

ERO Enterprise CMEP Practice Guide:

Phased Implementation Plans with Completion Percentages

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Background

In support of successful implementation of and compliance with the North American Electric Reliability Corporation (NERC) Reliability Standards, the Electric Reliability Organization (ERO) Enterprise¹ adopted the Compliance Guidance Policy.² The Compliance Guidance Policy outlines the purpose, development, use, and maintenance of guidance for implementing Reliability Standards. According to the Compliance Guidance Policy, Compliance Guidance includes two types of guidance – Implementation Guidance and Compliance Monitoring and Enforcement Program (CMEP) Practice Guides.³

Purpose

The purpose of this CMEP Practice Guide is to address how ERO Enterprise CMEP staff (CMEP staff) will determine a registered entity's compliance with Reliability Standards having phased implementation plans with completion percentages. CMEP staff will follow the guidance outlined below when determining a registered entity's compliance with Reliability Standards that allow for a phased approach to implementation requiring completion of identified percentages by a certain date (e.g., Reliability Standards that require a specific percentage of applicable Facilities be fully compliant by a certain date), unless otherwise stated in the Implementation Plan.

Considerations for CMEP Staff Verifying a Registered Entity's Compliance with Phased Implementation Plans with Completion Percentages

Several Reliability Standards have phased implementation plans with completion percentages for compliance to ensure that registered entities have reasonable time to develop and implement plans that maintain reliability and meet compliance obligations.⁴ Some Reliability Standards with phased implementation plans may require certain percentages of applicable Facilities (e.g., MOD-025-2) or certain percentages of other attributes (e.g., Protection System Components in PRC-005) to be fully compliant with Reliability Standards within a specified timeframe.

Approaches taken by Reliability Standard Drafting Teams, language within the Reliability Standards and implementation plans, and Authorized Government Authority language vary and will guide the compliance monitoring efforts. While specific facts and circumstances will ultimately shape compliance

¹ The ERO Enterprise consists of NERC and the eight Regional Entities.

² The ERO Enterprise Compliance Guidance Policy is located on the NERC website at:

http://www.nerc.com/pa/comp/Resources/ResourcesDL/Compliance_Guidance_Policy_FINAL_Board_Accepted_Nov_5_2015.pdf

³ **Implementation Guidance** provides a means for Registered Entities to develop examples or approaches to illustrate how Registered Entities could comply with a standard that are vetted by industry and endorsed by the ERO Enterprise. **CMEP Practice Guides** differ from Implementation Guidance in that they address how ERO Enterprise CMEP staff executes compliance monitoring and enforcement activities, rather than examples of how to implement the standard.

⁴ As an example, typically generator protection system setting changes are made during scheduled generator outages. An implementation plan may phase-in compliance obligations over a five-year window to allow outages to be planned and occur.

monitoring, CMEP staff will apply the principles identified below. In addition, several examples are provided using Reliability Standards that have phased-in implementation plans with completion percentages to illustrate application of these principles:

- The completion percentages identified in the phased implementation plans are calculated using the total number of items completed divided by the total number of items a registered entity has (referred to for the purposes of this document as the “percent compliant equation”).
- The percentages identified in the implementation plans must be achieved by a registered entity as identified by its unique NERC Compliance Registry (NCR) Number as registered in the Region (i.e., not based on a collection of registered entities that are individually registered), unless specific guidance is otherwise provided.⁵
- Changes in the number of items a registered entity has during the implementation period could have an effect on the number of items that need to be completed in order to achieve the completion percentages identified by the implementation plan. As such the denominator (i.e., total number of items a registered entity has) of the percent compliant equation will be based on the number of items the registered entity has as of the date the identified percentage must be achieved.

Example 1: MOD-025-2 Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability

Consider the “Effective Date” section of MOD-025-2, which provides:

- **5.1** In those jurisdictions where regulatory approval is required:
 - **5.1.1** By the first day of the first calendar quarter, two calendar years following applicable regulatory approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities, **each** Generator Owner (GO) and Transmission Owner shall have verified at least 40 percent of its applicable Facilities.

