NERC
NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

NERC's Compliance Enforcement Initiative
Find, Fix, Track and Report Implementation

Compliance Committee Meeting – Open

Ken Lotterhos, Associate General Counsel and Director of Enforcement

February 8, 2012

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Agenda

- Overview
- Data and Trends
- Guidelines
- Benefits
- Implementation Challenges
- Misconceptions
- Potential Improvements
- Six-month Filing with FERC
- Training Schedule

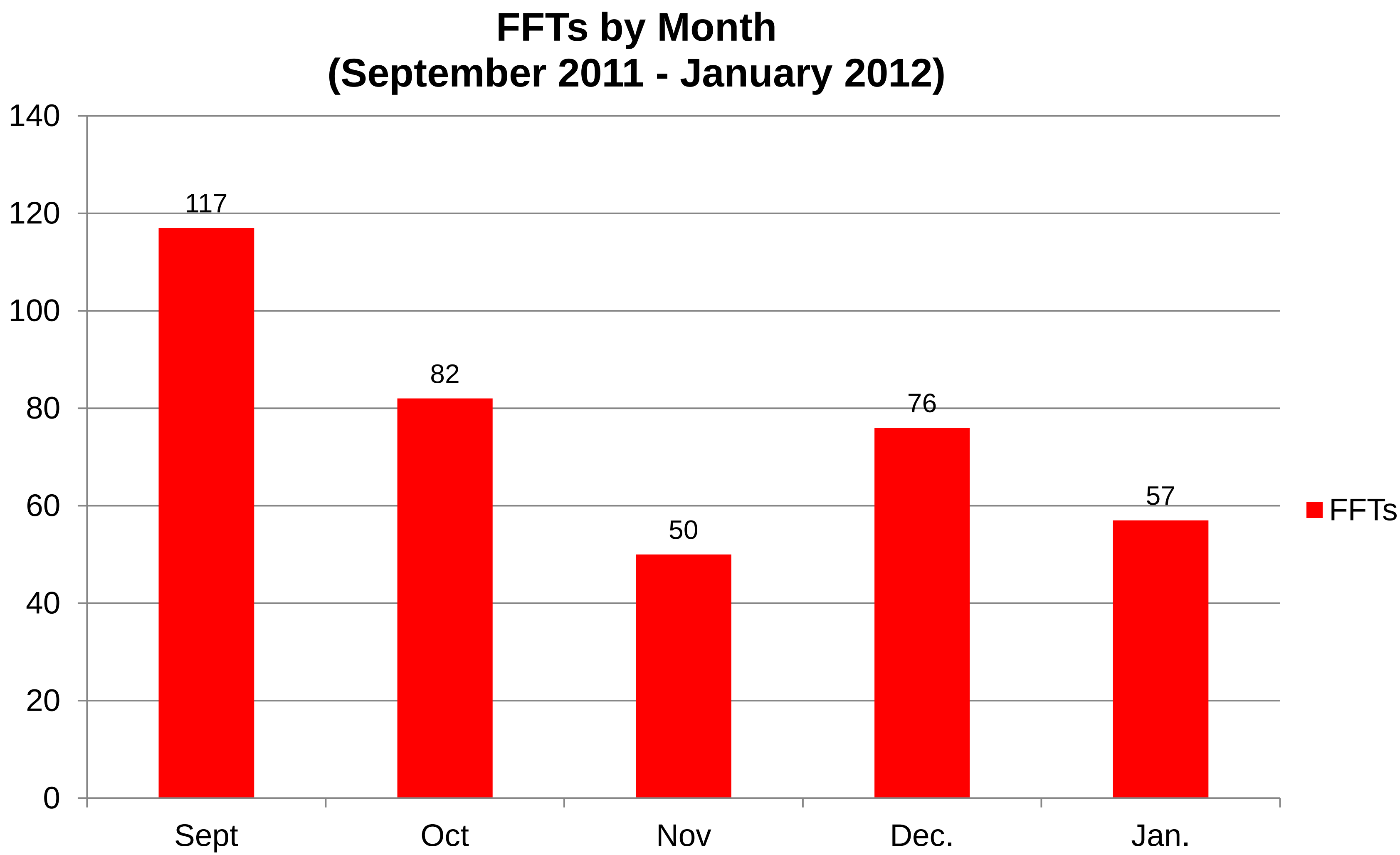
CEI Overview

- Four filings submitted to FERC from September to December, 2011
- Six month and one year status reports due to FERC in 2012
- All eight Regional Entities using new formats
- NERC is continuing outreach efforts to ensure successful implementation

