

Agenda Member Representatives Committee

August 4, 2010 | Noon–4 p.m.
Toronto Marriott Eaton Centre
525 Bay Street
Toronto, ON MSG 2L2
416-597-9200

***Informational Presentations — Noon–1 p.m.**

- a. 2010 Long-Term Reliability Assessment: Preliminary Observations
- b. Reliability Implications of Four EPA Regulations: Draft Conclusions
- c. Smart Grid Task Force Report: Preliminary Results
- d. Integrated Bulk Power System Risk Assessment Concepts: Update

MRC Meeting — 1–4 p.m.

Introductions and Chairman's Remarks

Antitrust Compliance Guidelines

Consent Agenda — Approve

1. **Minutes**
 - [July 8, 2010 Conference Call](#)
 - [May 11, 2010 Meeting](#)

***2. Future Meetings**

Regular Agenda¹

3. **Welcome to Toronto – Laura Formusa, President and CEO, Hydro One**
4. **Remarks by Gerry Cauley, NERC President and CEO**
5. **Report on Nominating Committee**

¹ Board Chairman John Q. Anderson has invited input from the committee sector representatives on specific agenda items (see attached).

- *6. **Critical Infrastructure Protection (CIP Activities)**
 - a. Remarks by Mark Weatherford, NERC Vice President and Chief Security Officer
 - b. Electricity Sub-Sector Coordinating Council Strategy Paper
 - c. NERC Chairman Request to Technical Committees for Development of Action Plan on HILF Report Recommendations
 - d. CIP Version 4 Standards

- *7. **Standards and Standards Process Issues**
 - a. Response to March 18, 2010 FERC Order on Revisions to Standards Process and Comments Following July 6, 2010 Technical Conference
 - b. Oversight of Standards Development Program and Other Standing Committees
 - c. Executive Forum on Reliability
 - d. Response to March 18, 2010 Orders on Specific NERC Standards
 - e. Plan for Addressing Remaining Order 693 Directives

- *8. **Culture of Reliability Excellence**

- *9. **MRC Officer Elections and MRC Nominations**

- *10. **[2011 Business Plan and Budget](#)**

Information Only — No Discussion

- *11. **Update on Regulatory Matters**

* Background material included.

Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.

- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.
- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

2010 Long-Term Reliability Assessment (LTRA) Preliminary Assessment

Action Required

None

Background

As directed by the Planning Committee, the Reliability Assessment Subcommittee and NERC staff continue to improve the Long-Term Reliability Assessments to 1) improve the assessments/process providing greater granularity, etc., 2) convey the importance of the assessment results, 3) provide sound technical insight into the anticipated reliability conditions over the next decade, and 4) identify where the greatest uncertainty/variability might lie in considering bulk power system reliability's "state of the union" for North America.

Preliminary assessment of the 2010 LTRA data has generated the following:

- There appears to be sufficient Planning Reserve Margins in the short-term, with some tight conditions in the long-term. Key variables impacting these margins appear to be uncertainties due to legislative/regulatory uncertainty and economic recovery.
- Further downward adjustments of long-term peak demand are projected due to the economic recession, as well as the leveling of energy efficiency/conservation initiatives. The recession appears to dominate, while energy efficiency/ conservation initiatives plateau as reserve margins increase and new resources are added.
- Demand response projections are flat in the long-term, resulting from reduced certainty beyond contracted performance time periods and limited long-term experience on sustainability.
- Variable generation projections, such as wind and solar resources, continue to grow driving the need for transmission, operations management, ancillary services, and system flexibility.
- New transmission projections remain comparable to last year's forecast.

To better anticipate or provide insight in future assessments about potential impacts of developing industry trends on bulk power system reliability, a systematic approach is used to monitor and assess the relative risks from emerging issues. This process serves to identify key aspects that merit further potential scenario analysis, while providing insights about major trends that could impact bulk power system reliability over the long-term. As part of this risk assessment, the Reliability Assessment Subcommittee reviewed over twenty emerging issues. This review included a wide range of inputs including those of the Members Representatives Committee, Board of Trustees and technical standing committees. This input, which is crucial to achieving a solid technical perspective when comparing the relative risks to reliability of emerging trends, the combined effort generated the following list for 2010:

- a) **Uncertainty of sustained participation in demand response:** Increased use of demand response programs to balance the system and relieve transmission reliability constraints may result in decreased participation, fatigue or other outcomes that challenge system operations.
- b) **Transmission siting and construction:** Transmission siting is becoming more difficult due to “not in my back yard” (NIMBY) risks, as well as environmental and regulatory restrictions. Transmission construction has become more difficult due to capital costs, financing, cost allocation and rate case considerations.
- c) **Changing resource mix (more natural gas, more variable generation, less coal, new nuclear...):** Unprecedented changes in resource mix is forecast. These new resources have different characteristics than existing generation, with little existing experience in their operation and performance. For example, significant variable generation penetration can result in an energy-dominant system requiring more system flexibility.
- d) **Diminishing frequency response (in the Eastern Interconnection):** The frequency response in the Eastern Interconnection is decreasing from the long-term average. NERC has launched an initiative to study the declining frequency response issue and develop appropriate recommendations.
- e) **Consistent modeling of remote resources:** Delivering energy, especially from renewable sources, may require long-distance transmission across multiple balancing or planning authority areas. Coordinated and consistent assumptions among balancing and planning authorities are needed to ensure transmission resources remain adequate to support transfer of this energy.
- f) **Lower inertial response (behind long transmission):** With the adoption of location-constrained generation, such as wind, solar and other resources, increased power transfers may occur. These transfers may emanate from sources distant from load with less or no rotating mass, or with less inertial response capabilities. Therefore, the impacts from the resulting reduced inertial response should be studied and suitable planning/operational actions taken to maintain bulk power system reliability.

These issues will be evaluated further in NERC’s *2010 Long-Term Reliability Assessment* with recommendations for action and study.

Reliability Implications of Four EPA Regulations Draft Conclusions

Action Required

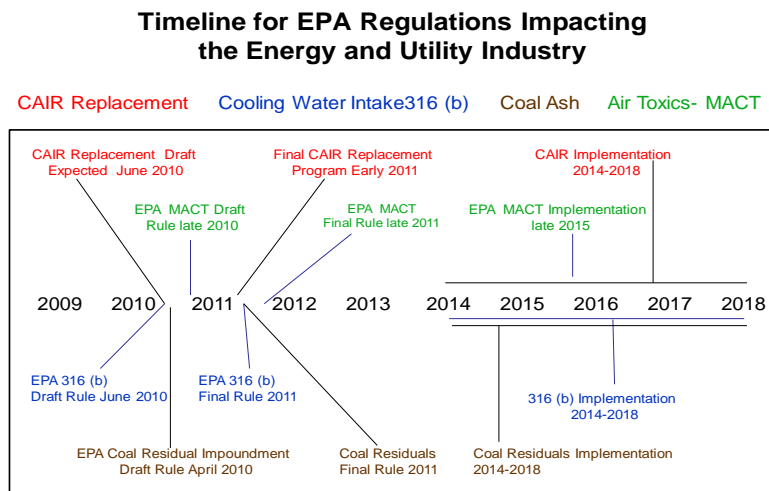
None

Background

This reliability assessment examines four active U.S. Environmental Protection Agency (EPA) rulemaking proceedings unfolding in 2010 and 2011, which could have significant impacts on bulk power system reliability during the implementation period from 2013 through 2018, both individually and in the aggregate:

- a) Clean Water Act — Section 316(b), Cooling-Water Intake Structures Rule
- b) Coal Combustion Residuals (CCR) Surface Impoundments with High Hazard Potential Ratings Rule (Coal Ash)
- c) Replacement Clean Air Interstate Rule (CAIR)
- d) Title III of the Clean Air Act — Air Toxics Rule

The figure below represents the overall timeline for regulation finalization and anticipated implementation. The assessment was specifically structured to solely address the aforementioned four regulatory proposals, independent of climate change initiatives, which issues are addressed in a separate assessment¹.



