



TEXAS RE

Trends for New Registrants

**William Sanders
Cybersecurity Principal**

**Alex Petak
Enforcement Attorney**

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Upcoming Texas RE Events



talk with
TEXAS RE

May 20, 2025

Summer Outlook



talk with
TEXAS RE

May 28, 2025

GOP Functions
and Third-Party
Control Centers



talk with
TEXAS RE

June 11, 2025

Artificial
Intelligence in the
Electricity Industry

Upcoming Texas RE Events



April 23, 2025

Spring Standards,
Security, &
Reliability
Workshop



May 14, 2025

Q2 MRC, AGR&F, and
Board Meetings



July 16, 2025

Evolving Grid
Workshop



Upcoming ERO Enterprise Events

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION



Date	Event
April 8-10	<u>System Operator Conference 1</u> (SERC)
April 10	<u>GridEx VIII Preparation Webinar</u> (MRO)
April 17	<u>Reliability & Security Monthly Update</u> (WECC)
April 21	<u>Technical Talk with RF</u> (RF)
April 24	<u>Risk-Based Compliance and Self-Reporting Guidance Webinar</u> (SERC)
April 29 – May 1	<u>Physical Security Workshop</u> (SERC)
May 20-21	<u>Reliability, Security, and CMEP Summit</u> (MRO)



slido

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#TXRE

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Agenda

Target Audience for this presentation

Backstory on why this presentation exists

Methodology used to categorize and present data

CIP violation patterns

O&P violation patterns

Q&A

Target Audience

Companies that are interested in building generation Facilities

- Documentation to establish compliance prior to commercial operations and subsequent registration
- Maintaining ongoing compliance

Companies that are interested in purchasing existing generation Facilities

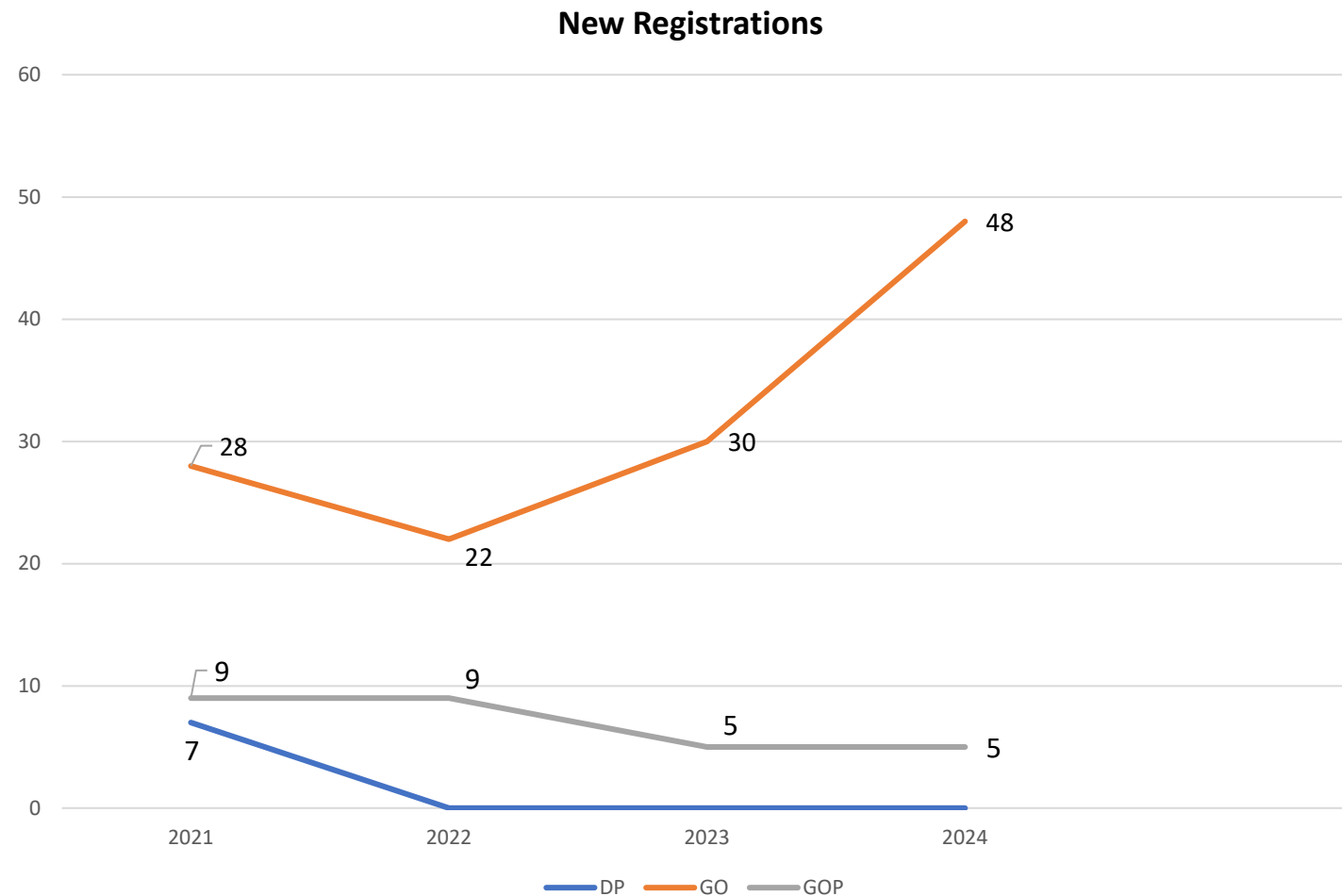
- Documentation to acquire from the seller
- Due diligence throughout the acquisition process
- Upcoming deadlines after acquisition