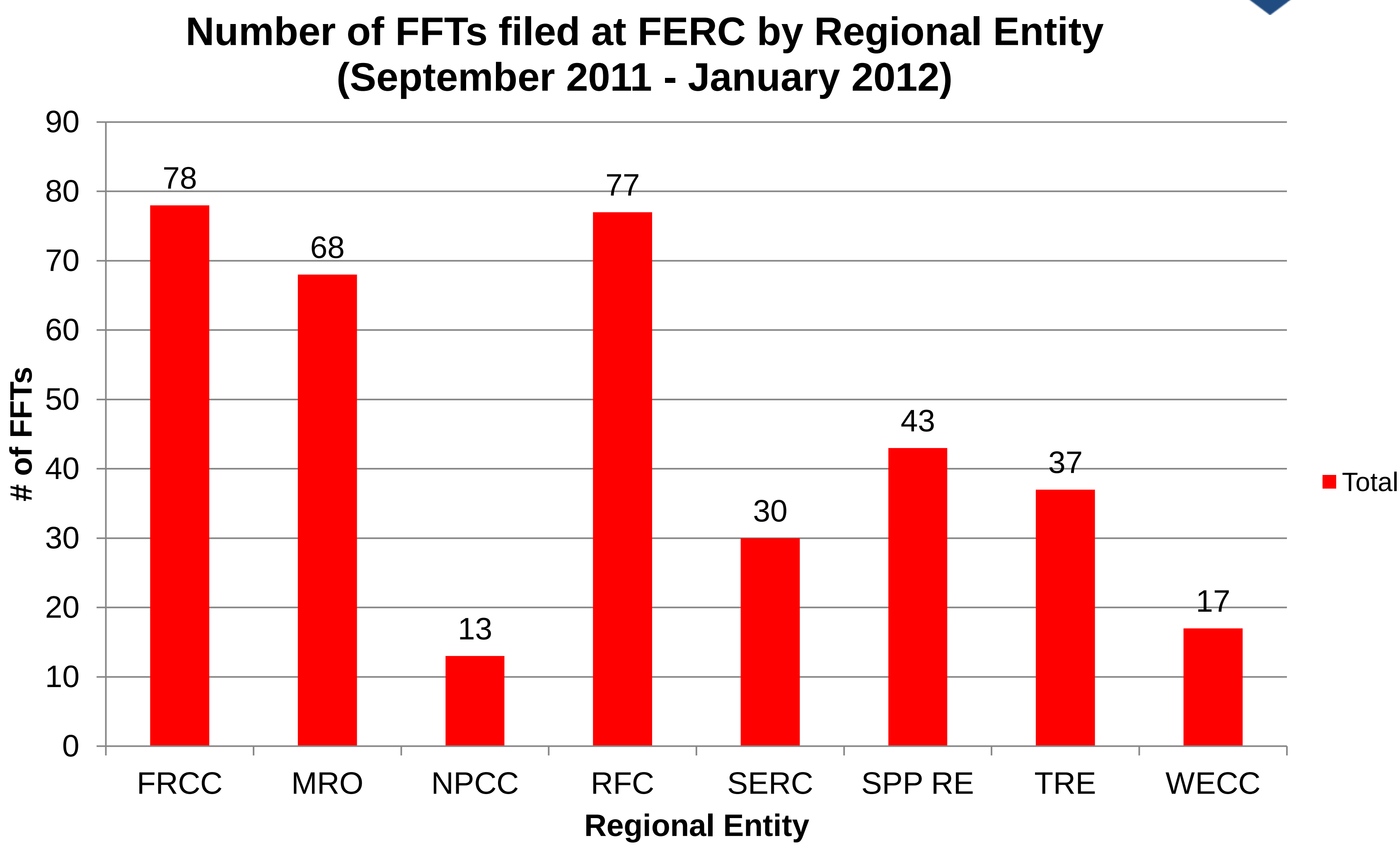
FFT Overview

- A Registered Entity may opt out of FFT processing
- Upon correction and submittal of FFT filing, the Possible Violation becomes a Remediated Issue
  - No penalty or sanction is assigned
  - Formal Mitigation Plans will not be required
  - Mitigating activity completion may be verified anytime
- Remediated Issues become part of a Registered Entity's compliance history
  - Remediated Issues may not be contested in subsequent enforcement actions