Preliminary assessment of the individual regulations results indicate the Clean Water Act — Section 316(b) will have the most significant impact, accelerating fossil-fired and nuclear generation retirements for units with once-through cooling, due to overall compliance costs

¹ A report, entitled “Reliability Impacts of Climate Change Initiatives: Technology Assessment and Scenario Development,” has been sent to the Board of Trustees for their consideration, review and approval.

(approximately 40 GW). Separately, the three remaining regulations appear to have a smaller potential impact on unit retirements.

However, in aggregate, the four regulatory initiatives could accelerate the retirement of approximately 60 to 70 GW of fossil-fired and nuclear generation units by 2018. These potential retirements could result in the need to develop additional resources sooner than currently projected and, depending on the geographic proximity, may result in bulk power system reliability impacts, such as reactive and dynamic considerations and additional transmission requirements.

The reliability assessment assumptions, impact analysis, and reliability findings are currently being reviewed and validated with industry groups. It is anticipated that this reliability assessment will be ready for approval by the PC and presentation to the Board of Trustees in September 2010.

Smart Grid Task Force Report Preliminary Results

Action Required

None

Background

On July 30, 2009, the Planning Committee (PC) established the Smart Grid Task Force to examine bulk power system reliability impacts from integrating smart grid technology, identify existing NERC Reliability Standards that apply to smart grid elements, and make recommendations for further study and standard enhancement. Over 100 members joined this task force, creating a draft report "*The Smart Grid and Reliability*" which was provided to the NERC standing committees at their June 2010 meetings for comment. The following concepts are developed in this report:

- The smart grid concept is expansive with many current energy policy initiatives, but not all industry experts agree on its definition.
- Smart grid is developing at many levels in North America.
- Smart grid integration will impact bulk power system planning, design and operations.
- Integration of Smart Grid must encompass cyber considerations, including the IT and control system interface, and dynamic system behavior.
- Research and development will be necessary to reliably and securely integrate smart grid into the existing system and may yield new reliability benefits.
- NERC Reliability Standards are applicable to the bulk power system aspects of smart grid, representing a baseline requirement for reliability. Enhancement and new standards may be required as more experience is gained.
- NERC and industry should monitor smart grid developments and remain engaged with ongoing smart grid industry efforts (Federal/State/Provincial efforts, ISO/RTO, IEEE/IEC, etc.)

Comments from standing committees and stakeholders will be incorporated into the report and the final version will be submitted to the PC for approval in September 2010.

Integrated Bulk Power System Risk Assessment Concepts Update

Action Required

None

Background

At the Operating and Planning Committee meetings on June 15, 2010, the Reliability Metrics Working Group (RMWG)¹ presented a whitepaper documenting a risk-based approach to evaluate reliability trends, entitled “*Integrated Bulk Power System Risk Assessment Concepts*.”² The objective of the whitepaper is to develop an industry accepted and organized process to measure event impacts on reliability, and begin to address their management/mitigation through avoidance, preparations, planning, and operating dimensions. Further, the method provides a foundation for ongoing parallel efforts, such as the risks from high-impact, low-frequency (HILF) events, identifying mitigation processes and providing industry a new way to manage risk. Further the whitepaper provides a consistent basis to recognize and rank risk-significant events. The proposed method uses a numerical ranking/scoring formulation requiring industry expertise, agreed-upon goals and engineering judgment.

The report provides a metric that measures events by their frequency and severity — which is one way to determine reliability risk. Throughout the whitepaper, concepts from NERC’s Adequate Level of Reliability³ (ALR) and existing Standards are used to calibrate results. In addition, the paper draws attention to other risk indicators, including event-driven, condition-driven,⁴ and regulation-driven measures,⁵ along with their relative relationships. Integrating these indicators provides a basis for risk-informed decisions, such as for planning processes, operational procedures, standard prioritization, event analysis prioritization, and compliance activities. Further, these measures identify trends and provide the foundation that, over the long-term, enables industry to use risk information as part of their efforts to:

1. Lower overall system reliability risk
2. Prioritize reliability improvement activities
3. Communicate the effectiveness of reliability improvement programs

Finally, the whitepaper proposes the results will be part of an annual overall effort, documented in a technical reference document and in reliability assessments, which can drive actions by the Operating, Planning, and Critical Infrastructure Protection Committees to address underlying trends, the Standards Committee to enhance certain aspects/create new standards, the Events Analysis and Investigations Program to help gauge the level of analysis required, and the Compliance Monitoring and Enforcement Program used to focus on reliability-improving actions.

¹ RMWG scope http://www.nerc.com/docs/pc/rmwg/Reliability_Metrics_Working_Group_Scope_Final.pdf.

² http://www.nerc.com/docs/pc/rmwg/Draft_Integrated_Bulk_Power_System_White_Paper6.1.pdf

³ Detailed definitions of ALR at <http://www.nerc.com/docs/pc/Definition-of-ALR-approved-at-Dec-07-OC-PC-mtgs.pdf>

⁴ Details of reliability indicators at http://www.nerc.com/docs/pc/rmwg/RMWG_AnnualReport6.1.pdf

⁵ Detailed regulation-driven risk measure proposals are available at <http://www.nerc.com/filez/pmtf.html>

Future Meetings

Action Required

Approve August 3–4, 2011 (W–Th) in Vancouver, Canada as a future meeting date and location. Approve **change made** to the **May 2011 meeting dates** from May 3–4, 2011 to May 10–11, 2011.

Information

The board has approved the following future meeting dates and locations:

- November 3–4, 2010 — Atlanta, GA (W–Th)
- February 16-17, 2011 — Phoenix, Arizona (W–Th)



NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

July 21, 2010

Mr. Ed Tymofichuk, Chairman
NERC Member Representatives Committee
Vice President, Transmission
Manitoba Hydro
820 Taylor Avenue
P.O. Box 7950
Winnipeg, Manitoba R3C 0J1


Dear Ed:

Policy Input to NERC Board of Trustees

The NERC Board of Trustees invites the Member Representatives Committee (MRC) to provide advance input to the board and discuss at the August 4, 2010 MRC meeting, which the board members will attend, the following subjects:

Standards and Standards Process Issues (MRC-7) — The board is actively interested and engaged in ways to improve how NERC develops reliability standards as well as the quality, timeliness, and responsiveness of those standards. Included in the MRC agenda package are two discussion papers on which the board welcomes the views of the committee. One presents some concepts and questions related to oversight of the standards development program and the other how best to improve communications and working relations among senior leaders at FERC and its counterparts in Canada, NERC, and the industry, through the establishment of an Executive Forum on Reliability. In addition to these discussion papers, the board will also be anxious to hear the committee's views on issues raised during and comments filed following the July 6, 2010 FERC technical conference.

Culture of Reliability Excellence (MRC-8) — The board appreciated the discussion of this issue, which you initiated at the May 2010 MRC meeting, and looks forward to further discussion at your August 4, 2010 meeting. The background material for this item includes a number of questions and statements on which you encouraged committee members to submit written comments. This input will be especially helpful for board members, as well as committee members, to have in advance of the meeting.



The board strongly encourages MRC members in each membership sector to discuss these issues with others in their respective sectors in advance of the MRC meeting and to provide written input to NERC so the board has the benefit of the views of all the members of each sector and can reflect on that input prior to the meeting. Written comments should be submitted to Dave Nevius, committee secretary (dave.nevius@nerc.net) **by July 28, 2010** so they can be packaged and sent to the board members in advance of the meeting.

Thank you,



John Q. Anderson
NERC Chairman

cc: Board of Trustees
Member Representatives Committee

Electricity Sub-Sector Coordinating Council (ESCC) Report and DRAFT Critical Infrastructure Strategic Roadmap

Action Required

None

Background

At its May 12, 2010 meeting, the NERC Board of Trustees approved a new charter for the ESCC, and dissolved the Electricity Sector Steering Group (ESSG). Current ESSG members became the members of the newly re-constituted ESCC.

