

Attachment F2

Technical Justification

WECC-0126 PRC-004-WECC-2

**Protection System and Remedial Action Scheme Misoperation
Request to Retire Regional Reliability Standard**

Cover Sheet

Technical Justification

Retirement of WECC Regional Reliability Standard

PRC-004-WECC-2

Protection System and Remedial Action Scheme Misoperation

**White Paper:
Retirement of WECC Regional Reliability Standard
PRC-004-WECC-2
Protection System and Remedial Action Scheme Misoperation**

Technical Justification

WECC Standards Committee

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Developed as: WECC-0126



155 North 400 West, Suite 200

Salt Lake City, Utah 84103-1114

WECC-0126 PRC-004-WECC-2
Protection System and Remedial Action Scheme Misoperation
Request to Retire Regional Reliability Standard
Developed as: WECC-0126

Executive Summary

The WECC-0126 PRC-004-WECC-2 Standard Drafting Team (DT) reviewed NERC Standards, both in effect and proposed for regulatory approval. The DT also considered the development history of PRC-004-WECC-2 and its history of performance.

The following are the findings reached and conclusion, and the recommendation made by the DT.

Findings and Conclusion

The DT concluded that retirement of the standard can be made without incurring a negative impact on reliability because:

1. The reliability concern for which the standard was drafted is now specifically covered in FAC-003-4 Transmission Vegetation Management (enforceable October 1, 2016).
2. The Applicability section is overly narrow and included in other existing NERC Standards;
3. Requirement R1 is covered in other NERC Standards;
4. Requirement R2 is covered in other NERC Standards, conflicts with existing NERC Standards, and its application can lessen reliability as opposed to enhancing it;
5. Requirement R3 is entirely administrative in nature and should be retired under FERC P81 criteria;
6. The language of the standard does not meet the FERC Order 672 criteria in that it fails to assign the reliability task directly to an entity included in the NERC Functional Model.

Recommendation

After completing its review, the DT recommends that the substance of PRC-004-WECC-2 should be retired immediately and in its entirety because the reliability-related substance is addressed in peripheral NERC Standards. The DT does not believe any further actions are necessary to implement the proposed change.

Background

In 1996, two system disturbances occurred within the Western Interconnection, on the same elements, within a single 24-hour period, due to improper vegetation management. To prevent reoccurrence of such a specific event, language was included in WECC's Reliability Management System (RMS) requiring that the relay or Remedial Action Scheme (RAS) that misoperated be removed from service or repaired within 22 hours.^{1 2} The language was premised on the position that if the misoperation was analyzed and promptly removed from service the system operators could remedy the cause before an iterative misoperation took place.

By 2007, with the implementation of mandatory standards, WECC examined the RMS, identifying those requirements it deemed essential for reliability, and translated those requirements into a language and format acceptable to the North America Electricity Reliability Council (NERC)³ and the Federal Energy Regulatory Commission (FERC). That translation resulted in WECC Standard PRC-STD-003-1, Protective Relay and Remedial Action Scheme Misoperation and PRC-STD-001-1, Certification of Protective Relay Applications and Settings.⁴

As the mandatory scheme evolved, two things occurred. First, NERC/FERC identified drafting and format concerns in those two standards and instructed WECC to redraft them accordingly. The result was that the current PRC-004-WECC-1 (inactive March 31, 2017) was replaced by PRC-004-WECC-2 (United States Enforcement Date April 1, 2017) to accommodate changes in the NERC Glossary of Terms Used in NERC Reliability Standards (Glossary).^{5 6} The second was the introduction of the

¹ The Reliability Management System (AKA: Western Electricity Coordinating Council, FERC Electric Tariff, First Revised Volume No. 1, Original Sheet Number 1) was the precursor to the NERC Mandatory Standards within the Western Interconnection. The Transfer Path Table and the Remedial Action Scheme table were originally developed as part of the RMS. The 22-hour period was memorialized in the RMS: I. Protective Relay and Remedial Action Scheme Misoperation; 2. WSCC Criterion, Section a. For more detail refer to Compliance Filing of WECC in Response to Order Numbers 751 and 752 on Version One Regional Reliability Standards. RM09-09-000.

² "WECC explains that these requirements were developed as a result of a 345 kV line relay misoperation in July 1996 when virtually the same outage occurred the next day because the faulty equipment had not been isolated." 119 FERC ¶ 61,260; United States of America Federal Energy Regulatory Commission (FERC) North American Electric Reliability Corporation, Docket No. RR07-11-000, Order Approving Regional Reliability Standards for the Western Interconnection and Directing Modifications (Issued June 8, 2007), Para. 85.

³ Currently known as the North American Electricity Reliability Corporation. (Emphasis added.)

⁴ 135 FERC ¶ 61,061; United States of America Federal Energy Regulatory Commission, 18 CFR Part 40, Docket No. RM09-9-000; Order No. 751, Version One Regional Reliability Standards for Facilities Design, Connections, and Maintenance; Protection and Control; and Voltage and Reactive (Issued April 21, 2011), para. 34. FERC Order issued approving PRC-004-WECC-1 (approval effective June 27, 2011).

⁵ In the Glossary of Terms Used in NERC Reliability Standards, Protection Systems are not the same as Special Protection Systems (SPS). An SPS is synonymous with a RAS per that glossary.

⁶ FN31 NERC RAS Petition at 1-2. NERC requested approval of the following Reliability Standards to incorporate the proposed definition of Remedial Action Scheme and eliminate use of the term Special Protection System: i.e., PRC-004-WECC-2.

Facilities Design, Connection and Maintenance (FAC) standards designed, among other things, to address the specific type of vegetation management concerns that caused the 1996 disturbances.

In the 20 years since the precipitating events, the *remedy* for those events shifted to the vegetation management standards of the NERC FAC suite and the remaining language pertinent to Protection Systems (PS), Special Protection Schemes (SPS), and Remedial Action Schemes (RAS) shifted to other NERC PRC Standards.⁷

Shifting Remediation

At the threshold, it should be noted that remediation of the 1996 seminal event has shifted to FAC-003-4, Transmission Vegetation Management. Therefore, PRC-004-WECC-2 no longer addresses the cause for which it was drafted.

