



**RCC Meeting  
March 3, 2011  
Agenda Item 7.13**

**Reliability Assessment Program  
(NRAP)  
HIGHLIGHT REPORT**  
*Prepared for the  
Reliability Coordinating Committee  
March 3, 2011*

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 charged with management and maintenance of the NPCC Regional Standards Development Procedure 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.

**Status/ Comments:**

The Regional Standards Committee is focusing on the review of each of the NERC Reliability Standards (as they are developed or revised). 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. RSC also participates in the NERC Functional Model Working Group, NERC Standards Committee, NERC Standards Committee Process Subcommittee, and the NERC Regional Standards Group. RSC is also producing a revision to the NPCC Regional Reliability Standards Procedure. 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. RSC also developed a process to coordinate commenting on adjacent Regions' criteria and their standards development, as well as promoting NPCC criteria in adjacent regions, and encouraging NPCC member involvement on their drafting teams. RSC is actively supporting the Cyber Security Standards development and revision process. 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 the development of the Regional Reliability Underfrequency Load Shedding Standard, Special Protection Systems Standard, and recently started work on a Regional Reserve Sharing Standard. The Disturbance Monitoring Standard has been approved by the NPCC General Membership, and approved by the NPCC Board of Directors. Its VSLs have been revised and approved by NPCC ballot, and has been approved by the NERC BOT. A package of material is being compiled and all will be sent to FERC and the Canadian authorities for their approvals as an ERO filing. 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. 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



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Standards Program

#### Regional Standards Committee

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
		efforts to address the September FERC Order assessing NERC’s performance as the ERO. In addition the RSC has begun work on a Directory Development Process Manual to clearly articulate the procedures surrounding the development, revision, or retirement of NPCC Directories. The RSC is also developing a “Standards Triage” procedure to rapidly assess posted standards and related materials. The RSC was also charged with developing a “cost benefit” analysis that could be applied to NPCC regional standards, the results of which would be made available during standards approvals. The process is also envisioned to be shared with NERC.



# 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.

This reformatting of Directory No. 1 is consistent with the goals of Phase 2 of the NPCC Directory development project and will also allow the CP-11 Working Group to coordinate its review along with the progress of the NERC Drafting Team which is working to revise the TPL standards.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

<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
<b>Status/ Comments:</b>		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.		

<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
<b>Status/ Comments:</b>		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.		
		In 2009 TFSP conducted a review of TFSP 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.		

<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
<b>Status/ Comments:</b>		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.		
		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.		



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

<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	<b>TFCO</b> TFCO TFCO TFCO TFCO TFCO TFCO	<b>December 2, 2010</b>
<b>Status/ Comments:</b>		<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>TFCO is coordinating efforts on additional regional reserve issues through the development of a new Directory and a Regional Standard on reserve sharing.</p>		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-7	Special Protection System	Attachment 1 – Definition of Terms Appendix A – Guidance for Consideration in SPS Design Criteria Appendix B – Procedure for Review of Special Protection Systems	<b>TFSP</b> TFSP TFSP	<b>December 27, 2007</b>
<b>Status/ Comments:</b>		<p>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 A which details the process for SPS approval, modification, or retirement.</p> <p>TFCP, TFSS, and TFCO are coordinating their comments on Appendix A and the overall Directory review with TFSP which is the lead Task Force for Directory No. 7.</p>		



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-8	<b>Black Start System Restoration</b>	Appendix A – Definition of Terms	<b>TFCO</b> TFCO/TFSS*	<b>October 22, 2010</b>
	<b>Status/ Comments:</b>	Directory No. 8 was approved by the NPCC Full Membership on Oct. 21, 2008.  On October 22, 2010 the Full Members approved a revision to Directory No. 8 pertaining to language describing discharge testing of station batteries.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-9	<b>NPCC Verification of Generator Gross and Net Real Power Capability</b>	Appendix A – Definition of Terms Appendix B – Basic Flow Chart for Verification of Generator Gross and Net Real Power Capability	<b>TFCO</b>  TFCO/TFCP* TFCO/TFCP*	<b>December 22, 2008</b>
	<b>Status/ Comments:</b>	Directory No. 9 was approved by the NPCC Full Membership on December 22, 2008.		