On June 22, 2010, the ESCC held their first in-person meeting at NERC's Washington DC offices. The meeting was conducted in two parts. The first part of the meeting was held in closed session and the ESCC engaged in a comprehensive discussion regarding the critical infrastructure risks facing the electricity sub-sector, how they are being addressed, and what may need to be done differently by the sub-sector to improve this important aspect of reliability. The ESCC also discussed how to improve the various interfaces with government related to these matters. The second part of the meeting was conducted in open session and ESCC Chairman Gerry Cauley provided a summary of the day's discussions and the next steps.

A key decision of the ESCC was to develop a Critical Infrastructure Strategic Roadmap (**Attachment 1**) to identify the sub-sector's priorities, and provide a framework to address severe-impact risks, including those identified in the High Impact, Low Frequency (HILF) report. Taking a broad sub-sector-wide perspective, the Roadmap will provide the NERC Board of Trustees with advice on what should be done to enhance electricity reliability and resilience from an all-threat, all-hazard perspective. The Roadmap will build on the draft Bulk Power System Critical Infrastructure Policy Statement discussed at recent MRC/BOT meetings, and provide guidance for the sub-sector and NERC's Technical Committees.

After considering public comments, the ESCC proposes to seek Board of Trustees endorsement of the Strategic Roadmap.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Critical Infrastructure Strategic Roadmap

Electricity Sub-Sector Coordinating Council (ESCC)

to ensure
the reliability of the
bulk power system

August 2010

Introduction

North America's electric power grids are not immune to severe disruptions that could threaten the health, safety, security, or economic well-being of its citizens. The North American Electric Reliability Corporation (NERC) and the electricity industry are committed to protect the electricity infrastructure and enhance its resilience in an effort to manage risks, whether natural or man-made.

This strategic roadmap, prepared by NERC's Electricity Sub-Sector Coordinating Council¹ (ESCC), provides the framework to identify those risks that have the potential to seriously disrupt the supply of electricity to customers, and promotes the actions necessary to enhance reliability and resilience. Particular attention is paid to severe-impact risks with the potential to impact large portions of the grid, or disrupt service for an extended period of time. Some of these risks have a low probability of occurring, or have not ever occurred. The most challenging are some of those related to physical and cyber security that are relatively new to the sub-sector, are not completely understood even by experts in the field, and continue to evolve.

Fortunately, managing complex risks is not new to the electricity industry. This roadmap builds on century-long experience and takes an integrated approach that builds on the electricity industry's capabilities to plan and operate North America's electricity system — one of the most reliable in the world.

¹ Electricity Sub-Sector Coordinating Council Charter:
http://www.nerc.com/docs/escc/ESCC_Charter_BOT_approved_20100512.pdf

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Executive Summary

The role of NERC's Electricity Sub-Sector Coordinating Council² is to “foster and facilitate the coordination of sector-wide policy-related activities and initiatives to improve the reliability and resilience of the electricity sector, including physical and cyber security infrastructure.”

To help carry out that role, the ESCC has developed this Critical Infrastructure Strategic Roadmap to recommend to NERC's Board of Trustees that NERC's technical committees place renewed emphasis on certain severe-impact risks to electricity system reliability.

In particular, the ESCC has identified three risks that merit increased attention by NERC and the electricity sub-sector. Each of these has the potential to severely impact large portions of the bulk power system, or disrupt electricity service for an extended period of time.

- Coordinated physical attack on significant electricity system equipment
- Organized cyber attack on control systems needed to manage reliability
- Severe geomagnetic disturbance

The ESCC acknowledges that significant effort will be required to properly understand these risks and develop realistic and effective solutions, and has therefore prioritized initiatives that would deliver the greatest benefit to reliability as soon as possible. The ESCC encourages NERC's technical committees to join forces to develop work plans to assess the risks in more detail, consider alternative approaches, and recommend solutions for industry implementation.

The ESCC is committed to enhance our collaboration with government on these matters, and will monitor progress of the technical committees and provide additional guidance as necessary.

² ESCC Charter

Vision and Goals

The electricity sub-sector does not stand alone in facing severe-impact risks. The U.S. and Canadian governments have established programs to work collaboratively with all critical infrastructures to address risks that could have widespread regional, national, or international consequences.

In the spirit of these national initiatives, this roadmap reflects the perspective of the electricity sub-sector as envisioned by the charter of the Electricity Sub-Sector Coordinating Council. It is intended to reflect the interests of all stakeholders, beyond that of NERC in its role as the electricity reliability organization. While this roadmap does not direct standards development, it is anticipated that standards will be developed, where necessary and appropriate, as a result of initiatives undertaken to address severe-impact risks.

In 2007, the NERC Board of Trustees endorsed the Energy Sector-Specific Plan³ that provides the framework for collaboration between government and the energy sector to mitigate risk by reducing vulnerabilities, deterring threats, minimizing adverse consequences, and enhancing recovery. This roadmap aligns with that plan's vision and goals and demonstrates the electricity sub-sector's commitment to support this public-private partnership.

Vision Statement

The Electricity Sub-Sector envisions a robust, resilient electricity infrastructure in which continuity of business and services are maintained through secure and reliable information sharing, effective risk management programs, coordinated response capabilities, and trusted relationships between sub-sector entities and government.

Goals

Information Sharing and Communication

Goal 1: Establish robust situational awareness within the electricity sub-sector and with government through timely, reliable, and secure information exchange.

Physical and Cyber Security

Goal 2: Use sound risk management principles to implement physical and cyber measures that enhance preparedness, security, and resiliency.

Coordination and Planning

Goal 3: Conduct comprehensive emergency, disaster, and business continuity planning, including training and exercises, to enhance reliability and emergency response.

Goal 4: Clearly define critical infrastructure protection roles and responsibilities.

³ Energy Sector Specific Plan 2007 <http://www.dhs.gov/xlibrary/assets/nipp-ssp-energy-redacted.pdf>

Goal 5: Understand key interdependencies and collaborate with other critical infrastructure sectors to address them, and incorporate that knowledge in planning and operations.

Public and Regulatory Confidence

Goal 6: Strengthen public and regulatory confidence in the sub-sector's ability to manage risk and implement effective security, reliability, and recovery efforts.

The Risk Landscape

The challenges to adequately protect the electricity system are many. The electricity infrastructure is spread geographically across the continent, in densely populated urban areas as well as lightly populated rural areas. Generating stations, substations, and the transmission and distribution lines that connect them are a familiar and accessible part of our surroundings. While it is not possible to protect everything with absolute assurance, this roadmap guides the electricity industry toward solutions that manage these risks in a responsible, realistic, and effective manner.

NERC supports an all-hazards, all-threats approach to risk management consistent with industry practices⁴ commonly used across the sub-sector. These threats and hazards can be grouped into three categories; natural, human-caused, and technological. The electricity sub-sector consistently demonstrates the ability to successfully manage many of these risks through effective business continuity planning and reliable operations, even during emergency situations.

However, certain severe-impact risks are more challenging to fully understand and address for a number of reasons, including.

- Little information is available regarding the specific nature of the risk, making it difficult to decide which preventive or mitigating actions are necessary or appropriate.
- The likelihood of occurrence is not known, extremely low, or may never have occurred.
- The costs and resources required to comprehensively address the risk may be enormous.
- The events being prepared for may never occur.
- Risks related to national security are considered to be the responsibility of government.

As a result, there is limited consensus across the sub-sector regarding the extent to which these more severe-impact risks need to be addressed, let alone how they should be addressed. The following table provides the ESCC’s assessment of the risks facing the electricity sub-sector, and highlights those requiring urgent additional attention.

