

Standard PRC-018-1 — Disturbance Monitoring Equipment Installation and Data Reporting

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

This proposed standard is a translation of planning measure I.F.M2 and I.F.M4, which were not included in the approval Version 0 reliability standards because they required further work.

Development Steps Completed:

1. A SAR was posted from December 2, 2004, through January 7, 2005.
2. The SAC appointed a standard drafting team on January 13, 2005.
3. The drafting team posted its response to SAR comments and all other historical comments on April 19, 2005.
4. The drafting team posted Draft 1 of the standard on April 21, 2005.
5. The drafting team posted Draft 2 of the standard on September 1, 2005.

Description of Current Draft:

This is the 3rd draft of the standard to be posted for industry comment from December 1, 2005–January 17, 2006.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Review comments from industry posting; post consideration of comments.	January 17–30, 2006
• Post standards and implementation plan for 30-day pre-ballot review.	February 1–March 2, 2006
2. Conduct 1 st ballot.	March 2–12, 2006
3. Consider comments submitted with 1 st ballot; post consideration of comments	March 13–18, 2006
4. Conduct 2 nd ballot.	March 18–March 28, 2006
5. Post standards and implementation plan for 30-day review by Board.	March 1–30, 2006
6. Board adoption date.	April 6, 2006
7. Effective dates: <ul style="list-style-type: none">– 100% compliant Requirement 2 through Requirement 5 for already installed DME– 25% compliant with Requirement 1– 50% compliant with Requirement 1– 75% compliant with Requirement 1– 100% compliant with Requirement 1	October 1, 2007 April 1, 2008 April 1, 2009 April 1, 2010 April 1, 2011

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

No new definitions are proposed for this standard.

The following definitions are provided here for reference but are introduced in PRC-002:

Disturbance Monitoring Equipment (DME): Devices capable of recording system data pertaining to a Disturbance. Such equipment includes the following categories of recorders:

- Sequence of event recorders, which record equipment response to the event
- Fault recorders, which record actual waveform data replicating the system primary voltages and currents. This may include protective relays.
- Dynamic Disturbance recorders, which continuously record incidents that portray power system behavior during dynamic events such as low-frequency (0.1 Hz – 3 Hz) oscillations and abnormal frequency or voltage excursions

Protection System: Protective relays, associated communication systems, voltage and current sensing devices, power circuit breakers, station batteries and DC control circuitry.

Standard PRC-018-1 — Disturbance Monitoring Equipment Installation and Data Reporting

A. Introduction

1. **Title:** **Disturbance Monitoring Equipment Installation and Data Reporting**
2. **Number:** PRC-018-1
3. **Purpose:** Ensure that Disturbance Monitoring Equipment (DME) is installed and that Disturbance data is reported in accordance with regional requirements to facilitate analyses of events.
4. **Applicability**
 - 4.1. Transmission Owner.
 - 4.2. Generator Owner.
5. **Proposed Effective Dates:**

Requirement 1:

 - 25% compliant by April 1, 2008
 - 50% compliant by April 1, 2009
 - 75% compliant by April 1, 2010
 - 100% compliant by April 1, 2011

Requirement 2 through Requirement 5

 - 100% compliant by October 1, 2007 for already installed DME

B. Requirements

- R1.** The Transmission Owner and Generator Owner shall install DME in accordance with the Regional Reliability Organization installation requirements ([Reliability Standard PRC-002 Requirements R1 through R3](#)).
- R2.** The Transmission Owner and Generator Owner shall maintain, and report to the Regional Reliability Organization on request, the following data on its installed DME:
 - R2.1.** Type of DME (sequence of event recorder, fault recorder, or dynamic disturbance recorder).
 - R2.2.** Make and model of equipment.
 - R2.3.** Installation location.
 - R2.4.** Resolution of time synchronization.
 - R2.5.** Monitored Elements.
 - R2.6.** Monitored Protection System Devices.
 - R2.7.** Monitored electrical quantities.
 - R2.8.** Operational status.
 - R2.9.** Date last tested.
- R3.** The Transmission Owner and Generator Owner shall each store and retain its Disturbance data (recorded by DMEs) in accordance with its Regional requirements (PRC-002 Requirement R4).

