

Reliability Objective

To verify coordination of generating unit Facility or synchronous condenser voltage regulating controls, limit functions, equipment capabilities and Protection System settings.

WECC Intent

The potential failure points and guidance questions give direction to registered entities for assessment of risk, while designing internal controls specific to NERC Reliability Standards and Requirements. The Registered Entity may use this document as a starting point in determining entity risk. It is not WECC's intent to establish a standard or baseline for entity risk assessment or controls design.

***Note:** Guidance questions help an entity understand and document its controls. Any responses, including lack of affirmative feedback, will have no consequences on an entity's demonstration of compliance at audit.*

**Please send feedback to ICE@WECC.org with suggestions on potential failure points and guidance questions.*

Potential Failure Points & Guidance Questions

Potential Failure Point (R1): Failure to clearly define or communicate the start and end dates of the timeframe for coordinating the controls of the voltage regulating system.

1. How do you define and communicate dates used to establish timeframe for coordination?
2. How do you ensure it does not miss the five-year coordination deadline?
 - a. Do you have reminders to coordinate controls?

Potential Failure Point (R1): Failure to develop criteria to identify applicable facilities.

1. How do you identify existing assets that need PRC-019-2 coordination?
2. How do you ensure newly acquired assets are evaluated for PRC-019-2 applicability?

Potential Failure Point (R1): Failure to develop a process to document in-service limiters and protection functions.

1. How do you document in-service limiters and protection functions?

Potential Failure Point (R1): Failure to develop a process to learn equipment capabilities and settings.

1. How do you document equipment capabilities and settings?

Internal Controls Failure Points and Guidance Questions

Potential Failure Point (R1): Failure to define automatic voltage regulator control loop and steady-state system operating conditions.

1. How do you document automatic voltage regulator control loop and steady-state system operating conditions?

Potential Failure Point (R1): Failure to develop a procedure to coordinate controls.

1. How do you coordinate controls?
2. How do you verify whether control coordination has occurred?

Potential Failure Point (R1): Failure to develop a settings policy to ensure in-service limiters are set to operate before the Protection System.

1. How do you make sure responsible parties understand that in-service limiters must be set to operate before the Protection System?

Potential Failure Point (R1): Failure to develop an operational policy that defines criteria that must be met for disconnection of a generator.

1. How do you ensure responsible parties understand criteria that must be met for disconnection of a generator?

Potential Failure Point (R1): Failure to develop a process to identify applicable in-service Protection System devices.

1. How do you identify in-service Protection System devices?

Potential Failure Point (R1): Failure to define settings criteria to operate in a way that isolates or de-energizes when equipment capabilities or stability limits are exceeded.

1. How do you ensure that issued settings isolate or de-energize when equipment capabilities or stability limits are exceeded?

Potential Failure Point (R2): Failure to clearly define or communicate the start and end dates of the timeframe for coordinating the controls of the voltage regulating system.

1. How do you define and communicate dates used to establish timeframe for coordination following an applicable change?
2. How do you ensure it does not miss the 90-calendar-day coordination deadline?
 - a. Do you have reminders to coordinate controls?

Potential Failure Point (R2): Failure to develop a process to identify and track changes to systems, equipment, or settings.

1. How do you track applicable system changes that need coordination?