Table 1: Risk Landscape

Risk Area	Plans Typically In-Place	Requires Additional Attention
Naturally Occurring Hazards		
• Geological (e.g. earthquake)	Yes	
• Meteorological		

⁴ Ref. National Fire Protection Association 1600 and Canadian Standards Association Z1600-8, Emergency Management and Business Continuity Programs

Risk Area	Plans Typically In-Place	Requires Additional Attention
○ Severe storm	Yes	
○ Extreme water flows (drought, flood)	Yes	
○ Extreme temperature	Yes	
○ Geomagnetic disturbance (GMD), solar magnetic disturbance (SMD)	Yes	Yes
● Biological disease (e.g. pandemic)	Yes	
Human-Caused (Unintentional) Hazards		
● Hazardous material spill or release	Yes	
● Explosion, fire	Yes	
● Interdependency (e.g. fuel shortage, telecommunications service disruption)	Yes	
● Human operational error	Yes	
Human-caused (Intentional) Hazards:		
● Criminal activity, sabotage	Yes	
● Civil disturbance, riot	Yes	
● Strike or labor dispute	Yes	
● Terrorism	Varies	Yes
● Physical attack	Varies	Yes
● Electro-magnetic pulse (EMP)	No	Limited
● Cyber security breach	Yes	Yes
Technology-Caused Hazards		
● Equipment failure	Yes	
● Information/control systems failure	Yes	
● Telecommunications system failure	Yes	

The Electricity Sub-Sector’s Risk Priorities

The ESCC recommends to the NERC Board of Trustees that the electricity sub-sector place renewed emphasis on managing the severe-impact risks highlighted in Table 1: Risk Landscape. Some of these risks were examined in the High Impact Low Frequency Risk Workshop⁵

⁵ Ref. HILF Report <http://www.nerc.com/page.php?cid=61691327>

sponsored by NERC and the U.S. Department of Energy in November 2009. While each of these risks appears to be unique, they can be grouped into a few discrete scenarios that will facilitate developing solutions that can be more readily applied under a variety of circumstances. Solutions that serve to enhance reliability under normal circumstances would be highly desirable. Solutions that have limited application under very narrow circumstances would be less desirable. The ESCC recognizes that the electricity sub-sector is highly diverse, and not all solutions will be applicable to all entities. As with all risk management decisions, entities will need to balance expected outcomes against costs, recognizing that all costs are ultimately borne by the customer.

Scenario 1: Physical Attack on Significant Electricity System Equipment

A coordinated physical attack on key nodes of the electricity system critically disables difficult to replace equipment in generating stations or substations and could have a significant affect on the remainder of the system. Full restoration and normal operation of the system after the attack is prolonged.

Scenario 2: Organized Cyber Attack

An organized disruption disables control systems, or intruders take operational control of portions of the bulk power system such that generation or transmission equipment is damaged or mis-operated. The “Aurora” vulnerability, identified by NERC in 2007, is an example of the potential for this scenario.

Scenario 3: Geomagnetic Disturbance

A severe geomagnetic disturbance (GMD) damages difficult to replace generating station and substation equipment, and could have a significant affect on the remainder of the system. Full restoration and a return to normal operation of the bulk power system are prolonged. While not explicitly part of this scenario, an electro-magnetic pulse (EMP) attack has similar impacts on equipment that GMD solutions may help mitigate.

Multi-Element Approach

The ESCC recommends that the full spectrum of risk management elements be considered to address these severe-impact risks; planning, prevention, mitigation, and recovery.

Planning Elements

Clarify Roles and Authorities	Establish clear responsibilities and authorities for planning and responding to an emergency or crisis, across the sub-sector, with other sectors, and with government.
Assess Risks	Establish robust situational awareness across the electricity sub-sector through timely, reliable, and secure information exchange. Assess available intelligence from government regarding threats and provide actionable information to sub-sector entities to improve protection and preparedness.
Conduct Technical Studies	Use sound risk management principles to conduct technical studies, evaluate risks and potential impacts, and identify possible improvements.

Prioritize Assets	Prioritize assets most important to reliability and take actions to protect them. Priorities should be developed in consultation with other stakeholders to consider the potential impacts on customers, other critical infrastructures, and government and national security infrastructure.
Identify Interdependencies	Understand key interdependencies with other critical infrastructures and collaborate with other sectors to address them, and incorporate that knowledge in planning and operations.
Evaluate and Test	Develop testing programs to probe vulnerabilities and identify opportunities to improve protection measures and evaluate preparedness.
Develop and Promote Guidelines	Develop and promote guidelines to inform sub-sector entities and prompt protection and recovery solutions.
Communicate	Strengthen public confidence in the electricity sub-sector's ability to manage risk by communicating how the sub-sector is prepared.
Funding Needs	Consider options for funding and cost recovery for critical infrastructure protection, particularly when objectives exceed assuring the reliability of the electricity system itself.

Prevention Elements

Detect and Prevent	Develop appropriate monitoring controls and protections to deter or prevent severe-impact risks. Employ defense-in-depth strategies. Work with infrastructure vendors and suppliers to enhance protections and recoverability.
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Mitigation Elements

Improve Resilience	Strengthen the inherent redundancy, flexibility, and capacity of the bulk power system to reduce the likelihood of unmitigated impacts on the system. Limit the adverse impact and preserve the reliability of the remainder of the system. Enhance, to the extent practical, the survivability of national security and critical infrastructures.
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Recovery Elements

Readiness	Develop and implement plans to maintain a state of readiness to respond to and manage events or crises that might adversely affect reliability.
Respond	Enhance entity and coordinated bulk power system-wide response. Response must include the capability to communicate quickly and effectively with affected stakeholders.

Restore the System Ensure plans are in place, exercised, and ready to be implemented to restore the system to reliable operation in the wake of a severe event. Ensure human and material resources are available, with particular attention on equipment that may not be readily available. In accordance with pre-established plans, restoration should recognize priorities with respect to customers, other critical infrastructures, and government and national security infrastructure

Multi-Year Roadmap

The ESCC recommends to the NERC Board of Trustees that NERC and its technical committees develop work plans to address these risk scenarios by more fully assessing the nature of the risks, considering alternative approaches, and recommending solutions for industry implementation. Given the breadth and complexity of these scenarios, the ESCC recommends that the technical committees join forces to make optimal use of their capabilities. The ESCC anticipates that significant resources will need to be brought to bear on some of these initiatives, and encourages the committees to prioritize this work accordingly, including assessing the relative urgency of other work currently underway.

Recognizing that it is not reasonable or effective for the sub-sector to attempt to take on all this work at the same time, the ESCC proposes a staged approach. Initiatives that will more directly enhance reliability and resilience are considered “high priority” and need to be addressed immediately. Others that yield benefits in the longer term are considered “important”. Progress will be monitored and reviewed periodically by the ESCC to provide further recommendations to the NERC Board of Trustees and guidance to the sub-sector.

Table 2: “Urgent” and “Important” Characteristics

Relative Importance	Characteristics
High Priority	<ul style="list-style-type: none"> • Risk has low likelihood, yet high consequence • Requires immediate action to reduce the risk • Action achievable within available resources • Action is largely within the control of sub-sector entities • Action enhances reliability during normal operations
Important	<ul style="list-style-type: none"> • Risk has unknown likelihood, yet high consequence • Requires immediate action to identify options and resources required to reduce the risk • Action may not be achievable within existing resources • Requires substantial coordination with other critical infrastructure sectors or government • Action has limited opportunity to enhance reliability during normal operations

The following table describes the relative priority associated with each of the three severe-impact scenarios identified earlier.

Table 3: Strategic Priorities

Goal	Scenario 1: Coordinated Physical Attack	Scenario 2: Organized Cyber Attack	Scenario 3: Geomagnetic Disturbance	Enhances reliability under less severe scenarios?
1. Establish robust situational assessment coordination and information exchange	High Priority	High Priority	High Priority	Yes
2. Implement protective measures	Important	High Priority	Important	Limited
3. Enhance contingency planning, training, and exercises	High Priority	High Priority	Important	Yes
4. Clarify critical infrastructure protection roles with government	High Priority	High Priority	High Priority	Limited
5. Address key interdependencies with other sectors	Important	Important	Important	Yes
6. Strengthen public confidence	High Priority	High Priority	Important	Yes

Monitor Progress

The ESCC considers the need to quickly demonstrate progress to address severe-impact risks to be a top priority for NERC and its stakeholders. Through its monthly conference calls and in-person meetings, the ESCC will monitor progress and provide additional guidance as necessary.

