



NEW GENERATOR WELCOME PACKAGE

Revised October 01, 2025



Generator Welcome Package

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Introduction

General Considerations for Generator Owners (GOs) or Generator Operators (GOPs) Preparing for NERC Registration

The following package provides entities with a framework to prepare a Generator Owner (GO) and Generator Operator (GOP) for its compliance obligations and to internally assess the GO's and GOP's state of compliance. Additional information has been added regarding the obligations for Rules of Procedure (RoP) Section 1600 Data Requests (specifically GADS and MIDAS) as well as RoP Section 800 Alert obligations. The package was developed based on experiences with new GOs and GOPs and does not guarantee that compliance will be achieved. However, with proper planning and a framework for assessing the state of compliance and other mandatory obligations, an entity should be better prepared to be compliant on its registration date and address the other obligations as a result of registration. With this in mind, entities should consider the following points when preparing to bring a new generator online and registering with NERC.

- ❑ An entity's compliance obligation begins on the day the entity is registered with NERC unless a Requirement or implementation plan (or other authoritative document) specifies the date by which the entity is required to be compliant. The entity should be audit-ready on the day it is registered with NERC.
- ❑ When bringing a new generator online, involve the entity's compliance department early in the process because preparing a new GO or GOP for compliance may take 6-12 months of preparation before NERC registration, depending on the maturity of the existing compliance program. Entities should ensure they have a sufficient amount of time to develop and implement business processes to address the applicable Reliability Standards¹. Much of the evidence gathering and evaluation, however, will likely occur close to the NERC registration date.
- ❑ Consider developing a method of tracking preparations through the first year after registration to ensure all initial compliance tasks are completed. The GO/GOP Roadmap and Internal Controls Considerations Tables provide high level timelines, best practices, and recommendations to aid entities in developing a company-specific tracking method.

¹ The Standards referenced throughout this Welcome Package were active Standards when the Welcome Package was posted. Texas RE will periodically update the Welcome Package as Standards are improved. If there are any questions, please contact [Texas RE Compliance](#).

- ❑ A strong compliance program is generally the result of reliable operations, especially when utilizing operational best practices, and the demonstration of compliance should be the outcome of operational activities.
- ❑ Procedures and process documents should define and document the entity's business processes with compliance built in. Entities should refrain from writing generic procedures that reiterate the Standard language.
- ❑ Although a documented procedure is not always required, entities are encouraged to establish strong operational business processes with preventative, detective, and corrective internal controls for applicable NERC Reliability Standards and Requirements. The business processes should be designed around the GO's and GOP's needs. For example, COM-002-4 does not require a documented procedure explaining three-part communications training. However, entities should consider establishing processes for identifying new operators who require three-part communications training, conducting training, and tracking training. These processes should be unique to the way the company does business.
- ❑ The controls considerations noted in the Internal Controls Considerations Tables provide observed best practices and common industry processes and are provided as a guide to help entities when developing internal controls. Similar to developing processes, an entity should develop internal controls appropriate for its organization.
- ❑ Review Generating Availability Data System (GADS), Misoperation Information Data Analysis System (MIDAS), Alert materials, and expectations on the Texas RE ([Performance Analysis section](#)) and NERC websites ([GADS/MIDAS](#) and [Alerts](#)).

Planning Stages

When bringing a new generator online or establishing a Generator Operator, an entity can think of compliance planning on a continuum, with a key milestone at NERC Registration. There are "Pre-Registration" compliance activities, such as developing procedures and processes, establishing internal controls, commissioning equipment and Facilities, and performing initial compliance activities where necessary. The Pre-Registration stage is marked by completing NERC Registration. As noted above, the entity's compliance obligation begins on the NERC Registration date. "Post-registration" activities can be either event-driven or time-based, and entities should have processes in place to perform the compliance activities for both types. For example, automatic voltage regulator (AVR) status change notifications are event-driven, and entities are expected to make notifications for AVR status changes starting on the NERC Registration date, while other Standards such as PRC-005-6 and MOD-026-1 are time-based and entities need to plan ahead to ensure compliance.

Pre-Registration Compliance Example

Review the Interconnection Agreement (IA), which can provide useful information for determining applicability to various Standards and Requirements. The following information can typically be found in the IA:

- Interconnection Tie Line Length (useful for determining FAC-003 applicability)
- Facility Ownership points of demarcation
- Location of Point of Interconnection (POI)
- Generator type(s)
- Reactive devices
- MW and MVAR capabilities
- Protection System Component ownership
- TO, TOP, and TP information
- Remedial Action Schemes of which the generator may be a part

Review Service Agreements. Examples of possible service agreements are listed below:

- Balance of Plant (BOP)
- Energy Management/Services Agreements
- Qualified Scheduling Entity (QSE) and QSE Agent Agreements
- Third-Party monitoring or control agreements

Identify the roles and responsibilities based on the review of the services agreement:



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- Entity responsible for GO or GOP compliance
 - The entity that will be registered with NERC and who will be ultimately responsible for the state of compliance.
- Entity responsible for performing the functional obligations for the GO or GOP
 - If an entity has contracted with another company to perform the functional obligations of the GO or GOP, the NERC registered GO or GOP will be responsible for demonstrating compliance with the NERC Reliability Standards and will likely need to obtain and retain documentation from the contracted entity to demonstrate compliance.

Determine Applicability of NERC Standards, for example:

- PER-005-2 (**Note:** *Whether PER-005 is applicable to the GOP or not, GOPs are encouraged to develop a systematic training program that would include the training required by the NERC Standards*)
- PER-006-1
- FAC-003-5
- PRC-012-2 and other Remedial Action Schemes (RAS) related Requirements

Note: Entities are encouraged to develop and retain evidence to support determinations that specific Standards/Requirements are not applicable to the entity. This evidence can be gathered from the Reliability Coordinator (RC), Balancing Authority (BA), Transmission Operator (TOP), and internal justifications for why the Standard or Requirements do not apply. For example, PRC-002-2 R2 requires the GO to have SER (sequence of event recording) if the GO receives a notification from the TO. If the TO does not provide a notification to the GO, the GO should consider reaching out to the TO and request confirmation that SER is not required at the GO's plant. Another example is PER-005-2. If a GOP does not meet the applicability, the GOP should consider developing a justification for the determination of not being applicable and gathering evidence to demonstrate it is not applicable.

Additional pre-registration activities include:

- Writing procedures where required. For example, PRC-005-6 requires a Protection System Maintenance Program (PSMP).
- Commissioning equipment and Facilities. While there is no Reliability Standard that specifically addresses commissioning, it is important that technical rigor is applied during the commissioning process to prevent equipment failures and Misoperations



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when the Facility is placed in-service (see NERC Lessons Learned on *Verification of AC Quantities during Protection System Design and Commissioning* under “Recommended Reading” below). Additionally, the initial due dates for maintenance of Protection System, Automatic Reclosing, and Sudden Pressure Relaying Components under PRC-005-6 are based on the commissioning date of the Components so it is important to retain the commissioning documentation that is used to establish the initial due dates for maintenance activities.

