

# **Reliability Standards**

#### NERC Board of Trustees Meeting February 9, 2012 Herb Schrayshuen, Vice President Standards and Training





- Approve standard and supporting documents and direct staff to file with the applicable authorities
  - Reliability Standard FAC-001-1–Facility Connection Requirements
  - Reliability Standard PRC-004-2.1a–Analysis and Mitigation of Transmission and Generation Protection System Misoperations
  - Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for FAC-001-1
  - Implementation plans for FAC-001-1 and PRC-004-2.1a



- Ensures the responsibility for generator interconnection facilities is appropriately assigned in Reliability Standards
- Addresses registration issues raised by the industry



- Ballot for Project 2010-07 closed on December 23, 2011 with the following results:
  - FAC-001-1: quorum 88%, approval 90%
  - PRC-004-2.1a: quorum 87%, approval 96%
- Non-binding poll of VRFs and VSLs conducted in January 2012
  - VRFs and VSLs: quorum 78%, approval 93%



- Level 1 Appeal filed by Exelon on January 20, 2012
  - Contends a substantive change was made between the final successive ballot and recirculation ballot
  - Appeal is being considered
  - Appeal process allows 45 days to respond to a Level 1 appeal



- Should NERC staff delay regulatory filings when future work is pending?
- How best to resolve the question of whether the response of the Standard Drafting Team is complete?



 Approve the Interpretation of Requirement R1.1 of CIP-006—Cyber Security—Physical Security of Critical Cyber Assets (CIP-006) and direct staff to file with applicable regulatory authorities



- Initial draft of the interpretation developed and posted for initial ballot in August 2008
  - Stakeholders did not support the draft interpretation
- Second draft interpretation developed and posted for initial ballot from September–October 2009
  - Stakeholders supported the draft interpretation
    - Project delayed based on reprioritization of the total standards workload
    - Project additionally delayed until the Standards Committee developed more formal processes for addressing interpretations in response to the Board of Trustees November 2009 guidance



- April 2011–Standards Committee Interpretation Guidelines approved
- CIP Interpretation Drafting Team appointed in July 2011 to address the outstanding CIP interpretations in the order of the date of the request
  - Team determined the second draft interpretation did not conform to the NERC Guidelines for Interpretation
  - In light of the new guidance, a third interpretation was developed with consideration of all intervening commission orders



- Third interpretation posted for comment on October 12, 2011, with a parallel successive ballot conducted from November 11–21, 2011
  - Quorum 84% , approval 96%
- Recirculation ballot conducted on December 9–19, 2011 and the interpretation was approved by stakeholders
  - Quorum 88% , approval 96%



- Consider action on the Interpretation of Requirement R2 of COM-002-2—Communications and Coordination
- Interpretation handled in accordance with revised Standards Interpretation process
- In terms of Standards Process, Interpretation is here for approval by the board
- NERC management does not recommend approval at this time



- October 1, 2009–Clarification of Requirement R2 of COM-002-2 requested by the IRC
- Work on the interpretation initially delayed based on reprioritization of the total standards workload, and revision of the Standards Committee's process for addressing interpretations
- April 2011–Standards Committee Interpretation Guidelines approved
- Standards Committee initiated a plan to simultaneously address three part communication protocols through:
  - The interpretation of COM-002-2 as Project 2009-22
  - Project 2007-02 Operating Personnel Communications Protocols COM-003



- August 30, 2011–Standards Review Committee of the IRC submitted a Level 1 Appeal for inaction related to Project 2009-22
- Appeal of COM-002-2 Interpretation requested:
  - Project 2009-22 be given an "immediate/urgent" priority within 30 days of receiving the appeal
  - NERC to provide a formal explanation of the delays associated with the Project
  - In response to the appeal, the interpretation was moved forward separately from Project 2007-02