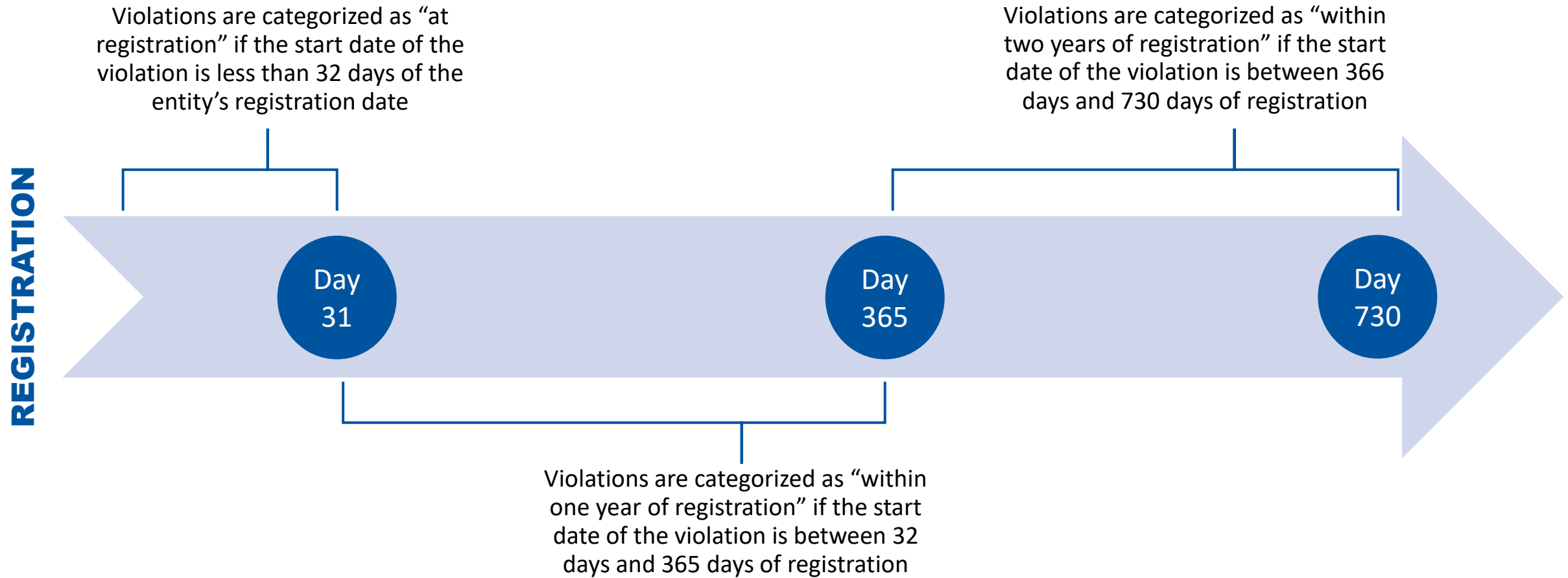
Why Are We Here?