NERC Chairman Request to Technical Committees for Development of Action Plan on HILF Report Recommendations

Action Required

None

Background

A letter from NERC's Board of Trustees on May 25, 2010 from its Chair, Mr. John Q. Anderson, (**Attachment 1**) directed the Planning, Operating, and Critical Infrastructure Protection Committees to consider the nineteen proposed actions from NERC's/DOE's recently released report, entitled, "*High-Impact, Low-Frequency Event Risk to the North American Bulk Power System.*"¹ The aforementioned standing technical committees were requested to "*work with NERC staff to develop such an action plan and submit that plan to the Board of Trustees for its consideration within a reasonable time frame.*"

On June 28, 2010, the Chairs /Vice Chairs of these technical committees and NERC Staff held a meeting in Baltimore, MD, taking the initial steps towards development of an effective overall plan to address the nineteen proposals for action outlined in this report. The executive officers considered the deliberations and conclusions reached at the initial meeting of the restructured Electricity Sub-Sector Coordinating Council (ESCC), regarding strategies that enhance reliability and resilience, including physical and cyber security.

At this meeting, the technical Committee leadership collaboratively sought to formulate alignment between the ESCC objectives and the elements of a high-impact, low-frequency (HILF) Action Plan:

- 1) Identify the alignment of the proposed action items with the scope of the respective technical committees
- 2) Prioritize proposed action items according to importance (High, Medium and Low)
- 3) Delineate basic timeline to start activities (Near-, Mid-, and Long-Term)
- 4) Determine Standing Committee involvement (Lead, joint, support or no involvement)
- 5) Identify coordination points with the ESCC

After agreement on the above elements, the leadership discussed next steps, which include NERC staff development of a tactical plan for the proposed actions, scenario development to provide guidance to working groups, and agenda setting for the upcoming September 2010 committee meetings. The key outcome of this initial work will be used to formulate an effective overall plan representing a methodical approach for considering HILF elements, aligning these with a communication plan for use with regulatory and related entities that describes the electric reliability organization's and industry's efforts to address HILF events.

A July 22, 2010 conference call has been set to further develop this plan.

¹ <http://www.nerc.com/files/HILF.pdf>



NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Agenda Item 6.c.
Attachment 1

John Q. Anderson, Chairman
NERC Board of Trustees

May 25, 2010

**To: NERC Operating Committee
NERC Planning Committee
NERC Critical Infrastructure Protection Committee**

This week, the NERC Board of Trustees formally approved the *Summary Report on the November 2009 High-Impact, Low-Frequency Event Risk Workshop*. Thank you for your review and consideration of the document.

As you are aware, the document contains 19 *Proposals for Action* to more fully address these risks on a sector-wide basis. Through our approval of the document, we formally request that the committees work with NERC staff to develop such an action plan and submit that plan to the Board of Trustees for its consideration within a reasonable time frame.

We recognize that this request comes to the committees amid a large volume of work on subjects ranging from the reliable integration of renewables to cyber security to frequency response, in addition to the ongoing development of the seasonal and long-term assessments and other routine standing committee activities. We appreciate your efforts to accommodate this additional activity.

The volunteers making up NERC's standing technical committees are one of the organization's greatest assets. We commend you, as always, for your service and recognize your immeasurable contributions to this organization.

Regards,

John Q. Anderson
Chairman

cc: Gerry Cauley, President and CEO, NERC
David Cook, Vice President and General Counsel, NERC
Mark Lauby, Director, Reliability Assessments and Performance Analysis, NERC
David Hilt, Vice President and Director of Operations and Engineering, NERC
NERC Secretaries:
NERC Operating Committee
NERC Planning Committee
NERC Critical Infrastructure Protection Committee

CIP Version 4 Standards

Action Required

None

Background

In early May, 2010, the Cyber Security Order 706 standard drafting team posted for the first time a set of proposed standards to replace existing Version 3 of CIP-002 through CIP-009. In concert with the informal posting of CIP-010-1 and CIP-011-1, the standards designated to replace the existing suite, the team hosted an extremely successful workshop to discuss the standards on May 19–20, 2010 in Dallas, Texas. Over 230 stakeholders attended the workshop in person in addition to over 500 participants on the conference call and Webinar that accompanied the workshop. The team received an abundance of valuable input in the 700 questions received during the workshop and nearly 900 pages of comments submitted in response to the informal posting.

Following the close of the comment window in early June, the team met to determine its next steps. Based on the input and feedback received from the industry, the team recommended that the timeline for delivery of CIP-010-1 and CIP-011-1 in a filing to FERC be modified until mid-2011. The major issues the team is contemplating are summarized as follows:

- a) To shift the focus of the CIP-010 and CIP-011 standards from critical assets to BES Cyber Systems
- b) To restructure the CIP-010 and CIP-011 standards to more broadly identify and protect all BES cyber systems with some level of impact protection
- c) To provide ‘engineering’ justification for the thresholds and criteria in the bright line definitions
- d) To combine the controls requirements standards (CIP-003 to CIP-009) into one standard (CIP-011) or keep them as separate standards
- e) To address all of the directives included in FERC Order 706

To support NERC in its goal to deliver a revised version of the CIP standards in 2010 to address the perception that the existing CIP-002 framework is not adequately capturing critical assets to which the remaining standards apply, and to acknowledge and address an unsolicited proposal to scuttle the CIP-010-1 and CIP-011-1 framework completely, the drafting team, working with NERC staff and the Standards Committee, proposed to produce a revised CIP-002-4 standard before the end of 2010, while permitting the team to continue on its path to produce CIP-010-1 and CIP-011-1 in 2011.

The significant difference in the proposed CIP-002-4 standard is the inclusion of specific criteria to identify critical assets, using a modified High Impact categorization framework similar to that proposed in the draft CIP-010-1 standard to identify the BES Cyber Systems that must comply with the CIP-003 through CIP-009 requirements. This approach would retire the risk-based assessment approach currently used in CIP-002-3, and would provide for more consistency in the determination of critical assets.

Since the impact of applying the new criteria is unknown relative to the number of assets that will be ultimately identified by the industry, NERC will issue a Section 1600 Rules of Procedure Data Request to be submitted for NERC Board approval at its August 5, 2010 meeting. This request will survey registered entities currently responsible for complying with the current CIP requirements to identify the differences in the number of assets identified using the new proposed methodology versus those identified through the current application of CIP-002-3. The team will utilize this information to validate the bright line criteria proposed in CIP-002-4 in order to produce a final draft of the standard for industry comment and ballot in late 2010 and eventual filing with FERC by the end of 2010.

Response to March 18, 2010 FERC Order on Revisions to Standards Process and Comments Following July 6, 2010 Technical Conference

Action Required

Discussion

Background

On March 18, 2010, the Federal Energy Regulatory Commission (FERC) issued an order directing NERC to file, by June 16, 2010, changes to NERC's Rules of Procedure that: (1) ensure that standards drafting teams comply with FERC directives by developing new or revised Reliability Standards that satisfy applicable FERC directives; and (2) ensure that a negative vote of the ballot body cannot block NERC's ability to file with FERC new or modified Reliability Standards that satisfy applicable FERC directives.

On May 12, 2010, the NERC Board of Trustees exercised its authority under NERC's Bylaws to shorten the comment period to and including June 4, 2010, regarding proposed amendments to NERC's Rules of Procedure to deal with the requirements of the March 18 Order. NERC posted the proposed amendments on May 18. In response, NERC received 26 sets of comments from industry participants, including U.S. and Canadian entities, as well as industry trade associations. NERC incorporated a number of those suggestions into the proposed amendments to the Rules of Procedure. The proposed amendments establish accountability for addressing all regulatory directives. The principal change to the Rules of Procedure is to add a new Rule 321, Special Rule to Address Certain Regulatory Directives. Rule 309 contains conforming changes to reference new Rule 321. According to Rule 309, if, at the conclusion of the existing development process, a standard is not produced that achieves the two-thirds weighted segment majority and that addresses a specific matter that is identified in a directive issued by an applicable ERO governmental authority, then Rule 321 of the Rules of Procedure will apply. The NERC Board approved these amendments at its June 11, 2010 conference call for filing on June 16.