- Perform initial compliance activities where required. For example, CIP-002-5.1a BES Cyber System Categorization needs to be completed prior to registration, as does the CIP Senior Manager approval of the identified categorizations.
- Develop processes for compliance activities due following NERC registration (i.e., time-based and event-driven compliance activities), such as MOD-025-2, PRC-004-6, and VAR-002-4.1.
- From a data collection perspective (GADS/MIDAS/Alerts) an entity should plan to gain access to the [ERO Portal](#) and request access accordingly. Access will not be granted until after registration as a general rule of thumb.

NERC Registration

NERC Registration is coordinated with the Regional Entity’s registration team, and submission of the registration package typically occurs 30 days prior to the planned registration date. Below are common activities that take place during the registration process:

- Review the following: Rules of Procedure Section 500, *Organization Registration and Certification*, Appendix 5A, *Organization Registration and Certification Manual*, and Appendix 5B, *Statement of Compliance Registry Criteria*.
- Submit NERC registration package to the Regional Entity.
- Retain NCR Letter for records.

Post-Registration Compliance Activities

Following NERC registration, entities must be prepared to meet compliance obligations. Some compliance obligations can be planned, but many will be event-driven, such as identification of Protection System Misoperations (PRC-004-6) and notification of AVR status changes

(VAR-002-4.1). The list below includes common tasks that will be necessary to maintain and demonstrate compliance with the Reliability Standards as well as tasks associated with processes developed to support the reliability of the BES.

- Perform, or prepare to perform, event-driven compliance activities (e.g., PRC-004-6, VAR-002-4.1) and retain appropriate evidence.
- Identify key milestone dates (e.g., commissioning, Commercial Operations Date) to establish due dates for initial performance of time-based compliance activities (e.g., MOD-025-2, MOD-026-1, MOD-027-1).
- Perform initial, time-based compliance activities and retain appropriate evidence.

Post-Registration Data Collection Activities

This is based on having access to the ERO Portal which may take place during the registration process. While the data collection activities do not carry penalties for not providing data (as possible in compliance monitoring per the RoP), it is a mandatory activity for the applicable registrations. If there are any access issues, please reach out to [Texas RE RAPA](#) for support or refer to the [Texas RE website](#) for NERC support contact emails.

- Add the newly registered entity to NERC Alerts.
- Register for or add newly registered entity to MIDAS reporting (which is a 1600 data request and not specifically required for compliance with PRC-004-6), if required.
- Implement process for Generating Availability Data System (GADS) reporting, if applicable. Note –There are specific “GADS” platforms based on fuel type: GADS Conventional is generally referred to simply as “GADS” while wind and solar are referred to as GADS Wind and GADS Solar respectively.
- Implement process for TADS reporting, if applicable.

New Entity Self-Certifications

Texas RE aims to perform Self-Certifications on newly registered entities within approximately 18 to 24 months following registration. These Self-Certifications are performed to ensure the registered entity has a foundation in place to contribute to the reliability of the BES and maintain compliance with the NERC Reliability Standards. The Self-Certification process requires the registered entity to provide an attestation of compliance for each of the Requirements in the Self-Certification scope, provide a narrative and evidence to support the attestation of compliance, and answer questions to help provide reasonable assurance that the attestation is accurate. The process also allows the registered entity to explain the internal controls developed to provide assurance the registered entity will continue to meet its compliance obligations.

A list of example questions that are frequently used for Self-Certifications is included in the "Example Self-Certification Questions" section of this package. Registered entities are encouraged to review the example Self-Certification questions and be prepared to answer these questions if the Requirement is included in the scope of a Self-Certification. Additionally, a list of internal control considerations for Requirements that are frequently included in scope of the Self-Certifications are included in the Internal Controls Considerations Tables of this package.

Recommended Reading

The following is a list of recommended reading for newly registered entities.

Compliance Guidance

[Compliance Guidance](#) developed under the Compliance Guidance Policy includes two types of guidance documents and can be found on the NERC website under *Compliance Guidance*:

- Implementation Guidance developed by registered entities provides examples for implementing a compliance approach for a Standard.
- CMEP Practice Guides developed by ERO Enterprise CMEP staff provides direction to ERO Enterprise CMEP staff on approaches to carry out compliance monitoring and enforcement activities.

- [One-Stop Shop.](#)

NERC Lessons Learned and Event Reports

Below is a brief list of some NERC Lessons Learned and Event Reports that are relevant to new Facilities and the emerging risks associated with new technologies and the changing resource mix. Registered entities are encouraged to review these reports and evaluate how the recommendations and conclusions may apply to its Facility(ies) and operations. All Lessons Learned are posted [here](#) and may provide additional value for entities (e.g., winterization efforts in Lessons Learned 2011). Additionally, all Event Reports are posted [here](#) and often provide additional materials that are beneficial to entities (e.g., February 2011 Southwest Cold Weather Event [Findings and Recommendations](#)).

NERC Lessons Learned (examples):

- [*Verification of AC Quantities during Protection System Design and Commissioning*](#)
- [*Substation Fires: Working with First Responders*](#)
- [*Current Drone Usage*](#)
- [*Loss of Wind Turbines due to Transient Voltage Disturbances on the Bulk Transmission System*](#)
- [*Combustion Turbine Anti-Icing Control Strategy*](#)

NERC Event Reports (examples):

- [*Southwest UT Solar PV Disturbance 2023*](#)
- [*2022 California Battery Energy Storage System Disturbances*](#)
- [*May/June 2021 Odessa Disturbance Report*](#)

- [March 2022 Panhandle Wind Disturbance Report](#)
- [June 2022 Odessa Disturbance Report](#)
- [June-August 2021 CAISO Solar PV Disturbance Report](#)
- [July 2020 San Fernando Solar PV Reduction Disturbance](#)
- [April and May 2018 Fault Induced Solar Photovoltaic Resource Interruption Disturbances Report](#)
- [October 9, 2017 Canyon 2 Fire Disturbance Report](#)
- [August 2016 1200 MW Fault Induced Solar Photovoltaic Resources Interruption Disturbance Report](#)

Additional Resources

The following is a list of resources the GO and GOP can consider participating in and reviewing.