The ERCOT Interconnection has seen an increase in the number of newly registered entities, especially generation facilities

Texas RE reviewed violation data and determined that newly registered entities tend to have violation patterns that differ from established registered entities



Methodology



Data Aggregation

In instances where requirements are substantively similar across Standard versions, the number of instances have been consolidated to a single label for analytical and display purposes

Example

CIP-003-6 R3

Each Responsible Entity shall identify a CIP Senior Manager by name and document any change within 30 calendar days of the change

CIP-003-7 R3

Each Responsible Entity shall identify a CIP Senior Manager by name and document any change within 30 calendar days of the change

CIP-003-8 R3

Each Responsible Entity shall identify a CIP Senior Manager by name and document any change within 30 calendar days of the change

All instances are tracked as CIP-003 R3



Slido Question

What CIP requirement do you think is the most violated by new registrants?

- A. CIP-002 R1
- B. CIP-002 R2
- C. CIP-003 R1
- D. CIP-003 R2
- E. CIP-003 R3



CIP Violations

At Registration	
Standard	Violations
CIP-003 R2.	13
CIP-003 R1.	5
CIP-003 R3.	5
CIP-002-5.1 R1.	4
CIP-002-5.1 R2.	3

Within 1 year of registration	
Standard	Violations
CIP-002-5.1 R2.	2
CIP-002-5.1 R1.	1
CIP-003 R1.	1
CIP-004 R4.	1

Within 2 years of registration	
Standard	Violations
CIP-002-5.1 R2.	4
CIP-003 R2.	2
CIP-002-5.1 R1.	1
CIP-003 R3.	1
CIP-003 R4.	1
CIP-004 R2.	1
CIP-004 R3.	1



CIP Violations

At Registration	
Standard	Violations
CIP-003 R2.	13
CIP-003 R1.	5
CIP-003 R3.	5
CIP-002-5.1 R1.	4
CIP-002-5.1 R2.	3

Within 1 year of registration	
Standard	Violations
CIP-002-5.1 R2.	2
CIP-002-5.1 R1.	1
CIP-003 R1.	1
CIP-004 R4.	1

Within 2 years of registration	
Standard	Violations
CIP-002-5.1 R2.	4
CIP-003 R2.	2
CIP-002-5.1 R1.	1
CIP-003 R3.	1
CIP-003 R4.	1
CIP-004 R2.	1
CIP-004 R3.	1



Identify each asset that contains a low impact BES Cyber System



The Responsible Entity shall:

- 2.1 Review and update the identifications in Requirement R1 at least once every 15 calendar months
- 2.2 Have its CIP senior manager or delegate approve the identifications required by Requirement R1 at least once every 15 calendar months, even if it has no identified items in Requirement R1



CIP-003 R2

Each Responsible Entity with at least one asset identified in CIP-002 containing low impact BES Cyber Systems shall implement one or more documented cyber security plan(s) for its low impact BES Cyber Systems that include the sections in Attachment 1

Section 1: Cyber Security Awareness

Section 2: Physical Security Controls

Section 3: Electronic Access Controls

Section 4: Cyber Security Incident Response

Section 5: Transient Cyber Asset and Removable Media Malicious Code Risk Mitigation



