

Appendix A3 - Northeast Power Coordinating Council (NPCC) 2017 CMEP Implementation Plan

This Appendix contains the CMEP Implementation Plan (IP) for the NPCC as required by the North American Electric Reliability Corporation (NERC) Rules of Procedure (ROP).

Compliance Monitoring and Enforcement

CMEP IP Highlights and Material Changes

NPCC will continue to support all Electric Reliability Organization (ERO) Enterprise committees, subcommittees, working groups, task forces, and other teams to improve risk assessment and controls evaluations that support compliance monitoring and enforcement activities within the ERO Enterprise.

NPCC has developed various regional specific tools to ensure that audits, spot checks, guided self-certifications, Inherent Risk Assessments (IRA), and Internal Control Evaluations (ICE) are performed in consistent fashion.

- Evidence tracking sheet (audits, spot checks)
- Guided Self-Certification worksheet
- Function specific IRA templates
- Matrix of NERC/NPCC Risk Elements that map to NERC Risk Factors
- Documented procedure and process flow diagrams for performing IRA and determining monitoring scope
- IRA Summary report
- ICE worksheet
- ICE summary report

A separate implementation plan will apply to entities registered in New Brunswick with the New Brunswick Energy and Utilities Board.

A separate implementation plan will apply to entities registered in Québec with the Régie de l'énergie.

Other Regional Key Initiatives and Activities

NPCC has instituted a program to perform CIP-014 gap analysis to assist the entities in fine-tuning their CIP-014 process. Results will be shared with the ERO.

NPCC has instituted a program to perform CIP V5 outreach for entities that have only Low impact facilities.

Regional Risk Assessment Process

NPCC coordinated with the other Regional Entities to develop the following 2017 ERO Risk Factors:

1. UFLS Equipment
2. UFLS Development and Coordination
3. UVLS
4. Load
5. Transmission Portfolio
6. Voltage Control
7. Largest Generator Facility
8. Variable Generation
9. Total Generation Capacity
10. Planned Facilities
11. CIP – Technical
12. ICCP - Connectivity
13. Critical Transmission
14. Balancing Authority Coordination
15. Remedial Action Schemes/Special Protection Systems
16. Workforce Capability
17. Situational Awareness and Monitoring Tools
18. System Restoration

In the development of the standards and requirements that appear in this regional plan, NPCC considered the 2017 ERO Risk Factors and other tangible Bulk Electric System (BES) attributes such as entity functional registration, transmission assets, Remedial Action Schemes, Blackstart plans and facilities, generation assets, role of Underfrequency Load Shedding (UFLS) , and historical events.

As a result, NPCC believes that the application of the Revised BES Definition may offer reliability exposure due to the over 1,000 newly captured BES elements within NPCC. The transmission portfolio of many entities has increased and several entities have increased operational responsibility associated with the newly captured elements. In 2016, the lone NPCC Regional Risk Element was termed “*Revised BES Definition*”. Moving into 2017, it is more accurate to describe the Regional Risk Element as the “*Registration and Compliance Obligation Changes Associated with the BES Definition*”. As a result, NPCC will place regional focus on standards and requirements associated with operations, maintenance, and planning for the following types of functional entities:

1. New TOPs, TOs, and TPs.
2. Existing TOs with an expanded pool of BES elements under their ownership umbrella.

- Existing TPs with an expanded pool of BES elements under their planning umbrella.

Entities already registered as Reliability Coordinators (RCs), Balancing Authorities (BAs), or Transmission Operators (TOPs) do not fall under this Regional Risk Element.

In addition, NPCC recognizes the vital role that UFLS development and coordination play in minimizing and defending against a total system blackout. Due to this, NPCC has also added second Regional Risk Element called *“Coordination of UFLS Schemes”*.

NPCC also expanded the requirements, with explanation, under several of the ERO Risk Elements.

NPCC has determined that none of the requirements included in the ERO Compliance Monitoring Enforcement Program (CMEP) Implementation Plan (IP) should be removed from the NPCC regional IP.

Regional Risk Elements and Areas of Focus

The table below contains the Regional risk focus areas identified during the Regional Risk Assessment process. The table also contains areas of focus to identified risks that may be considered in the development of the registered entities compliance oversight plan.