- Revised interpretation posted for industry comment on October 10, 2011, with a parallel ballot conducted November 8-18, 2011
  - Quorum 91%, approval 95%
- Recirculation ballot conducted on December 14-23, 2011
  - Quorum 92% , approval 95%





- Reliability concerns
  - Interpretation, if enacted, will put Operators in the position of having to change communications approach during an emergency
  - Impact of miscommunication causing a mishap on the bulk power system does not differ whether it occurs during routine operations or during emergency operations
  - There have been events where review of the transcripts reveals miscommunication that contributed to the severity
- Compliance concerns
  - This also creates an unnecessary level of confusion for registered entities and compliance auditors



- Approve the following standards documents and direct staff to file with applicable regulatory authorities:
  - Reliability Standard MOD-028-2–Area Interchange Methodology effective consistent with the Implementation Plan for MOD-028-2
  - Implementation Plan for MOD-028-2
- Rapid Revision Pilot



- May 2011–Florida Power & Light (FPL) requested an interpretation of MOD-028-1, Requirement R3.1.
- Requirement R3 was modified to clarify language regarding load forecasting, to indicate:
  - For days two through 31, a daily load forecast is required (identical to the current standard)
  - For months two through 13, a monthly load forecast is required (identical to the current standard)
  - For current-day and next-day, entities may use either a daily or hourly load forecast
- The modifications do not change the scope or intent of the previously approved standard



- In the July 2011 the SC decided to use the Rapid Revision process for this interpretation request
- Ballot Process
  - The standard was posted for a parallel comment period and initial ballot on October 3, 2011, with the ballot conducted November 7-16, 2011

Quorum 88%, approval 86%

 A recirculation ballot was conducted from December 12-22, 2011

Quorum 90%, approval 92%



- Approve PRC-006-NPCC-1 and supporting documents. Direct staff to file with applicable regulatory authorities
  - Reliability Standard PRC-006-NPCC-1–Automatic Underfrequency Load Shedding (UFLS)
  - Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for PRC-006-NPCC-1
  - Implementation Plan for PRC-006-NPCC-1





- PRC-006-NPCC-1—automatic Underfrequency Load Shedding (NPCC UFLS Standard) was developed to provide regional requirements for Automatic Underfrequency Load Shedding (UFLS) to applicable entities in NPCC
  - The NPCC UFLS Standard applies to each Generator Owner, Planning Coordinator, Distribution Provider, and Transmission Owner in the NPCC Region



- Proposed UFLS standard posted for four stakeholder comment periods over a three-year period, with an initial ballot, a recirculation ballot, and approval by NPCC's Board of Directors
- Standard underwent two complete quality reviews by NERC staff
- UFLS standard posted on the NERC website for industry review to identify any process, interregional reliability, or market concerns



- Approve the following regional standards process and direct staff to file with applicable regulatory authorities:
  - Revision 2 of SERC Reliability Corporation Regional Standards Development Procedure dated December 14, 2011



### Revisions

- Revision 1 of the SERC Regional Standards Development Procedure, Exhibit C to SERC Regional Delegation Agreement, approved by FERC and became effective January 3, 2009
- Revisions of this document were required to:
  - Address the document's three-year review and re-approval requirement
  - Address issues identified during the NERC 2009 audit of SERC
  - Make revisions to improve process efficiency and reduce time required to develop a regional standard
  - Ensure alignment with the NERC Standard Processes Manual
  - Ensure alignment with the revised SERC Bylaws
- Revision 2 approved by the SERC Board Executive Committee on December 14, 2011



# **Event Analysis Process**

#### NERC Board of Trustees Meeting Earl Shockley, Director of Reliability Risk Management February 9, 2012





- 1. Working group scope approved by Operating Committee and Planning Committee (June 2010)
- 2. Team consisted of individuals representing NERC, Regional Entities, stakeholders
- 3. Field trial consisted of two phases of data gathering
- 4. Process document had two revision periods based on:
  - Input from many audiences
  - Surveys from stakeholders who participated in field trial
  - Lessons learned and opportunity of improvement from the field trial

