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# Texas Regional Entity Report

Larry Grimm  
February 19, 2008

# Performance Highlights

- **ERCOT's Control Performance Standard (NERC CPS1) score for January– 123.83**
- **Initial scores for January indicates 34 non-wind-only QSEs passed and 1 non-wind-only QSE failed the PRR 525 measure**

# Texas RE Monthly Summary

- **For January.....**

- Protocol & Operating Guides violations
  - 3 → 2 confirmed – mitigation in progress; 1 confirmed – mitigation complete
- NERC Standards violations
  - 2 alleged
  - 1 Dec '07 alleged violation dismissed
- Reportable events
  - 1 Compliance review continues to be finalized
  - 11 new events reported – 9 required a compliance review

# Reliability Standards Committee

- First meeting held on January 29<sup>th</sup>
- Rick Keetch (Reliant Energy) and Dale Bodden (CenterPoint Energy) were elected as RSC Chair and Vice-chair respectively.
  - Term ending December 2008
  - Request Board confirmation of Chair and Vice-Chair
- RSC unanimously voted to accept SAR-001: “*Revision to Texas RE Documents to Provide for the ERCOT ISO to Participate and have a Vote in the Processes*”
  - Next Steps.....
    - Public posting of SAR
    - Collaborating with ROS to seek volunteers for Drafting Team



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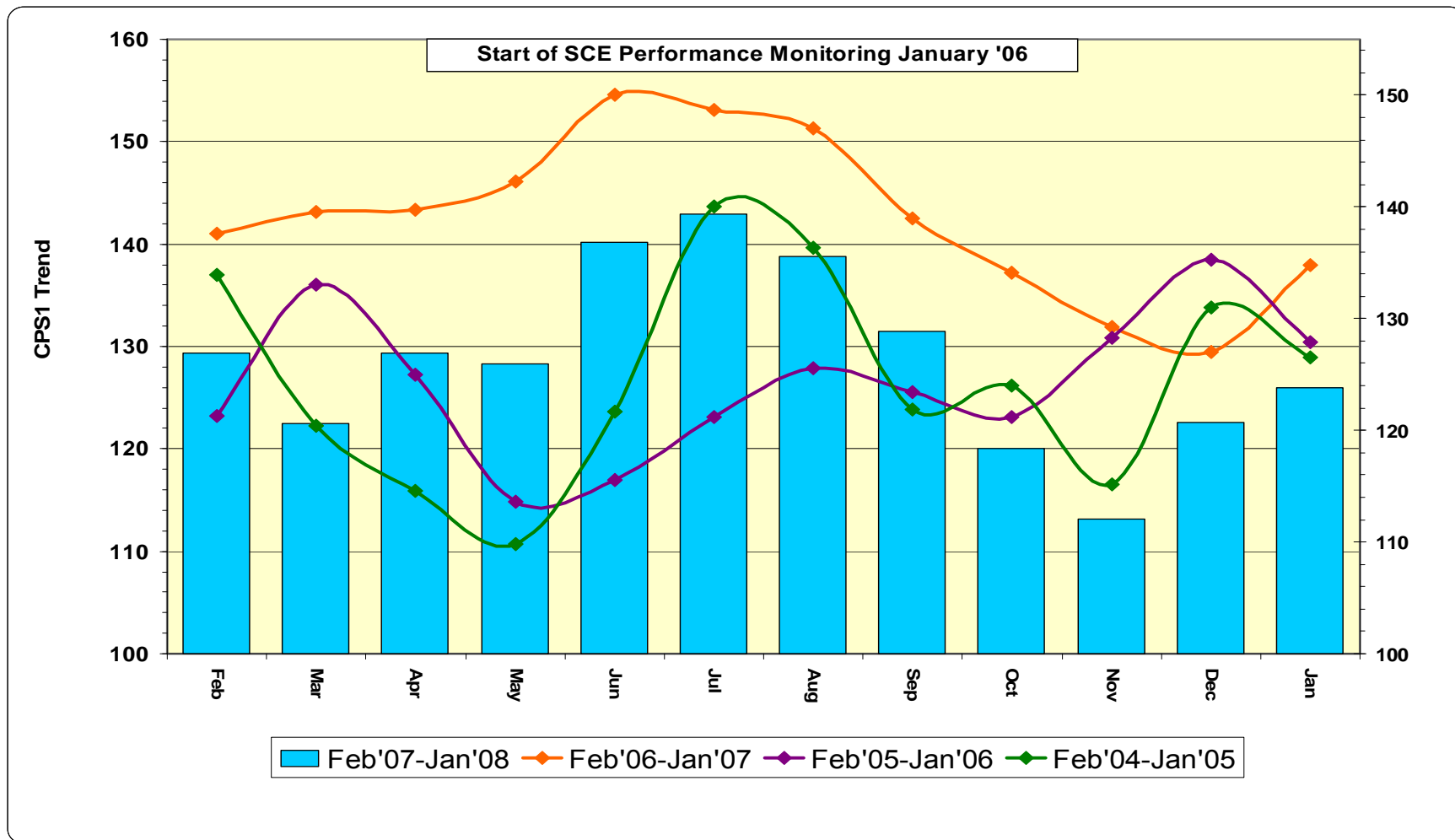
# Texas Regional Entity

## Report Details

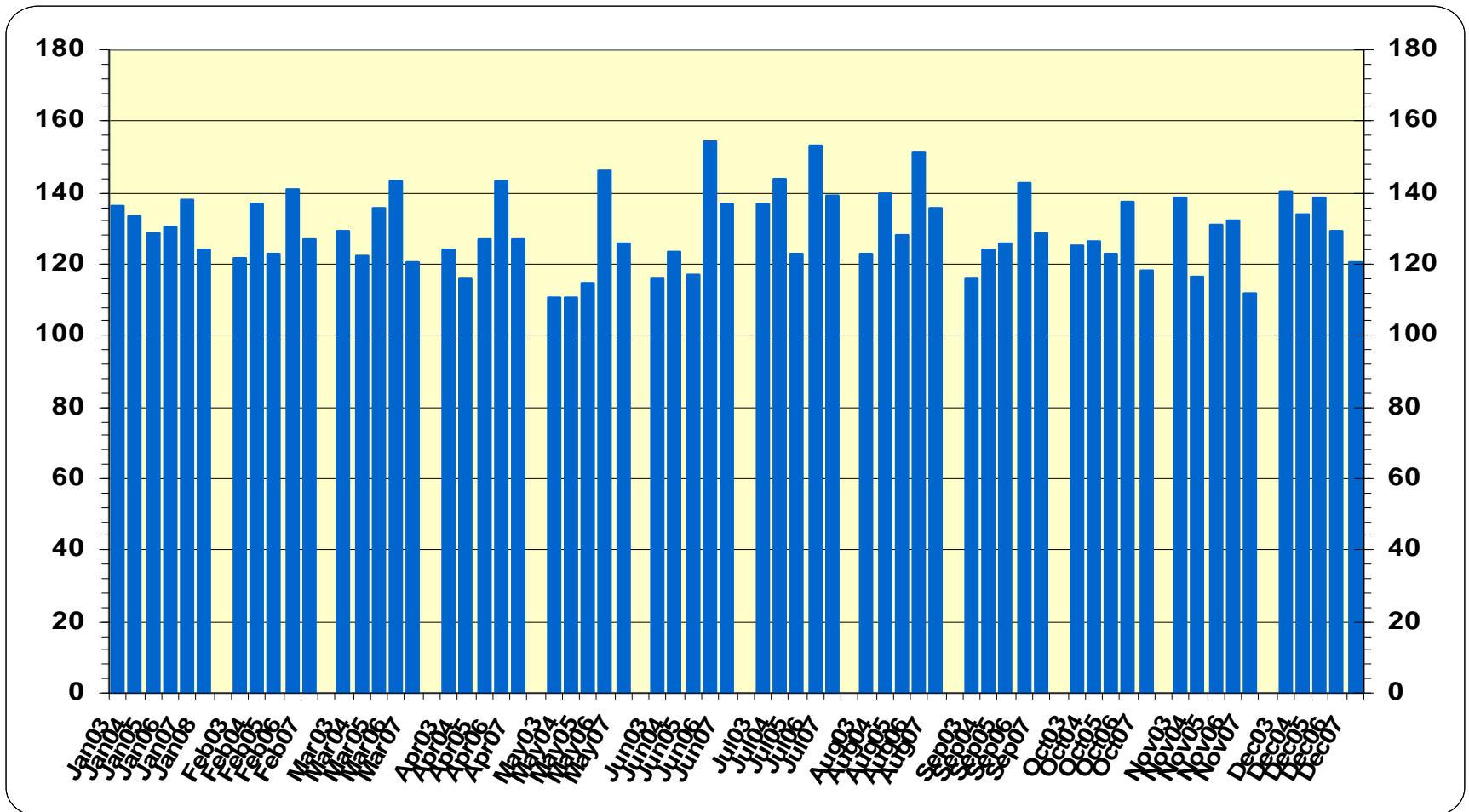
# NERC CPS1 Performance

- ERCOT's CPS1 Performance
  - January Performance
    - Monthly comparison
      - ◆ 2008: 123.83
      - ◆ 2007: 137.95
    - 12 month rolling average comparison
      - ◆ February 2007 → January 2008: 126.33
      - ◆ February 2006 → January 2007: 142.65
- PRR 525 Performance
  - Scores for January indicate 34 non-wind-only QSEs passed and 1 non-wind-only QSE failed the measure
  - Scores posted on the ERCOT Compliance Website
    - [SCE Performance Scores](#)