NERC (and many others) has sought rehearing of that March 18 Order. In addition, NERC requested a stay of the March 18 Order and a public conference to provide an opportunity for NERC, stakeholders, and FERC to discuss the issues underlying the March 18 Order. On June 15, FERC ordered a 90 day extension to comply with its March 18th order and noticed its intention to convene a technical conference that was ultimately held on July 6, 2010. Accordingly, NERC withheld the filing that proposed amendments to the NERC Rules of Procedure.

NERC, industry stakeholder representatives from the United States and Canada, and Canadian provincial regulators participated on the two panels at the technical conference. NERC is expected to file additional formal comments in accordance with FERC policy by July 26, 2010, comments that will be discussed at the August 4, 2010 MRC meeting.

Oversight of Standards Development Program and Other Standing Committees

Action Required

Discussion

Background

The following standing committees report directly to the Board of Trustees:

- Operating Committee (OC)
- Planning Committee (PC)
- Critical Infrastructure Protection Committee (CIPC)
- Standards Committee (SC)
- Compliance and Certification Committee (CCC)
- Personnel Certification Governance Committee (PCGC)

From a general perspective, each committee sets its priorities in annual work plans and reports progress periodically to the board. However, active interactions between the board and each committee are typically limited to review and approval of final products, changes to rules of procedure, or changes to scope documents. One could say these standing committees are largely self-directed in terms of priorities and initiatives, although the board does occasionally direct committees to perform certain tasks to address emerging reliability issues or regulatory mandates. Some of the committees also have standing obligations to the board, such as annual reliability assessments and seasonal assessments.

The form of the relationships with the standing committees may have shifted over time as a result of the transition from a voluntary organization to the ERO. As a voluntary organization, the previous stakeholder board often directed its priorities to standing committees for implementation, supported by staff. The ERO, however, has a number of statutory functions that are principally directed by staff, such as compliance monitoring and enforcement, event analysis, situation awareness, and training.

Self-direction is a particularly apt characteristic of the process for developing reliability standards. Over the several years the process has been in place, there has been an emphasis placed on allowing each drafting team to determine the timing and deliverables from its work. This is consistent with the ERO model adopted by Congress that provides deference to industry technical experts in the development of reliability standards. Work of the drafting teams is, however, guided by a three-year work plan that is periodically reviewed by the board. The board recently approved changes to the Standards Committee scope and the Reliability Standards Development Procedure to strengthen the role of the Standards Committee in achieving accountability for the timely delivery of high priority standards needed for reliability.

The March 18, 2010 orders by the Federal Energy Regulatory Commission (FERC) and the July 6, 2010 FERC technical conference on reliability standards development provided an opportunity to reflect on the question whether there is presently sufficient oversight and direction from the Board of Trustees in the area of reliability standards development. Regulatory mandates, identification of significant risks to bulk power system reliability, and emerging issues and technologies often dictate action by the ERO. In some cases failing to deliver critical results in a timely fashion could undermine the credibility of the ERO and jeopardize the overall effectiveness and reputation of the ERO.

A parallel set of questions can be asked of the other standing committees, although the question there may be more along the lines of whether NERC is making effective and efficient use of stakeholder resources to produce valuable results to improve reliability? Would the OC and PC benefit from a more robust dialog with the board regarding priority initiatives and deliverables? Similar questions could be asked about the CCC. With the principal responsibilities for the compliance program resting with the Board of Trustees Compliance Committee and the NERC and regional staffs, how could NERC make better use of the CCC as a valuable resource for improving reliability? What oversight and direction should the board be providing to the CCC and how should progress be measured?

The CIPC has unique and perhaps even more urgent challenges, as there is significant uncertainty regarding strategic direction for protection of critical infrastructure both in government and the private sector. The Electricity Sub-Sector Steering Council (formerly the ESSG) is working toward fulfilling this leadership role by developing a strategic roadmap for NERC in this area.

The PCGC is unique in that it has a clearly defined mission to manage the operator certification program.

Discussion Questions

1. What is the nature of the oversight and direction that the Board of Trustees should provide to the standards development program to ensure the success of the ERO and improve reliability?
2. Should the board consider forming a standards committee of the board to address this oversight role and to provide additional emphasis?
3. What activities could the board, or a committee of the board, undertake to improve the oversight of the standards development program?
4. How can the board improve its oversight of the remaining standing committees: OC, PC, CIPC, CCC, and PCGC, particularly with regard to timely delivery of results that have an impact on improving bulk power system reliability?
5. What is an appropriate set of responsibilities for the CCC, considering the current role of the BOTCC and staff in implementing the compliance program?

Executive Forum on Reliability

Action Required

Discussion

Background

During the July 6, 2010 Reliability Standards Development Technical Conference led by the Federal Energy Regulatory Commission (FERC), there was wide agreement by most panelists regarding the importance of improving communications and working relations among senior leaders at the Commission and its Canadian counterparts, NERC, and industry. The discussion converged on the concept of a forum to engage senior leadership (e.g., commissioners, chief executive officers, and equivalents) in open communication on reliability policy issues and strategic priorities.

The forum would not be a decision-making or policymaking body, but would allow the airing of perspectives and foster a better understanding of roles and priorities. For instance, such a forum could be used to better understand the scope and meaning of reliability (e.g., cascading versus load loss), tradeoffs between reliability and cost to customers, strategic objectives with regard to critical infrastructure security, reliability impacts of new technologies, and priorities for addressing risks to reliability. The forum could also clarify roles and expectations with regard to setting of reliability standards.

Such a forum could have an added benefit of reengaging CEO level participation in NERC activities. At one time, NERC's board was made up principally of industry CEOs. These leaders would assess emerging reliability issues and reach agreement on priorities. As NERC moved to its independent board of trustees, one of the consequences has been a disengagement of CEOs from the NERC process. At the same time, industry executives want and need assurance that the ERO is working and achieving reliability objectives. One factor critical to the success of the Institute of Nuclear Power Operations (INPO) was the active involvement of CEOs in expressing mutual objectives and applying peer pressure. NERC also has an existing precedent for CEO engagement in the Electricity Sector Steering Group (ESSG), which has advised the NERC board on critical infrastructure protection issues for the past two years.

One Possible Framework for Purpose of Inviting Discussion and Input

The following is one suggestion introduced for the purpose of spurring discussion. Alternative approaches should be raised during discussion.

- Forum includes:
 - FERC commissioners (five)
 - Representative counterparts from Canada (up to five as available)
 - NERC trustees (chairman, CEO, and up to one additional trustee)
 - Industry executives
 - Investor-owned (three CEOs)
 - Public power (two CEOs, preferred one large and one small)

- Cooperative (two CEOs, preferred one G&T and one distribution cooperative)
- Canada (two CEOs, one east and one west)
- Marketer (one CEO)
- Independent producer (one CEO)
- End-use customer (one CEO or chief public advocate)
- Meet approximately half a day in conjunction with NERC Board of Trustees and Member Representatives Committee
 - One or two meetings per year as needed (possibly in Washington, D.C. and Canada)
 - Meeting conducted in an open forum with allowance for comments by observers at select points
 - Structured agendas focused on a small number of key issues for each session, allowing for in-depth dialog
 - Preparatory work by staffs
- Discussions are advisory and nonbinding – no policymaking or formal actions

Discussion Questions

1. Would an executive forum provide an effective means to improving communications and working relations among regulators, the ERO, and industry on reliability matters?
2. Are there alternative approaches?
3. Who should participate in the executive forum? Is the proposal sufficiently balanced?
4. Does the proposal for open meetings and observer comments provide sufficient transparency and openness?
5. Does tying sessions to the NERC board and MRC meeting adequately address concerns for efficiency and accessibility by stakeholders?
6. Would the success of NERC in achieving its reliability objectives as the ERO be enhanced by allowing the industry executive involved in such a forum to act as an advisory group to the NERC board?

