membership on April 5, 2011. In addition and effective that date Documents A-8, <i>NPCC Reliability Compliance and Enforcement Program</i> ; B-22, <i>Guidelines for Implementation of the NPCC Compliance Program</i> and C-32, <i>Review process for NPCC Reliability Compliance Enforcement Program</i> were all retired.



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	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 next CO-2 Working Group meeting will be held on March 8-9, 2012 t. At the meeting the agenda will be developed and plans will be made for the Spring 2012 69 th NPCC System Operator Seminar, which will be held on May 1-3, 2011 in Boston. Participants will receive Continuing Education Hours (CEHs) applicable to NERC operator certification requirements for the table top exercise. Other topics for the March CO-2 meeting will include: 1).location and preliminary plans for the Fall 2012 System Operator Seminar, 2) review of TFCO work items and action items for the CO-2 group, 3) possible NPCC corporate and NERC training goals, and 4) NERC standard PER-005-1 RC/BA progress, status, issues, concerns and material to share among CO-2 members.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

BLACKOUT 2003 FOLLOW-UP

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
BSP	Blackout Study Plan	Building on the Event Replication Study, perform additional analysis to evaluate possible risks for other rerating conditions, planned system changes, and possible system design changes.
	Status/ Comments:	<p>The Blackout Study Recommendations Working Group's report and action plan was presented and approved at the March 2006 RCC meeting. Task 5 "Terms of Reference" was approved at the November 2006 RCC meeting. The NPCC Blackout Investigation Task 5 study was deferred last year due to re-prioritization of assignments in order to complete higher priority items; the RCC will be considering a revised updated scope of work at their September 2010 meeting.</p> <p>The SS-38 Working Group initiated work on the NPCC August 14, 2003 Northeast Blackout Study - Task 5 in November 2010, and completed the first milestone in December 2010 with the development of the base cases and dynamic files necessary for the study. The Blackout case was also reestablished and verified for use in Task 5 analysis.</p> <p>Task 5 Study was completed by SS-38 in November 2011.</p>



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 on December 8-9, 2011 and February 16-17, 2012. Topics addressed during those meetings included: 1) CO-1 input for TFCO and CO-8 on Directory 5 (operating reserve) content issues including the treatment of the loss of radial sources contingencies with Simultaneous Activation of Reserve, 2) CO-1 for TFCO and CO-8 on Directory 6 (reserve sharing) content and the draft responses to posting for review comments, 3) analysis of past SAR events, 4) providing support and research regarding frequency response issues including NPCC governor responses and frequency bias setting issues, 5) re-engineering the NPCC inadvertent calculation methodology and 6) meeting the reporting requirements on SAR-ATR reports, CPS, inadvertent energy and ACE Diversity Interchange. The Working Group will meet again in May, 2012.



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-7	Operational Review Working Group	To assess, coordinate and evaluate regional operational issues and reliability concerns as directed by the TFCO. Periodically review the NPCC Regional Reliability Plan and the Registration and Certification of entities to achieve conformance with NPCC criteria and NERC Standards.
	Status/ Comments:	The Working Group is currently dormant.

<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:	The CO-8 Working Group met on February 1-2, 2012. Topics addressed during that meeting included: <ul style="list-style-type: none"> • Directory 5 No. (operating reserve) content issues and the white paper that address the treatment of the loss of radial sources contingencies with Simultaneous Activation of Reserve • Directory No. 6 (reserve sharing) content and the draft responses to posting for review comments • Reliability Coordinator operation practices to prevent high transmission voltages and regular voltage control practices



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 Restoration Working Group addresses the issue of ensuring appropriate operation of key system restoration facilities and their critical components.
	Status/ Comments:	The NPCC Restoration Working Group (CO-11) is currently reviewing Directory No. 8 and will incorporate further revisions in a restructured Directory No. 8, redrafted consistent with the Phase 2 Directory process.

Item	Name	Assignment
CO-12	Operations Planning Working Group	Review the overall reliability of the generation and transmission system in the NPCC Region for the Summer and Winter Seasonal conditions.
	Status/ Comments:	The CO-12 Working Group is working on the 2012 Summer NPCC Reliability Assessment report. A first draft of the Area Load & Capacity tables has been developed and preparation of a first draft of the assessment report is underway. A presentation of very preliminary results of the 2012 Summer assessment will be provided to the RCC at the March 1, 2012 meeting.



