

# NERC

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RELIABILITY CORPORATION

## BES/ALR Policy Issues Task Force

Bill Gallagher, Task Force Chair

May 10, 2011

to ensure  
the reliability of the  
bulk power system

# ALR Issues and Questions

- *Should ALR address resilience to and recovery from physical and/or cyber attacks?*
- *Should cost/benefit be factored into ALR? How and by whom should decisions be made?*
- *Is impact of all load loss equal; e.g., load shed in response to EEA-3 vs. system disturbances?*
- *How should “cascading” be defined?*
- *Do we have adequate metrics for current attributes of ALR?*

# BES Definition and Exemption Process

## Issues and Questions

- *Should facilities and equipment located on the distribution system be considered part of the BES based on their BES reliability function; e.g., demand response controls; UFLS; UVLS; etc.*
- *Transition plan for newly identified facilities and elements; need for “grandfathering”?*
- *Can responsibility for BES facilities of small entities be assigned to other entities; can JRO and CFR procedures provide for this?*



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## Members Representative Committee May 2011 (Agenda Items # 6, 7, and 8)

Tom Galloway  
Senior Vice President and Chief Reliability  
Officer

May 10, 2011

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the reliability of the  
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- Analysis of Cold Weather Impacts
  - Summary/sequence of events
  - Analysis approach/current status/next steps
- Facility Ratings Alert Update
  - Background, current status and next steps
- Events Analysis Process Improvements
  - Background and data since October 25, 2010
  - Recent process changes
  - Field trial and other next steps



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## Analysis of Cold Weather Impacts

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# Summary: Cold Weather Impacts

- February 1-4, 2011
- Extreme cold weather impacts southern U.S.
- 4 southern regions, many separate entities
- Unusually high electrical and gas demands
- Generation: Fail to start, fail to run, derated
- Capacity shortfall
- Firm load curtailment/load shed plan

# Sequence: Cold Weather Impacts

- Summer 2011 – Draft/Final reports (dates tbd)
- Mar 31 Advisory panel formed
- Mar 14 – Site visits (4 teams – FERC/NERC/Regions, 1 week each)
- Feb 28 - Added RFIs to TRE/WECC TOPs and SPP GOPs
- Feb 24 - Natural Gas Council (NGC) letter seeking coordination.
- Feb 21 – NERC CEO testifies before Senator Bingaman
- Feb 19 – Broad requests for information (RFI) issued
- Feb 18 – Routine coordination calls (weekly) commence
- Feb 11/14 – NERC/FERC announce EA/Inquiry respectively
- Week of Feb 7 – TRE and WECC commence EAs
- Feb 1-4 – Cold snap/significant unplanned generation and load loss



# Areas of Focus: Cold Weather Impacts

FERC	Gas			
	NERC Cat 4 EA	Bulk Power System (Electric only)	TRE	Regional EA
			WECC	Regional EA
			SPP	Via NERC EA
			SERC	
Other	As reqd			

- Some lessons learned from previous, similar events not sufficiently anchored
- Revised EA process working appropriately for larger scale, complex event
- Winterization:
  - Plan deficiencies
  - Execution deficiencies
- Load shed protocols – evaluating
- Fuel supply issues – evaluating

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## Facility Rating Alert Update

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- Discussed: Nov 2010, Feb 2011 MRC meetings
- Ratings impacts from actual/field discrepancies
- Not restricted to single entity/region
- October 2010: Alert (Recommendation)
- November 2010: Alert Revised/Cauley letter
  - New assessment plan submittal date (Jan 18, 2011)
  - Three asset categories per BPS risk
  - Assessment/corrective action timelines adjusted

- Good industry response by Jan 18 due date
- Project team formed (NERC/Regions)
  - Consistent response/treatment
  - Develop assessment plan review criteria
- Assessment Plan shortcomings observed
  - Did not prioritize facilities into high, medium, and low categories
  - No rationale for facility prioritization
  - Lacked details on how “as-built” construction conforms to the FAC ratings methodology
  - Did not conform to the Alert (Recommendation) timelines <sup>10</sup>

# Assessment Plan Review Summary

(as of April 30, 2011)

Region	Reasonable Plan	Need more information	Plan needs rework
FRCC	32	11	6
MRO	13	26	3
NPCC	105	27	0
RFC	89	27	0
SERC	75	31	21
SPP	23	16	10
TRE	61	84	10
WECC	30	44	2
Total	428	266	52
Percent (%)	57	36	7



- April 26: Letter to Trades/Forums for input
- Notifications to entities on assessment plans
- May 12: Webinar to discuss
- Assessment plan implementation reporting
  - High priority: 7/15/11 and 1/15/12
  - Medium priority: 7/15/12 and 1/15/13
  - Low priority: 7/15/13 and 1/15/14

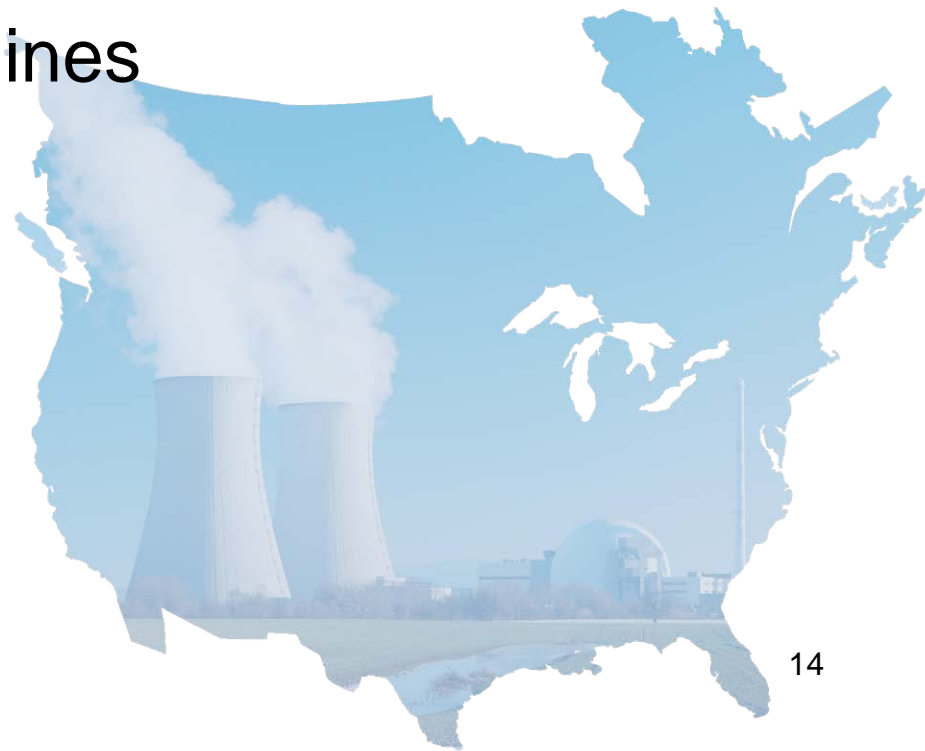
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## System Events/Event Analysis Program

to ensure  
the reliability of the  
bulk power system

- Revised EA program purpose
- Key steps
- Event categories/associated actions
- Expected reporting timelines
- Event metrics
- Continued Challenges
- Field Trial 2/Next steps





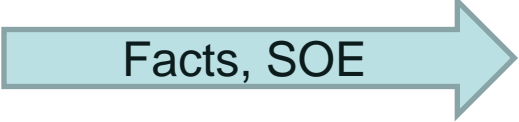
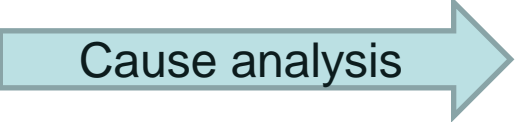


