



Reliability Coordinator Area
Requirements for Disturbance Monitoring
and Reporting - Western Interconnection

Revision 2.0

MAINTAINED BY
SPP Operations Staff

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REVISIONS

Revision	Date	Description of Modification
1.0	7/24/2019	Initial version implemented following WRWG approval.
2.0	7/26/2022	Updates to the model selection, evaluation process, and DDR element disputes.
2.0	10/12/2022	WRWG Approved Version 2.0 (MR009) effective date 11/01/2022

TABLE OF CONTENTS

1. Introduction.....	3
2. Document Purpose	3
3. Document/List Maintenance	3
4. BES Element Identification.....	3
5. Evaluation and Revision.....	5
6. Notifications.....	5
7. Instructions for Entities with Required Facilities	5

1. Introduction

NERC Reliability Standard PRC-002-2 (Disturbance Monitoring and Reporting Requirements) was created to ensure adequate data is available to facilitate analysis of BES Disturbances. PRC-002-2 requires SPP, as a Reliability Coordinator in the Western Interconnection, to identify a list of BES Elements for which DDR data is required.

2. Document Purpose

Document the internal process by which SPP:

- Identifies Bulk Electric System (BES) Elements for which Dynamic Disturbance Recording (DDR) data is required
- Identifies a minimum DDR coverage, inclusive of those BES elements identified for which DDR data is required
- Notifies all owners of identified BES elements that their respective BES Elements require DDR data
- Re-evaluates all BES elements at least once every five calendar years and notifies all owners of identified BES elements that had BES elements requiring DDR data

3. Document/List Maintenance

SPP Operations Staff are responsible for maintenance of the PRC-002 DDR list as well as this document. SPP Operations Staff will submit any changes to this document through the MR process for approval at WRWG.

4. BES Element Identification

SPP identifies BES Elements for which DDR data is required and documents them in the dated 'PRC-002 Dynamic Disturbance Recorder List', which is posted on SPP's secure FTP site.

The PRC-002 DDR list contains identified BES Elements for which dynamic Disturbance recording (DDR) data is required, including the following:

- 1) Generating resource(s) with:

- a) Gross individual nameplate ratings greater than or equal to 500 MVA
 - i) SPP identifies individual units meeting the minimum 500 MVA or greater nameplate requirement.
- b) Gross individual nameplate ratings greater than or equal to 300 MVA where the gross plant/facility aggregate nameplate rating is greater than or equal to 1000 MVA
 - i) SPP identifies individual units meeting the minimum 300 MVA or greater nameplate, where gross plant/facility aggregate meeting 1000 MVA or greater nameplate requirement.
- 2) BES Elements that are part of a stability (angular or voltage) related System Operating Limit (SOL)
 - i) SPP identifies BES Elements that are part of or in the vicinity of a stability (angular or voltage) related SOL by reviewing entity provided limits and SPP-established stability limitations.
- 3) Terminals of high voltage direct current (HVDC) circuits with a nameplate rating greater than or equal to 300 MVA, on the alternating current (AC) portion of the converter
 - i) SPP identifies HVDC terminals meeting the minimum 300 MVA or greater nameplate requirement by calculating maximum MVA using the SPP EMS model AC rated current and nominal voltage parameters.
- 4) BES Elements that are part of an Interconnection Reliability Operating Limit (IROL)
 - i) SPP identifies BES Elements that are critical to the derivation of a defined IROL.
- 5) BES Elements with a major voltage sensitive area as defined by an area with an in-service undervoltage load shedding (UVLS) program

- i) SPP identifies major voltage sensitive areas by reviewing active UVLS programs and applicable Remedial Action Schemes (RAS).

The PRC-002 DDR list contains identified minimum DDR coverage, inclusive of those BES Elements identified above, of at least one BES Element; and one BES Element per 3000 MW of SPP’s historical simultaneous peak System Demand. This historical loading is trended by SPP, and utilized in calculating the minimum DDR coverage.

5. Evaluation and Revision

Transmission Owners and Generator Owners are required to provide SPP with any updates to the PRC-002-2 DDR list via the ‘OPSAAnalysisEng@spp.org’ email. SPP Operations staff are responsible for monitoring this email box and responding to any correspondence.

SPP utilizes the SPP Energy Management System (EMS) western interconnection model that includes generators/plants that meet the criteria set forth in PRC-002-2, R1. SPP is responsible for notifying impacted entities if SPP becomes aware of system changes that may require a DDR list revision.

Evaluation and revision of the PRC-002-2 DDR list will occur:

- When a Transmission Owner or Generator Owner notifies SPP of a BES element or DDR status change
- At least once every five calendar years

6. Notifications

SPP Operations Staff notifies all owners of identified BES Elements within 90 days of changes to the DDR list and when implementation of a reevaluated list of BES Elements is required. The DDR list is considered confidential and will only be shared with owners of an identified BES Element(s) or those having access to SPP’s secure FTP site. Mechanisms for notification include email and posting of the DDR list to SPP’s secure FTP site. SPP does not provide the DDR list or attestations to non-owners of identified BES Elements.

7. Instructions for Entities with Required Facilities

- For all BES transmission lines, transformers, and phase shifters listed, DDRs should measure current (amp), voltage (magnitude and angle), frequency, and calculated megawatt and megavar.
- For all BES generators and SVCs listed, DDRs should measure current (amp), voltage

(magnitude and angle), frequency, and calculated megawatt (generator only) and megavar.

- For all BES buses listed, DDRs should measure voltage (magnitude and angle) and frequency.

Note: If an entity has a concern with an element that met the DDR requirements, the SPP EMS model is posted on Globalscape for review. SPP requests that the each entity review the model for accuracy in generator nameplate ratings.

- For any DDR element disputes, the required entity will need to submit their dispute via SPP's Request Management System (RMS). Please provide the unit(s) in question as well as their associated nameplate ratings.
 - Once the nameplate ratings have been updated in the SPP EMS monthly model upload, SPP will re-evaluate the PRC-002 DDR list.