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 2011 Maritimes Interim Review of Resource Adequacy, the 2011 Ontario Interim Review of Resource Adequacy, the 2011 Quebec Comprehensive Review of Resource Adequacy, the 2011 New York Interim Review of Resource Adequacy, and the New England Comprehensive Review of Resource Adequacy were approved at the November 29, 2011 meeting.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP- 2012S	Summer 2012 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Area reliability for the year 2012 by estimating the projected use of Area Operating Procedures designed to mitigate resource shortages for the summer (May through September) period.
	Status/ Comments:	The CP-8 Working Group has begun the summer 2012 Multi-Area Probabilistic Reliability Assessment; the assumptions to be used have been agreed upon by the TFCP; preliminary results will be presented at the March 1, 2012 RCC meeting. The assessment is expected to be completed by the end of April 2012.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
CP- 2012W	Winter 2012-2013 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 2012 through March 2013) period.
	Status/ Comments:	The CP-8 Working Group will begin the 2012-2013 Winter assessment following completion of the 2012 Summer Assessment; it is scheduled to be approved at the June 2012 RCC meeting..

Item	Name	Assignment
LRAO	NPCC 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 scope of work and schedule for the 2012 Long Range Adequacy Overview (LRAO) was approved by the RCC at their September, 8 2011 meeting; work is underway by the CP-8 Working Group.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
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 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 C P-11 Working Group held a series of meetings and conference calls to work on Directory No. 1. Members were encouraged to participate in this important effort which is expected to take about 18 months to complete. At the August 18, 2010 meeting, the TFCP approved the revised scope and schedule submitted by the CP-11 Working Group for the Directory No. 1 review to be completed by November 2011. The CP-11 Working Group completed the first milestone in the development of a draft Directory No. 1 document that was forwarded to the Task Forces on January 27, 2011 for their review and input. In September the CP-11 Working Group delivered to TFCP the draft D1 revisions intended for Open Process Review pending input from TFCO. The CP-11 Working Group has since provided the draft D1 to TFSS as well and will continue to work with the Task Forces to develop a consensus document that can be submitted in the NPCC Open Process Review for comments.

Item	Name	Assignment
SP-7	Working Group on Review of Protection System Mis-operations	Review and analyze mis-operations of transmission and generation protection systems and special protection systems on the bulk electric system and report on the statistics of mis-operations as they occur in the NPCC region including lessons learned and implementation of corrective action plans by registered entities.
	Status/ Comments:	The SP-7 Working Group is currently reviewing the Fourth Quarter 2011 mis-operation reports and outstanding reports from prior Quarters. The Fourth Quarter Report and updates to prior Quarter Reports are due to NERC by April 15, 2012. A status report will be given at the March 1, 2012 RCC meeting.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

TASK FORCE ON SYSTEM STUDIES

Item	Name	Assignment
SS-37	Base Case Development Working Group	On an annual basis, develop a library of solved load flow cases and associated dynamic data.

Status/ Comments: The 2011 Library of Load Flow cases have been completed.

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: Task 5 Study Report was presented and approved at the November 29, 2011 RCC Meeting. SS-38 Working Group is working on the load modeling white paper as scheduled in the TFSS work plan for 2012-2013. SS-38 has submitted the draft Terms of Reference for the load modeling white paper for approval at the March 1 RCC meeting.