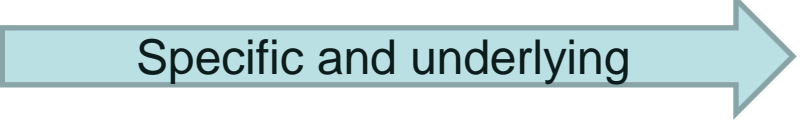

# Purpose of New EA Program

To ensure the reliability of the North American bulk power system

- **Analyze and understand system events**
  - Individual Events
  - Periodic review of events in aggregate to detect emerging trends and signs of decline in reliability performance
- **Determine and address actual and potential risk**
  - Categories are used to denote actual and potential risk of events and to guide associated actions
  - Response varies based on category
- **Promote ERO Enterprise as a Learning Organization**
  - *Timely distribution of Lessons Learned and other events analysis related documents*
- **Appropriate Compliance Review**

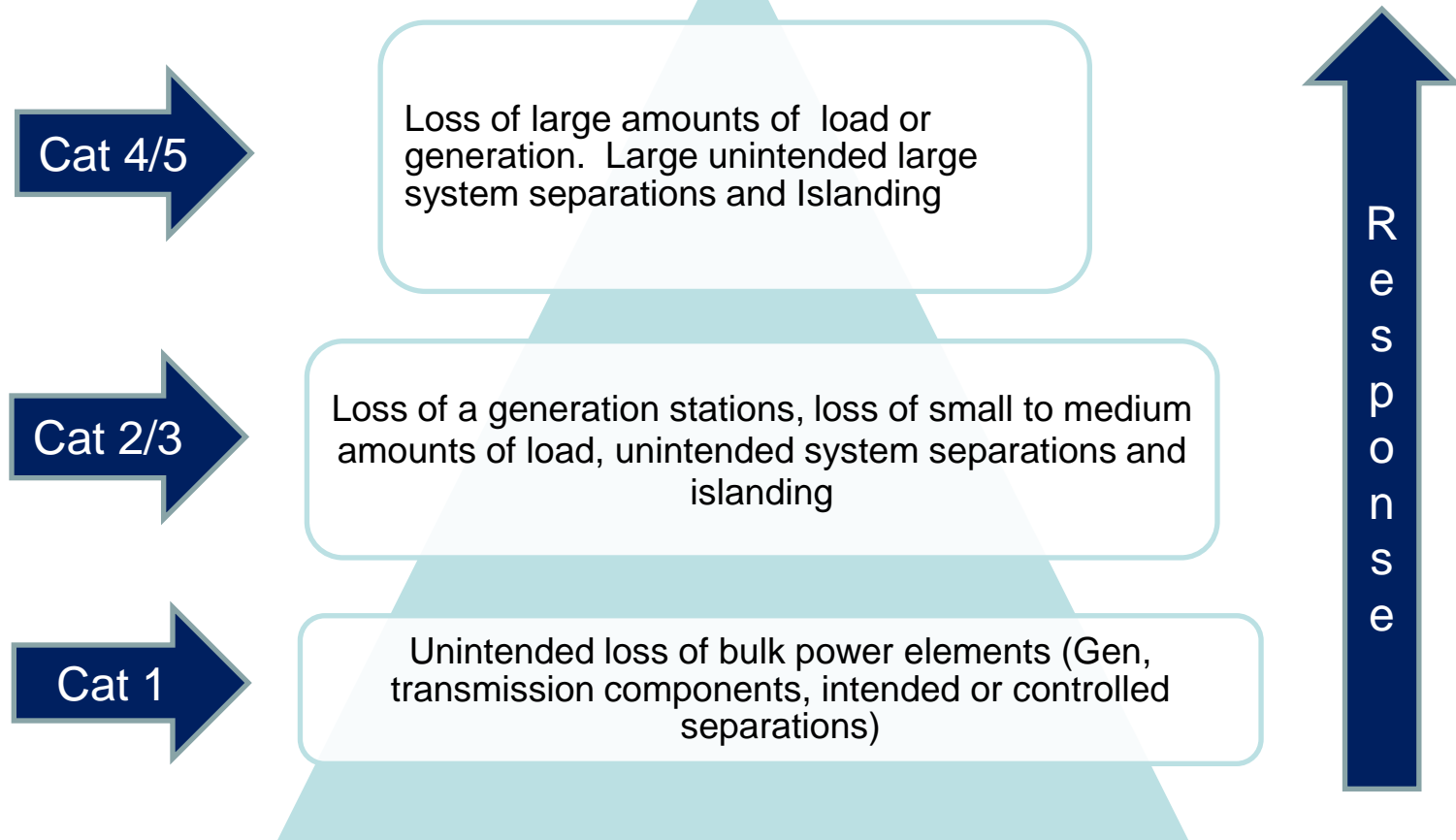


# Event Analysis – Key Steps

- What happened  Facts, SOE
- Why it happened  Cause analysis
- Lessons learned  Entity / Region / NERC
- Gap analysis  Standards / Compliance gaps?
- Corrective actions  Specific and underlying
- *Trend Analysis / Themes?*  ERO-wide communications

# Event Categorization

Prioritizes Event Analysis based on risk and significance, response is systematic and oversight/depth of analysis with the categories.



- Cat 0 – Promptly close, trend as needed
- Cat 1 (low) to Cat 5 (high) reliability significance
- Cat 1 events typically closed to trend
- Cat 2 and above
  - Data hold as a routine action
  - Cause analysis and corrective action
  - Lessons learned
  - Compliance evaluation expected



- No existing reporting relief (OE-417, EOP-4, etc.)
- Event notification, minimal data (within 24 hrs)
- Sent to NERC Situational Awareness
- Appendix A (Event Report) for all events
  - 5 business days – Entity draft to Region/NERC
  - 5 (added) business days – Region final to NERC
    - Includes sequence of events as appropriate
  - Ongoing work with EOP-4-2 SDT & DOE
    - Consolidated/web-based reporting

- Data hold and Events Analysis Report (EAR) for all Cat 2 and up
- Prepared by the impacted entity, group of impacted entities, or an event analysis team as defined in the EA process
- Addresses what happened and why
- Event analysis coordination (plan) is used for more complicated events involving broader geographic area, multiple registered entities, or complex sets of facts and circumstances
- When multiple entities are involved in an event they will collaborate with the applicable region(s) to determine if one or more EARs is appropriate
- Regions and NERC work with the entity(s) to review EA reports
- *Phase II Field Trial addressing formatting of EARs to provide for public and/or controlled release of important information while appropriately safeguarding confidential or sensitive information*

- Entity/Region prepare lesson learned using standard template
- Entity/Region redacts entity specifics and any other event details that are confidential or otherwise sensitive
- Region securely transfer the draft lesson learned to NERC
- NERC staff adds lesson learned to master list, prioritizes lessons learned and identify common themes
- NERC staff distributes priority draft lessons learned to EAWG for discussion / review during upcoming meetings. Submitting Region or NERC staff leads the EAWG discussion/review
- NERC will posts finalized lessons learned to the NERC web site notifies the industry
- *Lessons learned to be proactively shared in various forums*

- Entities should establish a liaison between internal event analysis and compliance functions as part of the event analysis process
- Entities are expected to perform thorough compliance analyses and to develop a compliance self-assessment report proportional to the severity of the event/risk to the BPS
- Compliance self-assessment reports encouraged for Category 1 and above with submittal to applicable region for Category 2 and above