To apply this language, several key pieces of information must be considered.

First, the word “each” has been emphasized in the above quotation. This identifies that each GO must meet the percentages outlined in the MOD-025-2 Implementation Plan, and that the percentage cannot be met, for example, on an aggregate basis by a single entity that operates as a parent company of GOs that are individually registered.

Second, the quantity on each percentage compliance date is the denominator in the percentage compliant equation (i.e., the quantity of applicable Facilities a registered entity has on July 1, 2016 is the denominator in the percentage compliant equation used for the 40 percent compliance milestone, the

⁵ See *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16,416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242 (2007), at ¶ 92-101 (explaining that the identification of those entities required to comply with specific Standards is based upon the NERC Compliance Registry).

quantity of applicable Facilities a registered entity has on July 1, 2017 is the denominator in the percentage compliant equation used for the 60 percent compliance milestone, etc.). Changes in ownership could impact the quantity of applicable Facilities.

Finally, defined terms as well as the fact that the Reliability Standard will often further define what is considered an “applicable Facility” for that particular Reliability Standard. For MOD-025-2, applicable Facilities are defined by the Reliability Standard to include all of the following: 1) individual generating unit greater than 20 MVA (gross nameplate rating) directly connected to the Bulk Electric System (BES); 2) Synchronous condenser greater than 20 MVA (gross nameplate rating) directly connected to the BES; or 3) Generating plant/Facility greater than 75 MVA (gross aggregate nameplate rating) directly connected to the BES.

The above-referenced information should be considered in conjunction with any additional Reliability Standard specific guidance provided in the associated implementation plan, which for MOD-025-2, states:

The Implementation Plan phasing proposed is designed to allow large entities with dozens of units requiring verification an adequate amount of time to obtain resources and conduct testing to become fully compliant with standard requirements. The phase in period is set at five years with expectation at least 20 percent of an entity’s applicable units will be verified annually with full compliance achieved by the end of the five year period. The 20 percent annual increment threshold was also selected to ensure that small entities with few units have incentive to become fully compliant in a timely manner and not delay verification of its applicable units until the fifth year of the phasing period.

The intent of the phased approach for MOD-025-2 (as emphasized above in the underlined sentence) was to allow registered entities with several Facilities to plan out the work needed and to provide incentive for registered entities with fewer Facilities to achieve compliance in a timely manner.

An example of dates for phased-in compliance for MOD-025-2 is provided in the table below.

Reliability Standard	Requirement	Effective Date	% of Applicable Facilities
MOD-025-2	R1., R2., R3.	07/01/2016	40%
MOD-025-2	R1., R2., R3.	07/01/2017	60%
MOD-025-2	R1., R2., R3.	07/01/2018	80%
MOD-025-2	R1., R2., R3.	07/01/2019	100%

For additional clarity to demonstrate the application of the guidance contained in this document, consider the following examples in reference to the above table. The examples below assume there are no changes in the number of applicable Facilities a registered entity has during the implementation period.

1. If a registered entity owns one applicable Facility, under a single registration number, that registered entity must complete verification of its one Facility by July 1, 2016.
2. Similarly, a registered entity that owns ten applicable Facilities under a single registration number within a single region would need to complete verification (i.e., “be compliant”) with four Facilities by July 1, 2016, six Facilities by July 1, 2017, eight Facilities by July 1, 2018, and all 10 Facilities by July 1, 2019.
3. If a single parent company owns two registered entities, and each has its own registration number, the percentages are calculated separately. If the first registered entity has one applicable Facility and the other registered entity has 10, regardless of the fact they have the same parent company, the first registered entity would need to complete verification (i.e., “be compliant”) with its single Facility by July 1, 2016, and the second registered entity that has 10 applicable Facilities would also need to complete verification (i.e., “be compliant”) with four of its Facilities by July 1, 2016, six Facilities by July 1, 2017, eight Facilities by July 1, 2018, and all 10 Facilities by July 1, 2019.