- Regional Entity Workshops/Training, such as seasonal workshops, Talk with Texas RE, [Compliance Page, TexasREview](#) newsletter
- Texas RE MRC and Board Meetings (see [Texas RE Calendar](#))
- [NERC Compliance and Certification Committee \(CCC\)](#)
- NERC Standards Review Forum ([NSRF](#)) and Critical Infrastructure Protection Working Group ([CIPWG](#))

- ❑ North American Generator Forum ([NAGF](#)). *Note: NAGF requires dues to participate and Texas RE does not require participation but highly encourages participation. Mentioning NAGF here is only to inform the GO or GOP that the NAGF is available as a resource and peer group for GOs and GOPs. Excellent material has been developed by subject matter experts in the GO and GOP world that could be a benefit for a newly registered entity.*
- ❑ [GridEx](#) and [GridSecCon](#)
- ❑ Furthermore, the ERO Enterprise developed the following documents which provide details about initial steps for new entities and new entity contacts.
 - ❑ [ERO Enterprise 101 Informational Package](#)
 - ❑ [ERO Enterprise Entity Onboarding Checklist](#)

Internal Controls Overview

Internal controls help companies operate effectively and efficiently, reduce the risk of noncompliance, and improve the reliability of the Bulk Electric System (BES). As part of the Compliance Audit, Spot Check, and Self-Certification process, auditors will review subsets of an entity's internal controls. Auditors will then provide feedback to the Texas RE Risk Assessments Group for the entity's Compliance Oversight Plan (COP) and to inform future engagement scheduling and engagement scopes.

Texas RE's experience is that many entities have internal controls, but entities do not always recognize their existing internal controls as "*internal controls*." Often, this is because the control is part of the company's normal business process and is not specifically called out as an internal control. The discussion below is meant to help entities identify existing internal controls and provide a general overview for building out internal controls for applicable Requirements. More specific considerations are provided in the "Controls Consideration" column of the requirement included in the Internal Controls Considerations Tables and revolve around the concepts of Preventative, Detective, and Corrective internal controls. While categorization of controls is not necessary, entities can use this framework when establishing business processes to meet their reliability objectives.

Preventative Controls:

Preventative controls aim to reduce the risk of a negative event occurring. Preventative controls can be physical or administrative controls depending on the requirement and capabilities at the entity's disposal.

Badge readers on a Control Center door is a physical preventative control, since it prevents unauthorized physical access into the Control Center. Common administrative preventative controls are procedures, checklists, and training. These tools help personnel understand what things need to be done so a negative event does not occur.

Creating calendar invites a few weeks before data collections are due (e.g., GADS/MIDAS/ALERTs) could be considered an administrative control. If submittals are not timely, Texas RE will reach out until the submittals occur.

Detective Controls:

Detective controls seek to identify an issue that is occurring or has occurred. For example, the entity could establish alarms to alert operators to an AVR status change and the time that status change occurs. In other words, the alarm detects and alerts personnel to a change from normal operations. A detective control could also be a periodic review of AVR status changes to verify (1) that the appropriate notifications were made and (2) notifications to the TOP(s) meet the time requirement specified in VAR-002-4.1 R3.

For data collection systems, consider adding a calendar invite for the due dates of the specific data request. In some cases, data may be collected quickly but that is dependent upon an entity's processes to support the data collection. For instance, MIDAS requires the submittal of Misoperations AND operations of protection systems throughout a quarter. If an entity's process does not capture both types of operation, an extended review of the quarter may be needed.

Corrective Controls:

Corrective controls correct issues once they have occurred. In other words, corrective controls return a situation to its normal state. Using VAR as the example, a corrective control might include what actions, if any, a Generator Operator could take to restore (i.e., correct) the AVR status to normal. Can the Generator Operator reboot a server? Should the Generator Operator contact site personnel for assistance? Corrective controls can also be more compliance oriented. If a detective control identifies a potential noncompliance (PNC), the entity can



remediate the issue and file a Self-Report with its Regional Entity. The entity can, furthermore, determine if additional actions are necessary according to its Internal Compliance Program (ICP).

Determining what to do after missing a data collection due date may be dependent upon the data collection system. An increased review of the internal controls to avoid missing deadlines would probably be required (e.g., reminders for more than one person if that was the cause of missing the deadline) as well as reaching out to [Texas RE RAPA](#) to determine next steps.

Testing Internal Controls:

Once an entity has implemented an internal controls framework, the entity can test the controls to verify that they are performing as expected. In a sense, testing controls is a control for the controls.

Suggested Reading:

[ERO Enterprise Guide for Internal Controls](#)

[Standards for Internal Control in the Federal Government](#)

[National Institute of Standards and Technology \(NIST\) SP-800-53 Rev. 5](#)

[NERC: Mapping of CIP Standards to NIST Cybersecurity Framework \(CSF\) v1.](#)

GO/GOP Roadmap

The table below is split into different sections based on the “type” of Requirement. It is intended to help newly registered entities focus efforts in developing expectations for its staff or processes needed to maintain reliability. For example, FAC-003 has a procedural type of requirement and performance requirements listed below. Entities may manage the procedural aspect internally, but the performance requirements may require an outside contractor, which implies contract language, budgeting, and timing considerations to meet the needs. NOTE- Although GADS/MIDAS/ALERTs are not listed they certainly fit into the categories below (Procedural, Initial Performance and Time-based Performance). An entity will benefit from creating a procedure that captures the obligations for the specific data collection system. There will certainly be an Initial Performance aspect of each data collection system. As for the Time-based Performance, GADS and MIDAS are a quarterly mandatory activity (see Texas RE website for expected submission dates) while ALERTs dictate the timelines for submission, If there are questions about these systems see the [Texas RE website](#) or contact [Texas RE RAPA](#).

Procedural			
Standard Requirement	Function	Procedural Requirement	Due Date
EOP-004-4 R1	GO, GOP	Event Report Operating Plan	Registration
EOP-011-4 R7	GO	Emergency Operations	Registration
EOP-012-3 R4	GO	Extreme cold weather preparedness plan	Registration
FAC-003-5 R3 ¹	GO	Documented maintenance strategies or procedures or processes or specifications it uses to prevent vegetation encroachments	Registration
FAC-008-5 R1, R2	GO	Documentation for determining Facility Ratings and Facility Ratings methodology	Registration
PRC-005-6 R1, R2	GO	Protection System Maintenance Program	Registration



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PRC-027-1 R1	GO	Process for developing new and revised Protection System settings	Registration
Initial Performance			
Standard Requirement	Function	Performance Requirement	Due Date
BAL-001-TRE-2 R6	GO	Set Governor parameters in accordance with R6	Registration
BAL-001-TRE-2 R7	GO	Operate generating unit/generating Facility with Governor in service and responsive to frequency when the generating unit/generating facility is online and released for dispatch	Registration
CIP-002-5.1a R1	GO, GOP	<p>Implement a process that considers each of the following assets for purposes of parts 1.1 through 1.3:</p> <ul style="list-style-type: none"> i. Control Centers and backup Control Centers; ii. Transmission stations and substations; iii. Generation resources; iv. Systems and facilities critical to system restoration, including Blackstart Resources and Cranking Paths and initial switching requirements; v. Special Protection Systems that support the reliable operation of the Bulk Electric System; and vi. For Distribution Providers, Protection Systems specified in Applicability section 4.2.1 above <p>1.1 Identify each of the high impact BES Cyber Systems according to Attachment 1, Section 1, if any, at each asset;</p> <p>1.2 Identify each of the medium impact BES Cyber Systems according to Attachment 1, Section 2, if any, at each asset; and</p> <p>1.3 Identify each asset that contains a low impact BES Cyber System according to Attachment 1, Section 3, if any (a discrete list of low impact BES Cyber Systems is not required).</p>	Registration