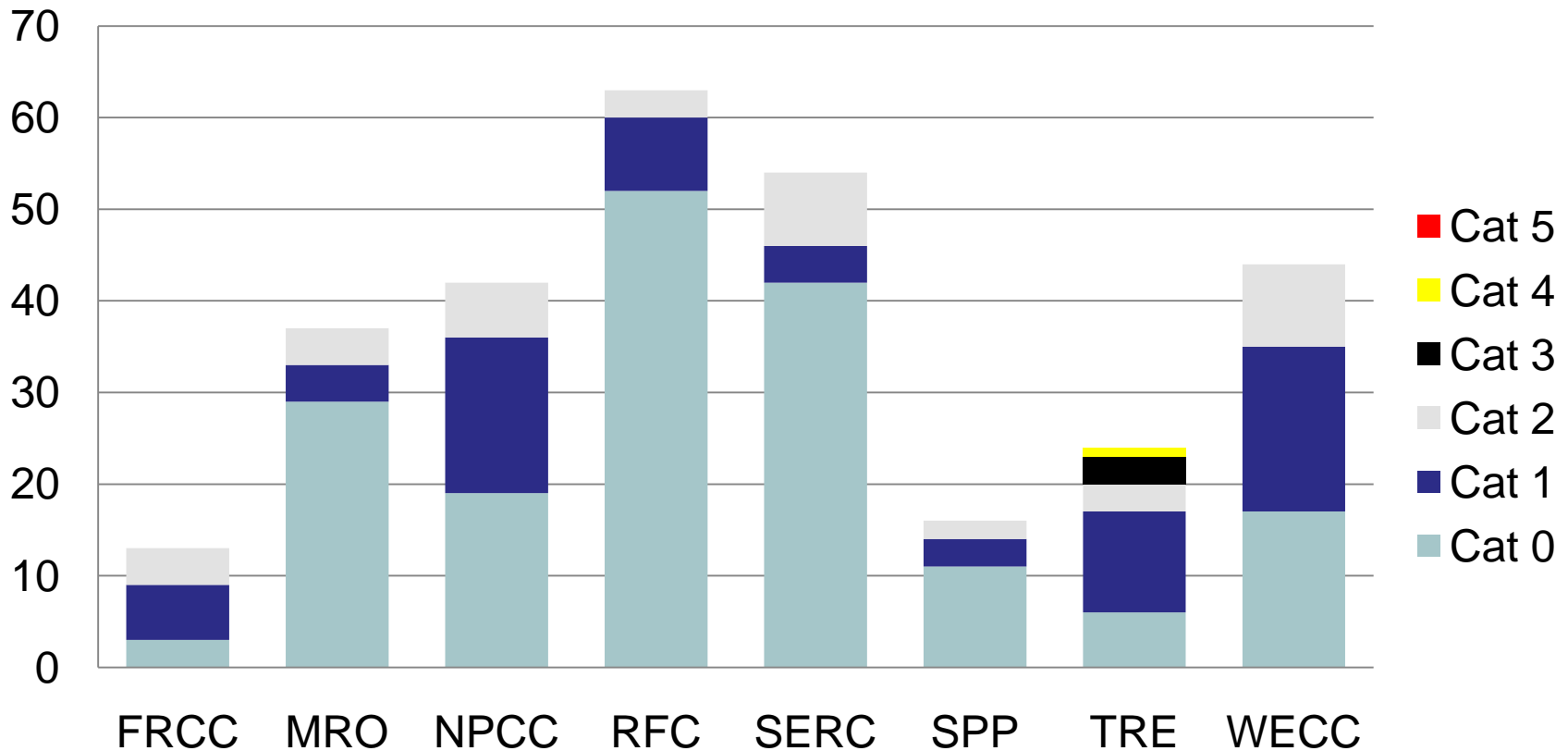


- Compliance self-assessments (App G template) to include:
  - List of all applicable standard requirements potentially implicated by the event
  - Written narrative/conclusion describing impact of event relative to cited reqts
  - Identification of any potential gaps in existing standards revealed by the event
  - Self-report of any possible violations through the existing CMEP procedures
  - Entity cooperation and timeliness regarding self-analysis and identification of corrective actions, development of any lessons learned, and self-reporting of possible violations will be afforded significant credit during possible enforcement

# Process Timing Elements

Event Category	Brief Report (Bus days)	Lessons Learned	Event Analysis Report	Compl. Self Assessment	Closure
1	Draft 5 days Final 10 days	< 15 days	NA (typically)	Encouraged Submittal not required	10 days after final (brief) report
2		< 30 days	30 days	Initial list < 20 Final <60 after brief	30 days after EAR
3		< 30 days	60 days	Final < 90	
4		< 60 days	120 days	Final < 150	60 days after EAR
5		< 60 days	120 days	Final < 150	