Regional Risk Elements		
Regional Risk Element	Justification	Associated Standard and Requirement(s)
Registration and Compliance Obligation Changes Associated with the BES Definition	<p>On July 1, 2016, the effective date of the BES Definition resulted in new TOs, TOPs, and TPs being added to the NPCC registry. In addition, existing TOs, TOPs, and TPs were required to bring newly captured BES elements into their NERC compliance programs. Due to these factors, a significant number of BES elements became subject to the NERC Reliability Standards in NPCC for the first time. This situation, with such a substantial amount of elements undergoing a change related to NERC compliance obligations, is unique in the ERO to NPCC.</p> <p>NPCC will consider, on a functional basis, the requirements to the right for monitoring to assure that newly captured BES elements are included in important aspects of operations, maintenance, and planning. The functional types under focus are:</p> <ol style="list-style-type: none"> 1. New TOPs, TOs, and TPs. 2. Existing TOs with an expanded pool of BES elements under their ownership umbrella. 3. Existing TPs with an expanded pool of BES elements under their planning umbrella. <p>(Note: Requirements that are already captured as ERO Focus Areas are not included in the chart to the right. As a result, there are no requirements listed for existing TP's as TPL-001-4 is already an ERO Focus Area.)</p>	<p><u>New TOPs</u></p> <p><u>All of 2017</u></p> <p>EOP-005-2 R1, R5, R6, R9, R10, R11, R12, R13</p> <p>EOP-008-1 R1, R2, R4, R5, R6, R7, R8</p> <p>FAC-014-2 R2</p> <p><u>Until 3/31/17</u></p> <p>EOP-001-2.1b R4, R5</p> <p>IRO-004-2 R1</p> <p>PER-001-0.2 R1</p> <p>TOP-002-2.1b R1, R2, R4, R11, R17, R19</p> <p>TOP-004-2 R1, R2, R3, R4, R5, R6</p> <p>TOP-006-2 R3, R4, R5, R6</p> <p><u>After 4/1/17</u></p> <p>TOP-001-3 R1, R5, R6, R7, R8, R9, R13, R15, R16, R18, R19</p> <p>TOP-002-4 R1, R2, R3, R6, R7</p> <p><u>New TOs</u></p> <p>FAC-003-4 R3</p> <p>FAC-008-3 R3</p> <p>PRC-004-4i R4, R6</p> <p>PRC-005-6 R1</p> <p><u>Existing TOs</u></p> <p>FAC-003-4 R3</p> <p>FAC-008-3 R3</p> <p>PRC-004-4i R4, R6</p> <p><u>New TPs</u></p> <p>FAC-014-2 R4</p>

Regional Risk Elements		
Regional Risk Element	Justification	Associated Standard and Requirement(s)
Coordination of UFLS Schemes	Although rarely used, UFLS schemes are an extremely important aspect in limiting the extent of major disturbances. This is especially true in NPCC which has transmission corridors that are radial in effect. As such, NPCC recognizes that coordination in the design and implementation of UFLS programs are key in order to prevent a total system blackout like those that occurred in 1965, 1977, and 2003.	<u>PRC-006-2</u> R3 (PC) R4 (PC) <u>PRC-006-NPCC-1</u> R4 (TO, DP) R7 (TO, DP) R13 (GO)

Additional Areas of Focus for ERO Risk Elements		
Expanded ERO Risk Element	Justification	Associated Standard and Requirement(s)
Event Response/ Recovery	<p>NPCC has identified differences in the implementation of manual load shed plans while conducting on-site audit interviews. NPCC will continue to monitor and discuss the entity's preparedness to shed load.</p> <p>Historical events in the Northeast (1965, 1977, 2003) have proven the need for thoroughly coordinated system restoration plans and activities, which includes training and simulation. The success of any system restoration cannot be accomplished without dependable blackstart resources that should be tested as per the TOP's process and have a procedure for energizing a bus.</p> <p>RC backup control centers with the functionality of the primary control center further ensures interconnection reliability and a more secure recovery from the loss of the primary.</p>	<u>EOP-003-2 (until 3/31/17)</u> R1 (BA, TOP) R3 (BA, TOP) R5 (BA, TOP) R8 (BA, TOP) <u>EOP-005-2</u> R1 (TOP) R9 (TOP) R10 (TOP) R13 (GOP) R14 (GOP) <u>EOP-006-2</u> R1 (RC) R9 (RC) R10 (RC) <u>EOP-008-1</u> R3 (RC)