# ERCOT CPS1 Performance Comparison

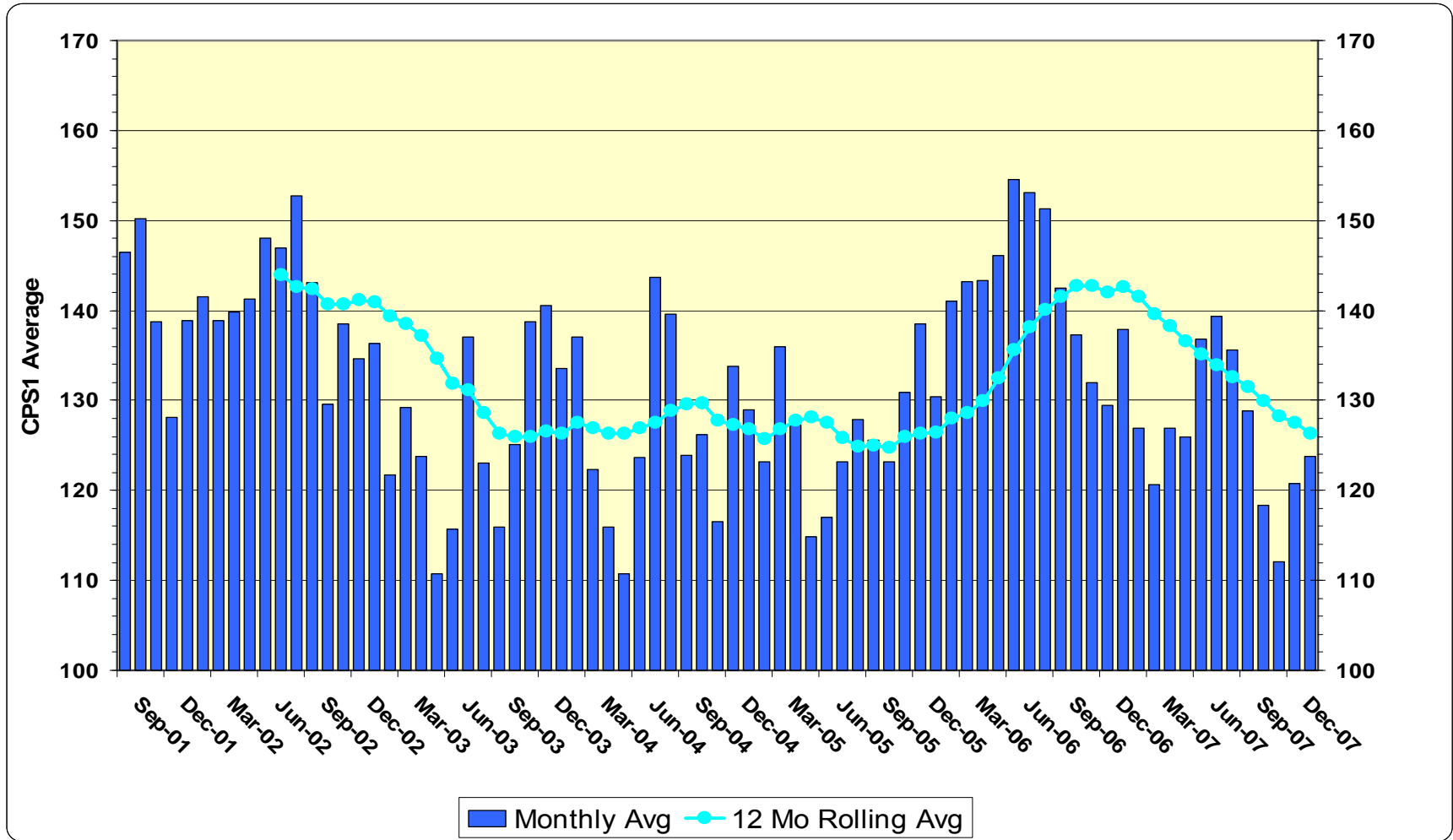


# ERCOT CPS1 Year-to-Year Comparison

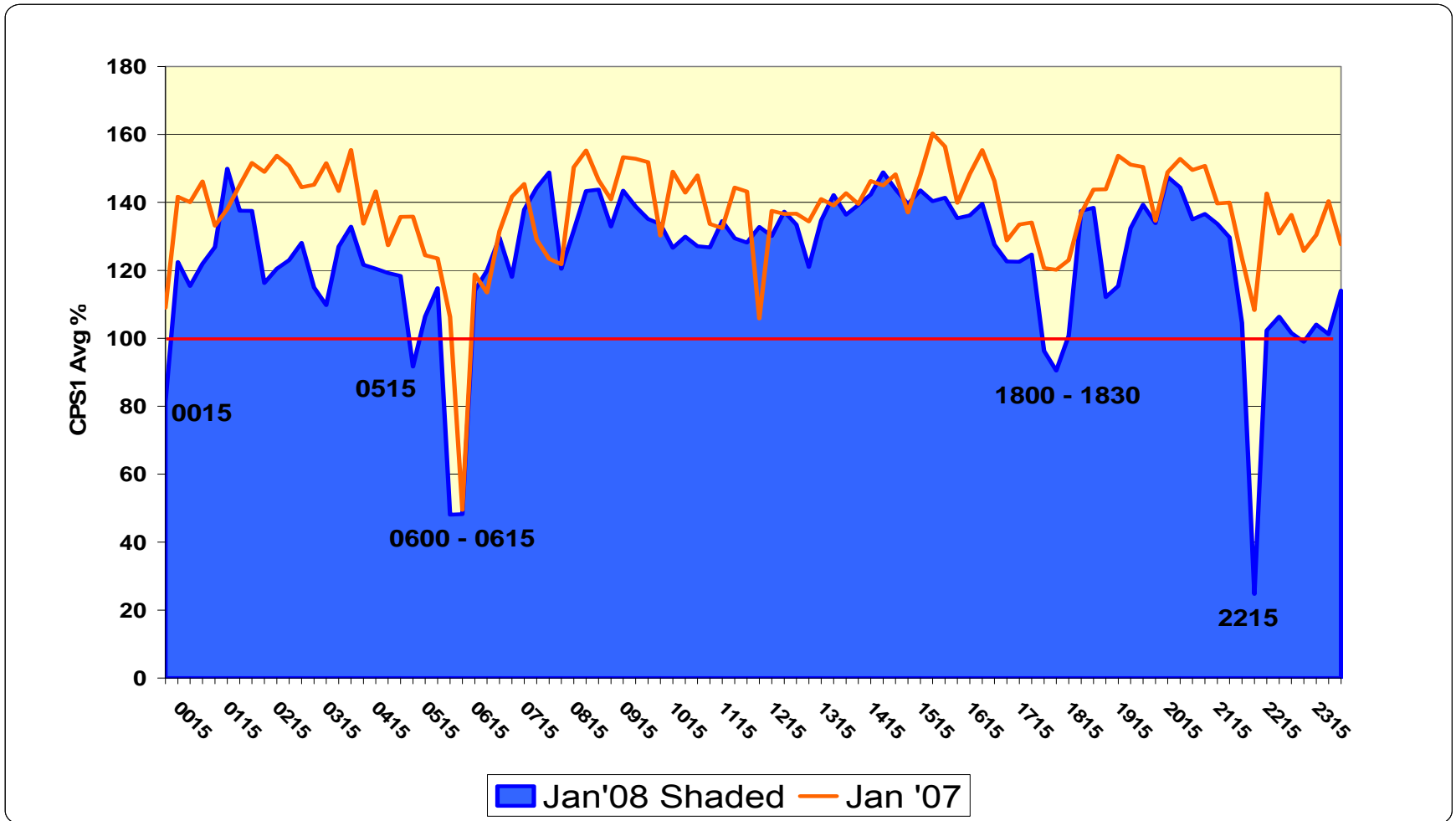




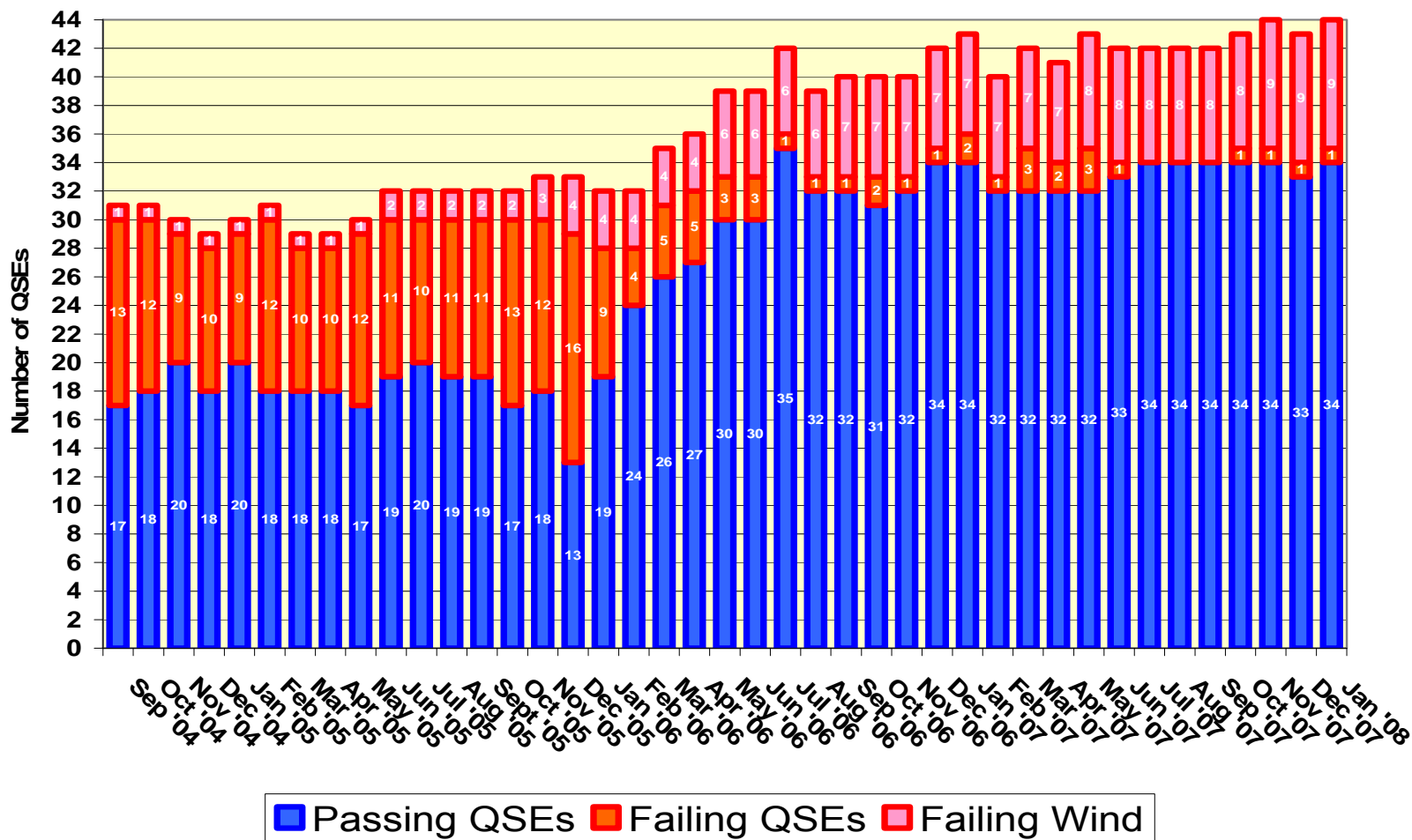
# ERCOT's CPS1 Monthly Performance



# ERCOT CPS1 by Interval



# QSE PRR 525 10-Minute Interval Scoring





# January 2008 Resource Plan Performance Metrics

Resource Plan Performance Metric	ID																										
	JG	DK	BT	DE	IP	JF	AP	AO	HA	BY	BC	JA	AY	AM	AR	BR	HJ	DF	BP	CI	AD	BJ	BH	JD	CF	ET	DA
Resource Status	-	100	-	100	100	-	100	100	100	100	100	100	98	98	100	100	-	100	99	100	99	100	-	100	100	100	99
LSL as % of HSL	-	98	-	100	100	-	98	95	94	99	100	100	100	81	100	100	-	100	99	98	99	99	-	100	100	100	100
DA Zonal Schedule	-	99	98	100	100	100	100	100	99	99	100	100	91	100	100	100	100	100	97	98	100	97	100	100	100	99	
AP Zonal Schedule	100	98	92	100	100	67	100	100	99	99	100	100	99	100	100	-	98	100	100	96	99	100	99	100	100	97	99
Down Bid & Obligation	99	88	94	99	100	100	100	100	90	99	99	100	99	64	100	100	99	98	94	92	96	96	99	90	97	74	88
Total Up AS Scheduled Obligation	-	-	-	100	-	-	100	100	96	99	94	-	98	98	100	99	-	99	-	-	-	-	-	99	98	90	82

Resource Plan Performance Metric	ID																									
	GR	GS	BF	BE	EU	FX	JH	JI	JC	BG	CX	FK	HW	IN	IZ	JB	BX	CC	JE	CD	FS	AC	CQ	IV	IO	FY
Resource Status	-	-	-	-	100	-	-	-	-	100	98	100	99	100	100	-	100	100	-	97	100	100	99	-	100	-
LSL as % of HSL	-	-	-	-	-	-	-	-	-	99	100	99	100	100	99	-	99	100	-	99	100	100	90	-	-	-
DA Zonal Schedule	99	98	100	100	-	100	-	-	100	100	100	100	98	100	100	100	99	96	100	99	100	100	99	100	-	-
AP Zonal Schedule	100	100	100	99	-	100	98	98	100	99	99	100	97	100	97	97	100	99	100	100	100	100	100	100	-	-
Down Bid & Obligation	100	100	99	98	-	100	93	96	100	100	95	100	94	99	98	100	93	98	100	83	-	96	90	99	-	-
Total Up AS Scheduled Obligation	-	-	-	-	-	-	-	-	-	98	98	99	91	91	100	-	100	99	-	100	-	-	99	-	-	91

■ 4 Consecutive Failing Scores    ■ 3 Consecutive Failing Scores

■ 2 Consecutive Failing Scores    ■ 1 Failing Score

# Registration Activities

- Entity Registration issues continue to be addressed
- Purchasing-Selling Entity (PSE) registration
  - 34 entities registered
- Load-Serving Entity (LSE) registration is to be addressed – on hold until FERC Order Directives related to LSE registration issues are fully addressed by NERC
- Joint registration of some entities remains likely