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CIP-002-5.1a R2	GO, GOP	Review the identifications in Requirement R1 and its parts (and update them if there are changes identified), even if it has no identified items in Requirement R1 and have its CIP Senior Manager or delegate approve the identifications required by Requirement R1, even if it has no identified items in Requirement R1.	Registration
CIP-003-8 R1	GO, GOP	Review and obtain CIP Senior Manager approval for one or more documented cyber security policies that collectively address the topics found in 1.1 (1.1.1 – 1.1.9) and 1.2 (1.2.1-1.2.6).	Registration
CIP-003-8 R2	GO, GOP	Implement one or more documented cyber security plan(s) for its low impact BES Cyber Systems that include the sections in Attachment 1 Sections 1-5.	Registration
CIP-003-8 R3	GO, GOP	Identify a CIP Senior Manager by name. Document any changes within 30 calendar days of the change.	Registration
CIP-003-8 R4	GO, GOP	Implement a documented process to delegate authority, unless no delegations are used. Where allowed by the CIP Standards, the CIP Senior Manager may delegate authority for specific actions to a delegate or delegates. These delegations shall be documented, including the name or title of the delegate, the specific actions delegated, and the date of the delegation; approved by the CIP Senior Manager; and updated within 30 days of any change to the delegation. Delegation changes do not need to be reinstated with a change to the delegator.	Registration
CIP-012-1 R1	GO, GOP	Implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by unauthorized disclosure and unauthorized modification of Real-time Assessment and Real-time monitoring data while being transmitted between any applicable Control Centers.	Registration



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COM-001-3 R8	GOP	Have Interpersonal Communication capability with the BA and TOP	Registration
COM-001-3 R12	GOP	Have internal Interpersonal Communication capabilities for the exchange of information necessary for the Reliable Operation of the BES, including includes communication capabilities between Control Centers within the same functional entity, and/or between Control Center and field personnel.	Registration
COM-002-4 R3	GOP	Conduct initial training (three-part communication) for each of its operating personnel who can receive an oral two-party, person-to-person Operating Instruction	Prior to an individual operator receiving an oral two-party, person-to-person Operating Instruction
EOP-011-4 R8	GO, GOP	Identified Load shedding assistance needs Per R7	Prior to Load Shedding Event
EOP-012-3 R3	GO	Implement freeze protection measures or develop Corrective Action Plan (CAP), if applicable	Units in commercial operation prior to October 01, 2027
EOP-012-3 R5	GO, GOP	Identified entity to provide training on cold weather preparedness plan	Prior to implementation of cold weather preparedness plan
FAC-008-5 R6	GO	Establish Facility Ratings consistent with the Facility Ratings methodology or documentation for determining its Facility Ratings	Registration
IRO-010-5 R3	GO	Satisfy obligations of RC data specification	Registration

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MOD-032-1 R2	GO	Provide steady-state, dynamics, and short circuit modeling data to its Transmission Planner(s) and Planning Coordinator(s) according to the data requirements and reporting procedures developed by its Planning Coordinator and Transmission Planner in Requirement R1	Registration
PER-005-2 R6	GOP	Use a systematic approach to develop and implement training to its personnel identified in Applicability Section 4.1.5.1 of this standard, on how their job function(s) impact the reliable operations of the BES during normal and emergency operations	Registration
PER-006-1 R1	GOP	Provide training to personnel identified in Applicability section 4.1.1.1. on the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies) it operates	Prior to an individual being staffed in a position that is responsible for the Real-time control of a generator and can receive Operating Instruction(s)
PRC-019-2 R1	GO	Verify coordination of voltage regulating controls, limit functions, equipment capabilities and Protection System settings.	Registration
PRC-024-3 R1, R2	GO	Set frequency and voltage protection to not trip for voltage excursion in “no trip zone”	Registration
PRC-025-2 R1	GO	Apply settings that are in accordance with PRC-025-2 – Attachment 1	Registration



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PRC-027-1 R2	GO	Establish Fault current baseline	Registration (if using Option 2 or Option 3)
TOP-003-6.1 R5	GOP	Satisfy obligations of TOP data specification	Registration
VAR-002-4.1 R1	GOP	Operate each generator connected to the interconnected transmission system in the automatic voltage control mode (with its automatic voltage regulator (AVR) in service and controlling voltage) or in a different control mode as instructed by the Transmission Operator	Registration
VAR-002-4.1 R2	GOP	Maintain the generator voltage or Reactive Power schedule (within each generating Facility's capabilities) provided by the Transmission Operator, or otherwise shall meet the conditions of notification for deviations from the voltage or Reactive Power schedule provided by the Transmission Operator	Registration
Time-Based Performance			
Standard Requirement	Function	Performance Requirement	Due Date
FAC-001-4 R2	GO	Provide interconnection requirements within 45 calendar days of study agreement	Within 45 calendar day of request
FAC-003-5 R6 ²	GO	Perform a Vegetation Inspection of 100% of its applicable transmission lines	Within first calendar year following registration, not to exceed 18 calendar months from registration
FAC-003-5 R7 ³	GO	Complete 100% of its annual vegetation work plan of applicable lines to ensure no vegetation encroachments occur within the MVCD	Within first 12 calendar months or by end of first calendar year following registration



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MOD-025-2 R1, R2	GO	Provide Transmission Planner with verification of Real and Reactive Power capability	Within 12 calendar months of commercial operation date
MOD-026-1 R2	GO	Provide a verified generator excitation control system or plant volt/var control function model to Transmission Planner	Within 365 calendar days after the commissioning date
MOD-027-1 R2	GO	Provide a verified turbine/governor and load control or active power/frequency control model to Transmission Planner	Within 365 calendar days after the commissioning date
PRC-005-6 R3, R4	GO	Maintain its Protection System, Automatic Reclosing, and Sudden Pressure Relaying Components in accordance with Table 1 through Table 5	Four calendar months to 12 calendar years following initial commissioning dates
PRC-012-2 R8 ⁴	GO	Participate in performing a functional test of each of its RAS to verify the overall RAS performance and the proper operation of non-Protection System components	<ul style="list-style-type: none"> • At least once every six full calendar years for all RAS not designated as limited impact, or • At least once every twelve full calendar years for all RAS designated as limited impact



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<p>PRC-027-1 R2</p>	<p>GO</p>	<ul style="list-style-type: none"> • Option 1: Perform a Protection System Coordination Study; or • Option 2: Compare present Fault current values to an established Fault current baseline and perform a Protection System Coordination Study when the comparison identifies a 15 percent or greater deviation in Fault current values (either three phase or phase to ground) at a bus to which the BES Element is connected, all in a time interval not to exceed six calendar years; or • Option 3: Option 3: Use a combination of the above. 	<p>In a time interval not to exceed six calendar years</p>
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[1] Generator Owners that own Generation Facilities defined in 4.3.