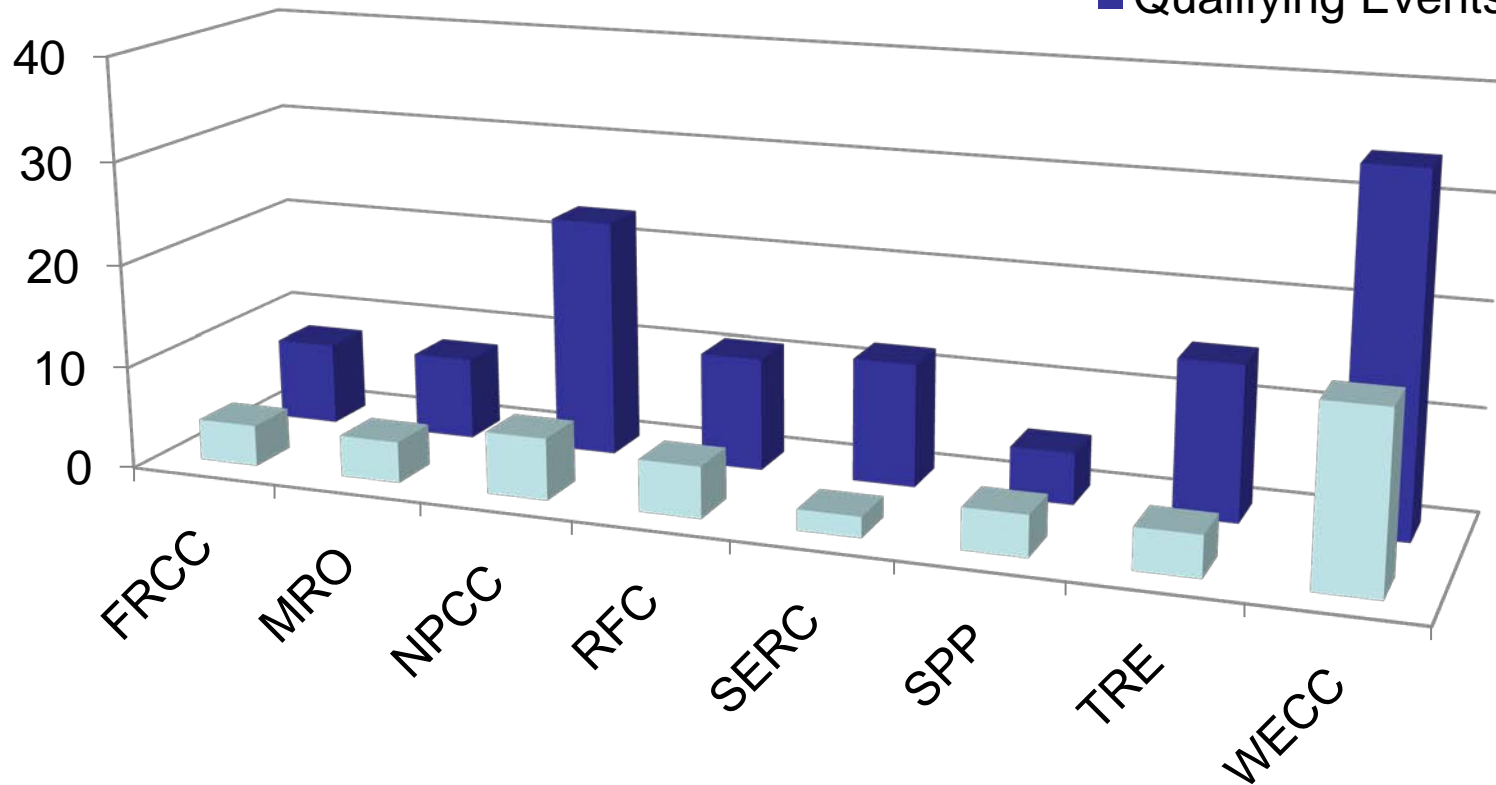
## Events 10/25/10-4/25/11



# Candidate Lessons Learned (by Region)

46 Candidate Lessons Learned from 116  
"Qualifying" Events (10/25/10-4/25/11)

■ Candidate Lessons  
■ Qualifying Events





# Candidate Lessons Learned (Examples)

Region	Lessons Learned Brief Description
FRCC	Plant startup procedures did not include signoff for positioning of some ancillary systems such as control air, contributing to plant trip
FRCC	Gas pressure regulating valve sensing line froze due to failed heater. Resultant erratic gas pressures led to unit trip.
MRO	Length of time required to implement some software changes necessitates use of change control procedures to periodically confirm functionality
NPCC	(+) Potential best practice for routine backup facility drills and SCADA throwover
NPCC	Annual updating of personal contact information just prior to annual drill proved inadequate, necessitating more frequent updates.
NPCC	Difficulties were encountered logging into main network from backup facility terminals. Some cable access used for weather monitoring were not functional
NPCC	Correlation of discharge temperatures to unanticipated fish runs

# Candidate Lessons Learned (cont.)

Region	Lessons Learned Brief Description
NPCC	Lack of telemetry to denote gas valve status contributed to a generating plant trip. A gas isolation valve was closed without proper notification. Closure was not identified early enough to preclude the trip
NPCC	Multiple unit gas generation sites supplied by a single gas source should be reviewed and evaluated to ensure that the minimum gas pressure settings for each individual unit are staggered to prevent the simultaneous loss of all units at the same pressure level
NPCC	ACE failed to restore within required timeframes following dual unit trip. Lessons learned included system dispatch, use of electronic dispatch equipment, and establishing regional operating procedures
RFC	4 degrees Celsius appears to be relevant to fish runs. When rapid water temperature changes occur through this range, potential for fish runs increases as certain non native fish species become entrapped
RFC	Zebra mussels had plugged several of the screen wash nozzles which contributed to overloading the screens
SERC	More robust load forecasting is needed on some load pocket areas.
TRE	Lean combustion blowout is a known characteristic of certain combustion turbines due to their lean fuel/air mixture design

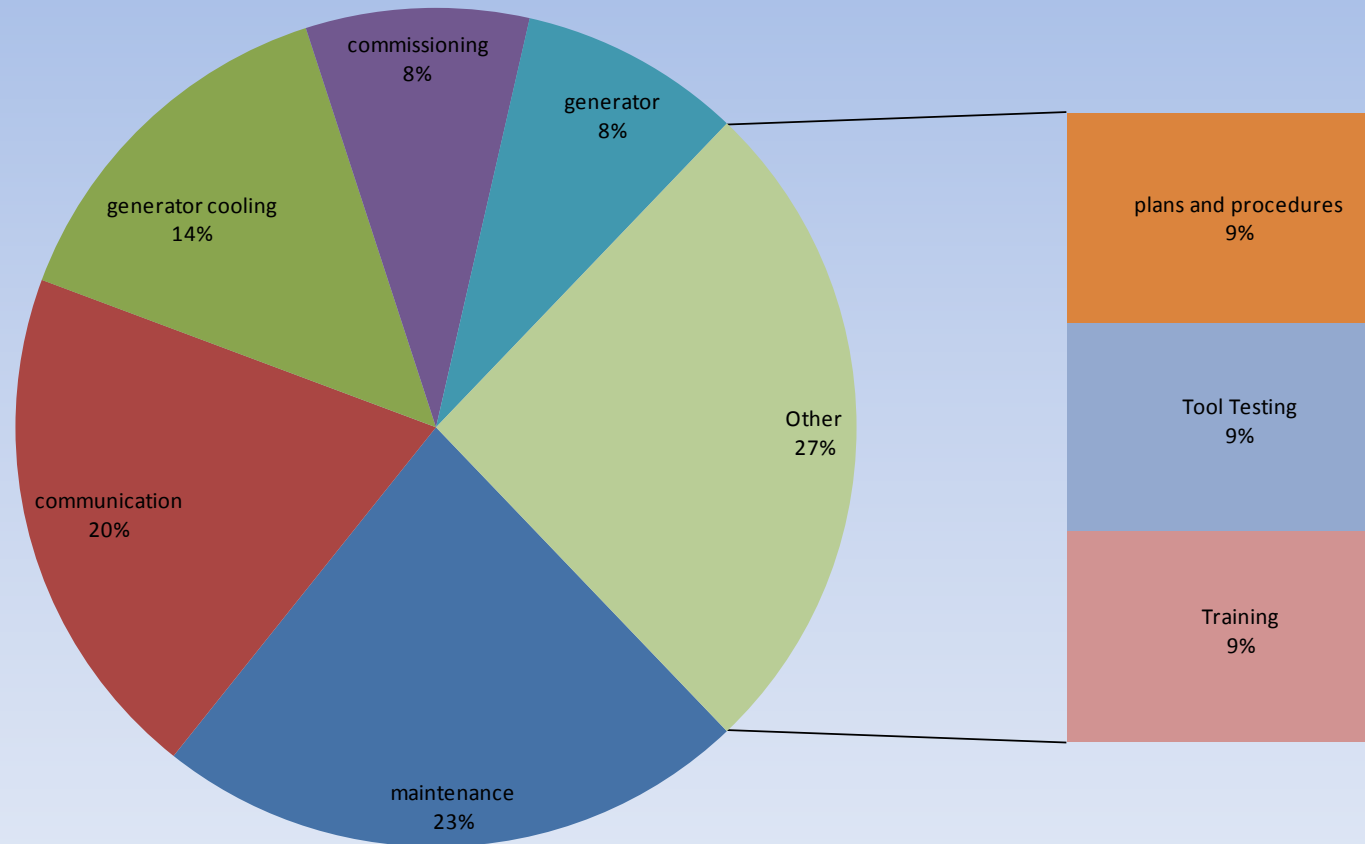
# Candidate Lessons Learned (cont.)

Region	Lessons Learned Brief Description
TRE	Drivetrain oscillation resulted in generation trips due to issues with a turbine firmware upgrade. Entity has identified and corrected the cause by reverting to the previous version of the firmware.
TRE	Approximately 75% of the trips addressed in this response to the regional requests for information are attributed to either design issues or improper workmanship. These lessons learned should be incorporated into improved contract language stipulating tighter quality control processes and higher levels of unit performance during commissioning.
WECC	A new design did not work as intended when there is a second ground cable tied to the ground mat. Entity did not anticipate the external ground fault current flows through this parallel path of the ground mat to be as high as the currents we experienced during this event.
WECC	A significant capital project involved extensive 345 kilovolt line additions or re-terminations with associated protection and control equipment additions. During the installation testing, entities determined protection and control equipment was properly installed and set. However, noise levels during fault conditions created unforeseen communication logic impacts causing an over trip for an external fault. Entity worked with the equipment manufacturer to modify the software applied to the power line carrier communication equipment to make it less susceptible to noise created during fault conditions on the grid.