# NERC Functional Entity Types

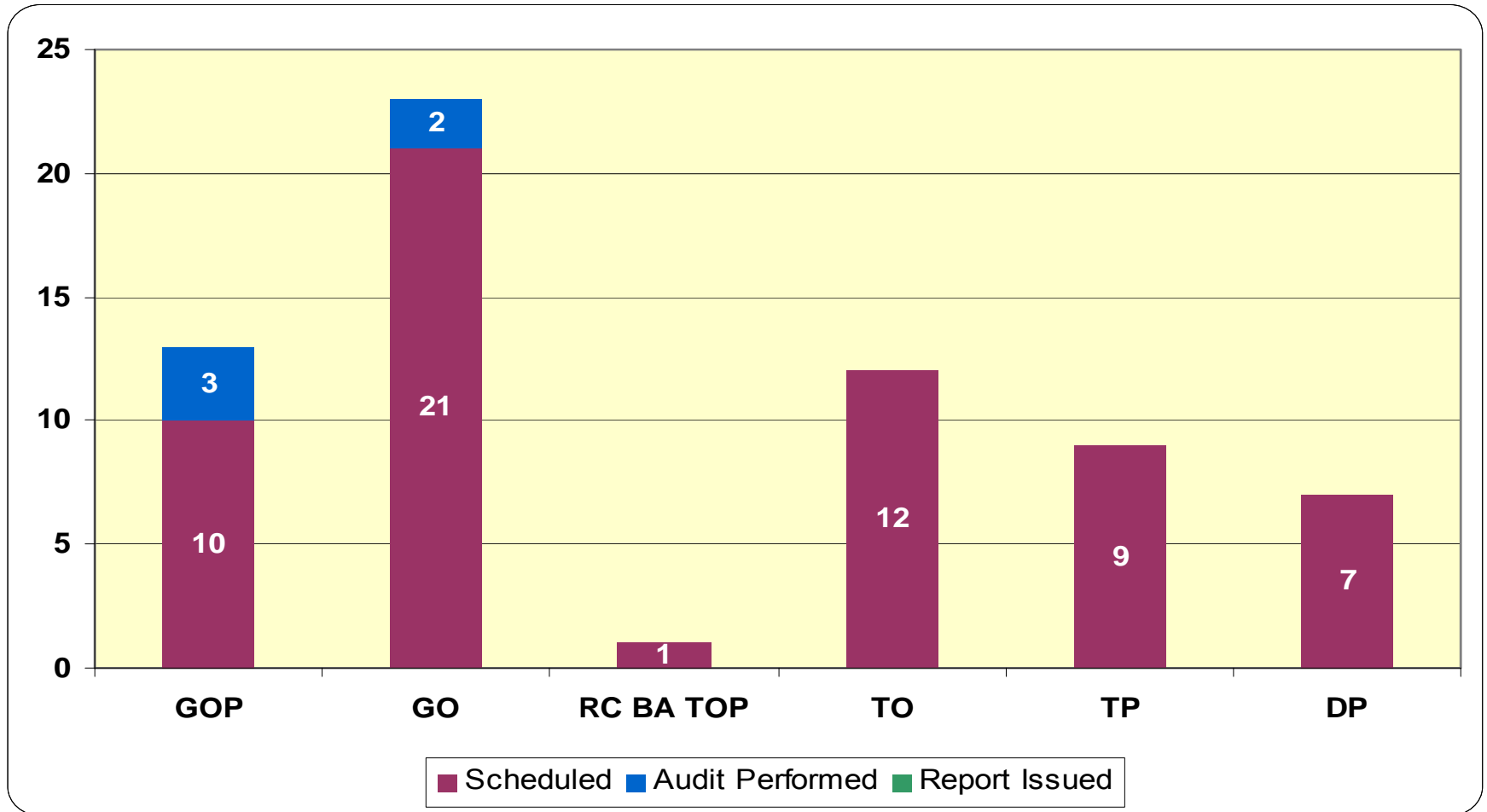
- DP – Distribution Provider
- GO – Generator Owner
- GOP – Generator Operator
- TO – Transmission Owner
- TP – Transmission Planner
- PSE – Purchasing-Selling Entity
- RC – Reliability Coordinator
- BA – Balancing Authority
- TOP – Transmission Operator
- PA – Planning Authority
- TSP – Transmission Service Provider
- RP – Resource Planner

# Compliance Process Flowcharts

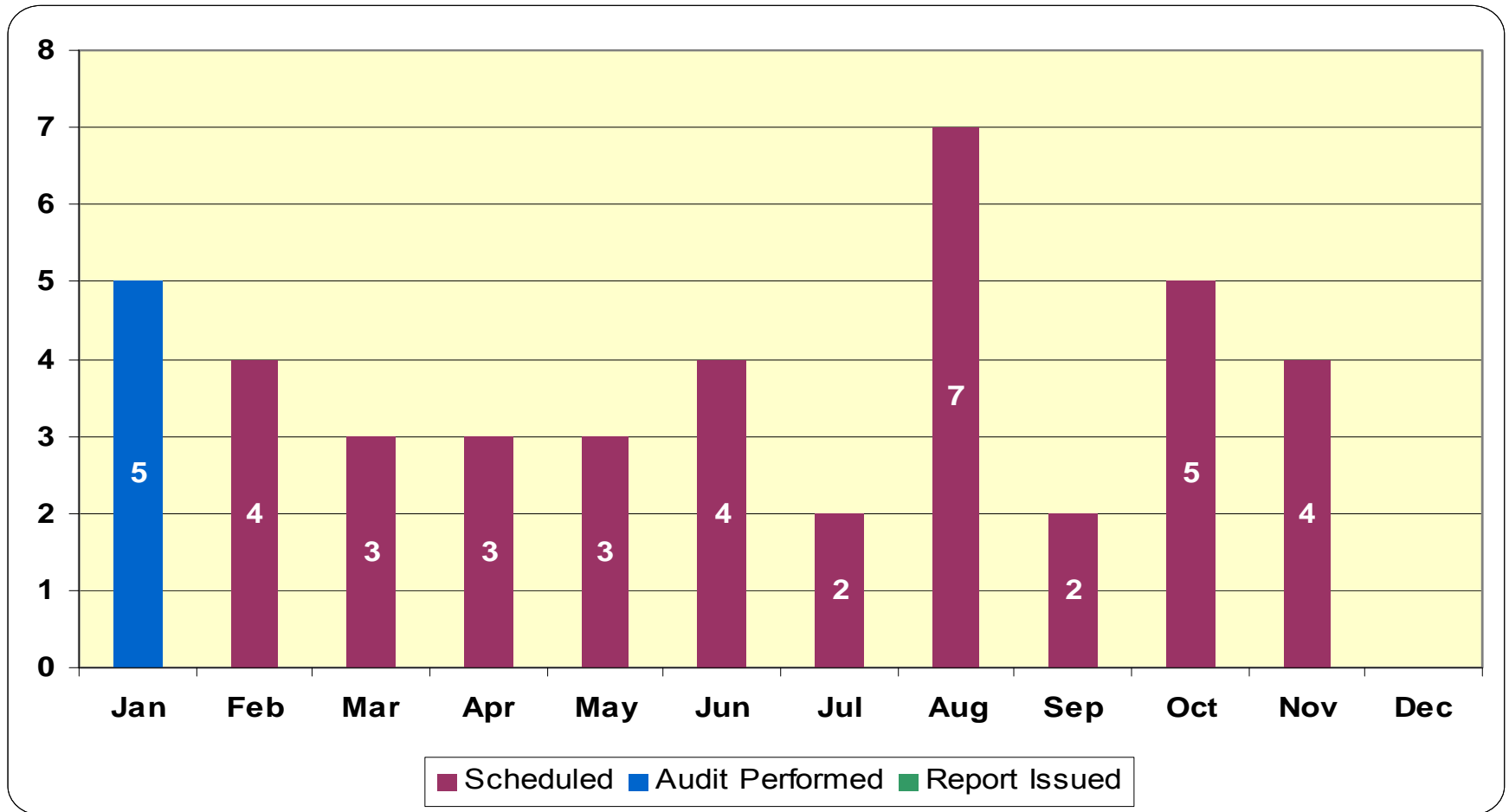
- NERC Compliance Monitoring and Enforcement Program – Reliability Standards
  - [Link to NERC Reliability Flowcharts](#)
- ERCOT Compliance Process – ERCOT Protocols and Operating Guides
  - [Link to Protocols & Guides Flowcharts](#)