[2] IBID.

[3] IBID.

[4] For Generator Owners that own all or part of a RAS

Internal Controls Considerations Tables

The tables below provide some best practices that have been observed by Texas RE for some Standards and Requirements. It should not be considered an exhaustive list. Instead, entities can consider it as a starting point. A newly registered entity is encouraged to leverage existing controls within its organization and establish internal controls tailored to its business processes. These are not Requirements but are provided as a resource to facilitate compliance obligations. In the current risk-based environment, compliance engagements examine whether an entity can demonstrate past compliance, as well as the internal controls an entity has developed and implemented to maintain ongoing compliance. Internal controls help develop the strong foundation of an auditor's sense of reasonable assurance that compliance obligations will continue to be met in the future.

CIP-002-5.1a

Standard Requirement	Control Considerations
CIP-002-5.1a R1 and R2	<p><i>Preventative Controls</i></p> <ul style="list-style-type: none"> ▪ Train personnel on requirements. ▪ Develop a procedure for categorization, review, and approval. ▪ Establish alerts or reminders to prevent missing due dates. ▪ Evaluate all BES assets and Cyber Assets using the impact rating criteria (Attachment 1), BES reliability operating services, and NERC Glossary of Terms. ▪ Document justifications for each identification of BES assets and Cyber Assets. ▪ Inventory all BES assets and Cyber Assets for CIP applicable identifications (BES Cyber Assets, BES Cyber Systems, EACMS, PACS, PCAs). ▪ Ensure the CIP Senior Manager understands and approves the identifications prior to the due date. ▪ Retain all evidence associated with evaluations, justifications, and approvals.



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	<p><i>Detective Controls</i></p> <ul style="list-style-type: none">▪ Reminders for periodic review and update of identifications or accuracy before annual due date.▪ Utilize a passive or active discovery tool to identify Cyber Assets connected to the network including alerting. <p><i>Corrective Controls</i></p> <ul style="list-style-type: none">▪ Actions required to remediate any late reviews or approvals and update identifications and inventory.▪ Utilize a tool to quarantine or remove unauthorized Cyber Assets from the network in a timely manner including alerting.
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CIP-003-8

Standard Requirement	Control Considerations
CIP-003-8 R1	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Train personnel on cyber security policies. ▪ Establish alerts or reminders to prevent missing due dates. ▪ Ensure the CIP Senior Manager understands and approves the cyber security policies prior to the due date. <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Reminders for periodic review before annual due date. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Actions required to remediate any late reviews or approvals.
CIP-003-8 R2 Section 1	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Train personnel on cyber security awareness reinforcement. ▪ Establish alerts or reminders to prevent missing due dates. ▪ Utilize multiple methods of reinforcement (direct and indirect communications, etc.). ▪ Retain all evidence associated with reinforcement. <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Reminders for periodic cyber security awareness reinforcement before annual due date. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Actions required to remediate any late reinforcements.



<p>CIP-003-8 R2 Section 2</p>	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Train personnel on physical access controls. ▪ Utilize layered (multiple) physical access controls. ▪ Utilize key management controls for locks, doors, etc. ▪ Utilize a visitor access control program. ▪ Document physical security perimeter diagrams <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Reminders for periodic review of physical access controls. ▪ Utilize alarms and alerting for unauthorized physical access. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Actions required to remediate any non-working physical access controls. ▪ Actions required to remediate any unauthorized physical access.
<p>CIP-003-8 R2 Section 3</p>	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Train personnel on electronic access controls. ▪ Utilize defense in depth electronic access controls applying the concept of least privilege. ▪ Evaluate and document all justifications for inbound and outbound electronic access. ▪ Utilize controls for malicious code and communications. ▪ Utilize controls for vendor remote access. ▪ Document network diagrams <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Reminders for periodic review of electronic access controls. ▪ Utilize alarms and alerting for unauthorized electronic access and malicious code and communications. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Actions required to remediate any broadly defined electronic access controls.



	<ul style="list-style-type: none"> ▪ Actions required to remediate any unauthorized electronic access and malicious code and communications.
<p>CIP-003-8 R2 Section 4</p>	<p><i>Preventative Controls</i></p> <ul style="list-style-type: none"> ▪ Train personnel on Cyber Security Incident Response. ▪ Incorporate both the IT and OT personnel including O&P personnel when implementing or testing the Cyber Security Incident response plan(s). ▪ Subscribe to DHS CISA industry alerts. ▪ Retain all evidence associated with testing or actual Reportable Cyber Security Incidents. <p><i>Detective Controls</i></p> <ul style="list-style-type: none"> ▪ Reminders for periodic testing of the Cyber Security Incident response plan(s). ▪ Utilize security event logs, alarms, and alerting of detected Cyber Security Incidents. <p><i>Corrective Controls</i></p> <ul style="list-style-type: none"> ▪ Actions required to remediate any late testing. ▪ Actions required to contain, eradicate, or have recovery/incident resolution of Cyber Security Incidents.

CIP-003-8 R2 Section 5	<p><i>Preventative Controls</i></p> <ul style="list-style-type: none"> ▪ Train personnel on Transient Cyber Asset and Removable Media Malicious Code Risk Mitigation. ▪ Inventory all TCA and RM including the location where they will be utilized. ▪ Utilize the concept of least privilege and need to know for personnel who need TCA or RM access. ▪ Ensure malicious code detection methods are up to date and effective. ▪ Utilize controls for vendor owned TCA or RM. ▪ Block unauthorized TCA or RM. ▪ Retain all evidence associated with the utilization of any TCA or RM. <p><i>Detective Controls</i></p> <ul style="list-style-type: none"> ▪ Reminders for periodic review and evaluation of TCA, RM, and malicious code methods. ▪ Utilize security event logs, alarms, and alerting for unauthorized TCA or RM usage. ▪ Utilize security event logs, alarms, and alerting for out of date malicious code methods. <p><i>Corrective Controls</i></p> <ul style="list-style-type: none"> ▪ Actions required to remediate any unauthorized TCA or RM. ▪ Force malicious code method updates.
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CIP-003-8 R3 and R4	<p><i>Preventative Controls</i></p> <ul style="list-style-type: none"> ▪ Train personnel on the identification and documentation of the CIP Senior Manager and delegate(s). ▪ Document the "specific actions" delegate(s) have been granted authority to do, ▪ Retain all evidence associated with CIP Senior Management and delegates identification and changes. <p><i>Detective Controls</i></p> <ul style="list-style-type: none"> ▪ Reminders for periodic review of the identified CIP Senior Manager and delegates ▪ Reminders to document changes within 30 calendars. <p><i>Corrective Controls</i></p> <ul style="list-style-type: none"> ▪ Actions required to remediate any undocumented changes within 30 calendar days of a change.
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CIP-012-1