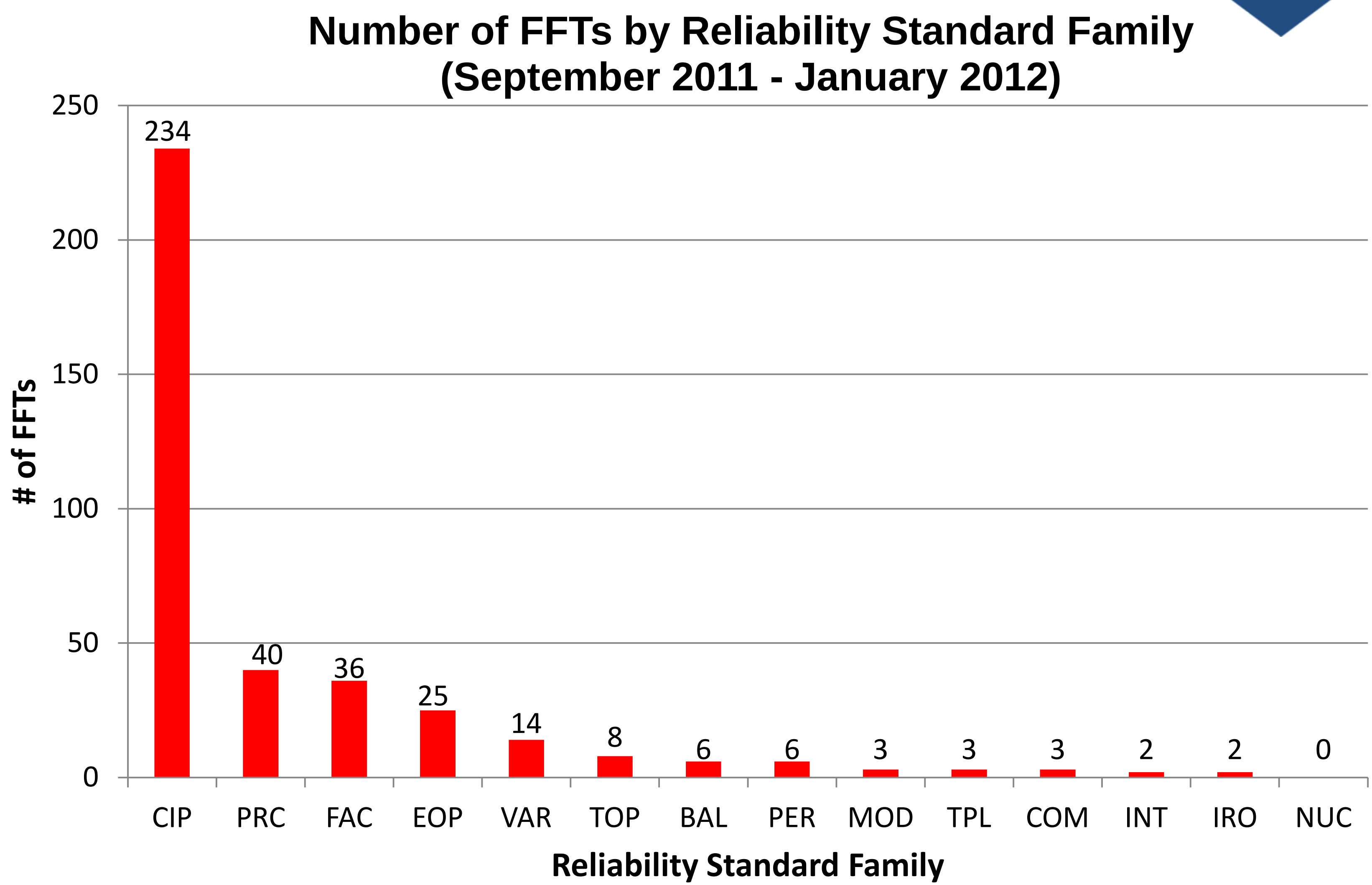
Data and Trends



Data and Trends



Data and Trends



Data and Trends

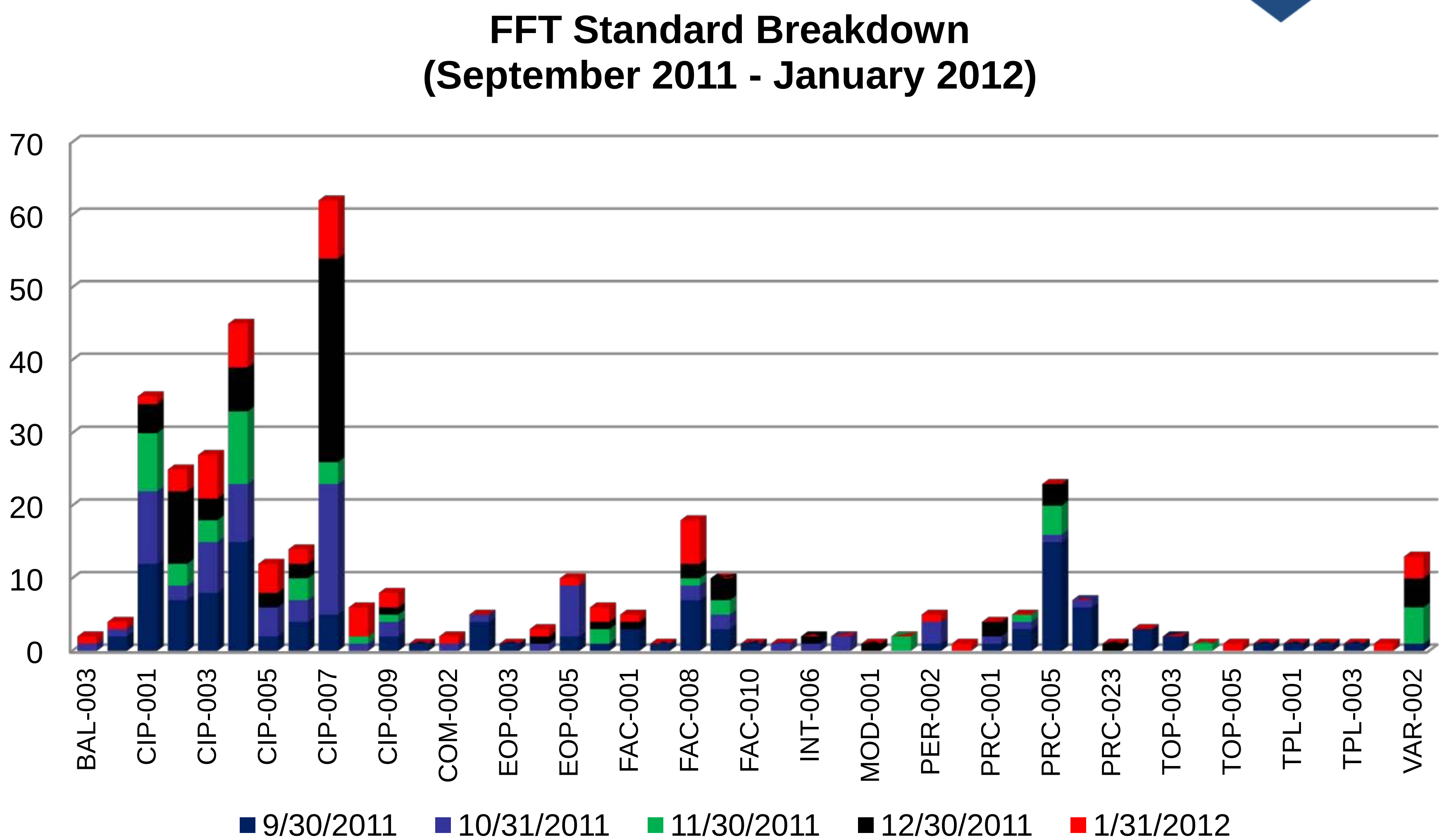
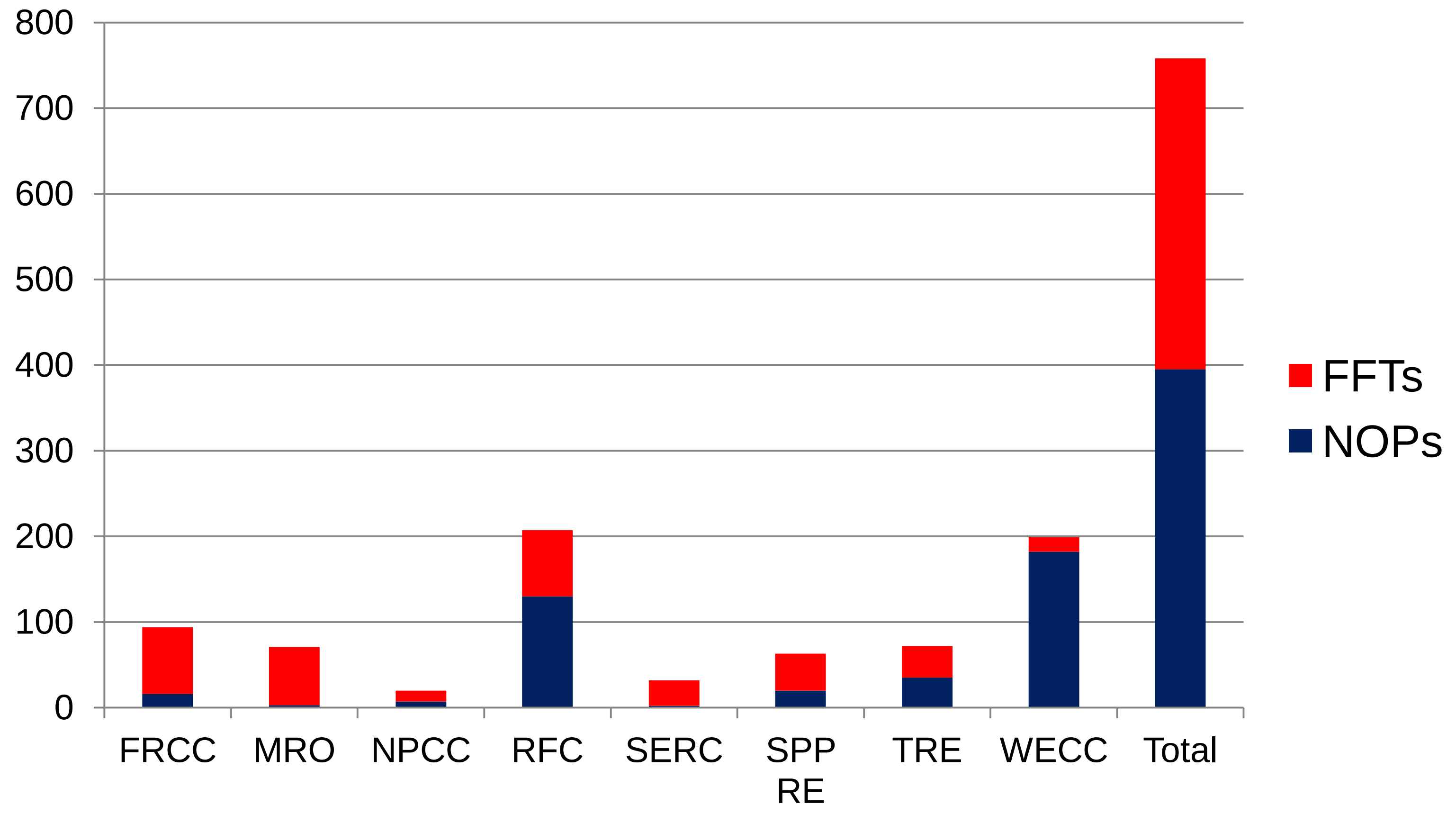


Chart includes all version of the Standard

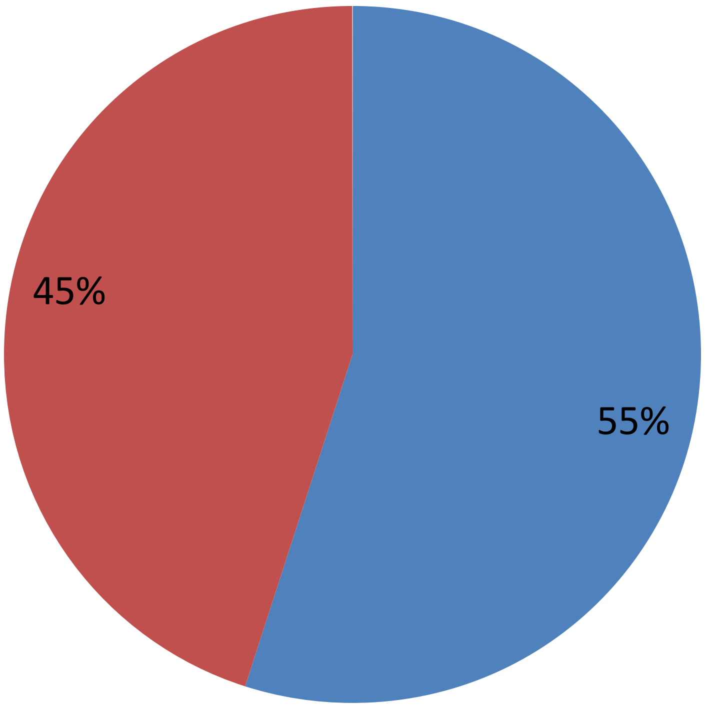
Data and Trends

Total FFTS/NOPs by Region (September 2011- January 2012)



Data and Trends

FFTs by Discovery Method as of January 31, 2012



Internally Identified (Self reports, Self certifications, Data Submittal, Exception reporting)

Externally Identified (Audits, Spot checks, Investigations)

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Evaluation Guidance

- Lesser risk (minimal to moderate) to the reliability of the bulk power system (BPS)
- Does not include more serious risk issues
- Existing caseload and new possible violations eligible
- Mitigation completed
- Repeat violations eligible for consideration depending on circumstances

Representative FFTs

CIP-001 (Documentation)

Issue: Emergency Response Plan did not explicitly provide for sabotage response guidelines.