# 2008 Audits by Registered Function



# 2008 Compliance Audits Scheduled by Entity

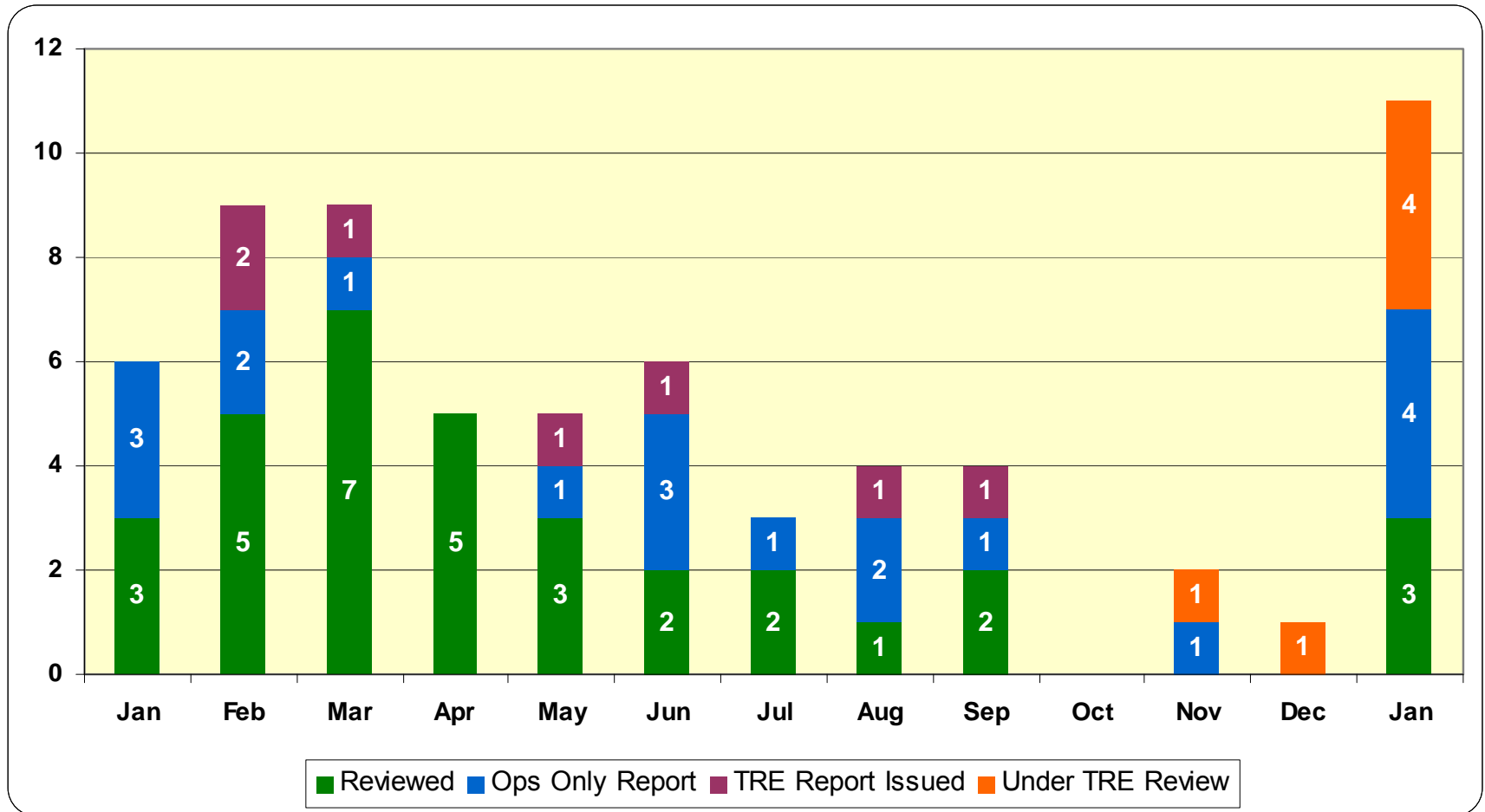


# 2008 Audit Schedule

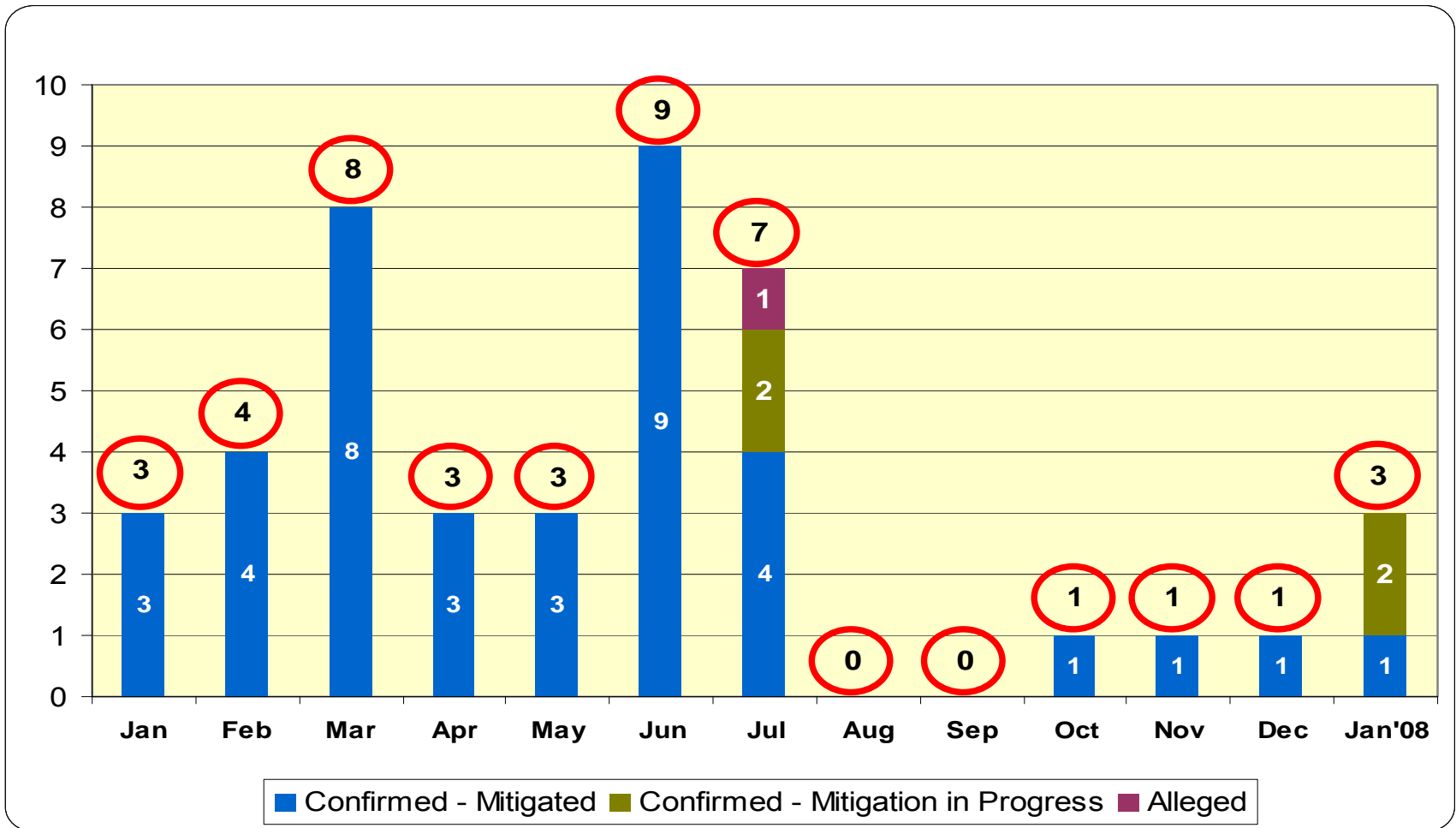
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- The 2008 Texas RE Audit Schedule is available [here](#).

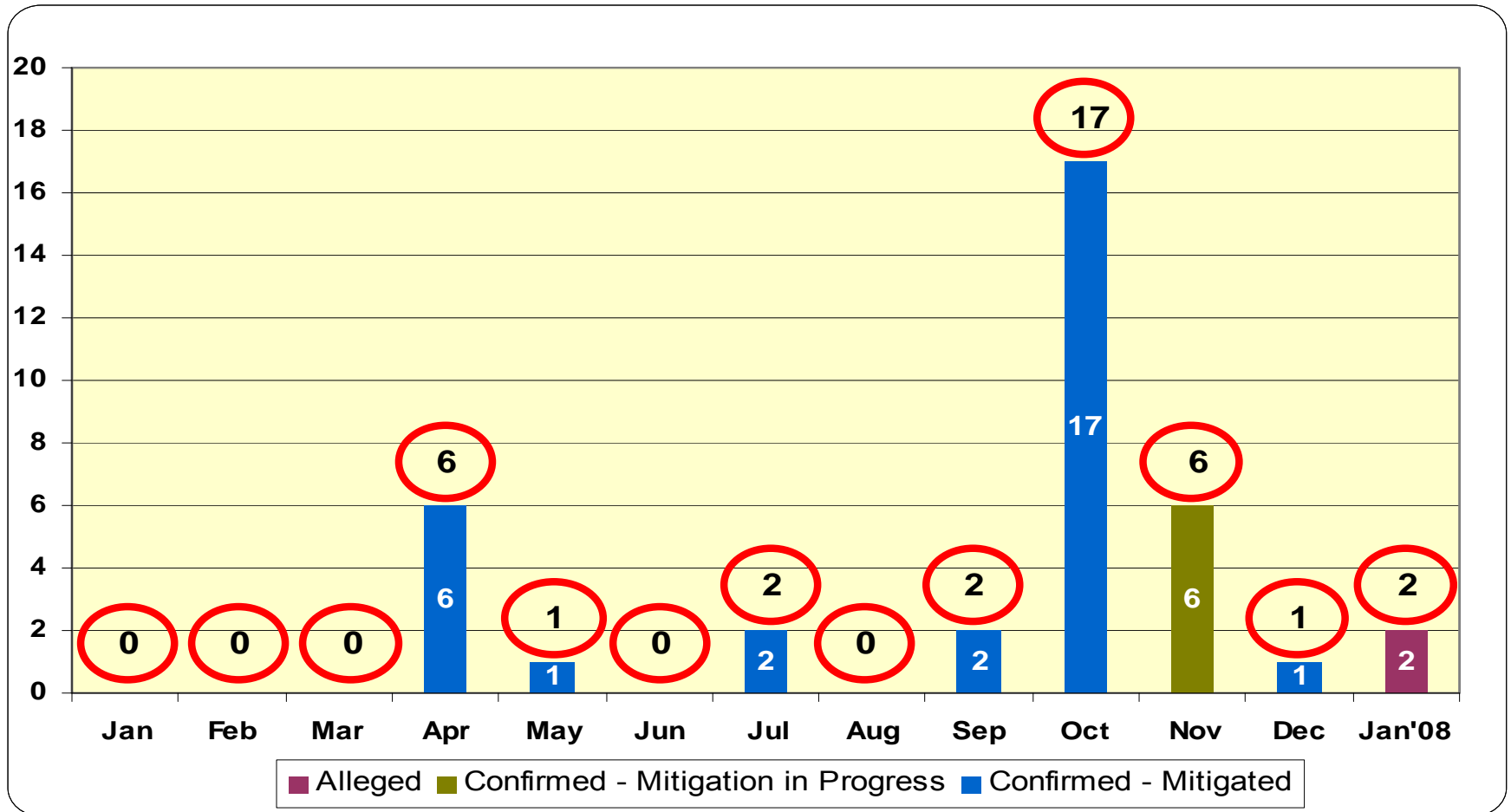
# Compliance Reviews of Events by Month



# Violations of ERCOT Protocols



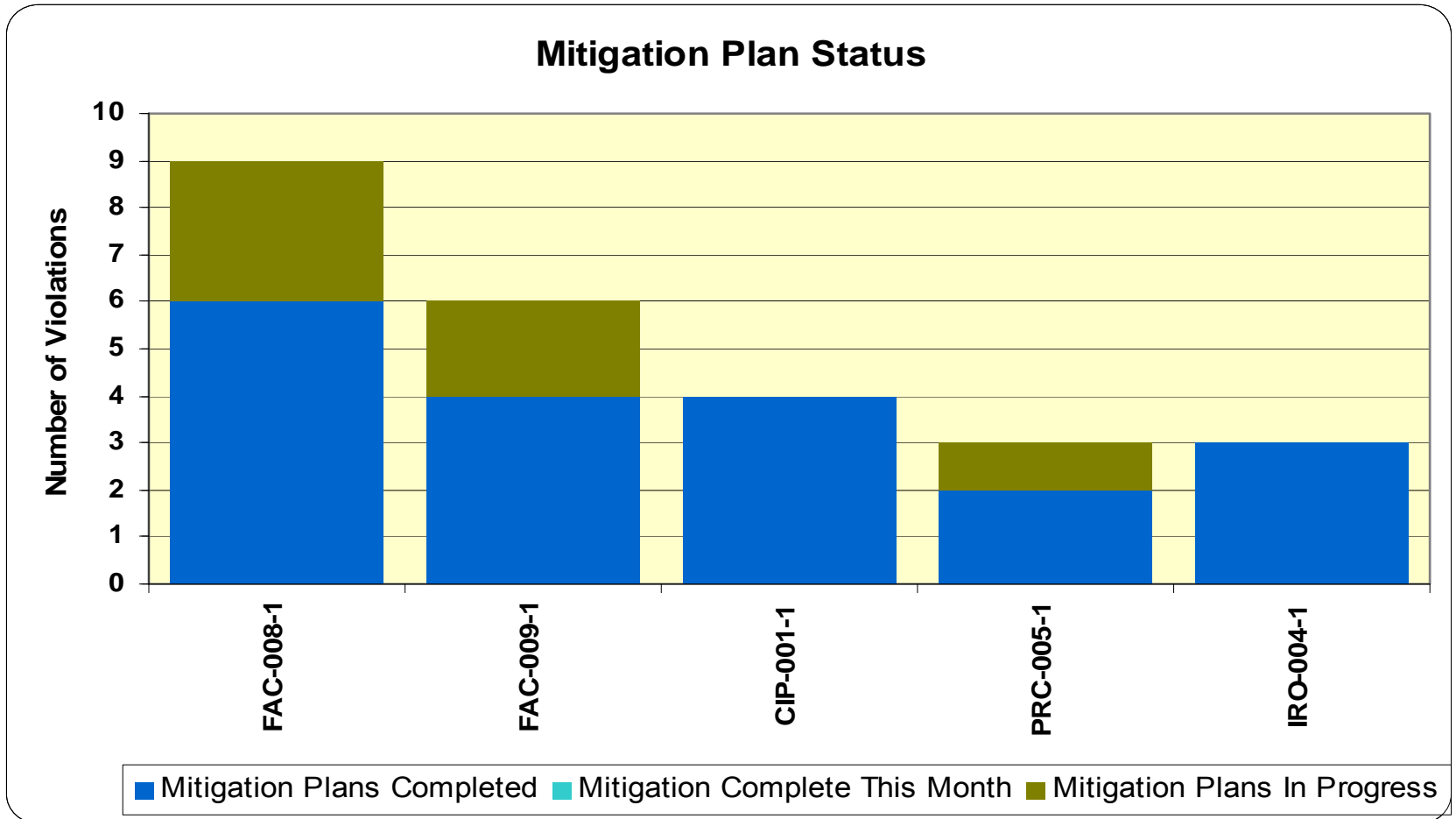
# Violations of NERC Standards Reported by Month



# NERC Standards Self-Certification

- NERC Registered Entities not audited in 2007 required to self-certify to the actively monitored Reliability Standards applicable to their Registration(s)
  - 279 Total Registered Functions
  - 25 violations identified
    - 9 FAC-008 – lack documented process (3 GOs)
    - 6 FAC-009 – lack documented process (3 GOs)
    - 4 CIP-001 – lack documented process (1 GOP)
    - 3 IRO-004 – lack documented process (2 GOs; 1 GOP)
    - 3 PRC-005 – relay maintenance delinquent (1 TO; 2 GOs)