Additional Areas of Focus for ERO Risk Elements		
Expanded ERO Risk Element	Justification	Associated Standard and Requirement(s)
Extreme Physical Events	The ability to mitigate the effects of geomagnetic disturbance (GMD) events is an expanded Risk Element within NPCC because Northern U.S. and Canadian terrain and latitudes offer more potential for a severe GMD event. In addition, past history also deems this to be an expanded risk element. A significant GMD event occurred on March 13, 1989 and resulted in a blackout of the power system in Quebec due to the tripping of shunt reactive devices. The dissemination of space weather information in R2 as per the GMD operating plan is vital to ensuring reliability.	<u>EOP-010-1 (after 4/1/17)</u> R2 (RC)

Additional Areas of Focus for ERO Risk Elements		
Expanded ERO Risk Element	Justification	Associated Standard and Requirement(s)
Monitoring and Situational Awareness	<p>Historical events in the Northeast (1965, 1977, 2003) have proven the need for the highest level of RC/BA/TOP real-time operator monitoring capability, decision making, and situational awareness of current and near-term system status.</p> <p>To that end, the requirements listed will allow NPCC to confirm, educate, and discuss with the RC/BA/TOP as necessary on how the entity accomplishes the following: Ensuring proper reserves, taking action to alleviate BES risks, the degree that entities identify and operate to the most limiting parameter, issuing alerts and communicating without delay when foreseeing a transmission problem, performing next day analyses, performing 30 minute assessments, implementing real-time time plans to prevent SOL and IROL exceedences, and having documented data exchange policies that will ensure that it can perform real-time monitoring and assessments,</p>	<p><u>BAL-002-1</u> R1 (BA) R3 (BA)</p> <p><u>IRO-005-3.1a (until 3/31/17)</u> R10 (RC, BA, TOP) R12 (RC)</p> <p><u>EOP-002-3.1a (until 3/31/17)</u> R8 (RC)</p> <p><u>IRO-002-4 (after 4/1/17)</u> R1 (RC) R2 (RC)</p> <p><u>IRO-008-1 (until 3/31/17)</u> R1 (RC) R2 (RC)</p> <p><u>IRO-008-2 (after 4/1/17)</u> R1 (RC) R2 (RC) R4 (RC) R5 (RC)</p> <p><u>IRO-009-2</u> R2 (RC)</p> <p><u>TOP-001-3 (after 4/1/17)</u> R7 (TOP) R13 (TOP) R15 (TOP) R16 (TOP) R18 (TOP, BA) R19 (TOP)</p> <p><u>TOP-002-4 (after 4/1/17)</u> R1 (TOP) R2 (TOP) R6 (TOP)</p> <p><u>TOP-004-2 (until 3/31/17)</u> R1 (TOP) R2 (TOP)</p>

Additional Areas of Focus for ERO Risk Elements		
Expanded ERO Risk Element	Justification	Associated Standard and Requirement(s)
Human Performance	<p>Thoroughness of operator training in task performance and communication techniques will alleviate the risks of BES reliability events occurring in NPCC similar to those of 1965, 1977, and 2003.</p> <p>As such, NPCC wants to assure that entities verify/validate, at the highest levels, that entity personnel understand their role and the importance of following documented communication protocols during normal and emergency situations.</p> <p>NPCC also wants to ensure that entities training approach/methodology is in fact systematic, wants to garner an understanding of how entities are determining their list of specific BES reliability tasks, and wants to ensure that system restoration activity training is provided to field operators who may perform unique tasks.</p>	<p><u>COM-002-4</u> R1, R2, R4, R6, R7 (RC, BA, TOP) R3, R6 (GOP, DP)</p> <p><u>EOP-005-2</u> R11 (TO)</p> <p><u>PER-005-2</u> R1 (RC, BA, TOP) R2 (TO) R3 (TO)</p>

Regional Compliance Monitoring Plan

This section includes regional risk-based CMEP activities. Following is an overview of the year’s currently known IRA, ICE, audit, spot check, periodic data submittals, and guided self-certifications.

The 2017 NPCC Compliance Monitoring Plan is located [here](#) on the NPCC website.

Inherent Risk Assessment

Unless system events or the situation dictates otherwise, the 2017 NPCC Compliance Monitoring Plan will consist of those entities whose historical three-year cycle or historical six-year cycle occurs in 2017. NPCC will review the 2016 IRA that is on-file for those entities. NPCC will consider the 2017 ERO Risk Factors and update (if necessary) an entity’s IRA which will then be used to determine the subsequent method/degree/scope of CMEP engagement for 2017.