Standard Requirement	Control Considerations
CIP-012-1 R1	<p><i>Preventative Controls</i></p> <ul style="list-style-type: none"> ▪ Train personnel on the identification of Control Centers per the NERC Glossary of Terms. ▪ Train personnel on the identification of Real-time Assessment and Real-time monitoring data. ▪ Utilize controls to protect the confidentiality and integrity of Real-time Assessment and Real-time monitoring data (e.g., encryption). ▪ Collaboration and implementation of controls with Control Centers that are owned or operated by different Responsible Entities. ▪ Document network diagrams, network configurations, and collaboration with Control Centers that are owned or operated by different Responsible Entities. <p><i>Detective Controls</i></p> <ul style="list-style-type: none"> ▪ Utilize alarms and alerting for unauthorized disclosure and unauthorized modification of Real-time Assessment and Real-time monitoring data. ▪ Utilize alarms and alerting for failures of controls implemented. <p><i>Corrective Controls</i></p> <ul style="list-style-type: none"> ▪ Actions required to remediate any failures of controls implemented.

COM-002-4

Standard Requirement	Control Considerations
COM-002-4 General Controls Considerations	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Training on different types of communication (person-to-person, burst communication, etc.) and definitions. ▪ Develop a method to track training. <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Process to verify the effectiveness of the training. ▪ Process to review and ensure all personnel (within the company or third-party operating personnel) are trained according to the Standard. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Provide additional training as necessary based on detective controls.
COM-002-4 R3	<ul style="list-style-type: none"> ▪ Develop onboarding process to identify new operating personnel who require three-part communication training prior to receiving an Operating Instruction. ▪ Develop a process to determine when operating personnel receive their first Operating Instructions to demonstrate that training was conducted prior to receiving an Operating Instruction. ▪ For entities with a QSE agreement or a third-party operator, consider a process to verify periodically that all operating personnel at the QSE or third-party operator have received three-part communication training prior to receiving an Operating Instruction.

COM-002-4 R6	<ul style="list-style-type: none">▪ Process to identify and collect evidence of received Operating Instructions.▪ Establish a process to review records and verify that operating personnel use three-part communication when receiving Operating Instructions.
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EOP-011-4

Standard Requirement	Control Considerations
EOP-011-4 R7	<ul style="list-style-type: none"> ▪ Develop a structured, document process to identify all DP, UFLS DP, and TO that are required to assist in operator-controlled manual, UFLS, or UVLS load shedding during operating emergencies. ▪ Implement a formal mechanism to communicate the annual identification and notification results to each entity, ensuring traceability and accountability ▪ Define a corrective escalation process if an entity is inadvertently omitted or notified late ▪ Incorporate feedback from internal audits, lessons learned, or boundaries, and update procedures accordingly
EOP-011-4 R8	<ul style="list-style-type: none"> ▪ Process for executing firm load shedding in coordination with RC and entities (Activation, roles and responsibility, communication protocols, and timing expectations) ▪ Implement training for system operators ▪ Perform periodic tests to ensure the availability and accuracy of identified load shedding process ▪ Define a process to update load shedding processes, track updates of process

EOP-012-3

Standard Requirement	Control Considerations
EOP-012-3 R3	<ul style="list-style-type: none"> ▪ System and associated process to document the implementation, maintenance, and inspection of freeze protection measures for all units with clear delineations on needs for location. ▪ If freeze protection measures are not implemented, establish a process to develop, update, and complete a Corrective Action Plan (CAP).
EOP-012-3 R4	<ul style="list-style-type: none"> ▪ Process to track, implement, maintain, and communicate updates to unit-specific cold weather preparedness plan documentation. ▪ Periodic reviews of cold weather data and the impact on cold weather preparedness plans. ▪ Process to determine and communicate operating limitations in cold weather. ▪ Process to identify and update Generator Cold Weather Critical Components. ▪ System and associated process to document the implementation, maintenance, and inspection of freeze protection measures for all units with clear delineations on needs for location. ▪ Process to perform periodic verifications of freeze protection measure before, during, and after events. ▪ Administrative preventative controls for site dependent freeze protection measures that address data provisioning (internal and external).

EOP-012-3 R5	<ul style="list-style-type: none">▪ Procedure (and periodic review of procedure) for identification of entity having unit-specific training responsibility.▪ Method, materials, listing of personnel, and timeline associated with training on cold weather preparedness plan needs.▪ System to track individuals being trained that includes dates, times, signatures, and clear indication that the training was provided by the entity deemed responsible.▪ Periodic review of training material with peers.▪ Periodic review of NERC Lessons Learned.▪ Following cold weather event(s), perform lessons learned.
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FAC-001-4

Standard Requirement	Control Considerations
FAC-001-4 R2	<ul style="list-style-type: none"> ▪ Process to track and communicate updates to Facility interconnection requirements documentation. ▪ System to track and document requests and submittals for Facility interconnection requirements ▪ Process to perform subsequent verifications of changes to its Facility interconnection requirements for new interconnections requested. ▪ Process to perform subsequent gap analysis for current interconnections based on changes to its Facility interconnection requirements. ▪ Administrative preventative controls for new inverter-based resource Facility interconnections that addresses data provisioning (internal and external). ▪ Periodic reviews of Facility interconnection requirements with emphasis on understanding and implementing recommendations from lessons learned or event analysis reports ▪ Process to ensure all documentation clear demarcation of ownership. ▪ Process that specifically address inverter-based resource interconnections.

FAC-001-4 R4	<ul style="list-style-type: none">▪ Periodic review of process/procedure illustrating delineation of roles and responsibilities, coordination expectations (internally and externally), notification expectations, and updates from periodic reviews of the Facility interconnection requirements▪ Process to track and communicate updates to Facility interconnection requirements documentation.▪ Process to track and communicate updates to Facility interconnections to entities responsible for reliability of affected systems Process for confirming “new or materially modified Facilities” are within a Balancing Authority’s metered boundary (for FAC-011-3). FAC-001-4 requires a process to confirm new Facilities or existing Facilities “seeking to make a qualified change as defined by the Planning Coordinator” are within a Balancing Authority Area.
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FAC-002-4

Standard Requirement	Control Considerations
<p>FAC-002-4 R2</p>	<ul style="list-style-type: none"> ▪ System to track and document requests and data submittal(s) (as detailed -but not limited to- in R1) for interconnections. ▪ FAC-002-4 implies a process to coordinate and cooperate on studies of new Facilities or existing Facilities proposing “a qualified change as defined by the Planning Coordinator”. ▪ Administrative preventative controls for new or qualified change Facilities that address data provisioning (internal and external) for FAC-002-4. ▪ Process to ensure all documentation has clear demarcation of ownership. ▪ Process that specifically address inverter-based resource interconnections. ▪ Process that includes provision of data to the Transmission Planner and Planning Coordinator and verification the data was received.