# Lessons Learned - Themes

## Cross Cutting Lessons Learned

46 Lessons Learned Submitted since Start of the Field Trial  
Oct 25, 2010 - April 25, 2011





# Areas of Continued Challenge

- Throughput/automation – all aspects
- Closure (timely)
- Standardized cause analysis techniques
- Consolidate reporting form(s)
- Consistent understanding / execution
- Resource deployment
- Consideration of CIP “events”
- EA/compliance interface

- 2<sup>nd</sup> Revision finalized April 8, 2011
- Webinars (April 11 and 26)
- Phase 2 Field Trial – May 2nd
  - Three-month run (nominal)
  - Accrue added improvement opportunities
  - Issue another process document revision by October 1, 2011
  - Address CIP related events
- Enabling Rules of Procedure changes – November Board of Trustees

**QUESTIONS?**

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## ERO Enterprise Performance Metrics

Dave Nevius, Senior Vice President

Mark Lauby, Vice President and Director of  
Reliability Assessment and Performance Analysis

May 10, 2011

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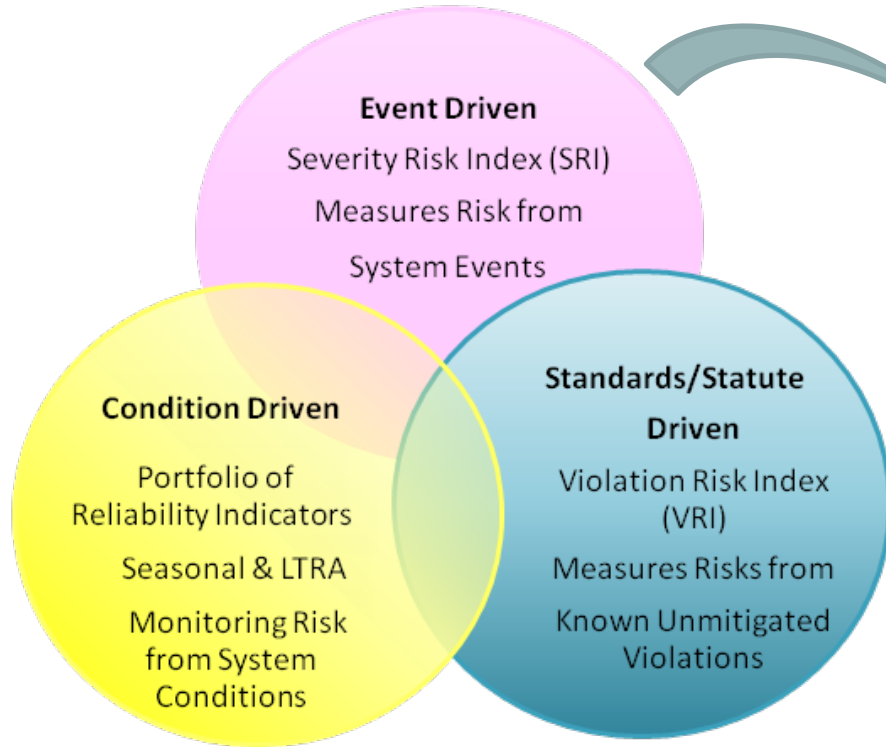
# Overview of Metrics Initiatives

- Two interrelated components:
  - System Reliability Performance
  - NERC and Regional Entity Organizational Performance (RDAs)
- Used to benchmark and improve performance
- Provide context for assessing success of overall ERO Enterprise

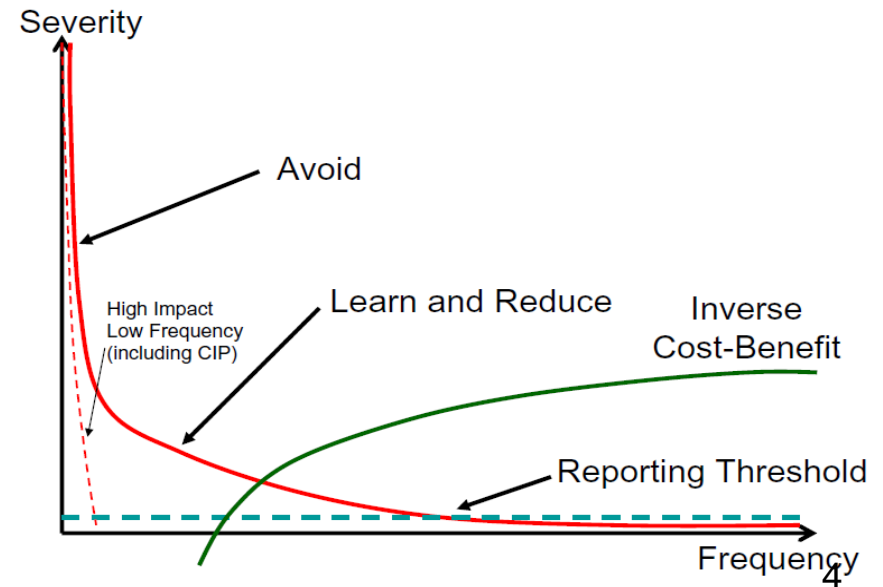
# ERO Enterprise Value Propositions and Sample Performance Metrics

<b>Stakeholder Values</b>	<b><i>Reliability Improvement</i></b>	<b><i>Culture of Learning</i></b>	<b><i>Respected, Trusted and Accountable</i></b>	<b><i>Effective Enforcement Authority</i></b>
<b>BPS and Process Performance Metrics</b>	Major event risk	% Self-reports of violations	Quality of standards	Correctness of entity registration
	ALR metrics	Event analysis reports timely completed/posted	Timeliness of standards	Quality of audits
	Time to mitigate violations	Trend analyses from availability data bases	% Results-based standards	Caseload index
	Unmitigated violations	Benefits of Lessons Learned	Quality/timeliness of Regional Assessments	Enforcement actions remanded
<b>Enterprise Core Values</b>	<i>Transparency – Efficiency – Consistency – Effectiveness – Quality</i>			