<u>Item</u>	<u>Name</u>	<u>Appendices</u>	<u>Lead TF</u>	<u>Current Version</u>
DIR-10	<b>NPCC Verification of Generator Gross and Net Reactive Power Capability</b>	Appendix A – Definition of Terms Appendix B1 – Basic Flow Chart for Verification of Generator Gross and Net Reactive Power Capability Appendix B2 – Generator Reactive Capability Form	<b>TFCO</b>  TFCO/TFCP* TFCO/TFCP* TFCO/TFCP*	<b>December 22, 2008</b>
	<b>Status/ Comments:</b>	Directory No. 10 was approved by the NPCC Full Membership on December 22, 2008.		





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

Item	Name	Appendices	Lead TF	Current Version
DIR-12	UFLS Load Shedding Program Requirements	Appendix A – Definition of Terms	TFSS TFSS	March 3, 2010
	<b>Status/ Comments:</b>	<p>Directory No. 12 was developed from the Automatic Under frequency Load Shedding requirements contained within existing NPCC Directory No. 2 <i>Emergency Operations</i> 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.</p> <p>Directory No. 12 and a six year program implementation plan were approved by ballot of the NPCC Full Members on June 26, 2009.</p> <p>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.</p> <p>A revision to the RCC approved NPCC UFLS Implementation Plan was approved in June 2010 extending the implementation plan in Quebec for an additional year.</p> <p>In November 2010 the RCC approved an SS38 study report pertaining to UFLS program tolerances and applicability. The SS38 recommendations have been incorporated within a revised draft of Directory #12 and were posted to the Open Process for comments.<sup>1</sup></p>		

<sup>1</sup> \*Indicates TF responsible for review of Appendix is not the same as the lead TF for the respective Directory.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Regional Standards

Item	Name	Assignment	Latest Version:	New
PRC-002- NPCC-01	Disturbance Monitoring	This Standard will establish the technical and reporting requirements for disturbance monitoring equipment. This will lead to improved system reliability by providing the resources to do post event analyses.		
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	
	<b>Status/ Comments:</b>	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 BOD approved the Standard on February 9 <sup>th</sup> , 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. The materials for supporting the FERC and appropriate Canadian authority are being prepared for their approvals .		

Item	Name	Assignment	Latest Version:	New
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.		
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	
	<b>Status/ Comments:</b>	<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.</p> <p>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 undervoltage 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.</p>		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Regional Standards

Item	Name	Assignment		
BAL-002	Regional Reserve Sharing	This Standard will provide the measures for implementing Reserve Sharing Groups within NPCC in order to meet their reserve obligations.	Latest Version:	<b>New</b>
			<b>Frequency of Reviews:</b>	<b>3 years</b>
			<b>Next Review Date:</b>	
	<b>Status/ Comments:</b>	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 has been sent to the NPCC membership. 1.		



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Regional Standards Development Procedure

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
RRSDP	Regional Reliability Standards Development Procedure	The NPCC Regional Reliability Standards 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 Northeast North America.

**Latest Version: Sept. 19, 2007**

**Frequency of Reviews: 3 years**

**Next Review Date: Sept. 19, 2010**

**Status/ Comments:**

The Regional Reliability Standards Development Procedure is posted on the NPCC Website. Currently some changes are in process with the NERC Reliability Standards Development Procedure which identifies the need for revising the NPCC procedure. The RSC is actively reviewing the activities at the NERC level to ensure the regional procedure is consistent with the NERC procedure and achieves a consistency with the NERC common attributes adhered to by the other Regions and is working on revisions to the procedure.