# NERC Standards Self-Certification Violation Status

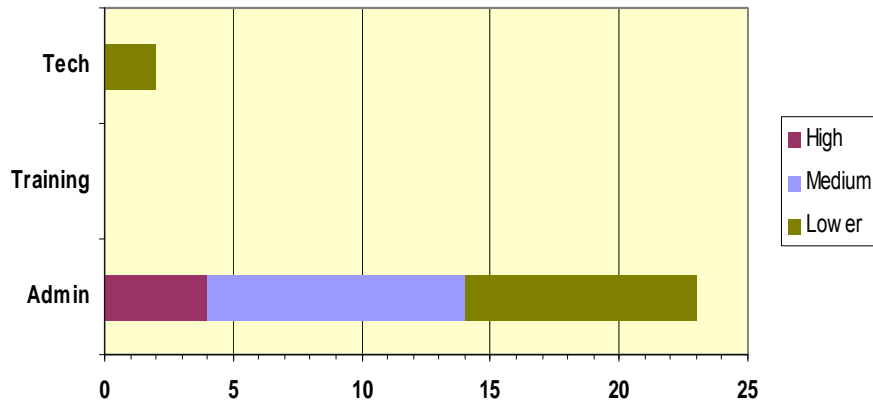




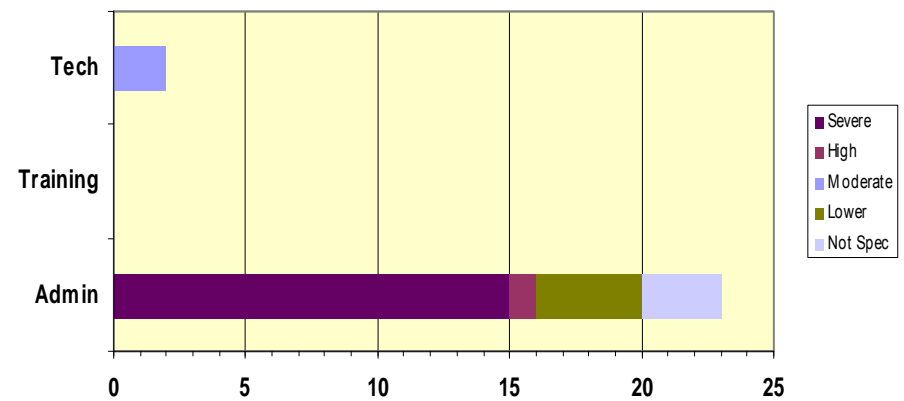
# NERC Standards Self-Certification Violation Details

Std	Qty	Req'mt	VSL	VRF	Time Horizon	Impact	Category
PRC-005	2	R2	Moderate	Lower	LT Plan	Minimal	Tech
PRC-005	1	R1.1	Lower	High	LT Plan	Minimal	Admin
FAC-008	3	R1	Severe	Lower	LT Plan	Minimal	Admin
FAC-008	3	R2	Severe	Lower	OP Plan	Minimal	Admin
FAC-008	3	R3	Severe	Lower	OP Plan	Minimal	Admin
FAC-009	3	R1	Severe	Medium	LT Plan	Minimal	Admin
FAC-009	3	R2	Severe	Medium	LT Plan	Minimal	Admin
IRO-004	3	R4	Not Spec	High	OP Plan	Minimal	Admin
CIP-001	1	R1	Lower	Medium	LT Plan	Low	Admin
CIP-001	1	R2	Lower	Medium	LT Plan	Low	Admin
CIP-001	1	R3	High	Medium	LT Plan	Low	Admin
CIP-001	1	R4	Lower	Medium	LT Plan	Low	Admin
<b>Total</b>	<b>25</b>						

Violation Risk Factors



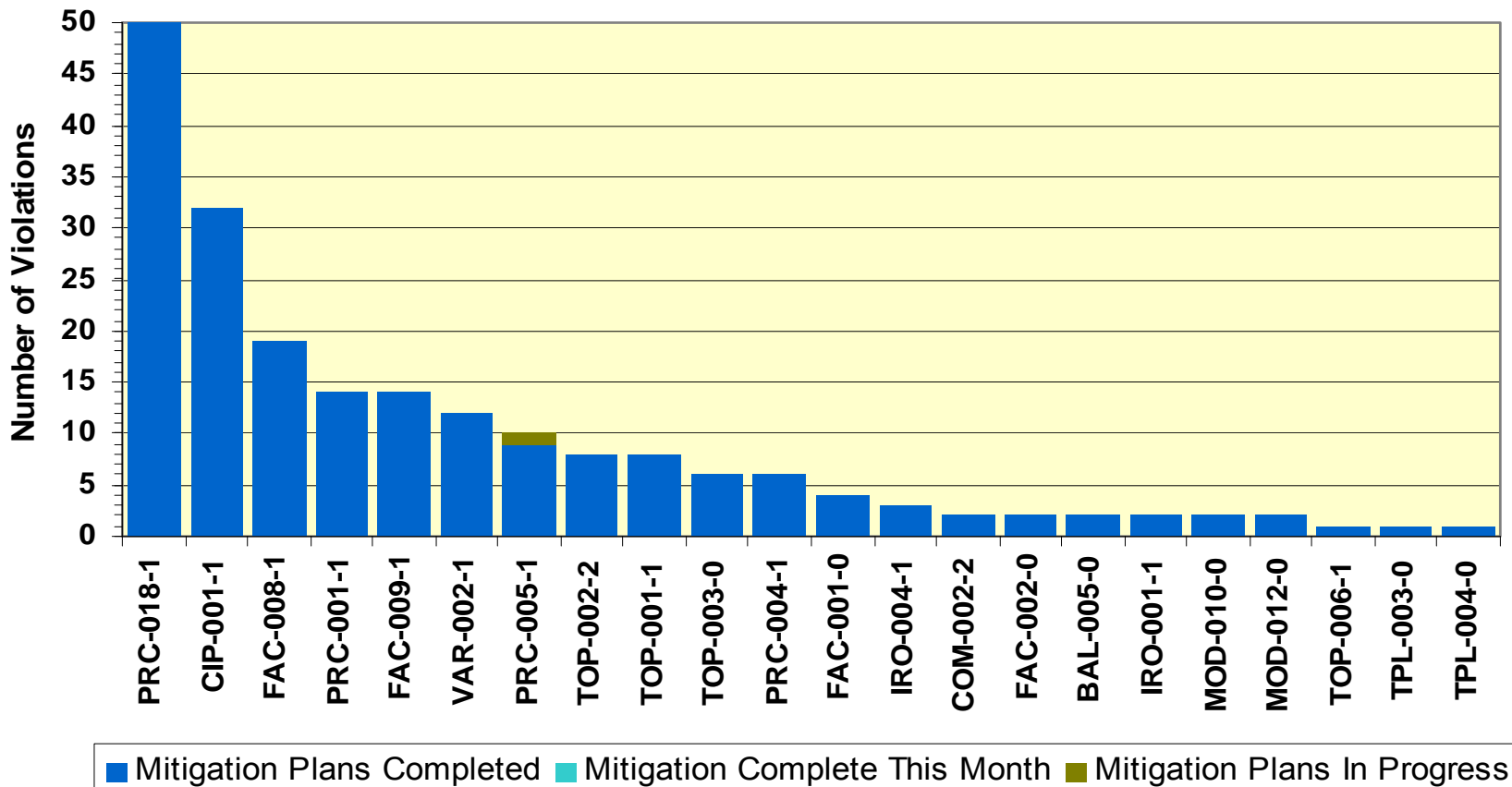
Violation Severity Level



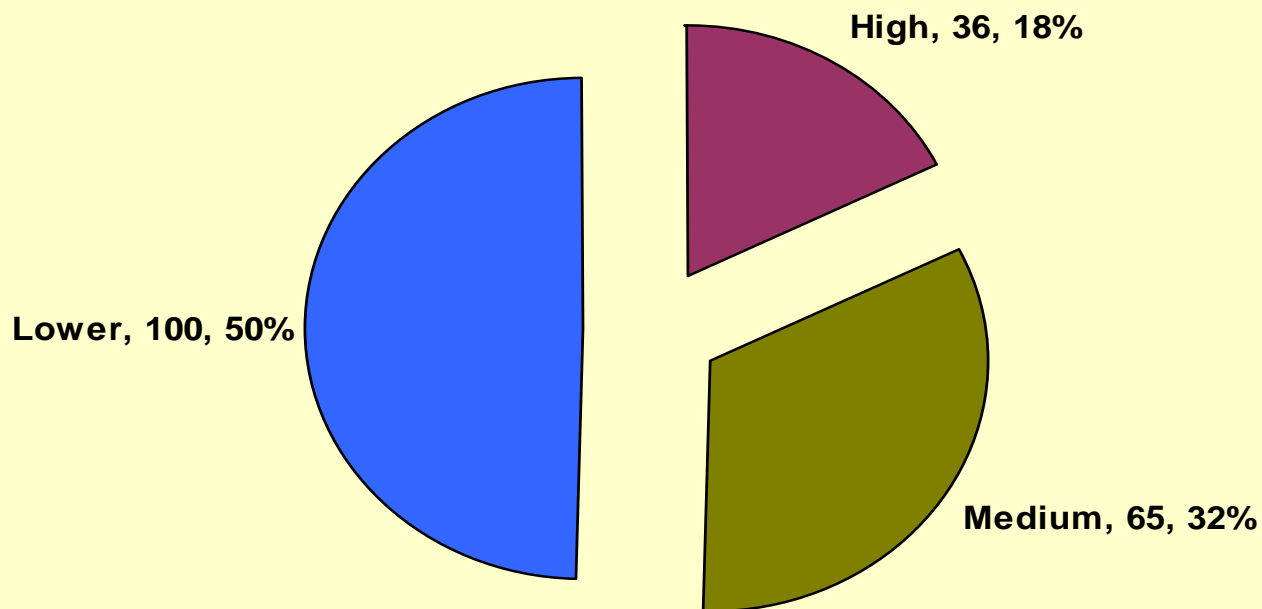
# NERC Standards Self-Reported Violations

## Pre-June 18<sup>th</sup>

### Mitigation Plan Status



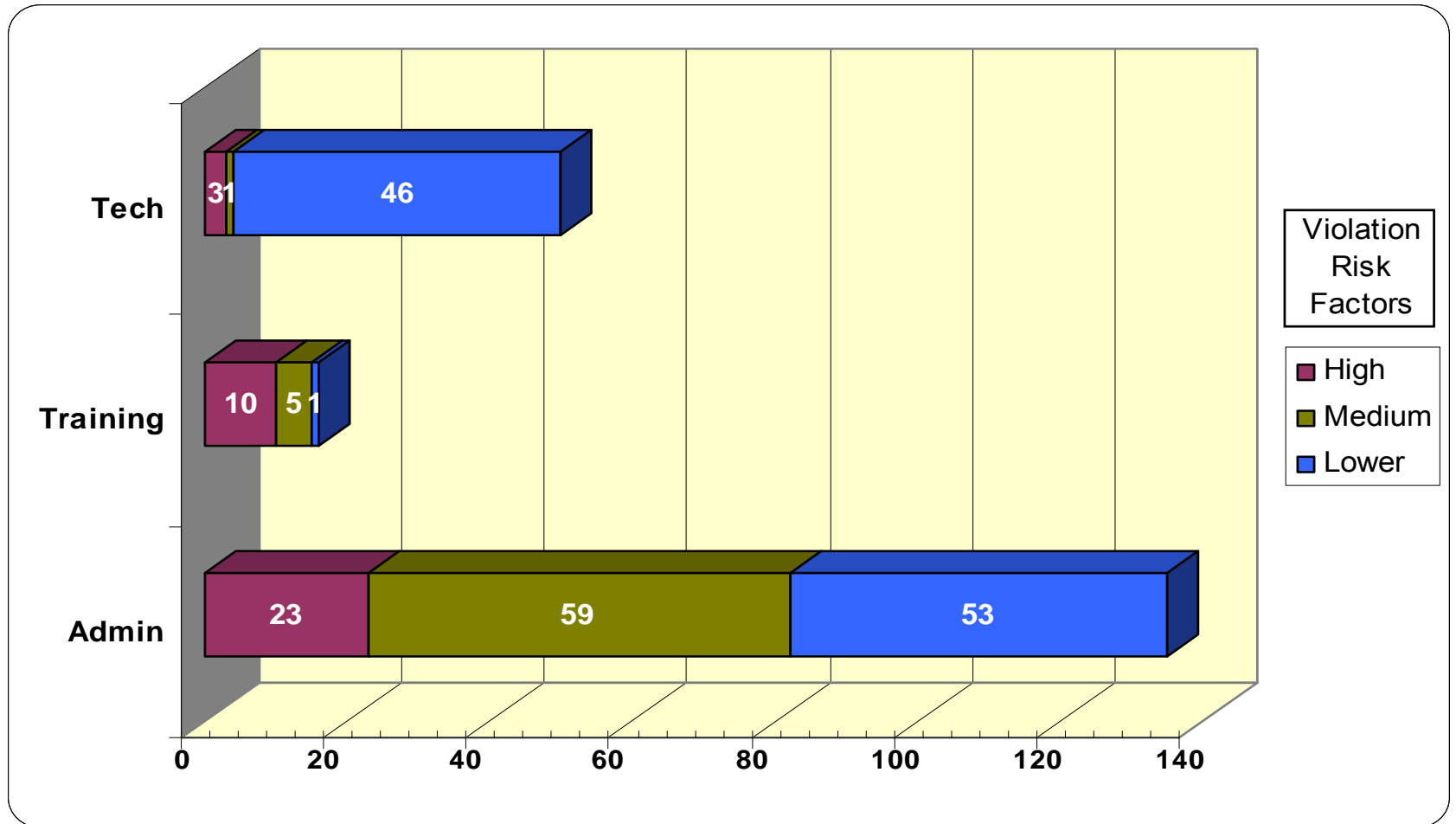
# Risk Factors for Self-Reported NERC Standards Violations Pre-June 18<sup>th</sup>