# Integrated Risk Assessment

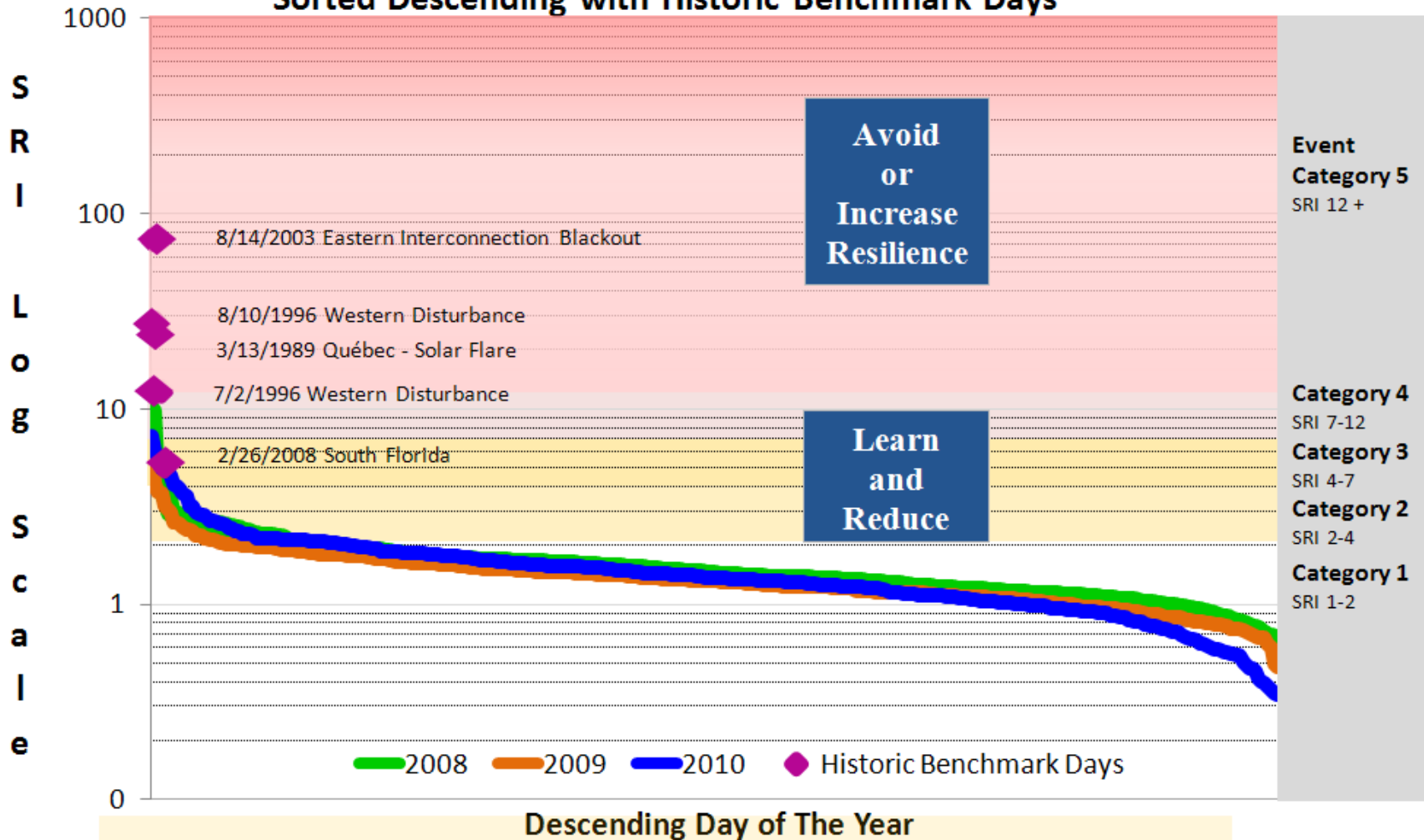


Cornerstone of risk-management concepts



# Severity Risk Index (SRI) and EA Category

**NERC Annual Daily Severity Risk Index (SRI)  
 Sorted Descending with Historic Benchmark Days**



# Event Driven Index (EDI)

- Focus on significant events and quantify the inherent system risk using historic outage and event data
  - Use the risk value associated with SRI
  - GADS and TADS daily outages
  - MW load loss and restoration duration from disturbance event reports
- OC/PC endorsed
  - Concepts and framework in September 2010
  - Calculation formula in March 2011



# Standards/Statute Driven Index (SDI)

- 26 standard requirements
- Severe Reliability Impact Statement (RIS)
  - RIS indicates significance of impact on BPS (slide 19)
- Violation Risk Factor (VRF)
- Violation Severity Level (VSL)
- Standard applicability used as exposure (denominator)
- Similar to daily SRI calculation

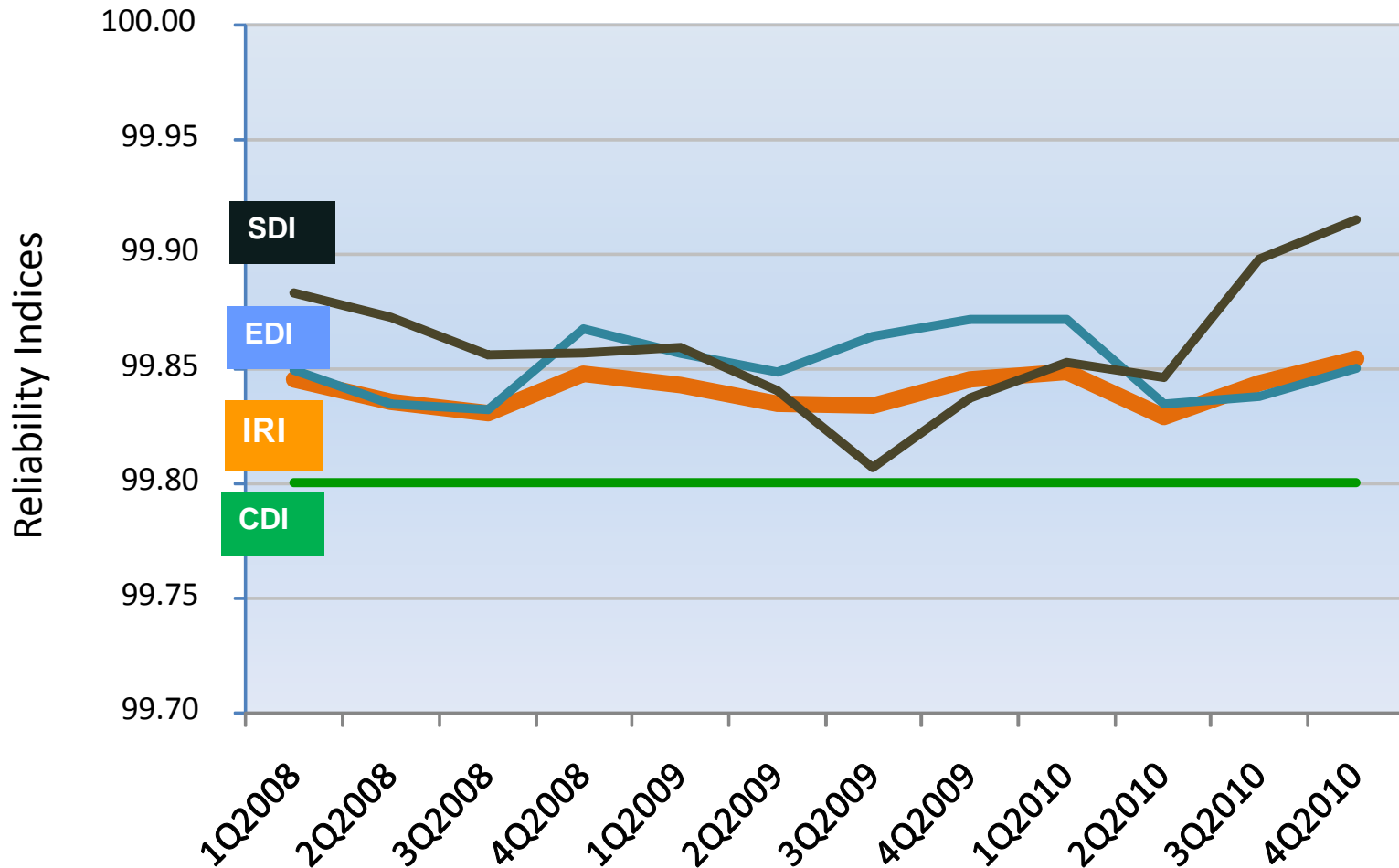
# Condition Driven Index (CDI)

- ALR1-5 – System Voltage Performance
- ALR1-12 – Interconnection Frequency Response
- ALR2-5 – Disturbance Control Standard (DCS) events greater than Most Severe Single Contingency (MSSC)
- ALR3-5 – IROL/SOL Exceedance (less than 30 minutes)
- ALR4-1 – Protection System Misoperation
- ALR6-2 – Energy Emergency Alert 3
- No data available yet for ALR1-5, ALR1-12, ALR3-5, and ALR4-1
- Assumed CDI = 99.80

# Integrated Reliability Index (IRI) Concept

- Bulk Power System Integrated Reliability Index (IRI)
  - **Event Driven Index (EDI):** Use the risk value associated with the severity risk index (SRI)
  - **Condition Driven Index (CDI):** Use a subset of metrics based on selection criteria
  - **Standards/Statute Driven Index (SDI):** Identify a subset of standards that have highest impact to reliability and create an index of standards violations

# IRI Trend (2008-2010 by Quarter)



- Seek feedback from:
  - Compliance groups (CCC or PMTF) on SDI
  - OC/PC in June 2011
- Target OC/PC approval in September 2011



- Measure NERC and RE performance under RDAs, Rules of Procedure, and applicable regulations
  - Compliance Registration
  - Compliance Audits
  - Enforcement
  - Mitigation of Compliance Violations
  - Event Analysis
  - Reliability Standards/Regional Standards
  - Reliability Assessment