## 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) 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.

### Status/ Comments:

The NPCC Board of Directors approved the 2011-2012 Compliance Committee Work Plan. The work plan details the Committee's responsibilities in:

- Providing objective stakeholder policy input related to the CMEP in the United States; and, the CCEP.
- Providing NPCC perspective to both the NERC Compliance and Certification Committee (CCC) and the ERO Compliance and Enforcement Management Group (ECEMG) for matters related to the NERC CMEP.
- Assessing the performance of the NPCC Compliance Staff's implementation of the Compliance Program, including the endorsement of the processes used for Entity Registration and Mitigation Plans.
- Approving compliance assessments and sanction recommendations related to CCEP.
- Serving as the NPCC Hearing Body (in 2011), as described in Compliance Committee Scope, for disputes that may arise regarding implementation of the CMEP.
- Promoting the continued education of stakeholders as to their responsibilities related to the CMEP and CCEP.

The Compliance Committee approved the initial trial test of the Registered Entity Culture of Compliance Survey. A webinar, with 25 Registered Entities, was held on February 16, 2011 to introduce the survey and answer any questions in advance of the entities responding to the survey. The initial responses, to the survey, are due back to NPCC by April 4, 2011. All Registered Entities are scheduled to respond to the surveys and have their Culture of Compliance evaluated by the end of 2011.



## 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.
	<b>Status/ Comments:</b>	The CCEP-1 (Compliance Criteria Enforcement Program Process Document) and CCEP-2 (2011 Implementation Plan) are being prepared to be distributed to the NPCC Membership for approval. In addition, a request to retire Document A-8 will also be made of the membership at the same time. Full membership approval is expected by June 30, 2011.



## 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.
	<b>Status/ Comments:</b>	The CO-2 Working Group developed draft training goals for NPCC for 2011. The different levels of the NPCC training goals included: 1) establish a consistent implementation of the NERC PER-005-1 Standard requirements since all RC/BAs must make modifications in their existing training programs to meet the PER-005-1 requirements, 2) incorporate all lessons learned from the NERC Event Analysis program into the NPCC operator training seminars as that is considered worthwhile for the system operators to understand the changes and 3) utilize a systematic approach to training to design, develop and administer system operator training programs as that is the key portion of the PER-005-1 requirements.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program BLACKOUT 2003 FOLLOW-UP

Item	Name	Assignment
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.
	<b>Status/ Comments:</b>	<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>SS-38 Working Group members have been performing simulations for Steps 2 and 3 of the study as outlined in the Task 5 Terms of Reference and Study Schedule document, and are expected to be on schedule to complete these steps by March 9, 2011.</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-1	Control Performance	The Working Group 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 February 10-11, 2011. The main near term focus of the CO-1 work is on: 1) the remaining Directory No. 5 issues on “Simultaneous Activation of Reserve” (SAR) implementation, 2) the draft Regional Reserve Directory and Standard, 3) analysis of past SAR events, 4), providing support and research regarding NERC frequency response initiative issues and 5) meeting the routine reporting requirements on SAR-ATR reports, CPS, inadvertent energy and ACE Diversity Interchange.



## 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.
	<b>Status/ Comments:</b>	The TFCO is redrafting the scope of Working Group CO-07, identifying its new tasks and responsibilities.

<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.
	<b>Status/ Comments:</b>	The CO-8 Working Group will review the second draft of NPCC Directory No. 5 following the TFCO review of posted comments at the TFCO meeting of June 24 and 25, 2010. It has also completed a review of Document C-17 for further redraft by the Working Group CO-10.



## 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.
	<b>Status/ Comments:</b>	The Working Group has completed a second revised draft of NPCC Regional Reliability Reference Directory No. 8, "System Restoration," reviewed the posted comments, and provided the TFCO with its response to these comments. The CO-11 Working Group will sponsor a wide area restoration drill on October 27, 2010, including MISO and PJM participation.

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.
	<b>Status/ Comments:</b>	The CO-12 work on the 2011 Summer NPCC Reliability Assessment is underway and the group is beginning to assemble information on system condition expectations and any potential concerns. Preliminary results and information was presented to the TFCO on February 24-25, 2011 and will be presented to the RCC at their meeting on March 3, 2011.