Response to March 18, 2010 Orders on Specific NERC Standards

Action Required

None

TPL-002 — Acceptable Load Loss

In its March 18, 2010 order, FERC directed NERC to submit a modification to Table 1, footnote (b) of TPL-002-0 that responds to an Order 693 directive regarding the loss of non-consequential load following a single contingency event. NERC was directed to file this modification by June 30, 2010. FERC directed in Order 693 that NERC clarify footnote (b) to disallow a loss of such firm load or the curtailment of firm transactions after a first contingency of the bulk electric system. NERC filed a request for rehearing on the basis that FERC exceeded its scope of authority under Section 215 of the Federal Power Act by directing a specific standard change to be made. NERC also filed a motion to stay the order and requested that FERC convene a technical conference to discuss the issues surrounding the directive. In its June 11, 2010 response, FERC denied the request for stay, declined to conduct a technical conference, but extended the compliance filing deadline to March 31, 2011.

In response to the March 18, 2010 Order, NERC assigned the Project 2006-02 — Assess Future Transmission Needs drafting team to address the directive. This team is working to produce a complete set of revised Transmission Planning (TPL) standards. To this end, the team produced a revised set of TPL requirements for initial ballot in February, 2010. The proposal, which contained modifications to address the FERC Order 693 directives, failed to produce sufficient industry support, achieving only a 35 percent approval. Accordingly, the team refocused its efforts on addressing only Table 1 footnote (b) to be responsive to the March 18, 2010 order. NERC initially balloted a revised set of TPL standards with the footnote (b) related changes in late May, achieving 63.75 percent approval, slightly less than the required two-thirds. However, the ballot comments sharpened the focus on the concerns surrounding the loss of non-consequential load following a single contingency. The key issue surrounds the absoluteness of the limitation regarding the loss of non-consequential firm load, whether certain cases should be permitted where the load loss does not impact BES reliability (i.e., local impacts), and if exceptions are permissible, the criteria to be applied for their use. The drafting team continues to deliberate on these issues and believes input from a wider constituency would be helpful. To that end, NERC plans to conduct a technical conference in early August to discuss these matters.

BAL-003 — Frequency Response and Bias

In its March 18, 2010 Order, FERC established a six month compliance deadline for NERC to submit the modifications to BAL-003-0 — Frequency Response and Bias as directed in Order No. 693. NERC sought rehearing and clarification on two issues: (1) that FERC erred in its Order by stating that the standard sets the frequency response of Balancing Authorities to be approximately one percent of peak load or generation or greater; and (2) that NERC determine within six months the necessary amount of frequency response needed for reliable operation, indicating that the technical challenges to be addressed will not be able to be accomplished in this timeframe. In its request, NERC proposed an action plan to fully address the issues regarding frequency response.

Concurrent with these actions, NERC organized subject matter experts from the existing Frequency Response drafting team as well as representatives from the Resources Subcommittee and other key individuals, working with NERC staff, to produce a revised BAL-003 standard to meet the compliance filing deadline.

On May 13, 2010, FERC issued an order granting rehearing for further consideration of the issues surrounding frequency response and indicated its intention to convene a technical conference to provide the opportunity for public discussion on the issues. FERC has not yet established a date for the technical conference. Also, FERC directed NERC to submit within 30 days of the technical conference a proposed schedule with firm deadlines for completing the studies and analyses necessary to develop the frequency response requirements and for submitting a modified standard that addresses the Order 693 directives. As such, FERC deferred the six month compliance deadline set forth in the March 18, 2010 order.

The drafting team continues to proceed with the development of a responsive standard, an effort that is expected to produce the first draft of a revised BAL-003 standard for industry review by the end of July. The revised standard is projected to be complete in early 2011, although the schedule may be impacted by a pending decision to conduct a field test for measuring frequency response. Additional modifications to the standard will likely be necessary in the future as further technical analysis is completed that will lead to greater specificity in frequency response expectations.

BAL-004-1 — Time Error Correction

In its March 18, 2010 NOPR, FERC proposed to remand the proposed BAL-004-1 — Time Error Correction reliability standard NERC filed in March, 2009, in order for NERC to modify the proposal to address several issues identified in the NOPR. In response to the NOPR, NERC expressed concern regarding the perceived benefits of time error correction relative to the potential adverse reliability impacts of the practice. NERC recommended a broader policy discussion take place to discuss this matter, and suggested that implementing the proposed changes identified by the Commission would distract from the needed policy discussion, and expend industry resources for an activity with questionable reliability value. NERC suggested the Commission convene a technical conference to determine the best course forward.

To this end, NERC and FERC staffs have engaged in preliminary discussions about Time Error Correction and will continue this dialogue to a mutually satisfactory conclusion.

On a related note, NERC was informed by the Midwest ISO of its intention to withdraw from performing Interconnection Time Monitor services for the Eastern Interconnection beginning February, 2011. Absent a change in policy regarding Time Error Correction, NERC will need to assign a new Interconnection Time Monitor for the Eastern Interconnection.

Plan for Addressing Remaining Order 693 Directives

Action Required

None

Background

On March 18, 2010, FERC issued several orders and notices of proposed rulemakings (NOPR) pertaining to standards development activities and processes, indicating a lack of progress on standards development in general, and in response to Order 693 directives, in particular. The NERC Standards Committee engaged in a lengthy discussion at its April, 2010 meeting on how to be more responsive in addressing regulatory directives and for more efficiently completing projects, particularly those deemed by the Standards Committee to be on the “top priority” list. At its June 16th meeting, the Standards Committee agreed to move forward with a proposal to expedite development of standards that address certain directives from Order 693 that were considered non-controversial and did not conflict with work already underway using an existing drafting team; i.e., could be modified, balloted, and filed in a very short amount of time. As a result, Project 2010-12 — Order 693 Directives, has produced several draft standards changes for comment and ballot with a deliverable targeted for the August, 2010 Board meeting.

The focus now is to identify the next steps to address Commission directives that remain outstanding to meet the overarching goal of addressing outstanding Order 693 directives by the end of 2011. Below is framework regarding how NERC may move forward in this effort:

1. Identify all drafting teams that are nearing completion of projects that include as part of their scope addressing Order No. 693 directives (i.e., standards expected to ballot by April, 2010). Allow these teams to implement the new Standards Development Process (when approved by FERC) to complete their efforts, giving them the flexibility to post concurrent with the first ballot and to make changes between ballots.
2. Identify remaining active drafting teams that have projects that address one or more regulatory directives. NERC staff will review with the drafting teams the work plan for the completion of those projects with consideration of whether they can develop their standards in phases with an initial phase to produce standards modifications that address simpler directives, followed by an additional phase that addresses the more complex changes and directives.
3. Identify all remaining directives (from Order 693 and other orders) that have yet to be assigned to a standards drafting team. Create a new project and assemble a Standards Drafting Team to review these directives, identify those which can be addressed separately, and develop changes to the standards for balloting, drawing upon industry subject matter expertise as necessary.
4. Coordinate with FERC staff to develop a standard format for listing and tracking directives to ensure that NERC complies with or otherwise addresses all directives.
5. Undertake a full audit of all directives and establish a consistent mechanism for tracking completion of these activities.

Culture of Reliability Excellence

Action Required

Discussion

Background

At its May 2010 meeting, committee chairman Tymofichuk introduced the subject, “Building a Culture of Compliance” and what might be done to build a stronger culture and to promote “excellence” in bulk power system reliability performance. The committee will continue its discussion of this topic using the following questions and statements to stimulate and focus the discussion. To further enhance this discussion committee members are encouraged to submit their views on these questions and statements in advance of the meeting to committee secretary, Dave Nevius (dave.nevius@nerc.net).

- What organizational behaviors illustrate a culture of Reliability Excellence?
- What might be some of the attributes of these behaviors?
 - Encouraging employees to identify reliability improvement opportunities
 - Corporate boards and CEOs making Reliability Excellence a corporate goal or priority
 - Formal mechanisms in place to drive reliability improvement
- How would you measure that behavior and its characteristics?
- How should that behavior be promoted so entities go beyond just the “letter” of the standards?
- Should compliance be viewed as a necessary but not sufficient element of “Reliability Excellence”?
- What is the concept of compliance “margin”?
- Is there a difference between managing reliability vs. managing compliance?