- One metric and at least one measure for each topic
- Linked to ERO Strategic Goals/Objectives
- Initial set of RDA metrics for approval in August
- Used in annual review of strategic goals and objectives and to inform budget process
- Welcome MRC comments and suggestions

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## NERC 2012 Business Plan and Budget Overview

May 3, 2011

to ensure  
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# NERC 2012 Business Plan and Budget

- Budget planning background
- Goals, challenges, and key resource drivers
- 2012 resource and financial projections
- Remaining steps and schedule
- Questions and answers

- In 2010 initiated a multiyear business planning and budgeting process
  - Longer term goals and assumptions
  - 3 year budget projections
- 2012 budget projections remain on track
- 2012 is midpoint in first cycle
- 2012 goals and deliverables updated to reflect prioritized reliability focus, stakeholder feedback



# Strategic Goals

- Develop clear, results-based standards
- Promote culture of industry learning and reliability excellence
- Provide effective measures of reliability risk and performance
- Facilitate effective management of critical infrastructure risks
- Ensure effective and timely compliance enforcement and mitigation
- Provide an efficient and effective ERO enterprise
- Instill high degree of trust and confidence in the ERO

# Significant Challenges

- Reprioritizing to focus on reliability risk and delivery of results
- Rising expectations in critical infrastructure
- Addressing regulatory mandates
- Improving business processes while maintaining focus on significant workload
- Balancing resource needs within financial constraints, and achieving efficiencies
- Recruiting, integrating, and retaining qualified personnel while managing significant workload

# Business Planning Framework

- Development of common assumptions
- Review existing resource needs and operating costs
- Project 2012 expenses and fixed assets taking into account projected 2011 yearend staffing and known operating cost information
- Identify 2012 incremental resource requirements and costs
- Develop projections for 2013-2014

# Highest Priorities for 2012

- Issuing new and revised standards, including development of results-based standards
- Continuing to improve enforcement efficiency, productivity, leading to increased transparency
- Improving and issuing more event analysis and emerging issues reports and lessons learned
- Encouraging additional self-reporting and timely mitigation
- Improved compliance information and education

# Highest Priority Items for 2012

- Improving the ability of industry to respond to incidents, vulnerabilities and threats
- Addressing reliability effects of GMD
- Improving reliability performance metrics and modeling capabilities
- Continuing SAFNR and NASPI initiatives
- Improved training of ERO staff and stakeholders
- Developing and implementing improvements to ERO processes

# Key Resource Drivers

## Standards

- Increased throughput of standards
  - Expectations of FERC, standards committee and industry
  - Three-Year ERO Performance Assessment recommendations
  - Prioritized three-year standards development plan
  - Reducing backlog of FERC directives
- Deliver key standards such as CIP, system protection and control standards
- Pilot a trial compliance program for roll out of standards
- Enhance standards supporting materials and references
- Improve quality of drafting, training, and communications
- Reduce use of outside contractors and consultants



# Key Resource Drivers

## **Compliance Operations**

- Risk-based Regional Entity audits and audit practices
- Compliance transparency, consistency, best practices
- Standards development and implementation support
- Improved registration processes

## **Enforcement**

- Enhance efficiency/productivity processing violations
- Timely mitigation of risk from active violations
- Advance administrative citation process and other streamlining measures, options to increase discretion

# Key Resource Drivers

## **Reliability Assessment and Performance Analysis**

- Evaluate the reliability effects of GMD
- Advance Spare Equipment Database
- Benchmark centralized database for assessments
- Resource adequacy probabilistic assessment
- Various modeling improvement initiatives
- GADs programming support
- Metrics and reliability dashboard

# Key Resource Drivers

## **Events Analysis**

- Expand events analysis program and lessons learned

## **Situation Awareness**

- Advancement of NASPI and SAFNR
  - NASPI funding more reflective of 2011 actual experience and leverages off of DOE and consortium funding for gateway development
  - SAFNR at a reduced level from projected 2011 spend and reflective of contractual commitments

# Key Resource Drivers

## **Critical Infrastructure Protection**

- ES-ISAC- technology licensing and maintenance support for secure portal to communicate with industry and governmental authorities
- Cyber security CIP analytical support
- NIST/DOE/NERC cyber risk management project-industry outreach and training
- Internet monitoring-analytical tools to identify cyber attack trends affecting electric sector
- DHS cyber storm exercise and cyber risk preparedness

# Key Resource Drivers

## **Training**

- Expand reliability training and education delivery
- Initiate e-library of reliability resources

## **Process Improvements**

- Design and deployment IT infrastructure to assist NERC in implementing business processes improvements

## **Legal and Regulatory**

- Resources needed primarily to support standards and compliance program areas initiatives

# Highlights of 2012 Projection

- Projected \$1M (2%) increase in cost of current operations
- Projected new funding of \$6.8M
- No additional working capital funding currently contemplated
- 16% overall increase in operating costs and capital expenditures
- 1.8% below forecast in 2011 three-year plan



# Changes in Costs of Existing Operations

2011 Base Operating Budget		2012 projected change in base operating budget
\$ 21,095,939	Salaries	\$ 1,435,532
1,285,299	Payroll Taxes	88,401
3,263,692	Benefits	(339,641)
2,977,801	Retirement	179,356
<b>\$ 28,622,731</b>	<b>Total Personnel Expense</b>	<b>\$ 1,363,648</b>
\$ 861,500	Meetings	\$ (70,500)
2,635,536	Travel	-
227,800	Conference Calls	150,110
<b>\$ 3,724,836</b>	<b>Total Meeting Expense</b>	<b>\$ 79,610</b>
\$ 7,137,042	Consultants and Contracts	\$ (1,144,042)
300,094	NERCnet Contract	-
1,901,580	IDC Contract	(5,869)
<b>\$ 9,338,716</b>	<b>Contracts and Consultants</b>	<b>\$ (1,149,911)</b>
\$ 1,020,151	Office Rent	\$ 1,284,106
2,420,176	Office Costs	382,418
1,959,854	Professional Services	45,146
4,000	Miscellaneous	22,200
<b>\$ 5,404,182</b>	<b>Operating Expenses</b>	<b>\$ 1,733,870</b>
<b>\$ 750,000</b>	<b>Non-Operating Expenses</b>	<b>(750,000)</b>
\$ 845,200	Computer & Software CapEx	\$ (181,110)
40,800	Network Equipment	(40,800)
	Furniture & Fixtures	
<b>\$ 886,000</b>	<b>Capital Expenditures</b>	<b>\$ (221,910)</b>
<b>\$ 48,726,465</b>	<b>Total Base Operating Budget</b>	<b>\$ 1,055,307</b>

# 2012 Incremental Resource Requirements and Costs

Projected 2012 Base Operating Budget		Projected increase in staffing and programs
\$ 22,531,471	Salaries	\$ 3,500,675
1,373,700	Payroll Taxes	213,736
2,924,051	Benefits	396,131
3,157,157	Retirement	495,498
<b>\$ 29,986,379</b>	<b>Total Personnel Expense</b>	<b>\$ 4,606,040</b>
\$ 791,000	Meetings	\$ -
2,635,536	Travel	250,000
377,910	Conference Calls	-
<b>\$ 3,804,446</b>	<b>Total Meeting Expense</b>	<b>\$ 250,000</b>
\$ 5,993,000	Consultants and Contracts	\$ 1,845,000
300,094	NERCnet Contract	
1,895,711	IDC Contract	
<b>\$ 8,188,805</b>	<b>Contracts and Consultants</b>	<b>\$ 1,845,000</b>
\$ 2,304,257	Office Rent	\$ -
2,802,594	Office Costs	36,225
2,005,000	Professional Services	
26,200	Miscellaneous	
<b>\$ 7,138,052</b>	<b>Operating Expenses</b>	<b>\$ 36,225</b>
<b>\$ -</b>	<b>Non-Operating Expenses</b>	
\$ 664,090	Computer & Software CapEx	\$ 108,000
-	Network Equipment	
-	Furniture & Fixtures	
<b>\$ 664,090</b>	<b>Capital Expenditures</b>	<b>\$ 108,000</b>
<b>\$ 49,781,772</b>	<b>Total Base Operating Budget</b>	<b>\$ 6,845,265</b>