In 1996, if the applicable entities had been complying with a 2016 version of FAC-003-4, Transmission Vegetation Management (enforceable October 1, 2016) it is unlikely that the predecessors to PRC-004-WECC-2 would have been written. Remediation for the primary causal event has shifted to FAC-003-4, which is applicable to transmission facilities operated at 200-kV or higher, and below 200-kV if the facility is identified as an element of a Major WECC Transfer Path. FAC-003-4 requires: 1) that vegetation be managed to prevent the type of encroachment encountered in 1996 (R1 and R2); 2) timely notification to the appropriate control center of vegetation conditions that could cause a Flashover at any moment (R4); and 3) corrective action to ensure that Flashover distances will not be violated due to work constraints.⁸

Applicability – Scope

The narrow scope of the PRC-004-WECC-2 Applicability section should be retired in favor of the broader Applicability section of other NERC Standards. Whereas PRC-004-WECC-2 only applies to specific RAS and PS included in defined tables, other NERC Standards address the same analysis without limiting the analysis to RAS and PS contained in the specified tables.

153 FERC ¶ 61,228; United States of America Federal Energy Regulatory Commission, 18 CFR Part 40, Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000, Order No. 818, Revisions to Emergency Operations Reliability Standards; Revisions to Undervoltage Load Shedding Reliability Standards; Revisions to the Definition of “Remedial Action Scheme” and Related Reliability Standards, (Issued November 19, 2015)

⁷ This project is part of WECC’s commitment to harmonize PRC-004-WECC-2 with NERC Standards addressing RAS and PS per PRC-004-4(i), 5 Background, page 2.

⁸ FAC-003-4, Transmission Vegetation Management, Section 6. Background. See also: “Consideration of Actual Field Conditions in Determination of Facility Ratings”.

The Applicability of the PRC-004-WECC-2 reads as follows:

4. Applicability

- 4.1. Transmission Owners of selected WECC major transmission path facilities and RAS listed in tables titled “Major WECC Transfer Paths in the Bulk Electric System” provided at [hyperlink] and “Major WECC Remedial Action Schemes (RAS)” provided at [hyperlink].
- 4.2. Generator Owners that own RAS listed in the Table titled “Major WECC Remedial Action Schemes (RAS)” provided at [hyperlink].
- 4.3. Transmission Operators that operate major transmission path facilities and RAS listed in Tables titled “Major WECC Transfer Paths in the Bulk Electric System” provided at [hyperlink] and “Major WECC Remedial Action Schemes (RAS)” provided at [hyperlink].

Although the requirements of PRC-004-WECC-2 address both RAS and PS, the existing NERC Standards address these two topics in separate standards.

PRC-016-1 Remedial Action Scheme Misoperations, Requirement R1 requires any Transmission Owner (TO), Generator Owner (GO), and Distribution Provider (DP) owning a RAS to “. . .analyze its RAS operations and maintain a record of all misoperations. . .” in accordance with the regional procedures.

Since *all RAS* must be examined under PRC-016-1, there is no reason to retain PRC-004-WECC-2 which only applies to a specific and limited subset of WECC RAS. Review of all RAS under PRC-016-1 subsumes the subset of RAS targeted in PRC-004-WECC-2. So, the specificity of the PRC-004-WECC-2 Applicability section is a lesser included subset of PRC-016-1 (effective date April 1, 2017) making PRC-004-WECC-2 redundant.

In like fashion, PRC-004-4(i) Protection System Misoperation Identification and Correction, requires all TOs, GOs, and DPs to review *all PS* operations on the BES to: 1) identify those that are Misoperations of PS; 2) analyze Misoperations of PS; and 3) develop and implement Corrective Action Plans (CAP) to address the cause(s) of Misoperation.⁹ Thus, the specificity of the PRC-004-WECC-2 Applicability section is a lesser included subset of PRC-004-4(i) making PRC-004-WECC-2 redundant.

Applicability – Failure to Meet Order 672 Criteria

Although the Applicability section accurately identifies the correct NERC Functional Entities, the Requirements do not assign tasks to those entities.

Rather than assigning the reliability task to the TO or GO, R1 assigns its task to “System Operators and System Protection personnel of the Transmission Owners and Generator Owners.” R1 does not directly assign a reliability task to any applicable entity listed in the NERC Functional Model. As such, it falls

⁹ PRC-004-4(i) Protection System Misoperation Identification and Correction, 5. Background, page 2.

short of the FERC Order 672 mandate that a Reliability Standard impose a requirement only on a user, owner, or operator of facilities associated with the Bulk-Power System (BES).¹⁰ Presuming the requirement could be interpreted to apply to the TO and GO directly, R1 imposes a duty to “analyze all Protection System and RAS operations.”¹¹ Because these tasks are covered in other NERC Standards (see following analysis) there is no need to retain the requirement nor try to sort out which NERC Functional Model entity the original draft intended.

Retirement of Requirement R1

The entirety of Requirement R1 should be retired because it is redundant to other NERC Standards.

The text of Requirement R1 is as follows:

B. Requirements

The requirements below only apply to the major transmission paths facilities and RAS listed in the tables titled “Major WECC Transfer Paths in the Bulk Electric System” and “Major WECC Remedial Action Schemes (RAS).”

R.1. System Operators and System Protection personnel of the Transmission Owners and Generator Owners shall analyze all Protection System and RAS operations. *[Violation Risk Factor: Lower] [Time Horizon: Operations Assessment]*

R1.1. System Operators shall review all tripping of transmission elements and RAS operations to identify apparent Misoperations within 24 hours.

R1.2. System Protection personnel shall analyze all operations of Protection Systems and RAS within 20 business days for correctness to characterize whether a Misoperation has occurred that may not have been identified by System Operators.

Covered Elsewhere

Unlike PRC-004-WECC-2 that sweeps in both PS and RAS, in the NERC Standards these two classifications of devices are addressed in separate standards.

As for PS, existing NERC Standards include and go beyond a mandate for analysis. TOs and Generator Operators (GOP) are required to be familiar with the purpose and limitations of their PS schemes and take corrective actions as soon as possible – not just analyze the problem.¹² Entities must maintain and

¹⁰ The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but no on other. Order 672 at P. 322.

¹¹ In the Glossary of Terms Used in NERC Reliability Standards, Protection Systems are not the same as *Special* Protection Systems (SPS). An SPS is synonymous with a RAS per that glossary; an SPS is not the same as a Protection System.

¹² PRC-001-1.1(ii) System Protection Coordination, Requirements R1 and R2.

test their PS, and demonstrate efforts to correct identified Unresolved Maintenance Issues.¹³ Monitoring and situational awareness are also required¹⁴. Finally, TOs and GOs are required to correct identified and unresolved maintenance Issues.¹⁵ These combined NERC Standards meet and exceed the reliability concerns of Requirement R1 regarding PS.