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 Committees met jointly with the NERC ERO RAPA staff members on December 6, 2011 in Atlanta. During the meeting topics related to NERC RAPA activities were discussed including</p> <ul style="list-style-type: none"> • a study conducted by NERC and assisted by ERAG to evaluate Eastern Interconnection (EI) Governing Response for large capacity losses and the resulting frequency deviations. This was a parametric study where different combination of governor response, squelched response and no response from the EI generators were simulated to assess what type of response most closely matched the system response for actual events. • a draft presentation prepared by ERAG MC members to use at anticipated NERC workshops on frequency response issues. The presentation content explains the EI frequency response issues and problems and is aimed at industry entities (Generator Owners and Operators and Transmission Owners and Operators) seeking better input for dynamic simulation models. • MMWG case development and modeling issues • ERAG MC and Steering Committee Work Plan item progress and status. The Work Plan is for anticipated activities over the next year or two. <p>The ERAG Management Committees met again on February 9, 2012 in Little Rock, Arkansas. During that meeting topics addressed included:</p> <ul style="list-style-type: none"> • the final review and ERAG MC approval of the above study evaluating Eastern Interconnection (EI) Governing Response for large capacity losses and the resulting frequency deviations. • a proposal for the development of a web based dynamics database by PowerTech Labs to use to enhance dynamics cases and help facilitate a better process for building the dynamics cases. This proposal would be expected to significantly improve the process so that past modeling problems can be eliminated. This appears to be valuable since FERC closely scrutinizes the dynamics cases. However, all Regions were not yet in favor of this proposal and more details on the proposal are being sought. • MC and Steering Committee Work Plan item progress and updated status.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

RFC - NPCC Working Group

Item	Name	Assignment
RNWG	RFC-NPCC Working Group	The RFC-NPCC Working Group (RNWG), under the direction of the RFC-NPCC Steering Committee (RNSC), conducts appraisals of the RFC-NPCC interconnected systems for the upcoming summer and winter capability periods.
	Status/ Comments:	The RNWG will use the study scope developed by the SeRN SC and has developed a work schedule for the upcoming 2012 summer inter-regional study. The base case has been downloaded and work on the actual study will commence in mid-February, with an expected completion date of the study in mid-April 2012.



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 NPCC input to the NERC RAS 2012 Summer Assessment has been requested by April 4, 2012 and the NPCC Areas are preparing their inputs. The NPCC input to the NERC RAS 2012 Long Term Reliability Assessment has been requested by June 4, 2012 and the NPCC CP-8 Working Group is preparing the NPCC input.

Item	Name	Assignment
DCWG	Data Collection Working Group	Serve as the electric utility industry’s coordinator with the Department of Energy (DOE) and the Energy Information Administration (EIA) in submitting yearly data and in negotiating the requirements for data submission to the EIA.
	Status/ Comments:	The NERC PC agreed to replace the DCWG with a new “Reliability Assessments Data Working Group” that reports to the NERC Reliability Assessment Subcommittee. The NERC PC is scheduled to approve the RADWG Scope at its March 2012 meeting. The first meeting of the RADWG is scheduled for March 19-20, 2012 at the NPCC New York City office. It is anticipated that its membership will consist of the former DCWG members and the DOE EIA representatives.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

Item	Name	Assignment
RIS ProbA	Reliability Issues Subcommittee	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 Reliability Issues Subcommittee is conducting a trial of the NERC Generation & Transmission Reliability Planning Model Task Force (G&TRPMTF) methodology in 2011. The G&TRPMTF report outline and requirements was approved by the NERC Planning Committee at their December 7-8, 2010 meeting. NPCC is participating in the trial, on behalf of New York, New England, Ontario, Quebec and the Maritimes, through its CP-8 Working Group. A draft report has been provided, based on the results of the 2010 NPCC Long Range Adequacy Overview. Project completion is expected by the end of the year.

At its June, 2011 meeting, the NERC Planning Committee approved its Strategic Plan, which calls for the activities of the RIS to fall under the auspices of the Reliability Assessment Subcommittee beginning in 2012.

The NERC PC is scheduled to review and provide feedback on the results of the trial Probabilistic Assessment at their March 2012 meeting.

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:

Recording of reportable transmission outage information for TADS calendar year 2011 will begin as of January 1, 2012. Pending final approval of the BES definition, the TADSWG expects to include data collection of transmission outages 100 kV and above starting in 2013.