#### **Highlight**

**Collaborative effort by a diverse team of experts addressing a very sensitive subject** 



**Next Steps** 

### Seeking approval by the NERC Board of Trustees

- NERC staff comments
- Operating Committee (comments from Chair)
- Planning Committee (comments from Chair)





- This is a success story
- There is a commitment to future learning





## Status of Critical Infrastructure Initiatives

Board of Trustees Meeting Matt Blizard, Director of Critical Infrastructure Protection February 9, 2012



#### **RELIABILITY | ACCOUNTABILITY**





- White House Electric Sector Cybersecurity Risk Management Maturity Pilot Program
- Energy Security Public-Private Partnership (ES3P)
- Grid Exercise (GridEx) 2011
- Electricity Sector Information Sharing and Analysis Center (ES-ISAC)
- Improving critical infrastructure protection (CIP) Audits

# NERC White House Electric Sector Cybersecurity

- White House initiative led by Department of Energy (DOE)
- Partnership with Department of Homeland Security (DHS)
- Key players White House Staff, DOE, DHS, Electricity Subsector Coordinating Council, selected owner operators, and trade representatives
- Collaborative approach to develop
  - A cybersecurity risk management maturity model
  - A common understanding of cybersecurity risk management capabilities of the ES

# NERC White House Electric Sector Cybersecurity

#### • Action Plan

- Phase 1, complete maturity model
- Phase 2, pilot the model and obtain feedback
- Phase 3, finalize model and provide expanded use recommendation (April-May 2012)



### Energy Security Public-Private Partnership (ES3P)

- Joint Working Group
- Brings DOE, DOD, and DHS together with industry and industry trade associations
- Provides a protected environment for Mission Assurance and Critical Infrastructure discussion
- Enhance resilience planning to achieve sustainable and cost-efficient CIP enhancements
- Formation documents complete; first meeting planned for the February-March timeframe



GridEx 2011

#### • Purpose

- Validate readiness of the ES to respond to a cyber incident
- Strengthen utilities' crisis response functions
- Provide input for internal security program improvements
- Main Features
  - Crisis response, information sharing, and communications plans
- Key Findings
  - Enhance vertical information sharing
  - Clarify ES-ISAC/Situational Awareness roles internally
  - Entities possess effective cyber incident response plans, but updates to protocols and guidelines could enhance preparedness





#### ES-ISAC Goals

- Provide for sector-wide cyber and holistic security coordination, trust, and engagement
- Registered Entities to securely find, share, and collaborate on critical infrastructure and security related information
- Provide for the rapid analysis and sharing of information with the sector and its partners





- Enabling Tools in 2012
  - Extend the functionality and use of the secure members-only portal that was put in place in 2011
  - Portal will undergo aggressive schedule following several iterations of Design Build Test Promote cycles
  - Utilize Microsoft technology and maintain alignment with existing and future information technology (IT) in-house initiatives
  - Integration with DHS-operated National Cybersecurity and Communications Integration Center (NCCIC) watch
  - ESISAC Policy Statement

The portal will improve the vertical communications piece that was regarded as needed during GridEx 2011



### **ES-ISAC** Portal

#### **Current Status**

- Current Pilot is in full swing for registered entities
  - Sent 150 invitations
  - Over 60 entities have registered (35% participation rate)
- Finalizing Charter and Project Plan now
  - Currently under review with IT
- Finalizing third-party contract
- Forming an advisory group from peer ISACs to provide guidance and lessons learned from their sectors on their portal development



### **CIP Oversight**

#### • CIP Oversight Plans (2012)

- Conduct 21 Oversight Audits in 2012 (up from 14 in 2011)
- Conduct four CIP Auditor Workshops promoting consistency within the Electric Reliability Organization (ERO)
- Host four CIP Standards and Compliance webinars to educate and update industry on CIP issues
- Continue to work closely with the CIP Compliance Working Group to ensure Auditors are consistently applying good audit practices across ERO