Example 2: PRC-002-2 Disturbance Monitoring and Reporting Requirements

It should be noted that the text and subsequent discussions below are only addressing Requirement R2 but approaches to the other requirements would be similar. As such, consider the language from the implementation plan and Requirement R2 below.

The PRC-002-2 Implementation Plan for Requirement R2 states:

- “Entities shall be at least 50 percent compliant within four (4) years of the effective date of PRC-002-2 and fully compliant within six (6) years of the effective date.”
- “Entities that own only one (1) identified BES bus, BES Element, or generating unit shall be fully compliant within six (6) years of the effective date.”

Requirement R2 states:

- “Each Transmission Owner and Generator Owner shall have SER data for circuit breaker position (open/close) for each circuit breaker it owns connected directly to the BES buses identified in Requirement R1 and associated with the BES Elements at those BES buses.”

To apply this language, several key pieces of information must be considered.

First, a Transmission Owner must fulfill Requirement R1, which requires an identification of BES buses using the methodology in PRC-002-2 Attachment 1 and notification of other owners of BES Elements connected to those BES buses within 90 calendar days. This was enforceable July 1, 2016.

Second, the “effective date” of PRC-002-2 was July 1, 2016. Therefore, “within four (4) years of the effective date of PRC-002-2” equates to on or before July 1, 2020. Furthermore “within six (6) years of the effective date of PRC-002-2” equates to on or before July 1, 2022.

Third, the phrase “at least 50 percent compliant” sets the minimum threshold for determining compliance at 50 percent as it relates to the requirement language. In the case of Requirement R2, the registered entity must have sequence of events recording (SER) data for circuit breaker position for all circuit breakers it owns directly connected to at least 50 percent of the BES buses identified in requirement R1 and associated with the BES Elements at those BES buses.

Therefore, CMEP staff will verify compliance for each registered entity, based on the required percentage of BES buses having SER data for all applicable circuit breakers on the specific dates set forth by the Reliability Standard’s Implementation Plan. An example for PRC-002-2 Requirement R2 is provided in the table below.

Reliability Standard	Requirement	Effective Date	% of Buses
PRC-002-2	R2	07/01/2020	50%
PRC-002-2	R2	07/01/2022	100%
PRC-002-2	R2 (owner of one identified BES bus, BES Element, or generating unit)	07/01/2022	100%

For additional clarity to demonstrate the application of the guidance contained in this document, consider the following examples in reference to the above table. The examples below assume that the circuit breakers referenced below meet the criteria within Requirement R2 and that there are no changes in the quantity of applicable BES buses a registered entity has during the implementation period.

1. If a registered entity identifies one BES bus under R1, under a single registration number, that registered entity must have evidence of SER data for circuit breaker position for all circuit breakers it owns directly connected to that BES bus by July 1, 2022.
2. Similarly, a registered entity that has identified 10 BES buses under R1, under a single registration number, and within a single region would need to have evidence of SER data for circuit breaker position for all circuit breakers it owns directly connected to five of the BES buses by July 1, 2020, and for all 10 BES buses by July 1, 2022.
3. Finally, if a single parent company owns two registered entities, and each has its own registration number, the percentages are calculated separately. Therefore, if the first registered entity has one

identified BES bus under R1 and the other registered entity has identified 10 BES buses under R1, regardless of the fact they have the same parent company, the first registered entity would need to have evidence of SER data for circuit breaker position for all circuit breakers it owns directly connected to the one BES bus by July 1, 2022, and the second registered entity would need to have evidence of SER data for circuit breaker positions for all circuit breakers it owns directly connected to five of the BES buses by July 1, 2020 and all 10 by July 1, 2022.