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 – webDADS.
	Status/ Comments:	<p>The deadline for Summer 2011 DADS Data (December 15, 2011) was postponed to January 12, 2012. NPCC and NERC staff have cooperated to gather data from NPCC reporting entities.</p> <p>The DADSWG will convene Feb 29-March 1 to discuss the future of DADS reporting, webDADS feedback, and DADS reports. NPCC staff will attend as an observer.</p>

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
SEDS	Spare Equipment Database System	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 – webSEDS.
	Status/ Comments:	<p>In January 2012, the SEDTF completed a scope document which outlines the purpose and expectations of SED. OATI expects to deliver the webSED tool in the second quarter of 2012.</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 – webGADS.
	Status/ Comments:	<p>The first mandatory GADS reporting period (2012 Q1) has begun; the reporting deadline is April 30, 2012. New England NPCC reporting GO/entities will report GADS data to NERC through the ISO-New England; New York and Canadian NPCC reporting GO/entities will report GADS data directly to NERC.</p> <p>NERC will hold GADS Regional Coordinator Training March 13-14, 2012, and a GADSWG meeting directly afterwards (March 14-15). NPCC staff will attend as an observer.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Reliability Assessment and Performance Analysis Program

OTHER

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
Inter-ISO	Inter-ISO Working Group	The Inter-ISO Working Group was formed to address Inter-Regional planning and Inter-Area issues of projects that have “cross border” impacts while providing an open stakeholder forum and committee structure to allow market input.
	Status/ Comments:	A WebEx Meeting was held November, 29 2011. Topics included: <ul style="list-style-type: none">✓ Update on Interregional Economic Studies✓ Environmental Regulatory Update✓ Northeast Coordinated System Plan✓ FERC Order 1000: Transmission Planning and Cost Allocation



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON COORDINATION OF OPERATION

Item	Name	Assignment
CO-10	Operational Tools Working Group	<p>The Operational Tools Working Group (CO-10) is responsible for taking a lead role in the development of NPCC and NERC operational tools (e.g. electronic tagging, the NERC Interchange Distribution Calculator and electronic scheduling), including hardware, software and integrated systems. The Operational Tools Working Group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of operational tools.</p> <p>Status/ Comments: A Final Draft of Document C-17 "Procedures for Monitoring and Reporting Critical Operating Tool Failures" Is being posted for public comment.</p>



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
IST-1	Infrastructure Security and Technology Workshop	Periodic workshops to address timely issues and update member system personnel associated with the provision of on-line computer systems for operation of the power system.
	Status/ Comments:	Tentatively scheduled a November 2012 Workshop whose emphasis will be version 5 of the CIP Standards.
		Last Workshop: Sept. 2010

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
IST-3	TFIST EMS-SCADA Working Group	Provide a forum to identify, discuss and advance the technology of EMS-SCADA for the reliable operation of the NPCC Bulk Power System. The EMS-SCADA Working Group (IST-3) will also support TFIST in their work on issues related to EMS-SCADA.
	Status/ Comments:	The EMS-SCADA Working Group has been designed as an Ad-hoc Working Group by TFIST.



RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Situation Awareness and Infrastructure Security Program

TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY

Item	Name	Assignment
IST-4	TFIST Cyber Security Working Group	Provide a forum to identify, discuss and advance the technology of Cyber Security for the reliable operation of the NPCC Bulk Power System. The Cyber Security Working Group (IST-4) will also support TFIST in their work on issues related to Cyber Security.
	Status/ Comments:	Expect TFIST to review a draft scope at its first 2012 meeting. Chair has repeatedly asked TFIST members to start identifying volunteers.

Item	Name	Assignment
IST-5	TFIST Physical Security Working Group	Provide a forum to identify, discuss and advance the use of Physical Security for the reliable operation of the NPCC Bulk Power System. The Physical Security Working Group (IST-5) will also support TFIST in their work on issues related to Physical Security.
	Status/ Comments:	Per the 2012-2013 TFIST Work Plan, re-populate the Physical Security Working Group.



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 2012 NPCC General Meeting will be held the afternoon of November 28, 2012 in Montreal, Quebec.

<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 last meeting of the NPCC Governmental/Regulatory Affairs Advisory Group was held November 29, 2011 in conjunction with the NPCC 2011 General Meeting in Toronto, Ontario.

<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 the monthly communications coordination calls with NERC and the Regions. The 2012 Media Event for the release of the 2012 NPCC Summer Reliability Assessment has been scheduled for May 3, 2012. The next meeting of the NERC Regional Communications Group is tentatively scheduled for mid May, 2012 in Austin, TX.