## 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 Inc. Areas and perform pre-seasonal resource adequacy assessments.
	<b>Status/ Comments:</b>	The 2010 New England Interim Review of Resource Adequacy, the 2010 Ontario Interim Review of Resource Adequacy, the 2010 Quebec Interim Review of Resource Adequacy, and the 2010 New York Interim Review of Resource Adequacy have all been submitted to the RCC for approval at their November 30, 2010 meeting.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CP- 2011S	Summer 2011 Multi-Area Probabilistic Reliability Assessment	Assess NPCC Area reliability for the year 2011 by estimating the annual Loss of Load Expectation (LOLE) and projected use of Area Operating Procedures designed to mitigate resource shortages for the summer (May through September) period.
	<b>Status/ Comments:</b>	The TFCP approved the Base Case and Severe Case assumptions for the Summer 2011 Multi-Area Probabilistic Reliability Assessment at their January 12, 2011 meeting; preliminary results will be presented to the RCC at their March 3, 2011 meeting. The assessment is expected to be completed by the end of April, 2011, with a Media Event scheduled for May 5, 2011 for public release of the results.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON COORDINATION OF PLANNING

Item	Name	Assignment
CP- 2011W	Winter 2011-2012 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 2011 through March 2012) period.
	<b>Status/ Comments:</b>	The 2011-2012 NPCC Winter Multi-Area Probabilistic Reliability Assessment will be conducted following completion of the 2011 Summer assessment; approval of the 2011-2012 Winter assessment will be sought at the June 2011 RCC meeting.

Item	Name	Assignment
CP - TIE	Review of Interconnection Assistance Reliability Benefits	On a consistent basis, estimate the amount of interconnection assistance available to the NPCC Inc. Areas and for the near term.
	<b>Status/ Comments:</b>	A status report including the results for 2011 & 2015 will be given at the March 3, 2011 RCC meeting; approval of the Final report will be sought at the June 2011 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.
	<b>Status/ Comments:</b>	The RCC approved the scope of work and schedule at the September, 2010 RCC meeting; the analysis, based on NPCC's 2011 NERC LTRA data submittal, will be submitted for RCC approval at their November 29, 2011 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-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:**

At the May 2010 meeting, TFCP re-charged the CP-11 Working Group to begin a comprehensive review of Directory No. 1 to assure that it is consistent with other NPCC Directories, Criteria, Guidelines and Procedures and with applicable NERC Reliability Standards. In conjunction with the development of Phase 2 of the Directory effort, the CP-11 Working Group review will also assist with the creation of criteria “Requirements” to provide sound foundation for the creation of the NPCC Criteria Compliance Enforcement Program. CP-11 will be holding a series of meetings and conference calls to work on Directory No. 1. Members are encouraged to participate in this important effort which is expected to take about 18 months to complete. At the August 18, 2010 meeting, TFCP approved the revised scope and schedule submitted by CP-11 for the Directory No. 1 review to be completed by November 2011. CP-11 completed the first milestone in the development of a draft D1 document that was forwarded to the Task Forces on January 27, 2011 for their review and input. In the next few months, CP-11 will work with the Task Forces to develop a consensus document. At this time the Open Process Review of draft D1 is expected in August-September timeframe.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### TASK FORCE ON SYSTEM STUDIES

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

**Status/ Comments:** Year 2011 development effort has begun and is on schedule.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
SS-38	Inter-Area Dynamic Analysis Working Group	Assigned to analyze dynamic phenomena, which may affect interconnected system reliability, especially in the area of low frequency oscillations.

**Status/ Comments:** The report on the generator UF tripping applicability was approved at the November 30, 2010 RCC meeting. Work on NPCC Blackout Recommendation Task 5 is on-going as per the revised schedule and updated Terms of Reference approved at the September 2010 RCC meeting. A status report on Task 5 will be presented at the March 3, 2011 RCC meeting. SS-38 is also working on the Research Phase of the development of guideline for load modeling as detailed in the TFSS work plan for 2011-2012.