Risk (minimal)**:** Informal procedures existed and entity does not own any bulk electric system elements.

Mitigation: Updated current procedure and retrained all personnel.

Additional examples provided in the Appendix to this presentation.

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Representative FFTs

PRC-008 (Documentation)

Issue: Of its 21 UFLS devices, no evidence of maintenance and testing for two station batteries.

Risk: Has past maintenance and testing dates and most recent UFLS testing records, only has two interconnection points and will only shed 23 MW of UFLS load.

Mitigation: Maintenance and testing policy updated and all devices tested.

Additional examples provided in the Appendix to this presentation.

Representative FFTs

VAR-002 (Operational)

Issue: Operator mistakenly placed a voltage regulator into automatic VAR mode rather than automatic voltage control mode (unclear manufacturer control labeling).

Risk: (minimal): Corrected promptly, all voltage schedules met, not called upon to support transmission system voltage, small entity, connected to the 138 kV.

Mitigation: Display screen modified, retrained operators on requirements for automatic voltage regulation and operation of the generator control panel.

Additional examples provided in the Appendix to this presentation.

Representative FFTs

CIP-007 (Documentation)

Issue: Entity self-reported it did not have a patch management procedure in place and updates were not documented.

Risk (minimal)**:** Patches were performed informally using an application to identify vulnerabilities in third party applications.

Mitigation: Ticket tracking system put in place and documented; all devices and updates now tracked and documented.

Additional examples provided in the Appendix to this presentation.

Representative FFTs

PRC-001 (Operational)

Issue: Substation tech disabled primary and backup relaying on a 345 kV line in the adjacent panel when drilling without notifying its TOP.

Risk (moderate): Relaying was disabled four minutes prior to notifying the registered TOP but high-speed clearing of the fault still would have occurred.

Mitigation: Operating personnel were retrained on proper notification procedures.

Additional examples provided in the Appendix to this presentation.

Some FFT Attributes

- Self-reported
- Lesser risk to bulk electric system elements
- Informal/automatic procedures existed
- Very few devices excluded
- Operated within good utility practice
- Short duration/promptly corrected
- Backup protection/process in place
- Trusted/experienced employee
- No event occurred during violation period

Potential Benefits

- Provides incentive to self-identify and fix issues more quickly
- Focus resources on more serious risks to reliability of the bulk power system
- Improve alignment of time, resources and record development with the risk posed to reliability
  - Expected for NERC, Regional Entities and registered entities

Potential Benefits

- Achieve efficiency gains
  - Backlog reduction is not a goal, but it is a benefit
- Reduce information dissemination delays
- Focus more time on ensuring reliable operations

Misconceptions Corrected

- FFT is not limited to older cases and documentation-only violations
- All possible violations of a given standard do not qualify for FFT
- There will be consistency in due process, even if outcomes are not identical

Implementation Challenges

- Ensuring consistency in evaluation and disposition
- Addressing pre-existing and repeat violations
- Determining risk posed to bulk power system reliability
- Considering registered entities’ request for FFT treatment
- Developing IT solutions and revised self-report form

Transition Issues

- Uncertainty discourages some entities from participating
- Training compliance staff to make decision in the field will be a significant focus in 2012
- Phase II implementation is currently targeted in 2013

Potential Improvements

- In Phase II:
  - Continue to alleviate extensive record development burden for lesser risk violations
  - Provide guidance through FFT candidate examples
  - Enable compliance staff to identify FFTs
  - Reap benefits for all
- Beyond Phase II
  - Aggregated reporting of Remediated Issues

The 6 Month Report

- Report to be submitted on March 30, 2012
- Opportunities provided for input by Regional Entities and registered entities
  - SurveyMonkey
  - Member Representatives Committee meeting, February 8, 2012
  - Written comments before February 23, 2012
- Experience over first six months to be evaluated
  - Address guidelines, trends, benefits, implementation challenges transition issues, improvements, and training schedule

Registered Entity Survey

- Gathered information from the registered entity perspective on FFT implementation
- Preliminary survey results
- Will share the overall results of the survey

Training and Education

- Feb. 7-8: Audit Team Leader training class agenda item (quarterly)
- Feb. 21-23: CEA Staff workshop agenda item
- April: Half-day webinar for CEA staff
- Third Quarter: Begin online course for CEA staff
- Sept.: CEA staff workshop agenda item
- October: One year feedback information webinar
- Fourth Quarter: All CEA staff complete required training and training course updated dependent on Phase II changes

Conclusion

- NERC is continuing to work with Regional Entities and to engage in outreach efforts to ensure successful implementation
- Upcoming training activities will focus on specific case studies

Appendix – FFT Examples

FFT Examples

Standard	Description	Factors
CIP-001 R1, R2 and R3	Previous Emergency Response Plan did not explicitly provide for sabotage response guidelines but it did include emergency response guidelines and personnel to contact for reporting emergencies. Entity does not own any BES equipment, transmission lines, substations, UFLS, UVLS, or SPS equipment.	Informal procedures existed. Not BES.
PRC-008 R2	Of its 21 UFLS devices, the entity did not have evidence of maintenance and testing for 2 station batteries. Entity had the past maintenance and testing dates and the most recent UFLS relay maintenance and testing records but not maintenance and testing records of station batteries associated with its UFLS program. Entity only has two interconnection points and will only shed 23 MW of UFLS load, a failure of any part of its UFLS program will have a minimal impact to the BPS.	Entity had past and most recent records. Few devices missed. Lesser risk to BPS.
PRC-005-1 R1.1	Entity included maintenance and testing intervals for the devices in its Program, but it did not define the basis for those maintenance and testing intervals. Entity completed all maintenance and testing within the maintenance and testing intervals of its Program except for certain transmission relays, as noted in a separate enforcement action.	Lacked interval basis. Performed testing. Intervals adhered to Good Utility Practice

FFT Examples

Standard	Description	Factors
VAR-002 R1	Entity staff was informed they had to operate in automatic voltage control mode through internal communications and operating procedures, but an operator misunderstood the generator control panel and placed a voltage regulator into automatic VAR control mode instead of automatic voltage control mode. Another operator corrected this error the same day. The unit met all of the voltage schedules as provided by its Transmission Owner (TO) during the period of the issue, was not called upon by its TO in order to support transmission system voltage. It was small and connected to the 138 kV.	Self-reported Adequate procedures Corrected quickly Met schedules and not called upon Lesser risk to BPS
EOP-005 R7	Entity failed to demonstrate verification of its restoration procedure by actual testing or by simulation for a two year period but the entity had a documented restoration procedure in place that was used in tabletop training of its operators.	Had documentation Used tabletop training
CIP-007	Entity self reported it did not have a patch management procedure in place. Updates were not documented, but they were performed informally using an application to identify vulnerabilities in third party applications.	Self-reported Patch management performed by application.