# Legislative and External Affairs Update

#### NERC Board of Trustees Meeting Janet Sena, Vice President and Director, Policy and External Affairs February 9, 2012



#### **RELIABILITY | ACCOUNTABILITY**



### **2011 Reliability Topics**

- February Cold Snap Event
  - New Mexico field hearing
  - FERC/NERC report
- September 8 Southwest Blackout
  - State legislative hearing
- October Northeast Snowstorm Event
  - Congressional letters



- Long-Term Reliability Assessment Report
  - EPA MATS Rule Reliability Component
- FERC Technical Conferences
- FERC/NARUC Forum



### **2012 Congressional Activity**

- Election Year Drivers
  - Economy
  - EPA Regulations
  - Taxes
  - Cybersecurity
- Cybersecurity Legislation
- Gridlock



- 212 media queries in 2011 20.5 monthly average
- Communications training for NERC management
- Regional Communicators Group



## Electricity Sub-sector Coordinating Council (ESCC) Update

#### Board of Trustees Meeting February 9, 2012





### Electricity Critical Infrastructure NERC and Industry Actions

### Strategic direction, coordinated action





### **Task Force Coordination**

		Prevent		Mitigate	Recover				
		Assess Current Capability	Protect or Isolate	Withstand and Restore	Identify Critical Spares				
Severe Impact Scenarios	Physical Attack			.1		Crisis I	<b>Communications Pla</b>	Information-Sharing	Government Interfac
	Cyber Attack	Cyber A TF (CA 1	ttack	Severe Impact Resilience TF	Spare Equipment Database TF (SED TE)	Response Pla			
	Geo- Magnetic Disturbance	Geomagnetic Disturbance TF (GMD TF)		3 6	5	Ē	an	g	ĕ

1 - Provide assessment regarding impact of a cyber attack on essential operator tools and communications.

- 2 Identify essential operator tools and communications .
- 3 Model the impact of GMD, identify system conditions that operators would face.
- 4 Provide assessment regarding value of greater advance warning to operators.
- 5 Provide assessments regarding number and type of critical equipment damaged.
- 6 Identify critical equipment with limited supply and long delivery times.



- Spare Equipment Database Task Force
  - Report complete, developing database
- Geomagnetic Disturbance Task Force (Feb 2012)
  - Further enhance understanding of transformer vulnerabilities
  - Further define "1-in-100 year" solar storm
  - Recommendations for industry action, but also additional study
- Cyber Attack Task Force (May 2012)
  - Limited industry input and comment, second request underway
- Severe Impact Resilience Task Force (estimate March 2012)
  - Stretch thinking beyond existing emergency capabilities
- All Task Forces
  - Communicate Task Force recommendations far and wide

### **Task Force Completion Milestones**

Task Force or Initiative	Report to be Approved by	Request Comments on Draft	Receive Comments on Draft	ESCC Review	Technical Committees Approve Final	MRC and Board of Trustees Review
Geomagnetic Disturbance	OC and PC	Dec 2, 2011	Jan 6, 2012	Feb 1, 2012	Feb 1, 2012	Feb 22, 2012
Spare Equipment Database	PC (with OC and CIPC endorsement)	Jun 1, 2011	Jun 29, 2011	Oct 3, 2011	Sep 13-15, 2011	Nov 2-3, 2011
Cyber Attack	CIPC (with OC endorsement)	Oct 15, 2011	Feb 8 <i>,</i> 2012	Mid-Feb 2012	Mar 8, 2012	May 9, 2012 latest
Severe Impact Resilience	OC (with PC endorsement)	Dec 13-15, 2011	Jan 4, 2012	Feb 6, 2012	Feb 2012	Mar 2012 ?
NERC Crisis Plan	NERC CEO	-	-	Aug 16, 2011	Not Required	Not Required

Indicates complete

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

"?" Indicates to

be confirmed