As for RAS, PRC-004-4 not only calls for analysis it also requires coordination with other entities, notification of events and findings, and most importantly that corrective actions be planned and implemented. Elsewhere, applicable entities that own a RAS are required to analyze RAS operation and misoperation, take corrective actions to ensure misoperation does not reoccur, and to provide documentation of its activities upon request from the Regional Reliability Organization (RRO).¹⁶ PRC-016-1 Remedial Action Scheme Misoperation calls for the inclusion of specific detail in its reports exceeding the requirement of PRC-004-WECC-2. Further, PRC-017-1 Special Protection System Maintenance and Testing requires the TO and GO to have a system maintenance and testing program (to include specific characteristics), and to provide supporting documentation to the RRO on request. These combined NERC Standards meet and exceed the reliability concerns of PRC-004-WECC-2 Requirement R1 regarding RAS.

Finally, even in the absence of the continent-wide PRC suite, TPL/TOP standards would require essential analysis and remedial action so long as a facility continues in service with a single PS or RAS. In many cases, this occurs in less than the 20-day window prescribed in PRC-004-WECC-2 and focuses on results as opposed to a perfunctory task.¹⁷

The continent-wide TPL/TOP standards require time frames to take action that range from as quickly as possible out to as much as day-ahead planning. So long as a facility continues in service with a single PS or RAS, the TOP is required by the TOP standards to evaluate the system impacts for that configuration

¹³ PRC-005-6 – Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance.

¹⁴ PRC-001-1.1(ii) — System Protection Coordination; TOP-003-3, Operational Reliability Data, R1, part 1.2

¹⁵ PRC-005-6 – Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance, Requirement R5.

¹⁶ PRC-016-1 — Remedial Action Scheme Misoperation; (United States Enforcement Date April 1, 2017)

¹⁷ TPL-001-4 — Transmission System Planning Performance Requirements, focuses on system performance rather than the method of achieving that performance.

TOP-002-2.1b — Normal Operations Planning, R6 focuses on a different aspect of system performance by analyzing the system at a minimum of the next N-1 Contingency planning.

TOP-004-2 — Transmission Operations, requires that TOPs operate to maintain reliability following occurrence of their most severe single contingency and (R3) for any multiple contingencies identified by their RC. These contingencies exclude any facilities that are already out-of-service (either forced or planned).

TOP-006-3 — Monitoring System Conditions, R3 requires that the RC, TOP, and Balancing Authority “shall provide its operating personnel with appropriate technical information concerning protective relays within” their areas of responsibility.

TOP-008-1 — Response to Transmission Limit Violations, R2 requires the TOP “operate to prevent the likelihood that a disturbance, action or inaction will result in an IROL or SOL violation ...” which reinforces the TPL-004-2 R2 requirement.

at least every day and to take further action if required by the actual circumstances. These TOP time restrictions are much more rigorous than the WECC 20 business days.¹⁸

Because the reliability content of PRC-004-WECC-2 Requirement R1 is covered in other existing NERC Standards, Requirement R1 can be retired without incurring any negative impact on reliability.

Illusory Time Windows – 20 Business Days

In Requirement R1.2, the 20-day review period has its origins in compliance and not in reliability. Therefore, it is not essential for reliability.

When the predecessors of PRC-004-WECC-2 were developed (circa 1995-2000), the WECC Relay Work Group identified the duration of the window (20 business days) to *measure* performance, not as a time window essential for reliability.¹⁹ Meeting minutes from the WECC Relay Work Group establish the first draft of what would later be called a Violation Severity Level (VSL) wherein the 20-business-day window was included in a Level 3 and Level 4 VSL.

The definition of the window (20 *business days*) makes its regulatory debut in the RMS²⁰ where it is used as a defined term. A Business Day is defined as “any day other than Saturday, Sunday, or a legal public holiday as designated in section 6103, of title 5 US Code.” If the 20-business day window was reliability in nature it would not be predicated on weekends and holidays.

To the extent that any level of reliability now attaches to the 20-day window, other NERC Standards impute a shorter time window for remedial action thereby rendering the 20-day window moot. As presented, the review of numerous other NERC Standards shows that operational review of the system is required to take place much sooner than 20 days.²¹ Thus, the duration and definition of the time window are irrelevant to reliability and can be retired without detriment to the system.

Retirement of Requirement R2

The entirety of Requirement R2 should be retired because it is redundant to other NERC Standards.

The text of Requirement R2 is as follows:

B. Requirements

- R.2.** Transmission Owners and Generator Owners shall perform the following actions for each Misoperation of the Protection System or RAS. It is not intended that Requirements R2.1

¹⁸ IRO-001.1 R3, requires action within 30 minutes. TOP-008 R2, as noted, primarily reinforces TOP-004 R2, basically saying that the TOP is covered within the IRO timing requirement.

¹⁹ WECC Relay Work Group Meeting Minutes, July 20, 2000.

²⁰ Reliability Management System, I. Protection Relay and Remedial Action Scheme Misoperation, Section 2.d.

²¹ TOP-002-2.1b Normal Operations Planning, Requirement R6 requires a minimum of N-1 Contingency planning to meet unscheduled changes in system configuration and generation dispatch.

through R2.4 apply to Protection System and/or RAS actions that appear to be entirely reasonable and correct at the time of occurrence and associated system performance is fully compliant with NERC Reliability Standards. If the Transmission Owner or Generator Owner later finds the Protection System or RAS operation to be incorrect through System Protection personnel analysis, the requirements of R2.1 through R2.4 become applicable at the time the Transmission Owner or Generator Owner identifies the Misoperation:

- R2.1.** If the Protection System or RAS has a Security-Based Misoperation and two or more Functionally Equivalent Protection Systems (FEPS) or Functionally Equivalent RAS (FERAS) remain in service to ensure Bulk Electric System (BES) reliability, the Transmission Owners or Generator Owners shall remove from service the Protection System or RAS that misoperated within 22 hours following identification of the Misoperation. Repair or replacement of the failed Protection System or RAS is at the Transmission Owners' and Generator Owners' discretion. *[Violation Risk Factor: High] [Time Horizon: Same-day Operations]*
- R2.2.** If the Protection System or RAS has a Security-Based Misoperation and only one FEPS or FERAS remains in service to ensure BES reliability, the Transmission Owner or Generator Owner shall perform the following. *[Violation Risk Factor: High] [Time Horizon: Same-day Operations]*
- R2.2.1.** Following identification of the Protection System or RAS Misoperation, Transmission Owners and Generator Owners shall remove from service within 22 hours for repair or modification the Protection System or RAS that misoperated.
- R2.2.2.** The Transmission Owner or Generator Owner shall repair or replace any Protection System or RAS that misoperated with a FEPS or FERAS within 20 business days of the date of removal. The Transmission Owner or Generator Owner shall remove the Element from service or disable the RAS if repair or replacement is not completed within 20 business days.
- R2.3.** If the Protection System or RAS has a Security-Based or Dependability-Based Misoperation and a FEPS and FERAS is not in service to ensure BES reliability, Transmission Owners or Generator Owners shall repair and place back in service within 22 hours the Protection System or RAS that misoperated. If this cannot be done, then Transmission Owners and Generator Owners shall perform the following. *[Violation Risk Factor: High] [Time Horizon: Same-day Operations]*
- R2.3.1.** When a FEPS is not available, the Transmission Owners shall remove the associated Element from service.
- R2.3.2.** When FERAS is not available, then
- 2.3.2.1.** The Generator Owners shall adjust generation to a reliable operating level, or

2.3.2.2. Transmission Operators shall adjust the SOL and operate the facilities within established limits.

R2.4. If the Protection System or RAS has a Dependability-Based Misoperation but has one or more FEPS or FERAS that operated correctly, the associated Element or transmission path may remain in service without removing from service the Protection System or RAS that failed, provided one of the following is performed.

R2.4.1. Transmission Owners or Generator Owners shall repair or replace any Protection System or RAS that misoperated with FEPS and FERAS within 20 business days of the date of the Misoperation identification, or

R2.4.2. Transmission Owners or Generator Owners shall remove from service the associated Element or RAS. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Assessment*]

Retirement of Requirement R2

Requirement R2 is divided into two parts, one assigning tasks in the event of Security-Based Misoperation and the other assigning tasks in the event of Dependability-based Misoperation.²² The requirement to analyze each Misoperation attaches whenever the Misoperation is discovered (identified).

If a PS or RAS Misoperation is *Security-based*, the PS or RAS shall be removed from service within 22 hours of the identification of the Misoperation. Whether the PS or RAS requires repair, removal, replacement or modification is fact specific and subject to If/Then statements.

If the PS or RAS Misoperation is *Dependability-based*, but portions of the systems operated as designed, the PS or RAS can remain in service so long as repair or replacement occurs within 20 days of the identification of the Misoperation; otherwise, the PS or RAS must be removed from service.

Illusory Time Windows – 22 Hours

On the surface, the 22-hour remediation trigger of PRC-004-WECC-2, Requirement R2.2.1 is quite attractive and perceptually creates a much higher performance threshold than its peripheral NERC Standards.²³ But when examined, the remedial clock does not begin to run until the Misoperation is *identified*. In other words, there is no remediation required until the operation is identified. The system operator may identify an *apparent* Misoperation (R1) within the coveted period (R2) and thereby meet

²² Security-based Misoperations and Dependability-based Misoperations are included in the WECC-specific section of the Glossary of Terms Used in NERC Reliability Standards.

²³ Since a real-time assessment of system performance is being conducted at least once every 30 minutes by the Transmission Operator, the value of a review within 22 hours is diluted and somewhat redundant. TOP-001-3, Transmission Operations, R13.

the original intent to remediate the cause. However, the reality is that the identification will not likely be determined by the Real-time system operator thus negating the assumed purpose of the 22 hours. Rather, the higher likelihood is that the system operator may annotate an anomaly in the operations log and pass the investigation on to protection engineers. After analysis and identification by the protection engineer, only then would the tolling clock begin to run. So, it could be days or weeks before the requirement to perform remediation attached. Even though the 22 hours appears to be a higher standard, in practice it is illusory because it lacks a definitive start time.

Because the 22-hour window appears in the requirement, it is assumed that the original drafters intended its inclusion for reliability purposes. However, a review of development record shows that the 22-hour time window did not appear in the requirement until drafted into the Reliability Management System (RMS) agreement. Meeting minutes from a July 20, 2000 WECC Relay Work Group meeting indicates that the 22-hour period was originally intended for inclusion in what would today be called a Measure. The minutes indicate that:

“During the Phase 2 evaluation period the relay misoperation requirement was found to be too loosely defined to enable the assessment of compliance on a consistent basis among all affected parties, per the requirement, the clock starts as soon as it is determined that a relay misoperated or probably misoperated. Making this determination could take days or weeks. It was concluded that compliance with the requirement as originally worded is not measurable on an accurate or consistent basis. Consequently, the Relay Work group in cooperation with the WSCC staff developed revisions to the requirement that will enable a consistent and accurate measure of performance to assess compliance the revised requirement is described in detail below.” (Italic emphasis added.)

In fact, the intent of the reports is stated in the 1998 predecessor to the RMS in that:

“The transmission path operators for the paths listed in Table 2 are requested to submit data as specified in detail within this section. For the purpose of maintaining historical records, and in the event, some or all of the compliance data have to be reviewed to resolve questions that may arise in the future, the Path Operators are requested to save the data, as defined below, for at least a one-year period.”²⁴ (Emphasis added.)

The language that found its way into the requirement section of the RMS was originally intended to serve a compliance purpose. To the extent the 22-hour period may have evolved to address a reliability task, that task (vegetation management) is now covered in the FAC suite. As such, the 22-hour time frame can be deleted from the standard without impacting reliability.

²⁴ WSCC Detailed Reporting Instructions, Reliability Management System, Evaluation Program Phase 2, Phase 2 Evaluation Period Reporting Requirements, A. Transmission Path Operators Data Collection, see sections on Protective Relay Application and Settings, and Remedial Action Schemes, and Protective Relay and Remedial Action Scheme Misoperation, August 12, 1998.

Requirement R2 Conflicts with other Standards / Lessens Reliability

PRC-004-WECC-2 Requirement R2 has a specified set of actions that must be taken once the Misoperation is identified. Because the operator cannot deviate from the specific actions, all discretion is removed. Therefore, R2 conflicts with other standards and lessens reliability.

Under the fact pattern identified in PRC-004-WECC-2 Requirement R2.1, the TO and GO “shall remove from service” the PS or RAS that misoperated. The inflexible mandate leaves the TO/GO no operational choice. By contrast, PRC-001-1.1(ii) System Protection Coordination, Requirement R2, part 2.1 and 2.2 require that “[if] a protective relay or equipment failure reduces system reliability” then corrective action is to be taken as soon as possible.²⁵ Likewise, PRC-016-1 Remedial Action Scheme Misoperations, Requirement R2 allows the TO/GO owning a RAS to take “corrective actions to avoid Misoperations.” Further, TOP-001-3 Transmission Operations, R1 requires the Transmission Operator (TOP) to maintain the reliability of its Transmission Operator Area *via its own actions* (emphasis added). The Balancing Authority (BA) has a similar mandate in R2 of that document.