FFT Examples

Standard	Description	Factors
PRC-001 R5	Contrary to an established procedure, a technician at a substation installing a disturbance monitoring panel disabled both primary and backup relaying on a 345 kV line in the adjacent panel to mitigate the risk of an operation due to the vibration of the drilling without notifying its Transmission Operator (TOP). Relaying was disabled four minutes prior to notifying the registered TOP. If a fault had occurred on the line, high-speed clearing of the fault still would have occurred.	Self-reported Procedure existed Short duration Backup protection
VAR-002 R2	Discovered during an audit, the entity operated outside the voltage schedule set by its TOP of 356 kV - 360 kV (358 kV +/- 2 kV) by up to -5 kV outside this schedule. Voltage regulators at the entity remained in automatic VAR mode, and the entity worked with its TOP to modify the schedule to provide a greater bandwidth where none of the deviations would have been outside the new bandwidth.	Automatic VAR Within corrected range
TOP-002 R14	Entity failed to notify the Balancing Authority/TOP (BA/TOP) of reduction in capabilities from 40 MW to 20 MW due to poor condition fuel. Deviation was minimal (out of 28,000 MW for the BA) and the duration for loss of capability was minimal, 11 hours in total for three occurrences on the same day.	Self-reported Minimal deviation Short duration

FFT Examples

Standard	Description	Factors
CIP-004	Through an internal compliance assessment, the entity discovered that although it documented and implemented its Personnel Risk Assessment (PRA) program. PRAs for current employees that were conducted prior to the effective date of the Standard were based on a five-year criminal background rather than a seven-year time interval. The entity also discovered that it was unable to locate PRAs for six individuals with unescorted physical access to CCAs and an additional one was discovered during a spot-check. The five-year interval covered a significant portion of the required seven-year time period for the current employees. Regarding the six individuals in which had no PRAs, all were long-term trusted employees with no disciplinary actions who had received the required cyber security training and after PRAs had been conducted, no PRA came back as having failed. With respect to the contractor who was inadvertently granted access to a newly identified restricted area without a PRA, the oversight corrected in less than two months, the contractor never attempted to enter the PSP, and even if he had his credentials would not have allowed him to open the secured door to the control center.	Self-reported Check covered most of period Trusted employees Backup precautions Corrected quickly
CIP-002-1 R3	Entity incorrectly identified ten network switches located within the entity's Electronic Security Perimeter as Protected Cyber Assets (PCAs), but they should have been identified as CCAs. Some of the entity's systems were essential to the reliable operation of the entity's control center. However, the PCAs and CCAs were afforded the same cyber security protection measures. Consequently, the misclassification of the network switches had no actual impact to the reliability of the BPS, and there was no increased risk to the reliability of the BPS.	Self-reported (portion of violations) Proper protection afforded

FFT Examples

Standard	Description	Factors
CIP-003	Entity's Cyber Security Policy did not include any provisions for emergency situations. This issue was corrected in a subsequent version of the policy a year later. Also, while the Cyber Security Policy was uploaded on the entity's intranet and made available, the entity's vendor did not receive a copy. Nevertheless, the vendor had received comprehensive training on CIP Standards and they fully understood the implications of their access to the entity's CCAs.	Training provided. Backup process
PRC-004	The entity found during self-certification that its procedures for analyzing and mitigating transmission Protection Systems Misoperations: (i) did not include sufficient detail; (ii) did not identify the responsible personnel assigned to perform each step in the process; and (iii) did not clearly define what constitutes a Misoperation. As a result, not all potential misoperations were being logged, monitored, and evaluated.	Self-reported Procedures existed Promptly corrected
EOP-001	The entity self-reported that it lacked sufficient evidence to demonstrate it had developed, maintained and implemented a set of plans for load shedding and system restoration. Even though the entity did not have a documented procedure, there is a load reduction schedule implemented in its SCADA system and system operators had been instructed in its use. The system operators have the authority to restore the system and to shed load as needed. Also, the entity is relatively small and has a radial connection only to a small municipal utility and the largest regional utility.	Self-reported Backup process Operators had proper instruction Lesser risk to BPS

FFT Examples

Standard	Description	Factors
EOP-005	The entity self-reported that one of seven system operators did not have a record of training for its System Restoration plan for a period of approximately two years. However, the operator was a twelve (12) year veteran dispatcher with the entity. No events upon which the training relied occurred during the time period, and the oversight was promptly noted. The employee received the training. Additionally, all other system operators had a record of training during this time.	Self-reported No events occurred during violation period Experienced operator No other occurrences

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Quarterly Statistics

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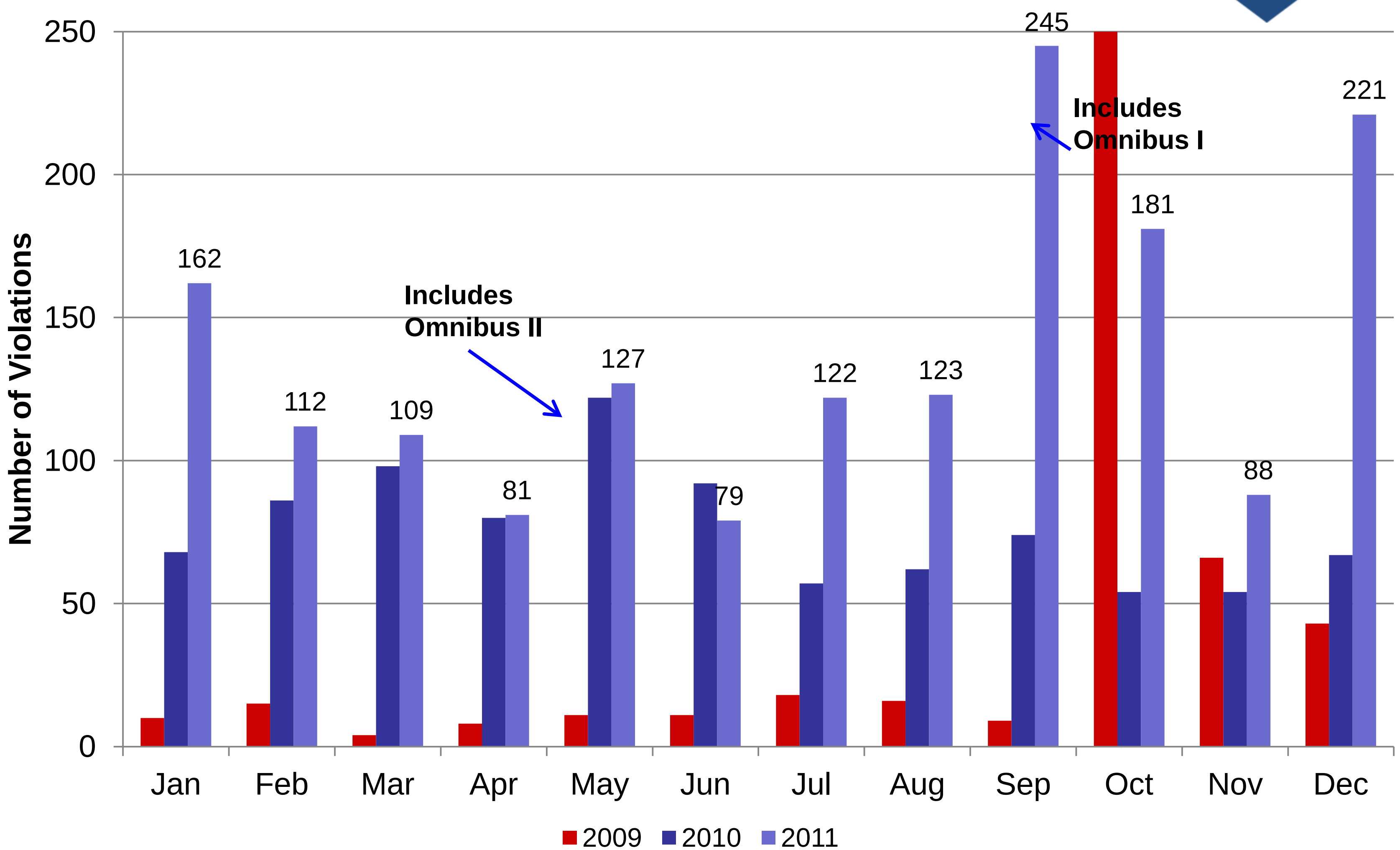
Overall Trends