# Total Projected 2012 Budget Increase

2011 Base Operating Budget		Total Projected 2012 Increase over 2011 Budgeted Expenses and Capital Expenditures
\$ 21,095,939	Salaries	\$ 4,936,207
1,285,299	Payroll Taxes	302,137
3,263,692	Benefits	56,490
2,977,801	Retirement	674,854
<b>\$ 28,622,731</b>	<b>Total Personnel Expense</b>	<b>\$ 5,969,688</b>
\$ 861,500	Meetings	\$ (70,500)
2,635,536	Travel	250,000
227,800	Conference Calls	150,110
<b>\$ 3,724,836</b>	<b>Total Meeting Expense</b>	<b>\$ 329,610</b>
\$ 7,137,042	Consultants and Contracts	\$ 700,958
300,094	NERCnet Contract	-
1,901,580	IDC Contract	(5,869)
<b>\$ 9,338,716</b>	<b>Contracts and Consultants</b>	<b>\$ 695,089</b>
\$ 1,020,151	Office Rent	\$ 1,284,106
2,420,176	Office Costs	418,643
1,959,854	Professional Services	45,146
4,000	Miscellaneous	22,200
<b>\$ 5,404,182</b>	<b>Operating Expenses</b>	<b>\$ 1,770,095</b>
<b>\$ 750,000</b>	<b>Non-Operating Expenses</b>	<b>\$ (750,000)</b>
\$ 845,200	Computer & Software CapEx	\$ (73,110)
40,800	Network Equipment	(40,800)
	Furniture & Fixtures	-
<b>\$ 886,000</b>	<b>Capital Expenditures</b>	<b>\$ (113,910)</b>
<b>\$ 48,726,465</b>	<b>Total Base Operating Budget</b>	<b>\$ 7,900,571</b>
5,000,000	Reductions in Other Sources of Funding	
	Working Capital Reserve Funding	(5,000,000)
	Penalty Sanctions	
<b>\$ 53,726,465</b>	<b>TOTAL FUNDING REQUIREMENT</b>	<b>\$ 2,900,571</b>

# Total Projected 2012 Staffing by Program Area

Total FTE's by Program Area	Budget 2011	Change from 2011 Budget
<b>STATUTORY</b>		
<b>Operational Programs</b>		
Reliability Standards	20.08	4.17
Compliance and Organization Registration and Cert	47.08	10.42
Training and Education	6.25	0.50
Reliability Assessment and Performance Analysis	13.75	2.75
Situation Awareness and Infrastructure Security	25.83	(0.33)
<b>Total FTEs Operational Programs</b>	<b>113.00</b>	<b>17.51</b>
<b>Administrative Programs</b>		
Technical Committees and Member Forums	-	-
General & Administrative	7.00	(0.25)
Legal and Regulatory	8.00	5.00
Information Technology	10.75	1.75
Human Resources	5.50	0.50
Finance and Accounting	6.50	3.50
<b>Total FTEs Administrative Programs</b>	<b>37.75</b>	<b>10.50</b>
<b>Total FTEs</b>	<b>150.75</b>	<b>28.01</b>

# Comparison of Projected 2012 Budget to 2011 Business Plan

	Estimated 2012 per 2011 BP&B	Total Projected 2012 Budget	% Change
Salaries	25,188,131	26,032,146	
Payroll Taxes	1,534,622	1,587,437	
Benefits	3,753,246	3,320,182	
Retirement	3,555,435	3,652,655	
<b>Total Personnel Expense</b>	<b>\$ 34,031,433</b>	<b>\$ 34,592,419</b>	<b>1.6%</b>
Meetings	861,500	791,000	
Travel	2,905,124	2,885,536	
Conference Calls	264,067	377,910	
<b>Total Meeting Expense</b>	<b>\$ 4,030,691</b>	<b>\$ 4,054,446</b>	<b>0.6%</b>
Consultants and Contracts	7,137,042	7,838,000	
NERCnet Contract	300,094	300,094	
IDC Contract	1,901,580	1,895,711	
<b>Contracts and Consultants</b>	<b>\$ 9,338,716</b>	<b>\$ 10,033,805</b>	<b>7.4%</b>
Office Rent	3,032,342	2,304,257	
Office Costs	3,767,850	2,838,819	
Professional Services	1,959,854	2,005,000	
Miscellaneous	15,000	26,200	
<b>Operating Expenses</b>	<b>\$ 8,775,047</b>	<b>\$ 7,174,277</b>	<b>-18.2%</b>
<b>Non-Operating Expenses</b>		<b>\$ -</b>	
Computer & Software CapEx	945,200	772,090	
Network Equipment	40,800	-	
Furniture & Fixtures	500,000	-	
<b>Capital Expenditures</b>	<b>\$ 1,486,000</b>	<b>\$ 772,090</b>	<b>-48.0%</b>
<b>Total Base Operating Budget</b>	<b>\$ 57,661,888</b>	<b>\$ 56,627,037</b>	<b>-1.8%</b>

# Recap of Cost Increases and Funding Requirements

<b>Current Operations</b>	<b>\$</b>	<b>1,055,307</b>	<b>2.2%</b>
<b>Proposed 2012 Resource additions</b>	<b>\$</b>	<b>6,845,265</b>	<b>14.0%</b>
<b>Working Capital</b>	<b>\$</b>	<b>(5,000,000)</b>	<b>-10.3%</b>
<b>Total Funding Requirement</b>	<b>\$</b>	<b>2,900,571</b>	<b>6.0%</b>
<b><u>Increase in 2012 Assessment (Preliminary)</u></b>			
<b>Due to current operations (includes working capital)</b>	<b>\$</b>	<b>(3,944,693)</b>	<b>-9.6%</b>
<b>    Due to proposed resource additions</b>		<b>6,845,265</b>	<b>16.7%</b>
	<b>\$</b>	<b>2,900,572</b>	<b>7.1%</b>
<b>    Due to loss of penalty offset in 2011 budget</b>	<b>\$</b>	<b>10,175,000</b>	<b>24.8%</b>
<b>        Total</b>	<b>\$</b>	<b>13,075,572</b>	<b>31.8% *</b>

**\*NOTE: The % increase in assessments for Canadian entities will be less and higher for US entities to account for the loss of penalty offset.**



# Next Steps — Schedule

- May 9 — Draft 1 of Regional Entity BP&Bs posted on NERC website
- May 10 — Presentation of Draft 1 of NERC 2012 BP&B at end of Member Representatives Committee meeting
- May 11 — BOT Meeting - FAC report on BP&B process as part of committee report
- May 20 — Stakeholder comments on first draft due
- May 27 — NERC posts second draft of BP&B
  - Will include 3 year projections

# Next Steps — Schedule

- June 2 — FAC conference call to discuss Draft 1 of Regional Entity BP&Bs
- June 24 — Comments due on second draft of BP&B
- July 19 — FAC meeting to review second draft of NERC BP&B, and proposed final Regional Entity BP&Bs
- August 3 — FAC meeting to approve final NERC, Regional Entity BP&Bs and assessments
- August 4 — Board of Trustees meeting to approve final NERC BP&B, Regional Entity BP&Bs and assessments
- August 24— Submit ERO BP&B and assessments to FERC for approval and file with Canadian authorities

# DISCUSSION