# 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	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.
	<b>Status/ Comments:</b>	<p>The ERAG Management Committee had some conference calls and met on January 17, 2011. Discussion continued on achieving more consistency between how assessments are conducted by the three interregional ERAG study forums in the Eastern Interconnection. That will involve changes in the ways the studies are conducted to more closely reflect actual system operation. In addition, concerns with adherence to all items in TPL standards that involve interregional assessments and rethinking the objectives and results of the assessments were addressed. A survey was conducted and it obtained feedback from each Eastern Interconnection Region on how the present interregional assessments are used and whether changes are needed. The survey obtained information on the use made of the assessments and their results. The ERAG Management Committee evaluated the results of the surveys and is looking at ways to implement changes and improvements in the assessments. Discussions on combining the SERC-East and the RFC-NPCC working groups, study work and report are underway. The intention is to make consolidations and make the effort more efficient. One report would be issued.</p> <p>The ERAG Management Committee provided comments to NERC for NERC to include in their response to FERC regarding the FERC report “Use of Frequency Response Metrics to Assess Planning and Operating Requirements for Reliable Integration of Variable Renewable Generation”. In addition, the ERAG Management Committee is responding to FERC comments on the modeling of governors at nuclear plants. Revisions have also been implemented in the model development practices of the ERAG Multi Regional Modeling Group (MMWG).</p>





## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### RFC - NPCC Working Group

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
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 2011 Summer ERAG base case was issued by PowerTech Lab on January 31, 2011. Preliminary work has been done to develop a draft study scope, work assignments and work schedule. In addition, there will be discussions regarding the idea of combining the SERC-East and the RFC-NPCC working groups into one single unit.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
<b>RAS</b>	Reliability Assessment Subcommittee (RAS)	Conduct an annual review of the overall reliability of the existing and planned generation and transmission systems of the eight Regional Reliability Entities for the ten year horizon. Conduct semiannual seasonal assessments of the overall reliability of the existing generation and transmission systems of the eight Regional Reliability Entities.

**Status/ Comments:**

The NPCC input to the NERC RAS 2010 Summer Post-Seasonal Assessment was assembled and provided to NERC ahead of the schedule. Work on the RAS 2011 Summer Assessment is underway. The response to NERC is due on March 25, 2011.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
<b>DCWG</b>	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 next meeting of the NERC DCWG and DOE EIA representatives is scheduled for April 14-15, 2011 in Washington DC.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

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

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
<b>G&amp;TRPMTF</b>	Generation & Transmission Reliability Planning Model Task Force	The objective of the G&TRPMTF is to determine if a reliability modeling methodology can be used to forecast regional reliability in the NERC Long Term Reliability Assessment.
	<b>Status/ Comments:</b>	The G&TRPMTF presented their recommendations regarding the model and methodology that could be used for NERC composite G&T reliability assessments at the September 2010 NERC Planning Committee meeting; the recommendations, methodology and metrics were approved. The G&TRPMTF report outline and requirements was approved by the NERC PC at their December 7-8, 2010 meeting. The NERC PC disbanded the G&TRPMTF and agreed to their recommendation for the NERC RIS to conduct a trial of the methodology in 2011.
<u>Item</u>	<u>Name</u>	<u>Assignment</u>
<b>TADS</b>	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.
	<b>Status/ Comments:</b>	TADS reporting Transmission Owners (TO) have begun to enter data for the 2010 TADS reporting period. For this reporting year, NERC requires that non-automatic transmission equipment outages be reported in addition to automatic outages. Transmission Owners have until March 2011 to complete the process of entering their reportable transmission outages before review by the Regional Coordinators and ultimately, by NERC.



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Reliability Assessment and Performance Analysis Program

#### OTHER

Item	Name	Assignment
<b>Inter-ISO</b>	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.
	<b>Status/ Comments:</b>	A WebEx Meeting was held on October 29, 2010; materials presented are available on the “Inter-ISO” link, accessible from the NPCC website. Topics included the review of the draft IREMM results of Inter-Area Production Cost Studies, the status of Joint Grid View/PROMOD Databases, the draft PROMOD assumptions and approach, an EIPC update and relationship to IPSAC Study Activities, and a summary of the ISO/RTO Council and PJM/NYISO/ISO-NE comments on the FERC Planning NOPR. The next meeting is scheduled as a WebEx on March 30, 2011