To illustrate how retention of PRC-004-WECC-2 Requirement R2 can lessen reliability, the following fact pattern is offered.

Example 1

A fault occurred on an important path line and the relays at both terminals operated correctly to clear it. Different makes of reclosing relays are used at the two terminals, which did not allow the recloser reset time to be set the same at both terminals. The terminal that normally recloses first had a longer reset delay of 20 cycles (Terminal A), and the terminal that normally recloses after the other terminal had a shorter reset delay of 15 cycles (Terminal B). A very unusual circumstance occurred when a second fault occurred on the line after the time that the recloser at Terminal B had reset (15 cycles), but before the recloser at the Terminal A had reset (20 cycles). Terminal A, therefore, tripped to lockout after the second fault and did not reclose. Terminal B, which would normally reclose after Terminal A, tripped for the second fault and then proceeded to reclose. Because this is a very long line, the switch-onto-fault (SOTF) settings are set sensitively to provide instantaneous tripping for the entire length of the line. When Terminal B reclosed, The SOTF elements tripped it open due to the line charging current. It is important to recall that this terminal normally recloses after Terminal A, in which case the voltage on the line would block the SOTF elements.

Because Terminal B tripped for no fault, it created a misoperation. Because both relays at Terminal B behaved the same, they both misoperated. This would bring R2.3.1 into play, requiring the line to be

²⁵ Under NERC Project 2007-06.2 Phase 2 of System Protection Coordination, PRC-001-1.1(ii) is proposed for retirement. Should that occur, system awareness and corrective actions shifts to other applicable entities under numerous existing NERC Standards. Please refer to that proceeding for a detailed analysis of which NERC Standards would cover the reliability tasks of PRC-001-1(ii) in the event of retirement. Misoperations that have causes other than failure can be mitigated by taking corrective action as soon as possible.

removed from service if the applicable entity could not repair or replace the relays within 22 hours. Given the large volume of operations that were occurring due to the poor weather, repairing the problem within 22 hours was not easy. Taking the line out of service would have caused more problems than it solved because it would have removed an important line during heavy transfer conditions. With the poor weather that was occurring, other lines were also operating, and every available line needed to be in service. This did not present a reliability concern since the relays were only susceptible to Misoperation during a reclose during the very unlikely scenario of a second fault occurring between 15 and 20 cycles after the first.

This practical example illustrates that PRC-004-WECC-2 Requirement R2 can force undesirable consequences. Had consideration of all the surrounding circumstances been allowed, strict adherence to PRC-004-WECC-2 Requirement R2 would not have been the best choice for reliability.

As seen in the example, PRC-004-WECC-2 *mandates* a specific action without regard to outcome. By contrast, the alternate approach of PRC-001-1.1(ii) allows the TO/GO owning a RAS to take reasoned action *if* the failure reduces reliability. Further, it allows that entity to consider all the surrounding circumstances and act accordingly. Finally, if retained, PRC-004-WECC-2 could conflict with other standards wherein applicable entities are provided flexibility to decide the most appropriate actions to ensure reliability. As such, the alternate approach of PRC-001-1.1(ii) should be adopted over that of the PRC-004-WECC-2.

Requirement R2 – Failure to Meet Order 672 Criteria

Pursuant to FERC Order 672, a Reliability Standard should be clear and unambiguous regarding what is required and who is required to comply. Users, owners, and operators of the Bulk-Power System must know what they are required to do to maintain reliability.²⁶ PRC-004-WECC-2, Requirement R2 falls short of that requirement and should be deleted.

Requirement R2.1 through R2.4 are not intended to apply to PS and/or RAS actions “that appear to be entirely reasonable and correct” when “associated system performance is fully compliant with NERC Reliability Standards.” What appears to be reasonable to one entity may not appear reasonable to the next. In like fashion, what appears to be reasonable to one auditor may not be reasonable to the next. What is reasonable is the sum of all the surrounding circumstances. These circumstances will vary each time the standard is applied.

Because of the ever-changing fact patterns, neither the applicable entity nor the assigned auditor can be soundly informed as to what action must be taken or what constitutes compliance until after a violation may have occurred. Further, the language implies that what is reasonable equates to what is the best course of action to ensure reliability. This is not always the case. As seen above, one may act to remain perfectly in compliance but those actions may not be in the best interest of reliability.

²⁶ FERC Order No. 672 at P 325.

Finally, the requirement requires the applicable entity to stand as a proxy to the compliance auditor in that it requires the applicable entity to know whether an act is “entirely reasonable and correct” without further guidance. This is the standards equivalent of drafting a law requiring all vehicles to stop *close* to the limit line – without indicating what constitutes *close*.

Although entities make every effort to remain in compliance, applicable entities are not auditors and cannot make the definitive determination whether an act complies with a standard. As such, the ambiguity of the wording robs the applicable entity of the notice required under due process. Thus, Requirement R2 does not meet FERC’s Order 672 criteria and should be deleted.

Retirement of Requirement R3

The entirety of Requirement R3 should be retired because it is purely administrative in nature and meets the “P81” criteria for retirement.

The text of Requirement R3 is as follows:

B. Requirements

R.3. Transmission Owners and Generation Owners shall submit Misoperation incident reports to WECC within 10 business days for the following. [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Assessment*]

R3.1. Identification of a Misoperation of a Protection System and/or RAS,

R3.2. Completion of repairs or the replacement of Protection System and/or RAS that misoperated.

Retirement of Requirement R3

The language of PRC-004-WECC-2 Requirement R3 can be retired without incurring any negative impact to reliability because the Requirement is administrative in nature.

The purpose of PRC-004-WECC-2 is “to ensure all transmission and generation Protection System and Remedial Action Scheme (RAS) Misoperations on Transmission Paths and RAS defined in section 4 are analyzed and/or mitigated.”

Retirement of R3 would be consistent with FERC’s order²⁷ approving NERC’s Compliance Enforcement Initiative (“CEI”), including the Find, Fix, Track and Report (“FFT”) program. On March 15, 2012, FERC issued an order²⁸ approving NERC’s Compliance Enforcement Implementation (CEI), including the FFT program. Paragraph 81 (“P 81”) of the FFT Order reads:

The Commission notes that NERC’s FFT initiative is predicated on the view that many violations of requirements currently included in Reliability Standards pose lesser risk to the Bulk-Power

²⁷ North American Electric Reliability Corporation, 138 FERC ¶ 61,193 at P 81 (2012) (“FFT Order”).