- The number of new violations received in December was 242
- December 30 FERC filing
  - 76 FFT violations
  - 69 violations (54 via spreadsheet NOPs and 15 via full NOPs)
- Violation monthly receipt average
  - Last six months— 223 violations per month
  - Overall 2011— 248
  - Overall 2010— 168

Violations Approved by BOTCC



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CEI Processing Statistics

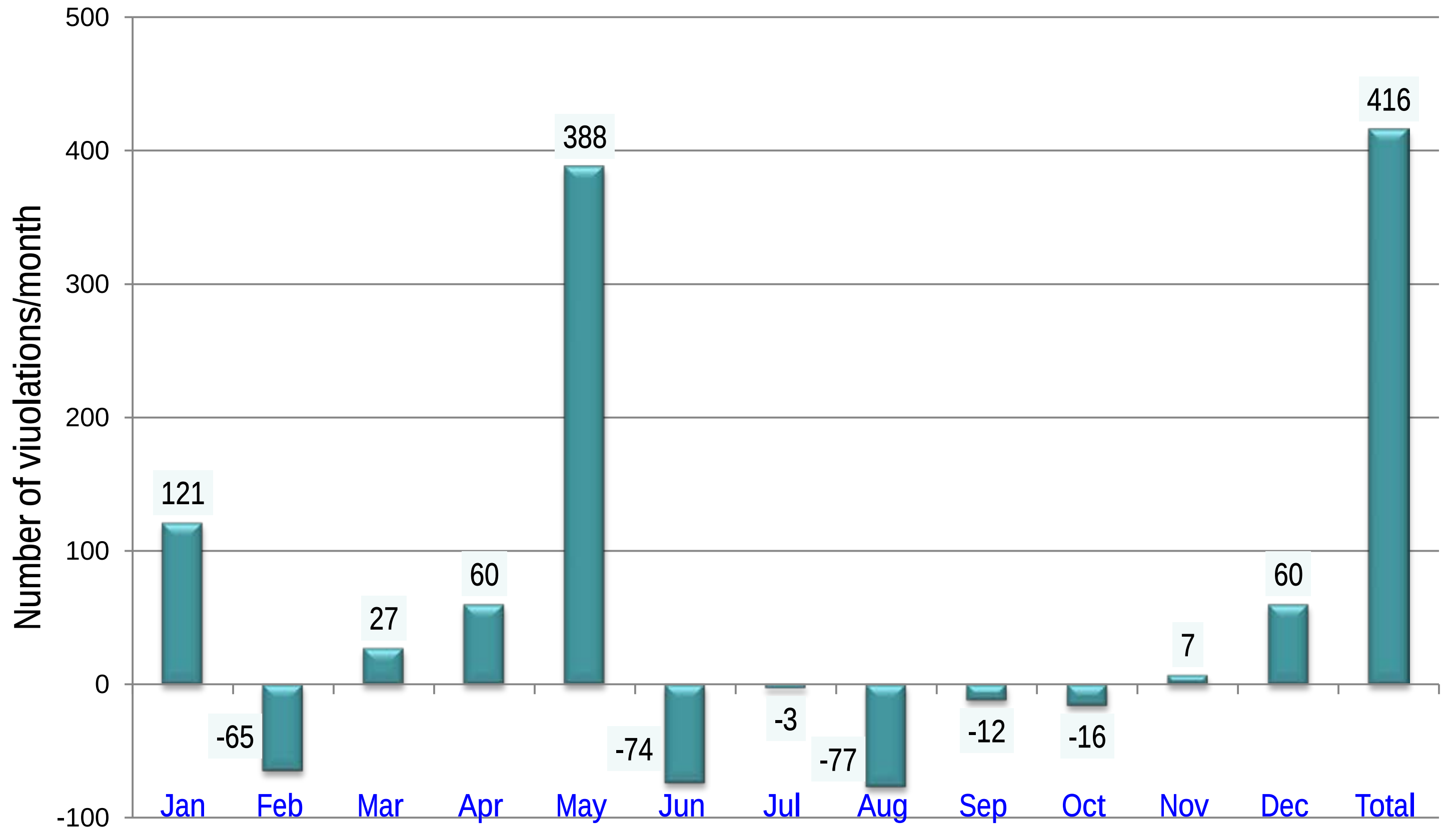
	Total Approved by the BOTCC		Total Filed with FERC
	NOP Violations	FFTs	
September	119	128	219
October	48	133	159
November	44	45	131
December	125	96	145

CEI Processing Statistics by Region

Total Approved by the BOTCC (NOP/FFT)

	September	October	November	December	January (submitted)
FRCC	12/30	0/25	0/2	0/16	0/5
MRO	0/24	1/9	0/11	1/26	1/5
NPCC	0/2	0/4	0/7	7/0	0/0
RFC	58/8	15/17	29/14	21/19	20/13
SERC	0/22	0/2	0/3	2/2	0/0
SPP RE	8/24	0/8	0/6	12/3	0/7
TRE	0/12	0/13	0/1	17/10	3/7
WECC	41/6	32/9	15/1	59/1	10/0

Violation Processing in 2011



New	218	212	190	219	581	223	211	166	262	247	212	242	2983
Dismissed and Filed	97	277	163	159	193	297	214	243	274	263	205	182	2567