Standard PRC-018-1 — Disturbance Monitoring Equipment Installation and Data Reporting

- R4. The Transmission Owner and Generator Owner shall each provide Disturbance data (recorded by DMEs) in accordance with the Regional requirements (PRC-002 Requirement R5).
- R5. The Transmission Owner and Generator Owner shall have a DME maintenance and testing program in accordance with the Regional requirements (Reliability Standard PRC-002 Requirement R6).

C. Measures

- M1. The Transmission Owner and Generator Owner shall each have evidence that its DME is installed in accordance with its associated Regional Reliability Organization's requirements.
- M2. The Transmission Owner and Generator Owner shall each maintain the data listed in [PRC-018 Requirement 2.1](#) through ~~R-2.9~~ on all its installed DME, and shall have evidence it provided this data to its Regional Reliability Organization within 30 calendar days of a request.
- M3. The Transmission Owner and Generator Owner shall each have evidence it stored and retained its recorded Disturbance data in accordance with its associated Regional Reliability Organization's requirements.
- M4. The Transmission Owner and Generator Owner shall each have evidence it provided recorded Disturbance data to all entities in accordance with its associated Regional Reliability Organization's requirements.
- M5. The Transmission Owner and Generator Owner shall each have evidence its DME maintenance and testing program is in accordance with its associated Regional Reliability Organization's requirements.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization.

1.2. Compliance Monitoring Period and Reset Timeframe

One calendar year.

1.3. Data Retention

The Transmission Owner and Generator Owner shall retain any changes to the data on DME installations and any Disturbance data provided to the Regional Reliability Organization for three years.

The Compliance Monitor shall retain any audit data for three years.

1.4. Additional Compliance Information

The Transmission Owner and Generator Owner shall demonstrate compliance through self-certification or audit (periodic, as part of targeted monitoring or initiated by complaint or event), as determined by the Compliance Monitor.

2. Levels of Non-Compliance

2.1. **Level 1:** There shall be a level one non-compliance if either of the following conditions is present:

2.1.1 DME that meets all Regional installation requirements (in accordance with ~~PRC-018 Requirement~~ 1) were installed at 75% or more but not all of the locations.

Standard PRC-018-1 — Disturbance Monitoring Equipment Installation and Data Reporting

- 2.1.2 Recorded Disturbance data that meets all Regional data requirements (in accordance with ~~PRC-018-Requirement 3~~) was provided for 75% or more but not all of the locations.
- 2.2. **Level 2:** There shall be a level two non-compliance if either of the following conditions is present:
- 2.2.1 DME that meets all Regional installation requirements (in accordance with ~~PRC-018-R1~~) were installed at 50% or more but less than 75% of the locations.
- 2.2.2 Recorded Disturbance data that meets all Regional data requirements (in accordance with ~~PRC-018-R3~~) was provided for 50% or more but less than 75% of the locations.
- 2.3. **Level 3:** There shall be a level three non-compliance if either of the following conditions is present:
- 2.3.1 DME that meets all Regional installation requirements (in accordance with ~~PRC-018-R1~~) were installed at 25% or more but less than 50% of the locations.
- 2.3.2 Recorded Disturbance data that meets all Regional data requirements (in accordance with ~~PRC-018-R3~~) was provided for 25% or more but less than 50% of the locations.
- 2.4. **Level 4:** There shall be a level four non-compliance if either of the following conditions is present:
- 2.4.1 DME that meets all Regional installation requirements (in accordance with ~~PRC-018-R1~~) were installed at less than 25% of the locations.
- 2.4.2 Recorded Disturbance data that meets all Regional data requirements (in accordance with ~~PRC-018-R3~~) was provided for less than 25% of the locations.

E. Regional Differences

None identified.

Version History

Version	Date	Action	Change Tracking