FAC-002-4 R5	<ul style="list-style-type: none">▪ System to track cooperation/coordination requests and data submittal(s) (as detailed- but not limited to- in R1) for interconnections.▪ Administrative preventative controls for new or qualified change Facilities that address data provisioning (internal and external) for FAC-002-4.▪ Process to ensure all documentation has clear demarcation of ownership.▪ Process that includes provision of data to the Transmission Planner and Planning Coordinator and verification of the data was received.
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FAC-008-5

Standard Requirement	Control Considerations
FAC-008-5 R1	<ul style="list-style-type: none"> ▪ Process to perform internal reviews of work performed by third-party contractors and verify the work and documentation is sufficient to demonstrate compliance with NERC Reliability Standards. ▪ System to track and identify changes to the Facility that may impact the Facility Rating. ▪ Periodically review of the Facility Ratings methodology or documentation. ▪ Establish walk-down activities of Facilities to assess existing Facilities. The periodicity of the walk-downs should be determined by age of the Facility and/or if the Facility had upgrades which could impact Facility Ratings. ▪ Process to ensure all documentation clear demarcation of ownership and the relationship to jointly owned Facilities and the Facility Ratings documentation ▪ Process to determine the Facility Ratings do not exceed the most limiting applicable. Equipment Rating of the equipment that comprises the Facility.

FAC-008-5 R2	<ul style="list-style-type: none">▪ Process to perform internal reviews of work performed by third-party contractors and verify the work and documentation is sufficient to demonstrate compliance with NERC Reliability Standards.▪ Process to ensure all documentation clear demarcation of ownership and the relationship to jointly owned Facilities and the Facility Ratings methodology.▪ System to track and identify changes to the Facility that may impact the Facility Rating.▪ Process for establishing Emergency Ratings that are different from Normal Ratings for equipment.▪ Periodically review of the Facility Ratings methodology or documentation.▪ Establish walk-down activities of Facilities to assess existing Facilities. The periodicity of the walk-downs should be determined by age of the Facility and/or if the Facility had upgrades which could impact Facility Ratings.▪ Perform an evaluation to identify configurations where a breaker outage could impact Facility Ratings.▪ Process that identifies and documents that the Facility Rating respects the most limiting applicable Equipment Rating of the equipment that comprises the Facility.
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FAC-008-5 R6	<ul style="list-style-type: none">▪ Perform periodic reviews and comparisons of internal Facility Ratings and those provided to external parties (e.g. RC, BA, TOP, etc.).▪ Process to ensure all documentation clear demarcation of ownership and the relationship to jointly owned Facilities and the Facility Ratings methodology.▪ System to track and identify changes to the Facility that may impact the Facility Rating.▪ Process for establishing Emergency Ratings that are different from Normal Ratings for equipment.▪ Periodically review of the Facility Ratings methodology or documentation.▪ Process to perform internal reviews of work performed by third-party contractors and verify the work and documentation is sufficient to demonstrate compliance with NERC Reliability Standards.▪ Establish walk-down activities of Facilities to assess existing Facilities. The periodicity of the walk-downs should be determined by age of the Facility and/or if the Facility had upgrades which could impact Facility Ratings
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MOD-026-1

Standard Requirement	Control Considerations
MOD-026-1 R2	<ul style="list-style-type: none"> ▪ System to track compliance obligation due dates and ensure the verified model is submitted to TP within 365 days after commissioning date and on or before the 10-year anniversary of the last transmittal. ▪ Functional mapping for each applicable generating unit to ensure appropriate entities receive model submissions. ▪ Process to perform internal reviews of work performed by third-party contractors and verify the work and documentation is sufficient to demonstrate compliance with NERC Reliability Standards. ▪ Process to identify changes to the excitation control system or plant volt/var control function that alter the equipment response characteristic and require the GO provide revised model data or plans to perform model verification under MOD-026-1 R4.

PRC-004-6

Standard Requirement	Control Considerations
PRC-004-6 R1	<ul style="list-style-type: none"> ▪ Process to analyze all BES interrupting device operations to determine if the entity's Protection System components caused a Misoperation within 120 days of the BES interrupting device operation. ▪ Training for personnel responsible for analyzing BES interrupting device operations on process to make determination of whether the entity's Protection System components caused a Misoperation. ▪ Automated notification to personnel responsible for analyzing BES interrupting device operations when a BES interrupting device operation occurs. ▪ System to track BES interrupting device operation dates and Misoperation determination dates. ▪ Standardized analysis form with fields to capture information required to demonstrate the entity determined whether its Protection System components caused a Misoperation within 120 days of the BES interrupting device operation. ▪ Management review of analysis forms to verify timeliness, accuracy, and completeness. ▪ Process to submit BES interrupting device operation and Misoperation data to MIDAS and verify MIDAS submission data is consistent with internal data.

PRC-004-6 R5	<ul style="list-style-type: none">▪ Process to develop a Corrective Action Plan (CAP) for the identified Protection System component(s), and perform an evaluation of the CAP's applicability to the entity's other Protection Systems including other locations within 60 calendar days of first identifying a cause of the Misoperation.▪ Training for responsible personnel on process to develop CAPs and perform evaluation of applicability to the entity's other Protection Systems including other locations.▪ System to track date cause of Misoperation was identified and date CAP was developed.▪ Process to track and document evaluation of CAPs applicability to entity's other Protection Systems.▪ Standardize CAP forms with fields to capture information required to demonstrate development of CAP and evaluation of applicability within 60 calendar days of first identifying a cause of the Misoperation.▪ Management review of CAP forms to verify timeliness, accuracy, and completeness.▪ Develop a control to evaluate Standards and requirements that are affected as a result of implementing the CAP, especially if relay setting changes are made.
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<p>PRC-004-6 R6</p>	<ul style="list-style-type: none">▪ Process to proceed with implementation of CAPs following development and update each CAP if actions or timetables change, until completed.▪ System to track implementation status of CAPs and timetables for implementation identified in CAPs.▪ Automated notification when approaching dates associated with timetables for implementation identified in CAPs.▪ Periodic review of CAP implementation status and timetables identified in CAPs to verify CAPs are on schedule to be implemented within timetables identified in CAP, or if actions or timetables need to be changed.
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PRC-005-6

Standard Requirement	Control Considerations
PRC-005-6 R3	<ul style="list-style-type: none"> ▪ Inventory of applicable Protection System Components with mapping of each Component to prescribed maintenance activities. ▪ System to track past maintenance dates and next maintenance due date for each Component. ▪ Automated notification when Components are approaching due date for maintenance activities. ▪ Escalation process when approaching due dates for maintenance activities are not addressed. ▪ System to store maintenance records and ensure maintenance activities recorded have associated maintenance records. ▪ System to store maintenance records and ensure maintenance activities recorded have associated maintenance records. ▪ Process to review maintenance records and ensure records demonstrate performance of prescribed maintenance activities. ▪ Contractual agreements with third-party contractors hired to perform maintenance with specifications to perform prescribed maintenance activities.