**Risk Factors are being assigned to each NERC Standard as part of the Standard Development Process**

# NERC Standards Self-Reported Violation Categorization

Pre-June 18<sup>th</sup>





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## Budget Summary

# 2007 Budget Variance

- 2007 Total Budget → \$5,514,219
- Statutory Budget → \$4,870,755
  - Spent → \$1,617,522
- Non-Statutory Budget → \$643,464
  - Spent → \$543,630
- Primary variance drivers
  - Personnel expenses ~ \$1.2M under
  - Computer purchase & maintenance ~ \$1.7M under
  - Contingency reserve not spent - \$350,000
- Budget preparation assumptions
  - Start of mandatory standards compliance enforcement to be January 1, 2007 (actual June 18, 2007)
  - Structural separation (actual Functional separation)

# Proposed 2009 Budget Development Schedule

April 15 <sup>th</sup>	Texas RE F&A Committee – Discussion of preliminary draft of 2009 budget
May 1 <sup>st</sup>	Texas RE F&A Committee – Special Meeting (if necessary)
May 9 <sup>th</sup>	NERC – Draft #1 of Texas RE Business Plan & Budget (BP&B) due
May 20 <sup>th</sup>	Texas RE F&A Committee / Board – Presentation of Draft #1 of Texas RE BP&B
May 21 <sup>st</sup>	Open Meeting – Presentation of proposed Texas RE BP&B
May 30 <sup>th</sup>	NERC – Draft #2 of Texas RE BP&B due
June 17 <sup>th</sup>	Texas RE Board – Final budget approval
July 9 <sup>th</sup>	NERC – Final Texas RE Board-Approved BP&B due



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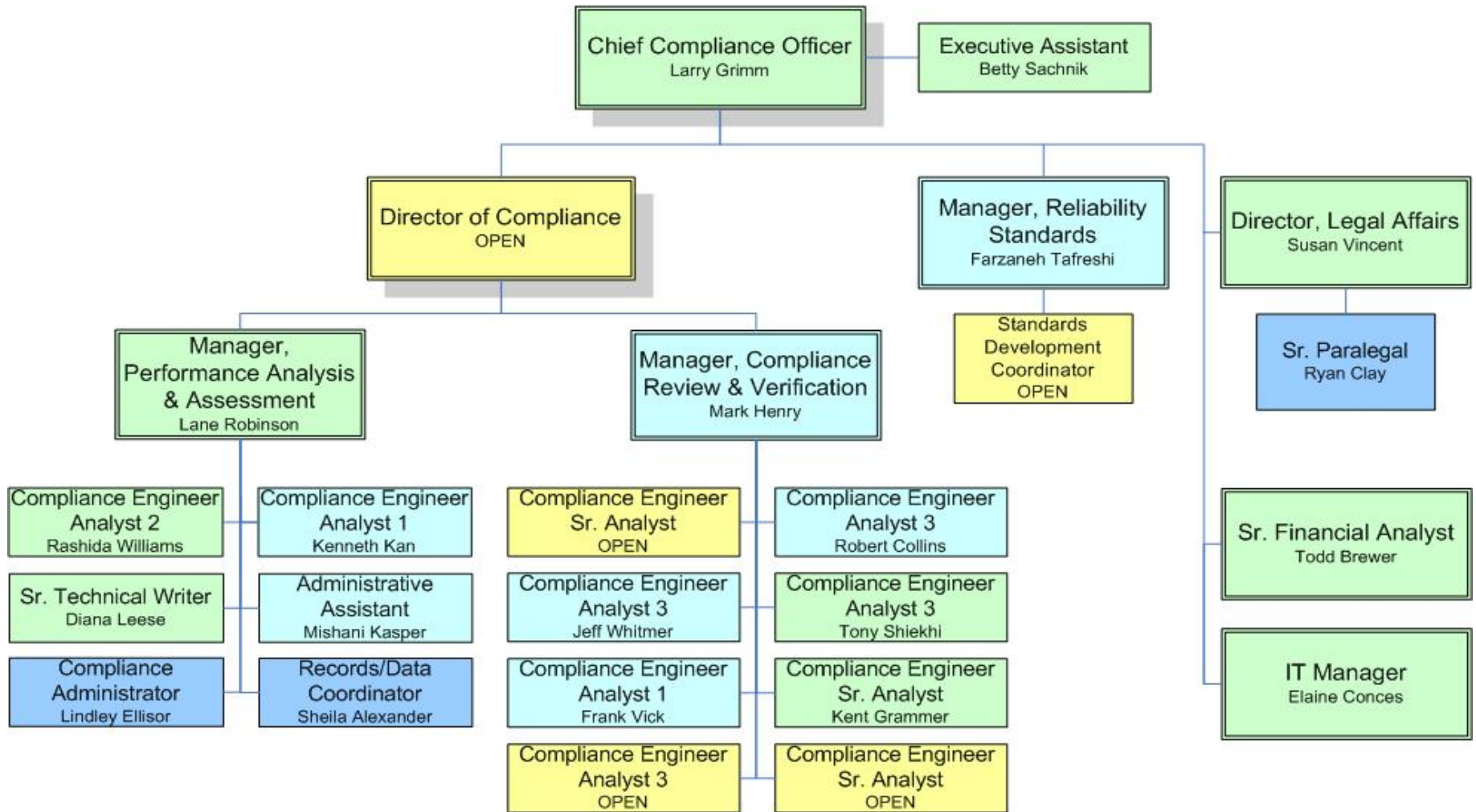
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# Texas Regional Entity

## Staffing Summary



# Texas RE Organization Chart



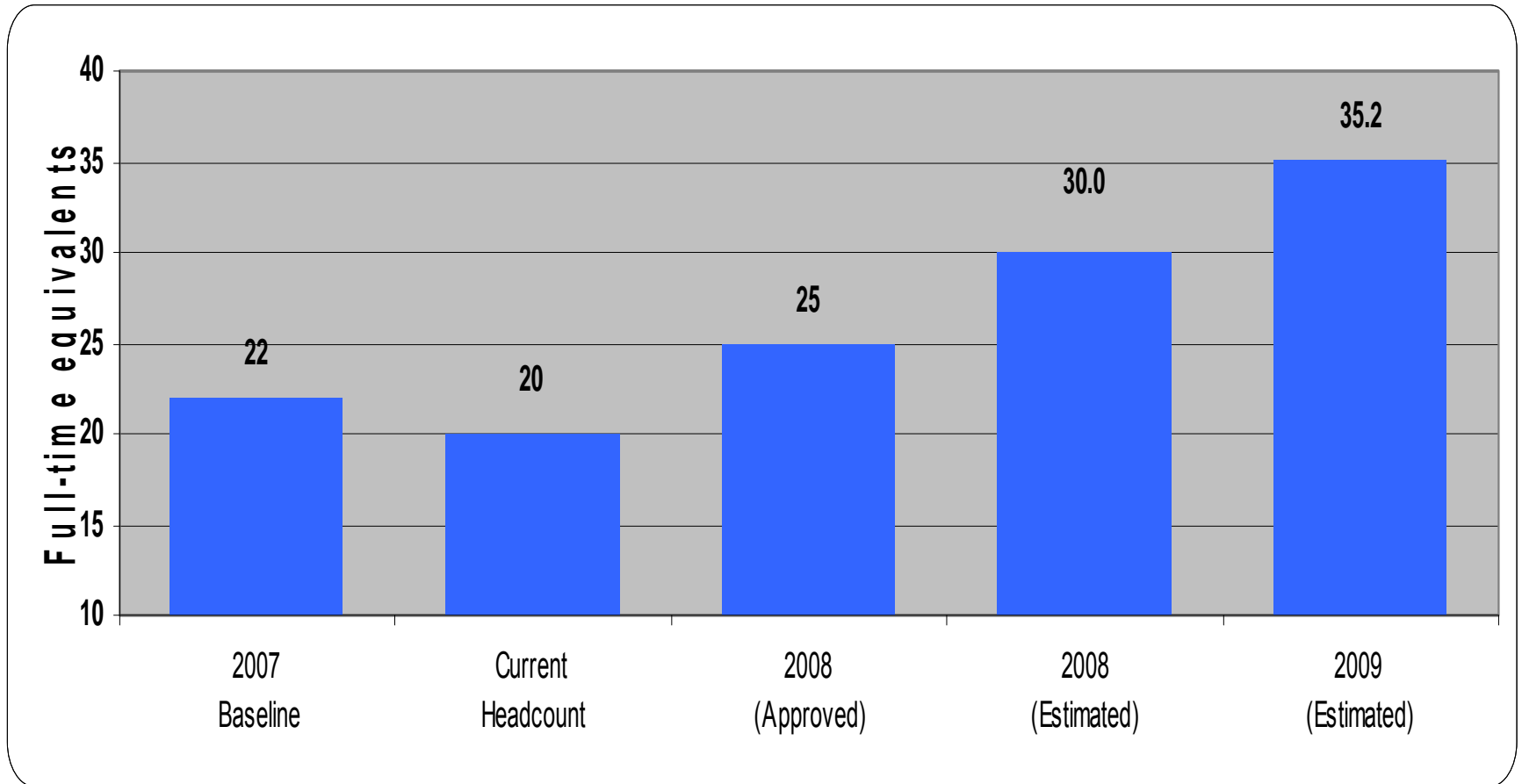
# Texas RE Staffing

- 25 budgeted positions in 2008
  - 20 positions filled
  - 5 positions vacant but posted
    - Director of Compliance
    - Sr. Compliance Engineer/Analyst (2)
    - Standards Development Coordinator
    - Compliance Engineer/Analyst