²⁸ FFT Order at P 81.

System. If so, some current requirements likely provide little protection for Bulk-Power System reliability or may be redundant. The Commission is interested in obtaining views on whether such requirements could be removed from the Reliability Standards with little effect on reliability and an increase in efficiency of the ERO compliance program. If NERC believes that specific Reliability Standards or specific requirements within certain Standards should be revised or removed, we invite NERC to make specific proposals to the Commission identifying the Standards or requirements and setting forth in detail the technical basis for its belief. In addition, or in the alternative, we invite NERC, the Regional Entities and other interested entities to propose appropriate mechanisms to identify and remove from the Commission approved Reliability Standards unnecessary or redundant requirements. We will not impose a deadline on when these comments should be submitted, but ask that to the extent such comments are submitted NERC, the Regional Entities, and interested entities coordinate to submit their respective comments concurrently.²⁹

In keeping with the FFT approach, the WECC-0126 DT reviewed the standard to identify requirements that could be removed from Reliability Standards without negatively impacting the reliability of the Bulk-Power System. This project identified Requirement R3 as a candidate for retirement under that criteria.

Requirement R3 P81 Justification

The language of R3 can be retired without incurring any negative impact to reliability because it is purely administrative in nature. At its core, the requirement calls for the TO and GO to “submit Misoperation incident reports to WECC” and to prove compliance by having “evidence that they reported.”

In PRC-004-WECC-2, requiring documentation does not add to or detract from the reliability of the grid; rather, having documentation is an element of verifying that a reliability task has been completed. In application, the requirement looks backwards to ensure paperwork was filled out. As drafted, it neither requires identification of a Misoperation nor remediation of failing elements associated with a Misoperation. It only requires that a report be made. The Measure advances reliability no further as it too requires only that a report be presented. As its core, the Measure doesn’t even specify the content of the report – only that a report be made.³⁰

Further, the implied reliability tasks of R3 are expressly addressed in peripheral NERC Standards. The stated intent of the Requirement/Measure is to ensure that Misoperation of specific PS and RAS are analyzed and mitigated. Although the standard under review addresses only specific PS and RAS, these

²⁹ Joint Petition for Approval of Proposed Regional Reliability Standards, VAR-002-WECC-2 AND VAR-501-WECC-2, Section C. Project 2013-02 Paragraph 81, page 6. (VAR Order)

³⁰ If not retired, the language of each of the Measures should be redrafted to reflect “will have evidence” as opposed to the requirement “shall have evidence.”

specific systems would be included in the broader more general provisions of other existing NERC Standards. (See Requirement R1 analysis.)

Finally, if the true intent of PRC-004-WECC-2 is to collect data, that data can be collected in accordance with NERC's Rules of Procedure via a Rule 1600 data request. In the alternative, specifically for RAS, PRC-016-1 Requirement R3 requires the TO and GO owning a RAS to "provide documentation of the misoperations analyses and the correction action plans to" WECC on request. As such, Requirement R3 is fully redundant and can be deleted.

Whereas Requirement R3 is administrative in nature, its implied and explicit reliability tasks are covered in existing NERC Standards, and the described data collection can occur in accordance with NERC Rules of Procedure 1600, Requirement R3 can be retired without incurring any negative impact on reliability.

Table A
NERC Standard / PRC-004-WECC-2 Cross-reference Table

The Purpose of PRC-004-WECC-2 is to serve as a “Regional Reliability Standard to ensure all transmission and generation Protection System and Remedial Action Scheme (RAS) Misoperations on Transmission Paths and RAS defined in section 4 are analyzed and/or mitigated”.

The requirements below only apply to the major transmission paths facilities and RAS listed in the tables titled “Major WECC Transfer Paths in the Bulk Electric System” and “Major WECC Remedial Action Schemes (RAS).”

The following table illustrates how each element of the PRC is either addressed elsewhere or simply not needed for reliability.

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
Applicability (Narrow and exclusive) The Applicability section is narrowly crafted to apply only to: 1) Transmission Owners (TO) of selected facilities with RAS listed in a specific table; 2) Generator Owners (GO) with RAS listed in a specific table; and, 3) Transmission Operators operating facilities and RAS listed in the specified table.	Applicability (Broader and all-inclusive) PRC-016-1 applies to TOs, GOs, and Distribution Providers’ (DP) RAS regardless of path. PRC-004-4 applies to TOs, GOs, and DPs’ PS regardless of path.	Whereas PRC-016-1 (RAS) and PRC-004-4 (PS) do not carry the overly exclusive exceptions of PRC-004-WECC-2 (only major transmission paths, facilities, and RAS listed in specified tables), the Applicability section of PRC-004-WECC-2 is fully included in the aforementioned standards. As such, all facilities included in PRC-004-WECC-2 are addressed elsewhere.
PRC-004-WECC-2 Covers RAS plus PS R.1. System Operators and System Protection personnel of the Transmission Owners and Generator Owners shall analyze all Protection System and RAS operations. [Violation Risk Factor: Lower] [Time Horizon: Operations Assessment]	PRC-004-5(i) Covers PS. PRC-004-5(l) Protection System Misoperation Identification and Correction. R1. requires the TO and GO to identify the reasons for PS operation and whether the	Whereas PRC-004-WECC-2 covers analysis of both the RAS and the PS, these two devices are now addressed separately in NERC Standards PRC-004-5(i), PRC-016-1, and PRC-012-2. Each requires analysis like that prescribed in PRC-004-WECC-2.


Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
	<p>operation caused a Misoperation, within 120 days.³¹</p> <p>See also PRC-001-1.1(ii), Requirements R1 and R2; PRC-005-6, Requirement R5.</p> <p>PRC-016-1 Covers RAS</p> <p>PRC-016-1 Special Protection System Misoperations</p> <p>R1. The TO and GO...shall analyze...its RAS operations and maintain a record of all misoperations in accordance with the Regional RAS review procedure specified in PRC-012. R1.³²</p> <p>PRC-012-2, Remedial Action Schemes³³</p> <p>R5. Requires the TO and GO to review its RAS within 120 days of operation or failure. (The term analyze is used in R5.2.)³⁴</p>	<p>Inclusion of the reliability elements of PRC-004-WECC-2 in PRC-004-5(i) and PRC-016-1 and PRC-012-2 render PRC-004-WECC-2 redundant. As such, the Requirement can be deleted.</p> <p>The difference in time frames between PRC-004-WECC-2 and the other NERC Standards is addressed in the preceding sections of this filing.</p>
<p>PRC-004-WECC-2</p> <p>R1.1 System Operators shall review all tripping of transmission elements and RAS operations to identify apparent Misoperations within 24 hours.</p>	<p>PRC-012-2 Covering RAS</p> <p>R5. Requires the TO and GO to analyze each RAS operation, within 120 days, to determine: 1) 5.1.1, what caused the operation, 2) 5.1.2 and 5.1.3, if the device worked properly, and 3) 5.1.4., whether</p>	<p>The language of PRC-004-WECC-2 fails to meet the FERC Order 672 criteria for clarity in that “apparent,” “reasonable,” characterization” and “correctness” are ambiguous.</p>

³¹ United States Enforcement Date is April 2, 2017.

³² Becomes Inactive on March 31, 2017.

³³ PRC-012-2 has been filed with FERC and is pending regulatory disposition as of March 29, 2017.

³⁴ NERC Board of Trustees approved May 5, 2016, pending at FERC. (FERC has proposed to approve the standard subject to comments received on a Notice of Proposed Rulemaking (NOPR), comments closing April 10, 2017.

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>R1.2. System Protection personnel shall analyze all operations of Protection Systems and RAS within 20 business days for correctness to characterize whether a Misoperation has occurred that may not have been identified by System Operators.</p>	<p>there were any unintended consequences.</p> <p>PRC-004-5(i) Covers PS</p> <p>PRC-004-5(i), R1. Requires the TO and GO owning a PS that operates, to identify whether that PS caused a Misoperation, within 120 days of the event the threshold analysis, the applicable entity is required to determine: 1) R1.1, if the PS was the cause of the Misoperation, 2) R1.2, who owns the components, and 3) R1.3 whether the operation was automatic or manual.</p>	<p>Both PRC-012-2 and PRC-004-5(i) require review after operation to determine the cause, and in some cases, even determine whether unforeseen consequences resulted. Although the more specific analysis is arguably included in the more general PRC-004-WECC-2 analysis, adoption of the superior PRC-012-2 and PRC-004-5(i) requirements add clarity and conformity without sacrificing reliability. As such, analysis of both RAS and PS operation is covered in greater detail outside of PRC-004-WECC-2 making PRC-004-WECC-2 redundant. Its retirement would have no negative impact on reliability because the tasks are covered elsewhere.</p> <p>See above analysis pertaining to 22-hours, and 20 days for time window differential.</p> <div style="text-align: center;">  <p>2000-07-20-RWG-Meeting.pdf</p> </div>

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>PRC-004-WECC-2</p> <p>Covers PS and RAS</p> <p>R.2. Transmission Owners and Generator Owners shall perform the following actions for each Misoperation of the Protection System or RAS.</p> <p>It is not intended that Requirements R2.1 through R2.4 apply to Protection System and/or RAS actions that appear to be entirely reasonable and correct at the time of occurrence and associated system performance is fully compliant with NERC Reliability Standards. If the Transmission Owner or Generator Owner later finds the Protection System or RAS operation to be incorrect through System Protection personnel analysis, the requirements of R2.1 through R2.4 become applicable at the time the Transmission Owner or Generator Owner identifies the Misoperation:</p>	<p>PRC-016-1</p> <p>Covers PS</p> <p>PRC-016-1 — Remedial Action Scheme Misoperations</p> <p>R2. Each TO, GO, and DP, owing a RAS shall take corrective actions to avoid future misoperations.</p> <p>PRC-012-2</p> <p>Covers RAS</p> <p>R5. Each RAS-entity, within 120 full calendar days of a RAS operation or a failure of its RAS to operate when expected, or on a mutually agreed upon schedule with its reviewing Reliability Coordinator(s), shall analyze and communicate RAS performance.</p> <p>PRC-012-2, Requirements R6 and R7 further cover RAS</p> <p>Requirement R6 requires the TO, GO, and DP develop and submit a Corrective Action Plan (CAP) to the Reliability Coordinator within six months of: 1) notification of a RAS deficiency (see R4 and R5), or identifying a deficiency while performing a functional test (R8).</p>	<p>Whereas the reliability tasks of PRC-004-WECC-2 Requirement R2 are included in PRC-016-1 and PRC-012-2, PRC-004-WECC-2 Requirement R2 is redundant and can be retired.</p>
<p>R2.1. If the Protection System or RAS has a Security-Based Misoperation and two or more Functionally Equivalent Protection Systems (FEPS) or Functionally Equivalent RAS (FERAS) remain in service to ensure Bulk Electric</p>	<p>PRC-001-1.1(ii)</p> <p>R2. Each Generator Operator and Transmission Operator shall notify reliability entities of relay or equipment failures as follows:</p> <p>R2.1. If a protective relay or equipment failure reduces system reliability, the Generator Operator</p>	<p>PRC-001-1.1(ii)</p> <p>R2 and R6 require the applicable entities to be aware of PS/RAS and to communicate with other affected parties in the event of change or operation of these devices. That standard is broad enough to allow the operators to determine the best</p>

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>System (BES) reliability, the Transmission Owners or Generator Owners shall remove from service the Protection System or RAS that misoperated within 22 hours following identification of the Misoperation. Repair or replacement of the failed Protection System or RAS is at the Transmission Owners' and Generator Owners' discretion. [Violation Risk Factor: High] [Time Horizon: Same-day Operations]</p>	<p>shall notify its Transmission Operator and Host Balancing Authority. The Generator Operator shall take corrective action as soon as possible.</p> <p>R2.2. If a protective relay or equipment failure reduces system reliability, the Transmission Operator shall notify its Reliability Coordinator and affected Transmission Operators and Balancing Authorities. The Transmission Operator shall take corrective action as soon as possible.</p> <p>R6. Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status.</p> <p>PRC-004-4(i)</p> <p>R5. Each Transmission Owner, Generator Owner, and Distribution Provider that owns the Protection System component(s) that caused the Misoperation shall, within 60 calendar days of first identifying a cause of the Misoperation:</p> <ul style="list-style-type: none"> Develop a Corrective Action Plan (CAP) for the identified Protection System component(s), and an evaluation of the CAP's 	<p>appropriate action based on all the surrounding circumstances. Those actions may or may not include the specified tasks included in PRC-004-WECC-2 Requirement R2. If the specifics of that requirement are retained they limit the operator's discretion and could lead to a less-than-favorable operational decision simply to be compliant, thereby defeating the reliability-related intent.</p> <p>PRC-004-WECC-2 Requirement R2 requires that the device be taken out-of-service under specified circumstances. By contrast, TOP-001-3, Requirement R1, requires the TO to "act to maintain the reliability of its Transmission Operator Area via its own actions." The TOP-001-3, Requirement R1 mandate to act with discretion conflicts with the PRC-004-WECC-2 Requirement R2 mandate to perform specific tasks. The PRC-004-WECC-2 Requirement R2 approach has the potential to lead to reliability concerns; by contrast, the approach of PRC-001-1.1(ii) and TOP-001-3 provide the operator with discretion more targeted for remedy of actual circumstances and not implemented merely for compliance purposes.</p> <p>Additionally, the overly prescriptive PRC-004-WECC-2 Requirement R2 approach may conflict with IRO-017-1 Requirement R1 wherein the Reliability Coordinator (RC) is</p>