CIP-003 R2 | Attachment 1 Section 1

Cyber Security Awareness: Each Responsible Entity shall reinforce, at least once every 15 calendar months, cyber security practices (which may include associated physical security practices)



Email



LMS



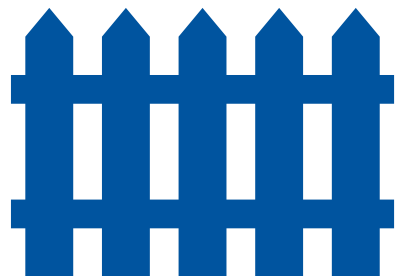
Posters



CIP-003 R2 | Attachment 1 Section 2

Physical Security Controls: Each Responsible Entity shall control physical access, based on need as determined by the Responsible Entity, to:

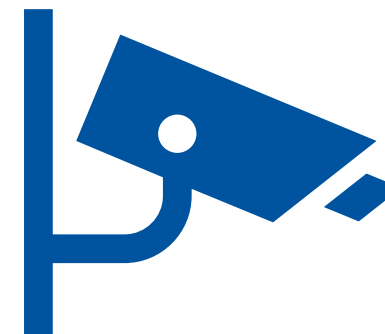
- (1) the asset or the locations of the low impact BES Cyber Systems within the asset
- (2) the Cyber Asset(s), as specified by the Responsible Entity, that provide electronic access control(s) implemented for Section 3.1, if any



Fences



Locked Doors

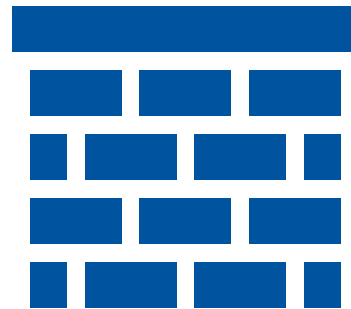


Cameras



CIP-003 R2 | Attachment 1 Section 3

Electronic Access Controls: For each asset containing low impact BES Cyber System(s) identified pursuant to CIP-002, the Responsible Entity shall implement electronic access controls



Firewalls



Routers



CIP-003 R2 | Attachment 1 Section 4

Cyber Security Incident Response: Each Responsible Entity shall have one or more Cyber Security Incident response plan(s), either by asset or group of assets

Testing the Cyber Security Incident response plan(s) at least once every 36 calendar months by:

- (1) Responding to an actual Reportable Cyber Security Incident
- (2) Using a drill or tabletop exercise of a Reportable Cyber Security Incident
- (3) Using an operational exercise of a Reportable Cyber Security Incident



CIP-003 R2 | Attachment 1 Section 5

Transient Cyber Asset and Removable Media Malicious Code Risk Mitigation: Each Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more plan(s) to achieve the objective of mitigating the risk of the introduction of malicious code to low impact BES Cyber Systems via Transient Cyber Assets or Removable Media



CIP-003 R3

Each Responsible Entity shall identify a CIP Senior Manager by name and document any change within 30 calendar days of the change



Slido Question

What O&P requirement do you think is the most violated by new registrants?



O&P Violations

At Registration	
Standard	Violations
FAC-008 R6.	12
FAC-008 R2.	8
PRC-019-2 R1.	7
PRC-024 R2.	7
FAC-008 R1.	4
PRC-005 R1.	4
PRC-024 R1.	4

Within 1 year of registration	
Standard	Violations
PRC-005 R3.	14
MOD-027-1 R2.	11
MOD-026-1 R2.	10
IRO-010-1a R3.	5
PRC-024 R2.	3
VAR-002 R3.	3

Within 2 years of registration	
Standard	Violations
MOD-025-2 R2.	6
MOD-025-2 R1.	5
MOD-026-1 R2.	5
MOD-027-1 R2.	5
EOP-011-2 R8.	2
PRC-024 R1.	2