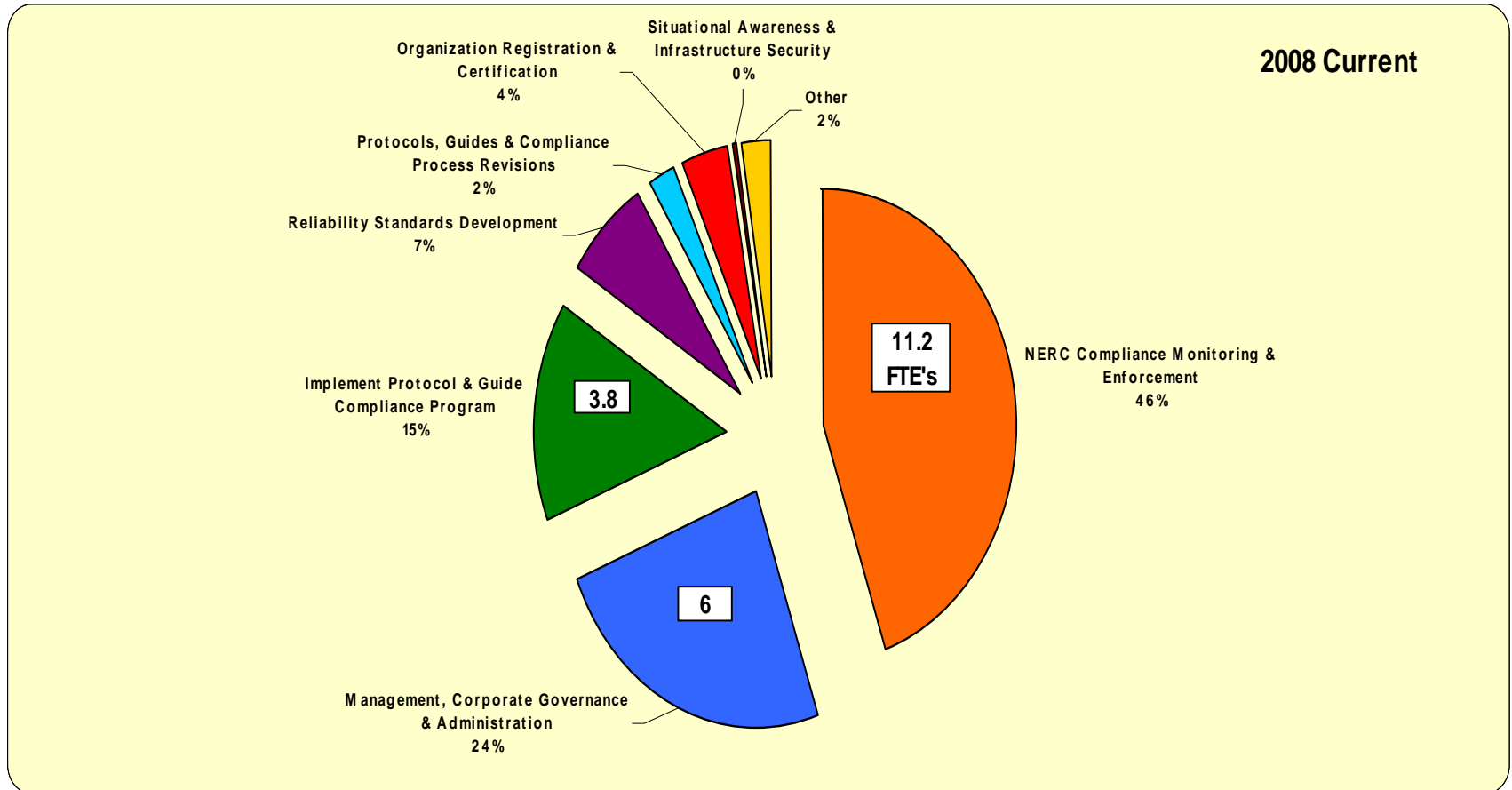
# Headcount Detail

Number of Approved TRE Personnel (FTE) for 2008:		25		
Number of Actual TRE Personnel (FTE):		20		
Total FTE:		20		
Note: Utilizing outside services for Legal & Web Development				
		<b>Current</b>	<b>2008</b>	<b>2009</b>
	<b>Categories</b>	<b>FTE</b>	<b>FTE</b>	<b>FTE</b>
<b>Statutory</b>	Reliability Standards Development	1.8	2.3	3.1
	NERC Compliance Monitoring & Enforcement	11.2	12.8	13.8
	Organization Registration & Certification	1.0	1.1	2.3
	Reliability Readiness Audit & Improvement	0.1	0.1	0.1
	Reliability Assessment & Performance Analysis	0.2	0.4	0.4
	Training & Education	0.3	0.6	0.7
	Situational Awareness & Infrastructure Security	0.1	1.0	2.0
	NERC & FERC Meetings (Member Forums)		0.0	0.0
	Management, Corporate Governance & Administration	6.0	7.3	8.3
<b>Non-Statutory</b>	Implement Protocol & Guide Compliance Program	3.8	3.8	3.9
	Protocols, Guides & Compliance Process Revisions	0.5	0.5	0.6
		<b>25.0</b>	<b>30.0</b>	<b>35.2</b>