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program

#### TASK FORCE ON COORDINATION OF OPERATION

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
CO-10	Operational Tools Working Group	<p>The Operational Tools Working Group (CO-10) is responsible for taking a lead role in the development of NPCC and NERC operational tools (e.g. electronic tagging, the NERC Interchange Distribution Calculator and electronic scheduling), including hardware, software and integrated systems. The Operational Tools Working Group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of operational tools.</p>
	<b>Status/ Comments:</b>	<p>The CO-10 Working Group completed its real-time tools survey for the NPCC registered entities. The CO-10 WG is currently revising and updating Document C-17, Procedures for Monitoring and Reporting Critical Operating Tool Failures, Monitoring Phasor Measurement Applications, Analyzing Critical Operating Tool Failures, and Investigating Web Services Applications.</p>



## RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

### Situation Awareness and Infrastructure Security Program

#### TASK FORCE ON INFRASTRUCTURE SECURITY AND TECHNOLOGY

Item	Name	Assignment
IST-1	Infrastructure Security and Technology Workshop	Periodic workshops to address timely issues and update member system personnel associated with the provision of on-line computer systems for operation of the power system. <b>Last Workshop:</b> Sept. 2010
	<b>Status/ Comments:</b>	A successful Cyber Security Workshop was held on September 21-22, 2010 at Sheraton Boston Hotel. The Cyber Security Workshop provided insight and assistance on implementing CIP Standards, preparing for CIP Audits, information that should be provided when requesting a Technical Feasibility Exception, review and reminder on the NERC Alert system plus suggesting improvements for Entities and Regions.

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



## 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-4	TFIST Cyber Security Working Group	Provide a forum to identify, discuss and advance the technology of Cyber Security for the reliable operation of the NPCC Bulk Power System. The Cyber Security Working Group (IST-4) will also support TFIST in their work on issues related to Cyber Security.
	<b>Status/ Comments:</b>	The Cyber Security Working Group has been designated as an Ad-hoc Working Group by TFIST.

<u>Item</u>	<u>Name</u>	<u>Assignment</u>
IST-5	TFIST Physical Security Working Group	Provide a forum to identify, discuss and advance the use of Physical Security for the reliable operation of the NPCC Bulk Power System. The Physical Security Working Group (IST-5) will also support TFIST in their work on issues related to Physical Security.
	<b>Status/ Comments:</b>	Since the previous update, the Physical Security Working Group held meetings in December 2009 and February 2010.



# RELIABILITY ASSESSMENT PROGRAM HIGHLIGHTS

## Administrative Services

### MEMBERS' FORUMS

Item	Name	Assignment
<b>General</b>	NPCC General Meeting	To promote the reliable and efficient operation of the interconnected bulk power systems in Northeastern North America, NPCC invites high level policy makers from Federal, Provincial, and State regulatory and/or Governmental authorities and senior executives within NPCC to identify and discuss emerging issues related to the reliability of the NPCC Region.
	<b>Status/ Comments:</b>	The 2011 NPCC General Meeting will be held the afternoon of November 30, 2011 in Toronto, Ontario.

Item	Name	Assignment
<b>Gov/Reg</b>	NPCC Governmental Regulatory Affairs Advisory Group	To provide a forum where industry and governmental and/or regulatory representatives can exchange views and strive to develop consensus policy recommendations on reliability issues specific to the NPCC Region and share actionable information related to regional energy and reliability matters.
	<b>Status/ Comments:</b>	The NPCC Governmental/Regulatory Affairs Advisory Group met November 30, 2010 in conjunction with the NPCC 2010 General Meeting at the Desmond Conference Center in Albany, New York. Topics discussed included: Resource Adequacy Impacts of EPA Regulations, the FERC Bulk Electric System Order, and an EIPC/ EISPC Update.

Item	Name	Assignment
<b>PIC</b>	Public Information Committee	To highlight and summarize NPCC activities and accomplishments and disseminate appropriate information to the media, as well as respond to related requests for information.
	<b>Status/ Comments:</b>	NPCC continues to participate in the monthly communications coordination calls with NERC and the Regions. A meeting of the NERC Regional Communications Group was held August 3-4, 2010 in Atlanta, Georgia.