MRC Officer Elections and MRC Nominations

Action Required

None

Background

Committee chairman Ed Tymofichuk will explain the upcoming election of MRC officers and the procedure for MRC nominations for those members whose terms expire in February 2011.

The schedule for these elections is shown below. The MRC membership terms list (**Attachment 1**) and applicable sections of the NERC Bylaws (**Attachment 2**) are attached for information.

MRC Officer Elections

September 1 – nomination period opens

October 1 – nomination period closes

November 3 – election of officers for following year by current MRC members

MRC Member Nominations and Elections

September 13 – nomination period opens

November 12 – nomination period closes

December 13 – election begins

December 22 – election ends

Expected Membership of Member Representatives Committee for 2010 – 2011

Sector	Terms expiring February 2011	Terms expiring February 2012
Voting Members		
Chairman	Ed Tymofichuk	
Vice Chairman	William Gallagher	
Investor-Owned Utility	Nabil Hitti	Carol Chinn
State/Municipal Utility	Gayle Mayo	Timothy J. Arlt
Cooperative Utility	John Prescott	Michael L. Smith
Federal/Provincial Utility	Anthony Montoya	Julius Pataky
Federal/Provincial Utility	Carmine Marcello ¹	
Transmission Dependent Utility	Terry Huval	John Twitty
Merchant Electricity Generator	William Taylor III	Scott Helyer
Electricity Marketer	Trent Carlson	Roy True
Large End-Use Electricity Customer	John A. Anderson	Michelle D'Antuono
Small End-Use Electricity Customer	Charles Acquard	Lawrence P. Nordell
ISO/RTO	Terry Boston	Paul Murphy
Regional Entity ²	John Giddens (FRCC)	Dave Areghini (WECC)
State Government	Steve Oxley	Thomas Dvorsky
Non-Voting Members		
Canadian Provincial	Jean-Paul Théorêt	
Canadian Federal	Amitabha Gangopadhyay	
U.S. – Federal	Pat Hoffman	
U.S. – Federal	Joseph McClelland	
Regional Entity	Dale Landgren (MRO)	
Regional Entity	Bruce Campbell (NPCC)	
Regional Entity	James Keller (RFC)	
Regional Entity	Terry Blackwell (SERC)	
Regional Entity	Stacy Dochoda (SPP)	
Secretary	Dave Nevius	

¹ Article VIII, Section 4 of the NERC Bylaws state that [i]f the annual selection of members of the [MRC]... does not result in the number of Canadian voting representatives...on the [MRC], then the candidate who received the highest vote total among those candidates who would have qualified as Canadian voting representatives but were not elected to the [MRC] shall be added to the [MRC]. Carmine Marcello was added to the MRC under this provision.

² The Sector 11 Members adopted an election protocol where each year the two voting seats rotate among the seven Regional Entity seats at the MRC.

Excerpts from NERC Bylaws

Section 3 — Election of Members of the Member Representatives Committee

- a. Unless a sector adopts an alternative election procedure, the annual election of representatives from each sector to the Member Representatives Committee, and any election to fill a vacancy, shall be conducted in accordance with the following process, which shall be administered by the officers of the Corporation. During the period beginning approximately ninety (90) days and ending approximately thirty (30) days prior to an annual election, or beginning approximately forty-five (45) days and ending approximately fifteen (15) days prior to an election to fill a vacancy, nominations may be submitted for candidates for election to the Member Representatives Committee, provided that for the initial election the period may begin as soon as these bylaws are made effective and may end approximately fifteen (15) days prior to the election. A nominee for election as a sector representative must be a member, or an officer, executive-level employee or agent of a member, in that sector. No more than one nominee who is an officer, executive-level employee or agent of a member or its affiliates may stand for election in any single sector; if more than one officer, employee or agent of a member or its affiliates is nominated for election from a sector, the member shall designate which such nominee shall stand for election. The election of representatives shall be conducted over a period of ten (10) days using an electronic process. Each member in a sector shall have one vote for each representative to be elected from the sector in that election, and may cast no more than one vote for any nominee. The nominee receiving the highest number of votes in each sector shall be elected to the representative position to be filled from that sector; if there is more than one representative position to be filled from a sector, the nominee receiving the second highest number of votes shall also be elected, and so forth. Provided, that to be elected a nominee must receive a number of votes equal to a simple majority of the members in the sector casting votes in the election. If no nominee in a sector receives a simple majority of votes cast in the first ballot, a second ballot shall be conducted which shall be limited to the number of candidates receiving the two (2) highest vote totals on the first ballot (or to the number of candidates receiving the four (4) highest vote totals on the first ballot if two representative positions remain to be filled, and so forth). The nominee or nominees receiving the highest total or totals of votes on the second ballot shall be elected to the representative position or positions remaining to be filled for the sector.

A sector may adopt an alternative procedure to the foregoing to nominate and elect its representatives to the Member Representatives Committee if (i) the alternative procedure is consistent in principle with the procedures specified in the preceding paragraph of this Section 3a, and (ii) the alternative procedure is approved by vote of at least two-thirds of the members in the sector. Any alternative procedure is subject to review and disapproval by the board.

Section 4 — Adequate Representation of Canadian Interests on the Member Representatives Committee — In addition to the requirements for composition of the Member Representatives Committee specified in Section 1 of this Article VIII, the Member Representatives Committee shall contain a number of Canadian voting representatives equal to the percentage of the NEL of Canada to the total NEL of the United States and Canada, times the total number of voting members on the Member Representatives Committee, rounded up to the next whole number. If the annual selection of members of the Member Representatives Committee pursuant to Section 3 of this Article VIII does not result in the number of Canadian

voting representatives provided for herein on the Member Representatives Committee, then the candidate who received the highest fraction of the sector vote among those candidates who would have qualified as Canadian voting representatives but were not elected to the Member Representatives Committee shall be added to the Member Representatives Committee. Additional Canadian voting representatives shall be added to the Member Representatives Committee through this selection process until the Member Representatives Committee includes a number of Canadian voting representatives equal to the percentage of the NEL of Canada to the total NEL of the United States and Canada, times the total number of voting members on the Member Representatives Committee, rounded up to the next whole number. Provided, that no more than one such additional Canadian voting representative shall be selected from a sector, except that if this limitation precludes the addition of the number of additional Canadian voting representatives required by the previous sentence, then no more than two Canadian voting representatives may be selected from the same sector. Such additional Canadian voting representatives shall be representatives of the sectors in which they stood for election, and shall serve terms expiring at the next annual meeting of the Member Representatives Committee pursuant to Section 7 of this Article VIII. For purposes of this Section 4, "Canadian" means one of the following: (a) a company or association incorporated or organized under the laws of Canada or of a province of Canada that is a member of the Corporation, or its designated representative irrespective of nationality; (b) an agency of a federal, provincial, or local government in Canada that is a member of the Corporation, or its designated representative irrespective of nationality; or (c) a person who is a Canadian citizen residing in Canada and is a member of the Corporation.

When the Corporation receives recognition from appropriate governmental authorities in Mexico as the electric reliability organization, this provision will be expanded to provide for adequate representation of Mexican interests on the Member Representatives Committee.

Section 5 — Officers of the Member Representatives Committee — At the initial meeting of the Member Representatives Committee, and annually thereafter prior to the annual election of representatives to the Member Representatives Committee, the Member Representatives Committee shall select a chairman and vice chairman from among its voting members by majority vote of the members of the Member Representatives Committee to serve as chairman and vice chairman of the Member Representatives Committee during the upcoming year; provided, that the incumbent chairman and vice chairman shall not vote or otherwise participate in the selection of the incoming chairman and vice-chairman. The newly selected chairman and vice chairman shall not have been representatives of the same sector. Selection of the chairman and vice chairman shall not be subject to approval of the board. The chairman and vice chairman, upon assuming such positions, shall cease to act as representatives of the sectors that elected them as representatives to the Member Representatives Committee and shall thereafter be responsible for acting in the best interests of the members as a whole.