The results of an IRA may shift the CMEP engagement of a registered entity from a 2017 off-site audit to a guided self-certification, a spot check, or some combination thereof. IRAs outside of the normal cycle can be triggered by a system event in the NPCC area, a NERC alert, results of a spot check, and/or results of a guided self-certification, or other trends and/or Areas of Concern resulting from NPCC monitoring or enforcement activities.

Internal Controls Evaluation

NPCC will offer to perform ICE on all registered entities having a 2017 onsite Operating and Planning (O&P) audit who wish to volunteer for it. The volunteering entity will receive the results in an ICE Summary Report prior to seeing the final scope in the Audit Notification Letter. Recommendations for

alternative monitoring approaches from the ICE process will feed into the Spot Check and Guided Self Certification programs as noted below.

NPCC will also offer to perform ICE for those entities having offsite O&P audits in 2017 who wish to volunteer for it. Throughout 2017, NPCC will continue to provide upfront outreach and education to entities to promote participation in ICE.

NPCC does not plan to perform ICE in advance of Critical Infrastructure Protection (CIP) audits of entities whose compliance to Version 5 have not been baselined.

Audits

For both O&P and CIP, NPCC will continue to perform on-site audits of BAs, RCs and TOPs every three years and will use the IRA (and voluntary ICE) to scope the O&P audits. For all other functions, NPCC will perform internal reviews based on the six-year cycle using the IRA on file to determine the type of engagement and scope.

To assure that an entity has identified BES Cyber Assets properly, NPCC will perform a review of those entities that 1) have declared that they possess newly identified Medium Impact BES Cyber Assets and 2) had Critical Cyber Assets under CIP Version 3 that are now Low Impact under CIP Version 5.

Spot Check

On a case-by-case basis, NPCC may use a spot check that will be guided by the results of the IRAs in lieu of an audit.

Periodic Data Submittals

NPCC is not posting a schedule for Periodic Data Submittals for 2017. As such, any data requests will be implemented on an as-needed basis.

Guided Self Certifications

Each quarter, one or more Reliability Standards will be selected on a function basis for a guided Self-Certification. NPCC will use the Standards and Requirements identified in the 2016 ERO CMEP Implementation Plan and those identified in Section 3 of this document, and the results of IRA as the basis for selecting those that will be subject to a Guided Self-Certification.

[Guided Self Certification Information](#)

2017 Compliance Audit Plan On-Site			
NCR ID	Registered Entity	Type of Monitoring	
		Operations & Planning (O&P)	Critical Infrastructure Protection (CIP)
NCR07160	New York Independent System Operator	O&P	
NCR07163	Niagara Mohawk Power Corporation	O&P	CIP
NCR07159	New England Power Company	O&P	CIP
NCR07184	Ontario IESO	O&P	CIP
NBCR001	New Brunswick Power Corporation	O&P	CIP
NCR07181	NYSEG	O&P	CIP
NCR07207	Rochester Gas and Electric	O&P	CIP

2017 Compliance Audit Plan On-Site			
NCR ID	Registered Entity	Type of Monitoring	
		Operations & Planning (O&P)	Critical Infrastructure Protection (CIP)
NCR07133	Long Island Power Authority	O&P	
NCR07228	Vermont Transco, LLC		CIP
NCR07180	NSTAR Electric Company		CIP
NCR07029	Central Maine Power Company		CIP
NCR07161	New York Power Authority		CIP

2017 Compliance Audit Plan Off-Site			
NCR ID	Registered Entity	Type of Monitoring	
		Operations & Planning (O&P)	Critical Infrastructure Protection (CIP)
NCR00503	BNY Power Operations, LLC	O&P	
NCR10371	CCI Rensselaer LLC	O&P	
NCR10331	First Wind O&M, LLC	O&P	
NCR07102	Granite State Electric Company	O&P	
NCR07144	Millennium Power Partners, LP	O&P	
NCR07167	NAES Corporation - Lockport	O&P	
NIR	Quebec 1	O&P	
NCR07169	NAES Corporation - North Tonawanda	O&P	
NCR07161	New York Power Authority	O&P	
NCR07162	Niagara Generation, LLC	O&P	
NCR00126	North Attleborough Electric Department	O&P	
NCR07182	Ocean State Power	O&P	CIP
NIR	Quebec 2	O&P	
NCR10366	Noble Altona Windpark, LLC	O&P	
NCR10271	Noble Bliss Windpark, LLC	O&P	
NCR10367	Noble Chateaugay Windpark, LLC	O&P	
NCR10272	Noble Clinton Windpark, LLC	O&P	
NCR10273	Noble Ellenburg Windpark, LLC	O&P	
NCR10368	Noble Wethersfield Windpark, LLC	O&P	
NIR	Quebec 3	O&P	
NCR07187	Oswego Harbor Power LLC	O&P	
NCR07191	Peabody Municipal Light Plant	O&P	
NCR10369	Penobscot Energy Recovery Company	O&P	
NCR10342	Pinetree Power - Tamworth, Inc.	O&P	
NCR07195	Pittsfield Generating Company LP	O&P	
NCR10370	Power City Partners, LP	O&P	
NIR	Quebec 4	O&P	
NIR	Quebec 5	O&P	
NCR00130	Neptune Regional Transmission System LLC	O&P	
NCR11647	Brookfield Power US Asset Management LLC	O&P	
NCR11649	Third Taxing District of East Norwalk	O&P	
NCR11639	New York Transco LLC	O&P	