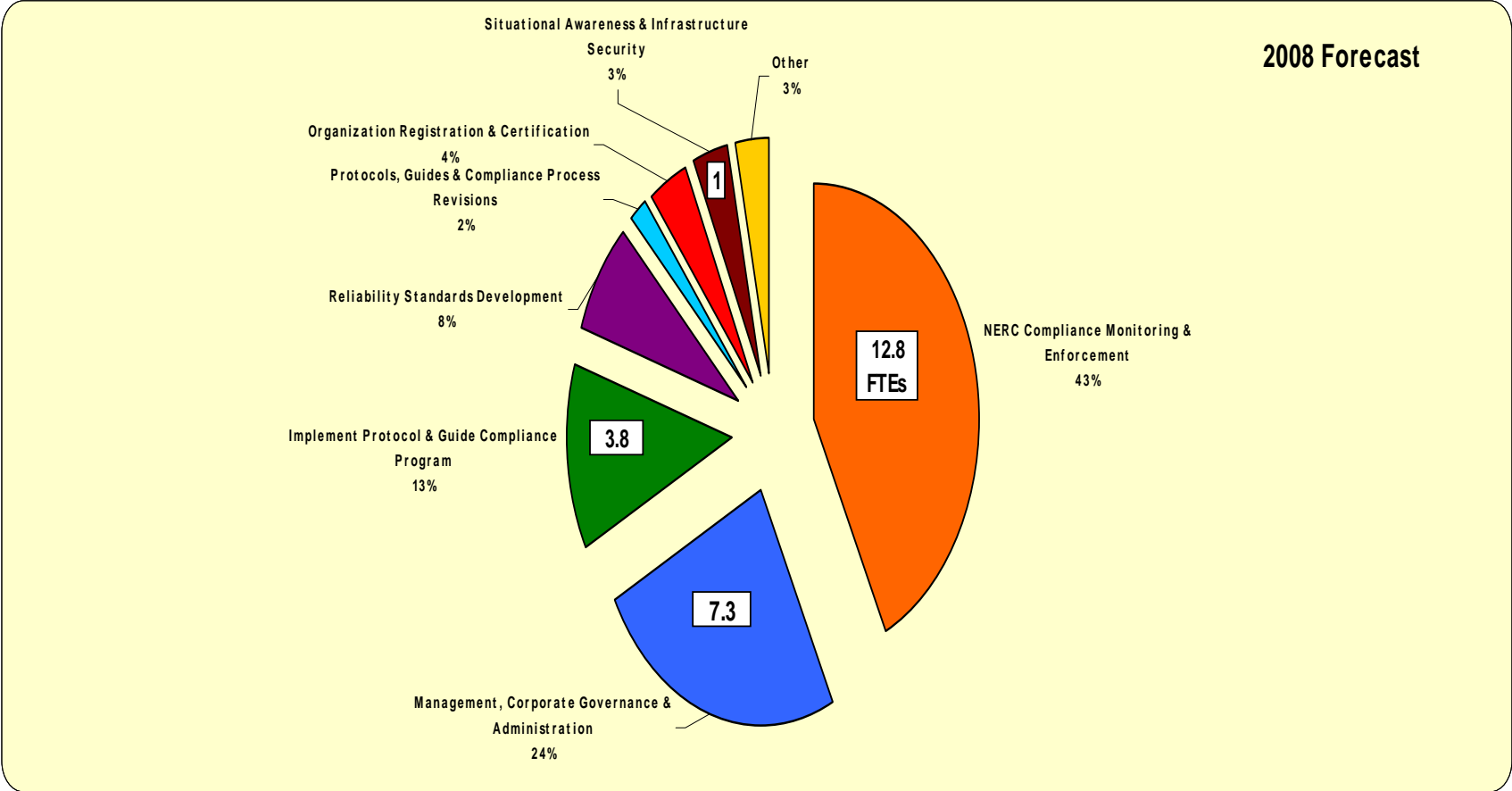
# Headcount Forecast



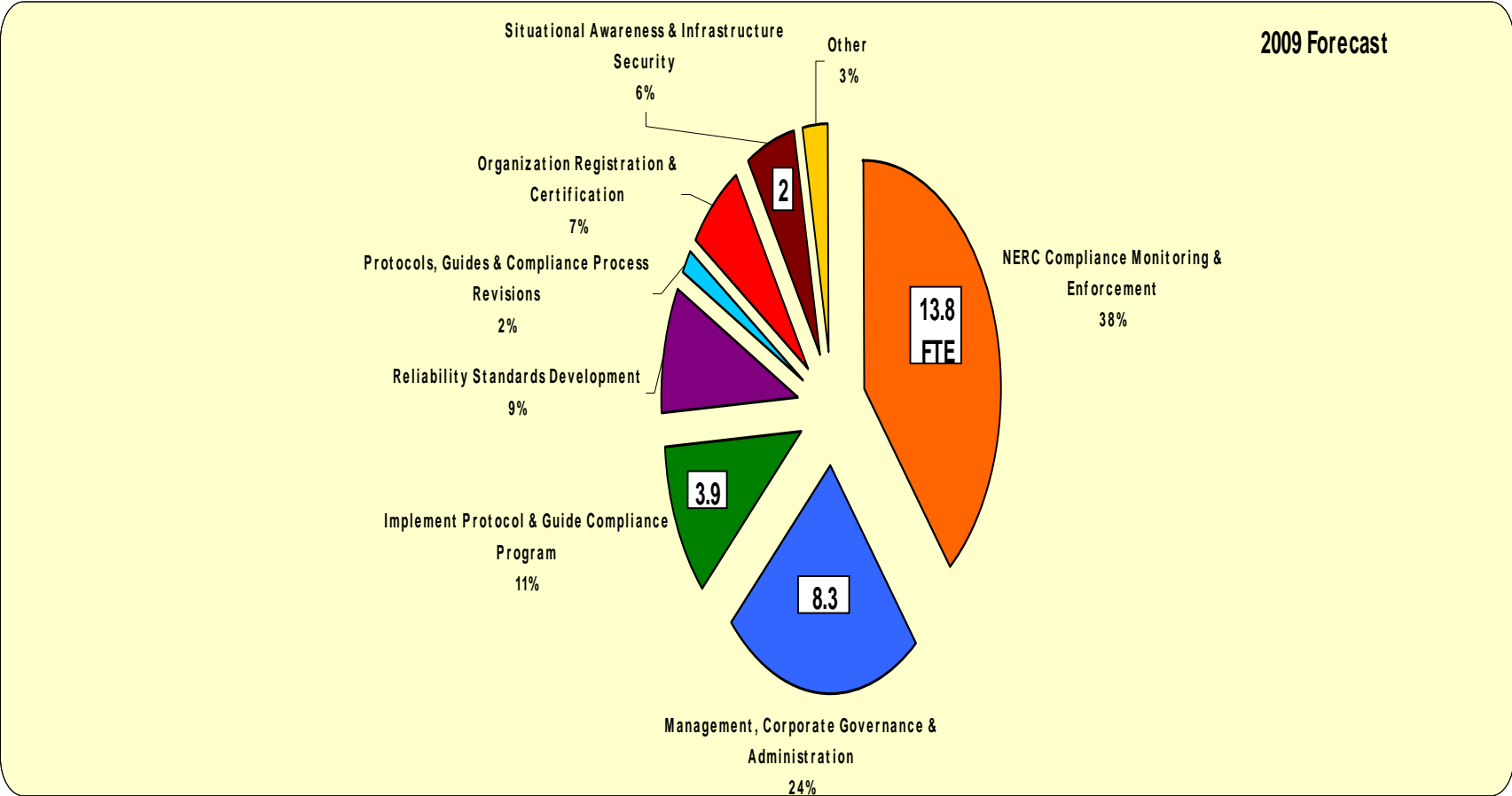
# 2008 Current Headcount



# 2008 Headcount Forecast



# 2009 Headcount Forecast

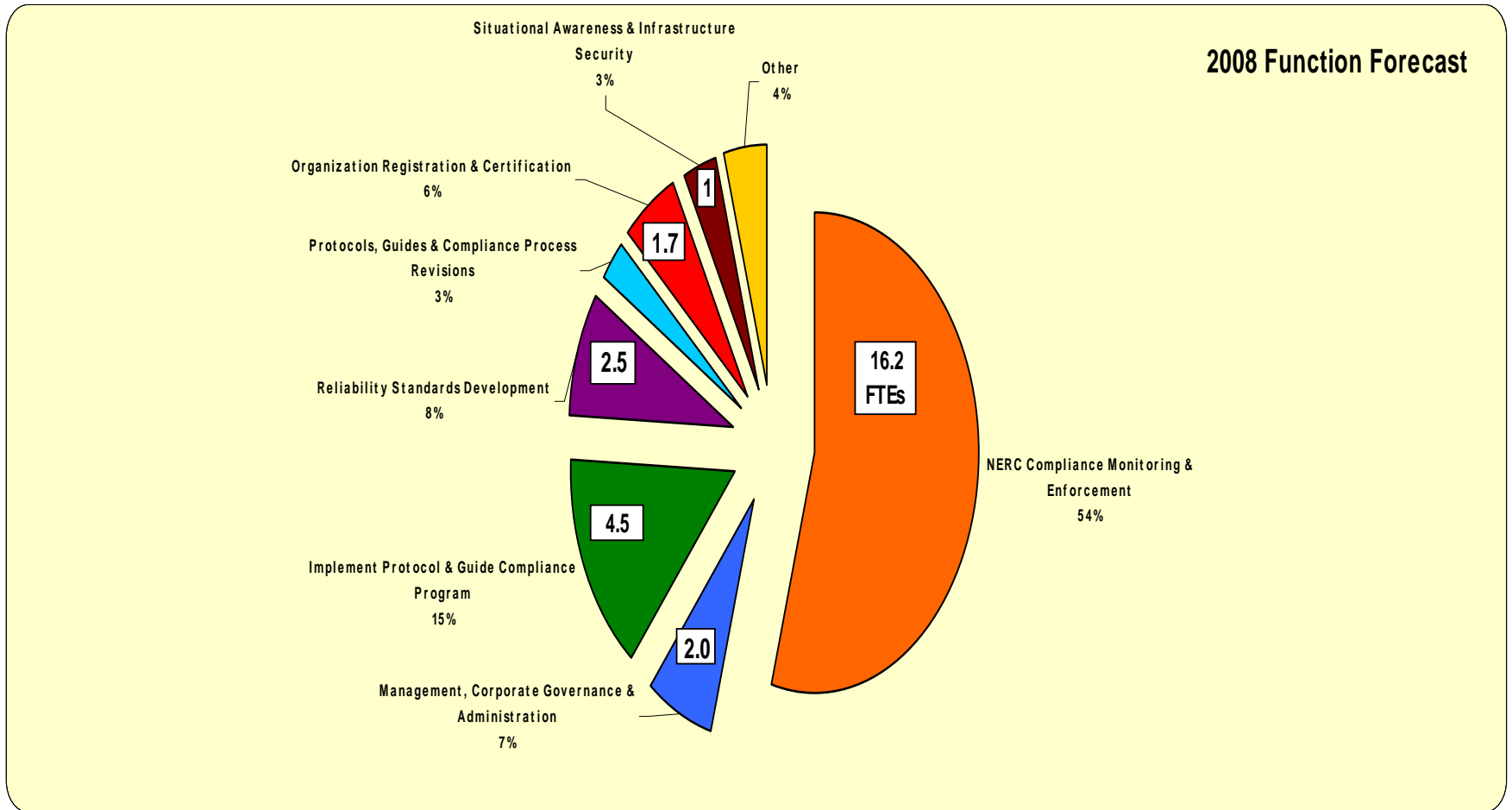


# Headcount Equivalent by Function

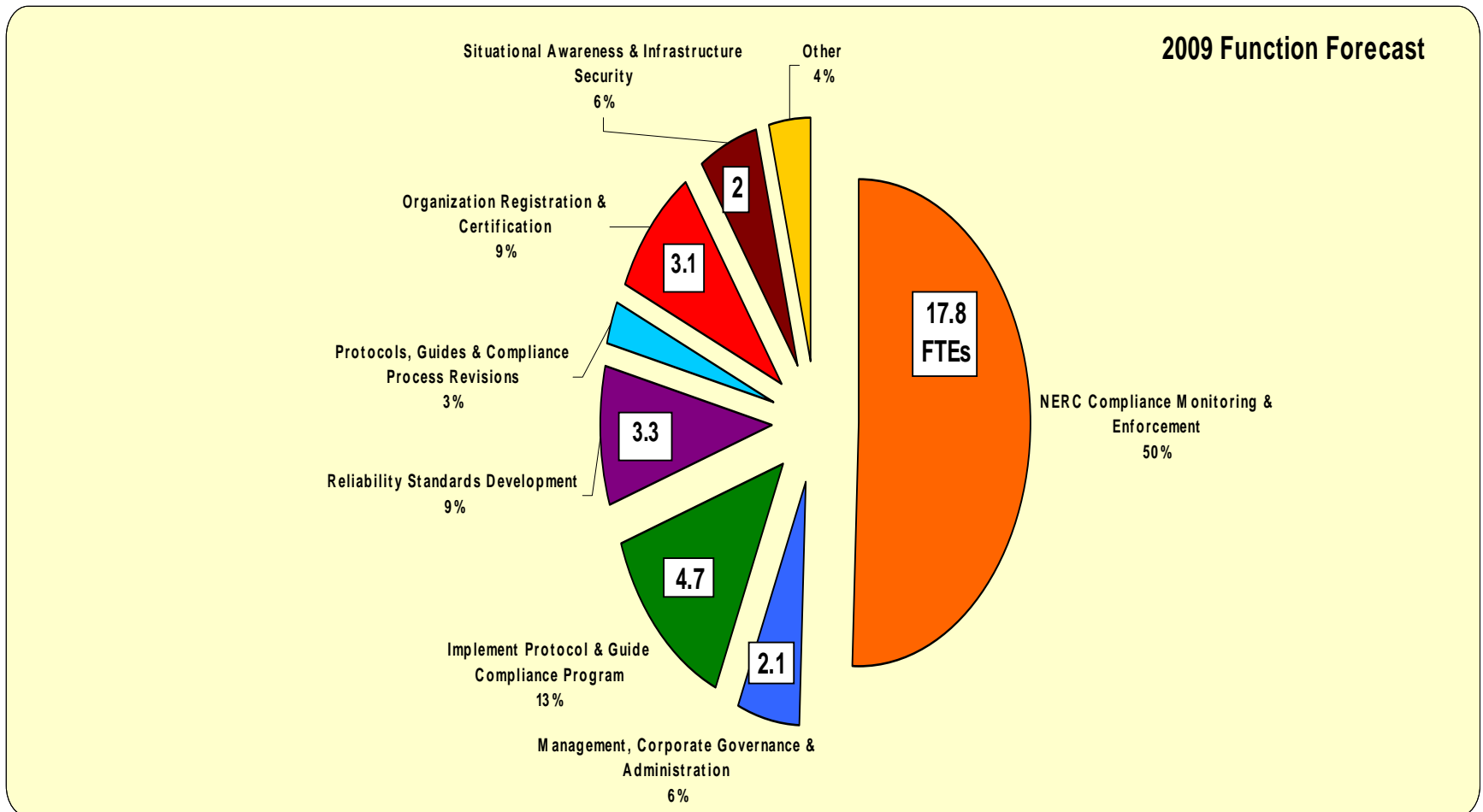
Number of Approved TRE Personnel (FTE) for 2008:		25	
Number of Actual TRE Personnel (FTE):		20	
Total FTE:		20	
Note: Utilizing outside services for Legal & Web Development			
		<b>2008</b>	<b>2009</b>
	<b>Categories</b>	<b>FTE</b>	<b>FTE</b>
<b>Statutory</b>	Reliability Standards Development	2.5	3.3
	NERC Compliance Monitoring & Enforcement	16.2	17.8
	Organization Registration & Certification	1.7	3.1
	Reliability Readiness Audit & Improvement	0.1	0.1
	Reliability Assessment & Performance Analysis	0.6	0.6
	Training & Education	0.6	0.7
	Situational Awareness & Infrastructure Security	1.0	2.0
	NERC & FERC Meetings (Member Forums)	0.0	0.0
	Management, Corporate Governance & Administration	2.0	2.1
<b>Non-Statutory</b>	Implement Protocol & Guide Compliance Program	4.5	4.7
	Protocols, Guides & Compliance Process Revisions	0.8	0.9
		<b>30.0</b>	<b>35.2</b>



# 2008 Headcount Function Forecast



# 2009 Headcount Function Forecast



# Potential Challenges in 2008

- Staffing
- Completing scheduled audits
- Auditor training and continuous improvement
- Developing a budget and staff that adequately addresses requirements
- Increasing and unknown workload
  - Events requiring Compliance Analyses
  - Appeals of violations and/or penalties
- Addressing Organization Registration issues
- Functional vs. Structural separation from the ERCOT ISO

# Staffing Concerns

- Recruiting difficulties for power system engineers
  - Many entities competing for the same resources – FERC, NERC, ISOs, RTOs, Market Participants, Regional Entities, Consultants, etc.
  - Competitive salary – attracting & retaining qualified staff
  - Many universities no longer offer a curriculum in power systems engineering
- Aging experienced workforce and lack of skilled workers –
  - Concern throughout the industry (NERC Reliability Issue Survey)
  - Rated by survey respondents as the most important issue affecting the reliability of the bulk power system
    - Considered by many to be a reliability risk
- Increasing responsibilities (see next slide)
- Office space

# Increasing Responsibilities

- Increasing number of Reliability Standards – currently 94 FERC-approved; likely to be >150
- Critical Infrastructure Protection Standards (Cyber Security) responsibilities increased & escalated to begin in 2008 (per January FERC Order 706)
- More rigorous compliance monitoring and enforcement requirements
- Likely increase in functions and Joint Registration relationships
  - Increases the number of entities to be monitored and compliance enforcement becomes more complex, especially compliance audits
- Unknowns
  - Compliance Analyses?
  - Appeals?

# 2008 Audits

- 42 individual audits currently scheduled
  - 26 table top
  - 16 on-site
- The number and complexity of audits may increase as additional Joint Registration relationships are established
- NERC “expects” that 4 RE staff participate on each audit
  - Texas RE plans to use 3 to 4 staff on audits depending on each entity’s registration and size
  - Currently developing estimates of staff-hours per audit on average based on current known requirements
    - Planning and preparation
    - Actual audit
    - Report & violation notice generation
    - Follow-up

# Coordination with NERC and FERC

- **NERC processes, procedures, and forms continuously evolving**
  - Require review, comments, and meetings with NERC and other Regional Entities and updating of Texas RE procedures and forms
- **FERC is adding 65 additional staff in 2009 for reliability and enforcement**
- **Since NERC's October 23, 2007 Meeting**
  - 15 FERC Orders issued
  - 21 NERC filings with FERC
  - 8 NERC filings in-process
    - All orders and filings require review, comments, and coordination with NERC (by all areas of organization, including compliance, assessment, registration, standards, CCO, legal, etc.)

# Recommended Increased Headcount

Of the estimated 10 additional headcount forecast by the end of 2009, 5~7 position increases are recommended as minimums:

- Situational Awareness (Cyber Security – per FERC Order 706): 1 in 2008 and 1 in 2009
- Compliance: 1 in 2008 and 1 in 2009 (for audits, compliance analyses, and investigations)
- Regulatory: Possible 1 in late 2008 and 1 in late 2009 (for appeals and for comments and responses to NERC and FERC directives and orders, but we will continue with use of outside counsel until the additional costs require adding headcount)
- Readiness and Certification: Possible 1 in 2009 (we will discuss the topic of required separation of the Readiness and Audit areas with NERC the week of February 18, 2008, to determine if this addition is required)