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
	<p>applicability to the entity’s other Protection Systems including other locations; or</p> <ul style="list-style-type: none"> • Explain in a declaration why corrective actions are beyond the entity’s control or would not improve BES reliability, and that no further corrective actions will be taken. <p>PRC-016-1</p> <p>R1. The Transmission Owner, Generator Owner, and Distribution Provider that owns an RAS shall analyze its RAS operations and maintain a record of all misoperations in accordance with the Regional RAS review procedure specified in Reliability Standard PRC-012-0_R1.</p> <p>R2. The Transmission Owner, Generator Owner, and Distribution Provider that owns a RAS shall take corrective actions to avoid future misoperations.</p>	<p>required to ‘develop, implement, and maintain an outage coordination process.’ If PRC-004-WECC-2 Requirement R2 is retained it mandates a specific action that may conflict with the broader authority and outage coordination process established by the RC.</p>
<p>R2.2. If the Protection System or RAS has a Security-Based Misoperation and only one FEPS or FERAS remains in service to ensure BES reliability, the Transmission Owner or Generator Owner shall perform the following. [Violation Risk Factor: High] [Time Horizon: Same-day Operations]</p> <p>R2.2.1. Following identification of the Protection System or RAS Misoperation, Transmission Owners</p>		

Retirement of Regional Reliability Standard		
PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>and Generator Owners shall remove from service within 22 hours for repair or modification the Protection System or RAS that misoperated.</p> <p>R2.2.2. The Transmission Owner or Generator Owner shall repair or replace any Protection System or RAS that misoperated with a FEPS or FERAS within 20 business days of the date of removal. The Transmission Owner or Generator Owner shall remove the Element from service or disable the RAS if repair or replacement is not completed within 20 business days.</p> <p>R2.3. If the Protection System or RAS has a Security-Based or Dependability-Based Misoperation and a FEPS and FERAS is not in service to ensure BES reliability, Transmission Owners or Generator Owners shall repair and place back in service within 22 hours the Protection System or RAS that misoperated. If this cannot be done, then Transmission Owners and Generator Owners shall perform the following. [Violation Risk Factor: High] [Time Horizon: Same-day Operations]</p> <p>R2.3.1. When a FEPS is not available, the Transmission Owners shall remove the associated Element from service.</p>		

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>R2.3.2. When FERAS is not available, then</p> <p>2.3.2.1. The Generator Owners shall adjust generation to a reliable operating level, or</p> <p>2.3.2.2. Transmission Operators shall adjust the SOL and operate the facilities within established limits.</p> <p>R2.4. If the Protection System or RAS has a Dependability-Based Misoperation but has one or more FEPS or FERAS that operated correctly, the associated Element or transmission path may remain in service without removing from service the Protection System or RAS that failed, provided one of the following is performed.</p> <p>R2.4.1. Transmission Owners or Generator Owners shall repair or replace any Protection System or RAS that misoperated with FEPS and FERAS within 20 business days of the date of the Misoperation identification, or R2.4.2.</p> <p>Transmission Owners or Generator Owners shall remove from service the associated Element or RAS. [Violation Risk Factor: Lower] [Time Horizon: Operations Assessment]</p>		
<p>R.3. Transmission Owners and Generation Owners shall submit Misoperation incident reports to</p>	<p>As of July 1, 2016, Protection System Operations and Misoperations are reported by TOs, GOs, and DPs, via the Misoperation</p>	<p>Retirement of PRC-004-WECC-2 Requirement R3 fits the retirement criteria established under FERC’s “P81” criteria. See Retirement of</p>

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
<p>WECC within 10 business days for the following.</p> <p>R3.1. Identification of a Misoperation of a Protection System and/or RAS,</p> <p>R3.2. Completion of repairs or the replacement of Protection System and/or RAS that misoperated.</p>	<p>Information Data Analysis System at NERC (MIDAS) in PRC-004 -5(i) and the accompanying 1600 Data Request.</p> <p>This renders PRC-004-WECC-2 administrative request redundant.</p>	<p>Requirement R3 analysis in the main body of this filing.</p> <p>The 10-day time window is a legacy imported from the RMS, circa July 1999. A records search at WECC and inquires via corporate memory did not reveal why the original drafters believed the 10-days was essential. However, the 10-day reference was found in the 1999 WSCC Reliability Criteria Agreement (Section 5 Determining Compliance, 5.2 Data Submission and Review) as part of the document’s compliance section giving rise to the conclusion that it was required for accountability and not reliability.</p> <p>Considering the NERC 1600 requirement, the 10-days has proven to be no longer essential.</p> <p>Currently, Midas will send out reminder notifications to entities who have not yet submitted for a specified quarter. They will also provide confirmation notifications upon submittal. Once the submittal is being by the regions or NERC, they may send additional notifications to the MIDAS contacts as questions arise.</p> <p>Currently, all WECC entities must comply under that request, but they have 60 days to do so while also complying with the administrative request under PRC-004-WECC-2.</p>

Retirement of Regional Reliability Standard PRC-004-WECC-1 Protection System and Remedial Action Scheme Misoperation		
PRC-004-WECC-2 Requirement in Approved Standard	PRC-004-WECC-2 Requirements covered elsewhere	Description and Change Justification
		<p>Duplicative administrative reporting is not needed.</p> <p>WECC will continue to be responsible for facilitating and monitoring these data submissions, and will continue to share the content with the WECC Relay Work Group (RWG) for further analysis and recommendations.</p>