2017 Compliance Audit Plan Off-Site			
NCR ID	Registered Entity	Type of Monitoring	
		Operations & Planning (O&P)	Critical Infrastructure Protection (CIP)
NCR11582	Evergreen Wind Power II, LLC	O&P	
NBCR	New Brunswick 1	O&P	
NBCR	New Brunswick 2	O&P	
NCR00543	TC Ravenswood LLC		CIP
NCR00893	PSEG Fossil LLC		CIP
NCR04057	Exelon Generation Co., LLC		CIP
NCR07011	Astoria Gas Turbine Power LLC		CIP
NCR07055	Cross Sound Cable Company, LLC		CIP
NCR07128	National Grid Generation LLC		CIP
NCR07136	Massachusetts Municipal Wholesale Electric Co		CIP
NCR07141	Middletown Power LLC		CIP
NCR07220	TransCanada Hydro Northeast Inc.		CIP
NCR10011	Covanta SEMASS		CIP
NCR10049	FirstLight Hydro Generating Company		CIP
NCR11243	NAES Corporation - MIRA - Jets		CIP
NCR11324	Brookfield White Pine Hydro, LLC		CIP
NCR11387	Allegany Generating Station LLC		CIP
NCR11459	Bucksport Generation LLC		CIP

1. Compliance Outreach

Compliance Outreach Activities	
Outreach Activity	Anticipated Date
Spring and Fall Workshops – NPCC holds semi-annual workshops as a primary mechanism for outreach to registered entities.	May 2017 November 2017
Introduction to NPCC for Beginners – NPCC provides an introductory class for those new to CMEP activities prior to the May and November workshops	May 2017 November 2017
Physical Security Outreach Program – This will focus on Transmission Owner’s and Transmission Operator’s transition to the new CIP-014 Physical Security standard.	Throughout 2017
Physical Security Information Exchange Sessions - The sessions take place at the May and November workshops and address NPCC Awareness Programs, Security Strategies, and subjects such CIP-014 implementation, and evolving physical threats to the electric industry.	May 2017 November 2017
Internal Controls Evaluation (ICE) Outreach Session – The sessions will take place at the May and November workshops to provide awareness and promote participation in the program. It will provide NPCC’s purpose, approach and implementation of the voluntary ICE process, including expectations, tools, education/examples, best practices, deliverables, and feedback into Risk Based CMEP.	May 2017 November 2017
Cyber Security Outreach Program – This will provide guidance to NPCC registered entities that own Low Impact facilities under CIP Version 5 transition.	Throughout 2017
Individual Meetings with Registered Entities – NPCC will meet with registered entities for specific CMEP related issues if requested and warranted.	

Compliance Outreach Activities	
Outreach Activity	Anticipated Date
CDA A – NPCC will issue announcements via CDAA (the NPCC Compliance Portal) informing registered entities of CMEP aspects.	
Compliance Wiki - NPCC's compliance wiki provides outreach specific to CDAA and other related issues and questions.	
Webinars – NPCC will conduct CMEP related webinars as needed. NPCC conducts pre-ICE webinars for all participants.	
FAQs – NPCC will post FAQs on an as needed basis	
Compliance Guidance Statements – NPCC may issue Compliance Guidance Statements to offer clarification on the compliance approach associated with the NERC Rules of Procedure, NERC Reliability Standards, or NPCC Regional Reliability Standards.	
Registered Entity Surveys – NPCC will issue surveys to registered entities on an as needed basis. Such surveys have included acquiring registration data, BES element data, workshop content preferences, etc.	
Website – The NPCC website provides information in the areas of Standards, Registration, Compliance Monitoring, and Compliance Enforcement.	