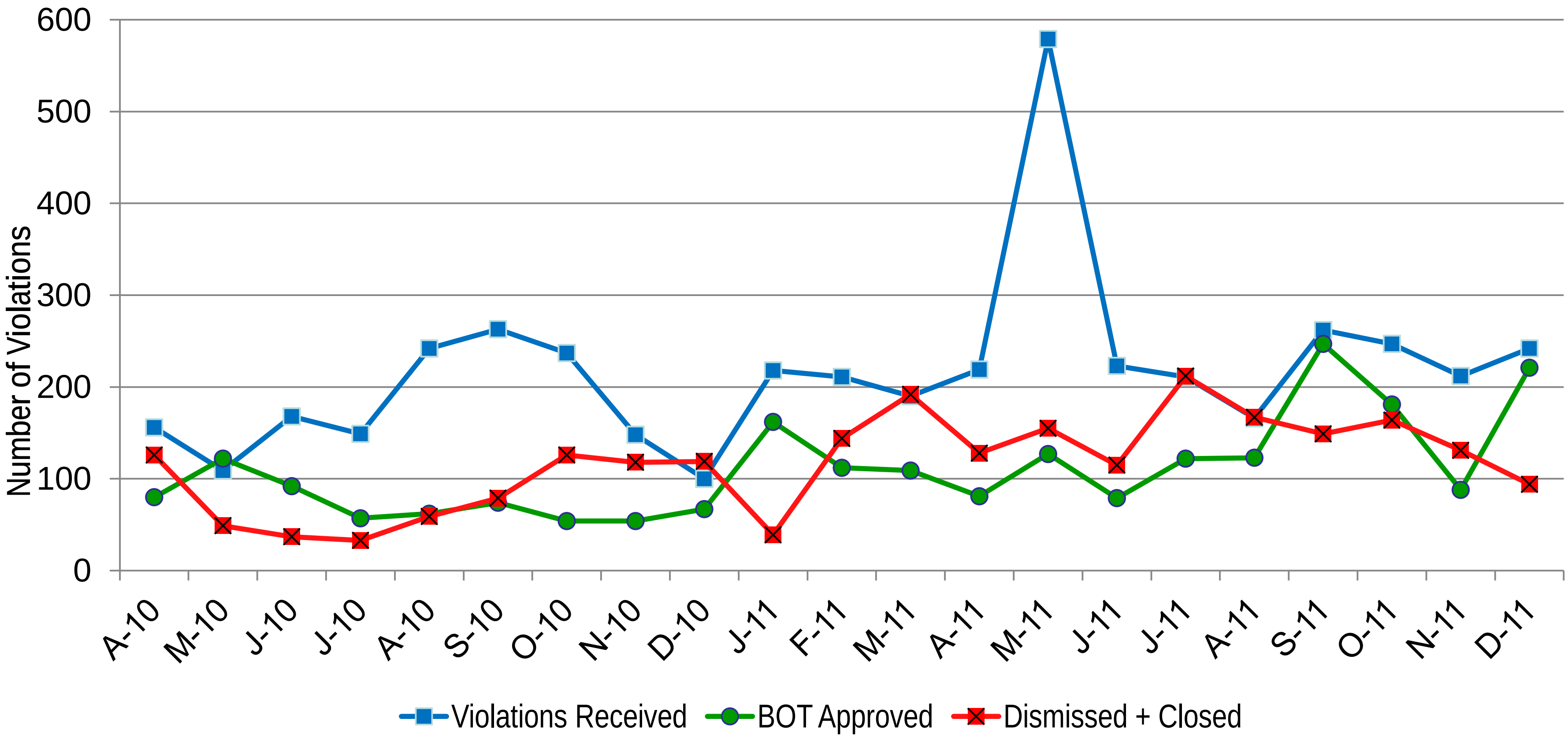
Caseload Index Description

- NERC Caseload Index
  - Total # of Active Violations divided by the 6-month average of # violations approved by the BOTCC (NOP, FFT and ACP)
- Variations
  - Common
    - 6-month average of # Dismissals added to process rate
  - Additional
    - Active violations reduced by ‘on-hold’ violations
    - Active violations reduced by violations accepted by FERC

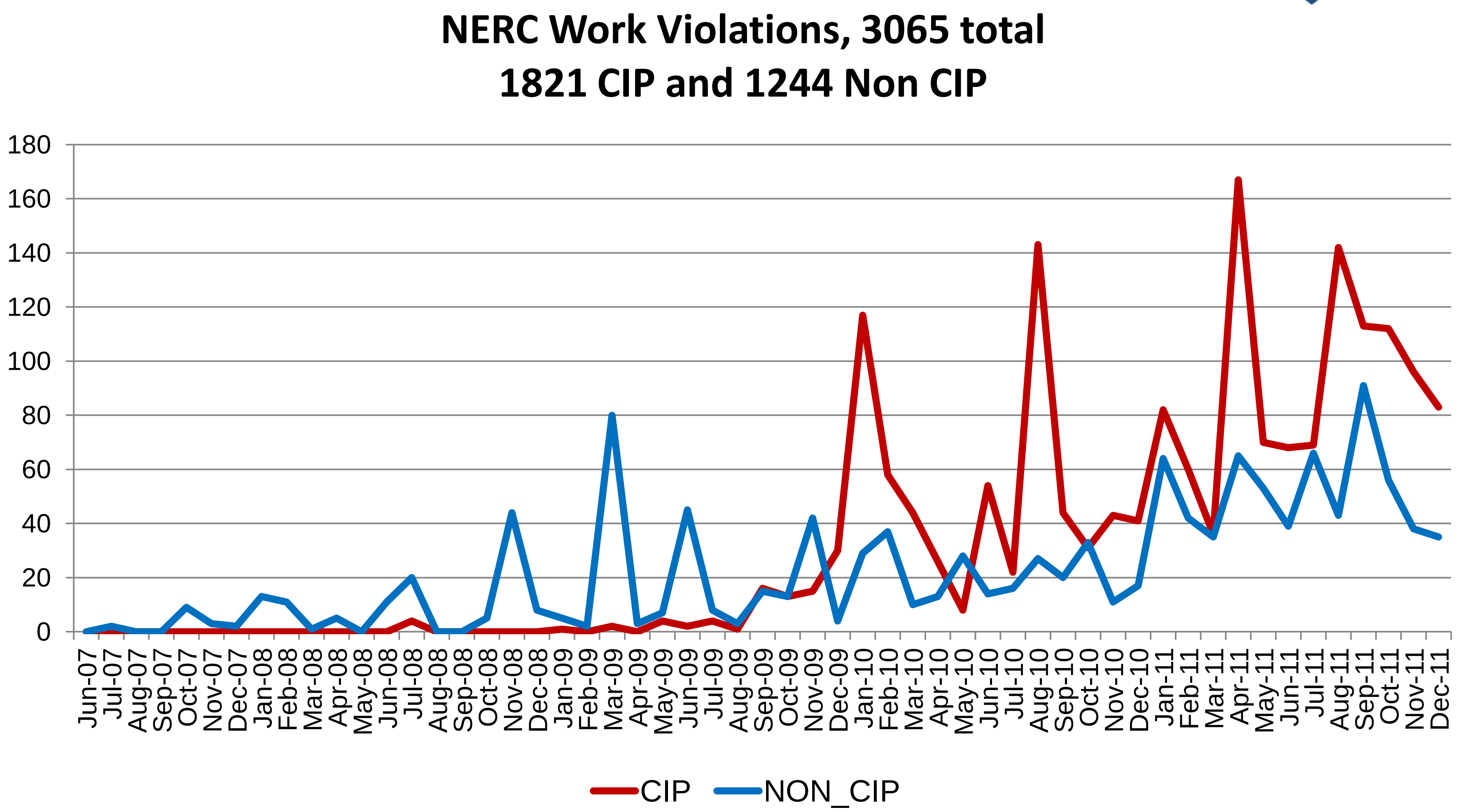
Caseload Index for NERC

	Caseload Index –end of second quarter/end of third quarter/ end of fourth quarter (months)			
	Active	Active; Process Rate with Dismissals	Active less 'On Hold'; Process Rate with Dismissals	Active less Accepted by FERC; Process Rate with Dismissals
Total NERC	35/31/**24**	23/19/**16**	20/17/**14**	19/17/**13**