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NOTE: Texas RE provides a PRC-005-6 worksheet on the public website. Changes are proposed to the NERC Standards Review Forum (NSRF) that GOs and GOPs are encouraged to attend.

PRC-024-3

Standard Requirement	Control Considerations
<p>PRC-024-3 R1, R2</p>	<ul style="list-style-type: none"> ▪ Protection System design process or relay setting philosophy with identification of applicable functions and components (e.g. volts per hertz relays evaluated at nominal frequency, control systems within turbines or inverters that directly trip or provide tripping signals or direct cessation) and specifications to either set protection outside of "no trip zone" or document and communicate equipment limitations. <p><i>Note: GOs should account for projection of generator voltage protection to a corresponding POI voltage within the process. PRC-024-3 R2 specifies generator voltage protection shall be set in accordance with PRC-024 Attachment 2 such that the applicable protection does not cause the generating resource to trip or cease injecting current (cessation) within the "no trip zone" during a voltage excursion at high voltage side of the generator step-up or MPT (collector transformer).</i></p> <ul style="list-style-type: none"> ▪ Inventory of all generator protection devices/systems (including protective functions within control systems that directly trip or provide tripping signals or direct cessation to the generator) with identification of frequency and voltage settings on the relays. ▪ Periodic review of relay level one-line diagrams and other design documentation to ensure applicable relays are accounted for within inventory. ▪ Periodic review of settings to verify protective relaying is not set to trip generator in "no trip zone" of Attachment 2, and review of relay setting documentation to verify accurate settings are documented.

	<ul style="list-style-type: none">▪ Periodic review of functions (and their settings/triggers) within associated control systems that respond to electrical signals that may trip or provide signals to trip or cease injecting current.▪ Process to identify, document, and communicate equipment limitations to the Planning Coordinator and Transmission Planner. Accurate functional mapping is critical to ensure appropriate entities receive the required communication.▪ Change management process for relay setting changes to ensure changes do not cause generators to trip within "no trip zone" of Attachment 1 or Attachment 2.
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VAR-002-4.1

Standard Requirement	Control Considerations
VAR-002-4.1 General Controls Considerations	<p>Preventative Controls</p> <ul style="list-style-type: none"> ▪ Train Generator Operators on developed processes and expectations pertaining to the applicable VAR requirements. <p>Detective Controls</p> <ul style="list-style-type: none"> ▪ Establish alarms and perform periodic reviews of events to verify compliance with established processes. <p>Corrective Controls</p> <ul style="list-style-type: none"> ▪ Actions required to restore the equipment status to normal.
VAR-002-4.1 R1	<ul style="list-style-type: none"> ▪ Process to verify the generator is in required control mode. ▪ Establish internal controls for detecting AVR status changes and corrective control for restoring AVR to normal operations.
VAR-002-4.1 R2	<ul style="list-style-type: none"> ▪ Process to verify seasonal voltage schedule and to implement any voltage schedule changes. ▪ Evaluate and train personnel on conditions of notification. ▪ Establish detective (e.g., alarms) and corrective internal controls for voltage schedule deviations.

	<ul style="list-style-type: none"> Disseminate and develop process to notify TOP of voltage schedule deviations per conditions of notification.
VAR-002-4.1 R2.1	<ul style="list-style-type: none"> Develop a strategy to maintain voltage schedule when AVR is out of service. Consider using a detective control to collect evidence of maintaining the voltage schedule when the AVR is out of service.
VAR-002-4.1 R2.2	<ul style="list-style-type: none"> Develop a business process for responding to voltage change directives and making notifications when the new schedule cannot be met. Develop a process to coordinate with the TOP to establish expectations for when a voltage change directive (setpoint change) cannot be met and the TOP requires notification. Develop internal control for reviewing received voltage change directives and verifying voltage change directive process was followed.
VAR-002-4.1 R2.3	<ul style="list-style-type: none"> Determine location from which voltage is being monitored and determine if it is at the same location as specified in the voltage schedule. Implement monitoring at location specified in voltage schedule or develop method for converting voltage values to the point being monitored.

VAR-002-4.1 R3	<ul style="list-style-type: none"> ▪ Develop internal control to identify AVR status changes and time of status change. ▪ Process to notify TOP(s) of AVR status changes and track time of notification. ▪ Develop internal control for identifying and reviewing AVR status changes and verifying the reporting process was followed.
VAR-002-4.1 R4	<ul style="list-style-type: none"> ▪ Identify conditions that could lead to a change in reactive capability and develop methods to identify those conditions when they occur. ▪ Develop process to identify and report to the TOP(s) changes in reactive capability. ▪ Develop internal control for identifying and reviewing changes in reactive power capability and verifying the reporting process was followed.
VAR-002-4.1 R5	<ul style="list-style-type: none"> ▪ Establish process to identify and track requests from the TOP and TP to ensure responses are provided within 30 calendar days of a request. ▪ Process to retain and evaluate evidence for compliance.
VAR-002-4.1 R6	<ul style="list-style-type: none"> ▪ Establish a process to determine if tap settings would violate safety, an equipment rating, or a regulatory or statutory requirement. ▪ Process to document, notify, and provide a technical justification to the TOP if GO cannot meet specifications. ▪ Process to retain and evaluate evidence for compliance.

Engagement Common Questions

Example engagement questions can be found at [Engagement \(CIP and O&P\) Common Questions.xlsx](#). The Engagement Common Questions Excel Sheet is a list of questions an entity may see and should be prepared to answer in an engagement within Align and the Secure Evidence Locker. Additional questions may be asked as needed during an engagement.

As you review this package, please contact [Texas RE Compliance](#) with any questions, constructive comments, or suggested updates.

Document Change History

Revision	Comments	Author(s)	Approver/Date
1.0	<ul style="list-style-type: none">Initial document creator	Kenath, Carver	01/02/2024
1.1	<ul style="list-style-type: none">Fixed hyper linksUpdated Standards and RequirementsRestructured Self-Certifications questions with a linkAdded revision table	Perez, Rey	10/01/2025