O&P Violations

At Registration	
Standard	Violations
FAC-008 R6.	12
FAC-008 R2.	8
PRC-019-2 R1.	7
PRC-024 R2.	7
FAC-008 R1.	4
PRC-005 R1.	4
PRC-024 R1.	4

Within 1 year of registration	
Standard	Violations
PRC-005 R3.	14
MOD-027-1 R2.	11
MOD-026-1 R2.	10
IRO-010-1a R3.	5
PRC-024 R2.	3
VAR-002 R3.	3

Within 2 years of registration	
Standard	Violations
MOD-025-2 R2.	6
MOD-025-2 R1.	5
MOD-026-1 R2.	5
MOD-027-1 R2.	5
EOP-011-2 R8.	2
PRC-024 R1.	2



R1 - Each Generator Owner shall have documentation for determining the Facility Ratings of its solely and jointly owned generator Facility(ies) up to the low side terminals of the main step-up transformer if the Generator Owner does not own the main step-up transformer and the high side terminals of the main step-up transformer if the Generator Owner owns the main step-up transformer.

R2 - Each Generator Owner shall have a documented methodology for determining Facility Ratings (Facility Ratings methodology) of its solely and jointly owned equipment connected between the location specified in R1 and the point of interconnection with the Transmission Owner.

R6 - Each Transmission Owner and Generator Owner shall have Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings methodology or documentation for determining its Facility Ratings.



O&P Violations

At Registration	
Standard	Violations
FAC-008 R6.	12
FAC-008 R2.	8
PRC-019-2 R1.	7
PRC-024 R2.	7
FAC-008 R1.	4
PRC-005 R1.	4
PRC-024 R1.	4

Within 1 year of registration	
Standard	Violations
PRC-005 R3.	14
MOD-027-1 R2.	11
MOD-026-1 R2.	10
IRO-010-1a R3.	5
PRC-024 R2.	3
VAR-002 R3.	3

Within 2 years of registration	
Standard	Violations
MOD-025-2 R2.	6
MOD-025-2 R1.	5
MOD-026-1 R2.	5
MOD-027-1 R2.	5
EOP-011-2 R8.	2
PRC-024 R1.	2



Each Transmission Owner, Generator Owner, and Distribution Provider that utilizes time-based maintenance program(s) shall maintain its Protection System, Automatic Reclosing, and Sudden Pressure Relaying Components that are included within the time-based maintenance program in accordance with the minimum maintenance activities and maximum maintenance intervals prescribed within Tables 1-1 through 1-5, Table 2, Table 3, Table 4-1 through 4-3, and Table 5



PRC-005 R3

Table 1-2
Component Type - Communications Systems
 Excluding distributed UFLS and distributed UVLS (see Table 3)

Component Attributes	Maximum Maintenance Interval	Maintenance Activities
Any unmonitored communications system necessary for correct operation of protective functions, and not having all the monitoring attributes of a category below.	4 Calendar Months	Verify that the communications system is functional.
	6 Calendar Years	<p>Verify that the communications system meets performance criteria pertinent to the communications technology applied (e.g. signal level, reflected power, or data error rate).</p> <p>Verify operation of communications system inputs and outputs that are essential to proper functioning of the Protection System.</p>



PRC-005 R3

Table 1-4(a) Component Type – Protection System Station dc Supply Using Vented Lead-Acid (VLA) Batteries Excluding distributed UFLS and distributed UVLS (see Table 3) Protection System Station dc supply used only for non-BES interrupting devices for RAS, non-distributed UFLS systems, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
Protection System Station dc supply using Vented Lead-Acid (VLA) batteries not having monitoring attributes of Table 1-4(f).	4 Calendar Months	Verify: <ul style="list-style-type: none"> • Station dc supply voltage Inspect: <ul style="list-style-type: none"> • Electrolyte level • For unintentional grounds
	18 Calendar Months	Verify: <ul style="list-style-type: none"> • Float voltage of battery charger • Battery continuity • Battery terminal connection resistance • Battery intercell or unit-to-unit connection resistance Inspect: <ul style="list-style-type: none"> • Cell condition of all individual battery cells where cells are visible – or measure battery cell/unit internal ohmic values where the cells are not visible • Physical condition of battery rack