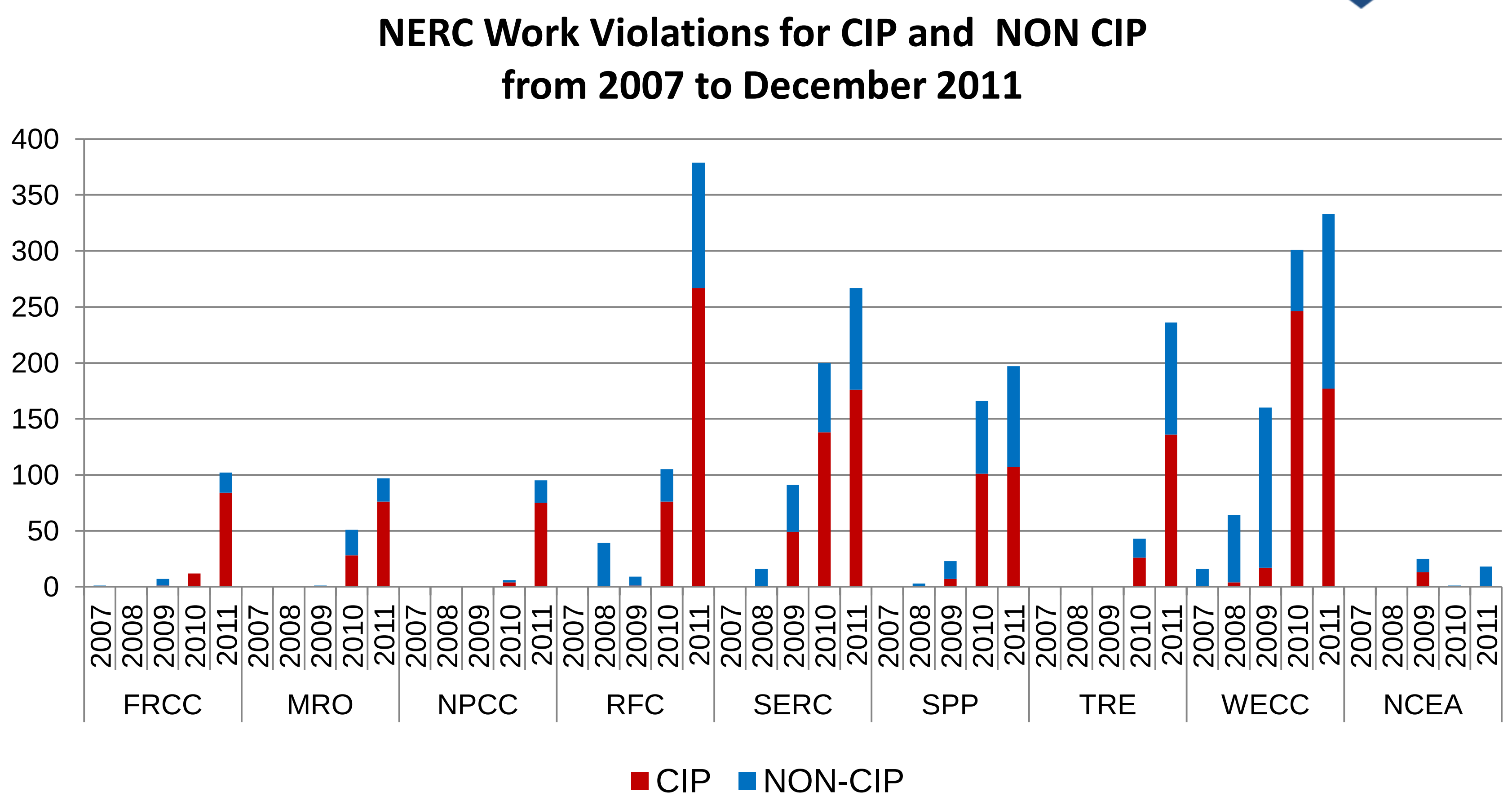
Violations In/Out Trend



NERC Work CIP and Non-CIP Violations-Based on Discovery Dates from June 2007 to December 2011

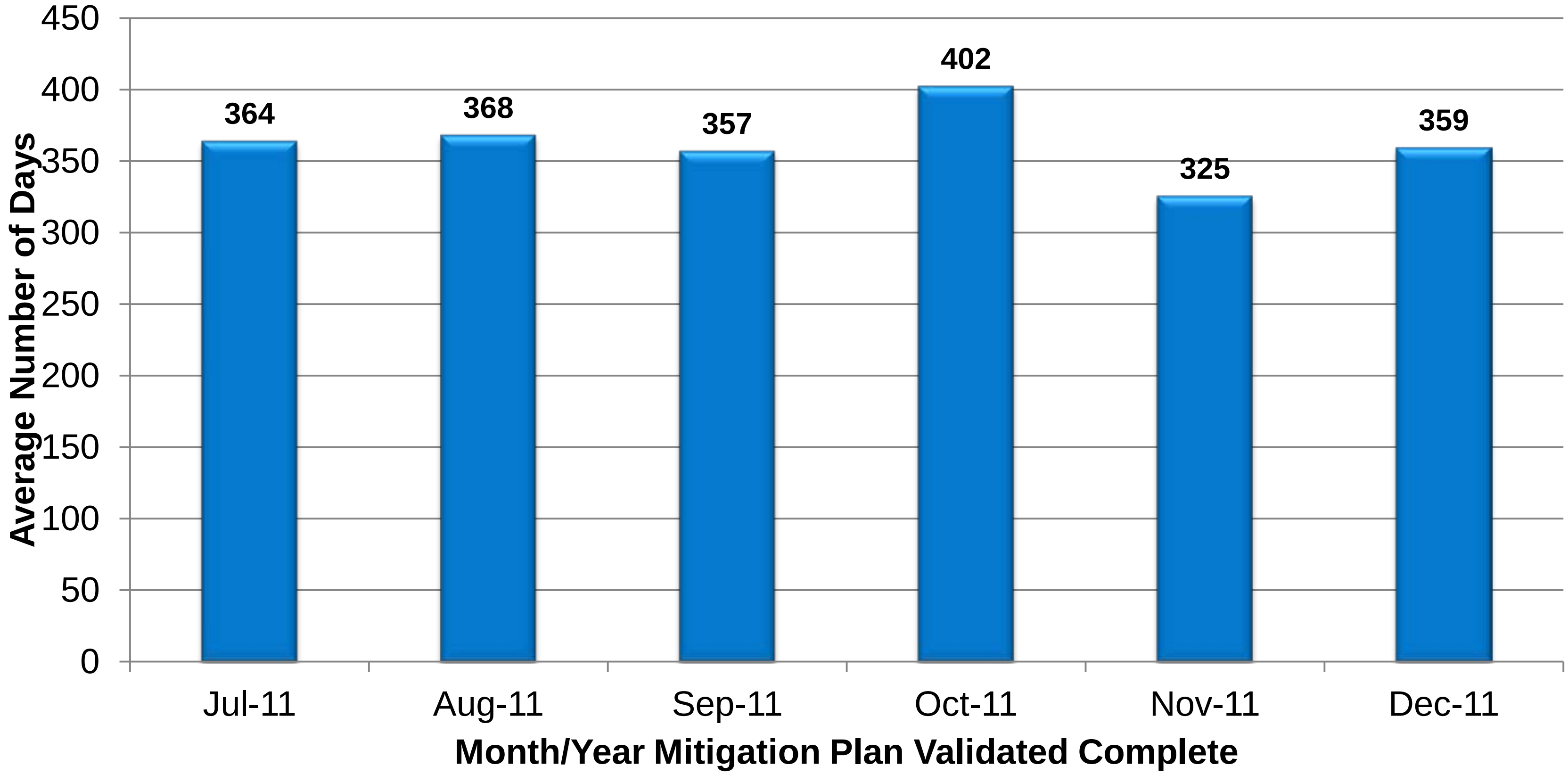


NERC Work CIP and Non-CIP Violations by Region



Rolling Six-Month MP Average Days from Discovery to Validate July 1 thru December 31, 2011

Total of 499 **violations** with a six-month average of 362 days to validate



Top 20 Enforceable Standards – Violated Active and Closed Violations thru 12/31/11