PRC-005 R3

Table 1-4(b) Component Type – Protection System Station dc Supply Using Valve-Regulated Lead-Acid (VRLA) Batteries Excluding distributed UFLS and distributed UVLS (see Table 3)		
Protection System Station dc supply used only for non-BES interrupting devices for RAS, non-distributed UFLS systems, or non-distributed UVLS systems is excluded (see Table 1-4(e)).		
Component Attributes	Maximum Maintenance Interval	Maintenance Activities
Protection System Station dc supply with Valve Regulated Lead-Acid (VRLA) batteries not having monitoring attributes of Table 1-4(f).	4 Calendar Months	Verify: <ul style="list-style-type: none"> • Station dc supply voltage Inspect: <ul style="list-style-type: none"> • For unintentional grounds
	6 Calendar Months	Inspect: <ul style="list-style-type: none"> • Condition of all individual units by measuring battery cell/unit internal ohmic values.
	18 Calendar Months	Verify: <ul style="list-style-type: none"> • Float voltage of battery charger • Battery continuity • Battery terminal connection resistance • Battery intercell or unit-to-unit connection resistance Inspect: <ul style="list-style-type: none"> • Physical condition of battery rack



O&P Violations

At Registration	
Standard	Violations
FAC-008 R6.	12
FAC-008 R2.	8
PRC-019-2 R1.	7
PRC-024 R2.	7
FAC-008 R1.	4
PRC-005 R1.	4
PRC-024 R1.	4

Within 1 year of registration	
Standard	Violations
PRC-005 R3.	14
MOD-027-1 R2.	11
MOD-026-1 R2.	10
IRO-010-1a R3.	5
PRC-024 R2.	3
VAR-002 R3.	3

Within 2 years of registration	
Standard	Violations
MOD-025-2 R2.	6
MOD-025-2 R1.	5
MOD-026-1 R2.	5
MOD-027-1 R2.	5
EOP-011-2 R8.	2
PRC-024 R1.	2



MOD-025

R1. Each Generator Owner shall provide its Transmission Planner with verification of the Real Power capability of its applicable Facilities as follows:

- 1.1. Verify the Real Power capability of its generating units in accordance with Attachment 1
- 1.2. Submit a completed Attachment 2 (or a form containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar days of either
 - (i) the date the data is recorded for a staged test; or
 - (ii) the date the data is selected for verification using historical operational data

R2. Each Generator Owner shall provide its Transmission Planner with verification of the Reactive Power capability of its applicable Facilities as follows:

- 2.1. Verify the Reactive Power capability of its generating units and (ii) the Reactive Power capability of its synchronous condenser units
- 2.2. Submit a completed Attachment 2 (or a form containing the same information as identified in Attachment 2) to its Transmission Planner within 90 calendar days of either
 - (i) the date the data is recorded for a staged test; or
 - (ii) the date the data is selected for verification using historical operational data.



MOD-026/MOD-027 R2

MOD-026 R2: Each Generator Owner shall provide for each applicable unit, a verified generator excitation control system or plant volt/var control function model, including documentation and data (as specified in Part 2.1) to its Transmission Planner in accordance with the periodicity specified in MOD-026 Attachment 1.

MOD-027 R2: Each Generator Owner shall provide, for each applicable unit, a verified turbine/governor and load control or active power/frequency control model, including documentation and data (as specified in Part 2.1) to its Transmission Planner in accordance with the periodicity specified in MOD-027 Attachment 1.



RECAP



The background of the slide features a blurred image of the Texas state flag on the left and a close-up of a wind turbine's hub and blades on the right. The blades are white with red tips. A dark blue rounded rectangle with a thin light blue border is centered over the image.

Questions?



TEXAS RE

Ensuring electric reliability for Texans