

Reliability Standard Audit Worksheet¹

PRC-002-2 – Disturbance Monitoring and Reporting Requirements

This section to be completed by the Compliance Enforcement Authority.

Audit ID: Audit ID if available; or REG-NCRnnnnn-YYYYMMDD
Registered Entity: Registered name of entity being audited
NCR Number: NCRnnnnn
Compliance Enforcement Authority: Region or NERC performing audit
Compliance Assessment Date(s)²: Month DD, YYYY, to Month DD, YYYY
Compliance Monitoring Method: [On-site Audit | Off-site Audit | Spot Check]
Names of Auditors: Supplied by CEA

Applicability of Requirements *[RSAW developer to insert correct applicability]*

| | BA | DP | GO | GOP | IA | LSE | PA | PSE | RC/PC | RP | RSG | TO | TOP | TP | TSP |
|-----|----|----|----|-----|----|-----|----|-----|-------|----|-----|----|-----|----|-----|
| R1 | | | | | | | | | | | | X | | | |
| R2 | | | X | | | | | | | | | X | | | |
| R3 | | | X | | | | | | | | | X | | | |
| R4 | | | X | | | | | | | | | X | | | |
| R5 | | | | | | | X | | X | | | | | | |
| R6 | | | | | | | | | | | | X | | | |
| R7 | | | X | | | | | | | | | | | | |
| R8 | | | X | | | | | | | | | X | | | |
| R9 | | | X | | | | | | | | | X | | | |
| R10 | | | X | | | | | | | | | X | | | |
| R11 | | | X | | | | | | | | | X | | | |
| R12 | | | X | | | | | | | | | X | | | |

¹ NERC developed this Reliability Standard Audit Worksheet (RSAW) language in order to facilitate NERC’s and the Regional Entities’ assessment of a registered entity’s compliance with this Reliability Standard. The NERC RSAW language is written to specific versions of each NERC Reliability Standard. Entities using this RSAW should choose the version of the RSAW applicable to the Reliability Standard being assessed. While the information included in this RSAW provides some of the methodology that NERC has elected to use to assess compliance with the requirements of the Reliability Standard, this document should not be treated as a substitute for the Reliability Standard or viewed as additional Reliability Standard requirements. In all cases, the Regional Entity should rely on the language contained in the Reliability Standard itself, and not on the language contained in this RSAW, to determine compliance with the Reliability Standard. NERC’s Reliability Standards can be found on NERC’s website. Additionally, NERC Reliability Standards are updated frequently, and this RSAW may not necessarily be updated with the same frequency. Therefore, it is imperative that entities treat this RSAW as a reference document only, and not as a substitute or replacement for the Reliability Standard. It is the responsibility of the registered entity to verify its compliance with the latest approved version of the Reliability Standards, by the applicable governmental authority, relevant to its registration status.

The NERC RSAW language contained within this document provides a non-exclusive list, for informational purposes only, of examples of the types of evidence a registered entity may produce or may be asked to produce to demonstrate compliance with the Reliability Standard. A registered entity’s adherence to the examples contained within this RSAW does not necessarily constitute compliance with the applicable Reliability Standard, and NERC and the Regional Entity using this RSAW reserves the right to request additional evidence from the registered entity that is not included in this RSAW. Additionally, this RSAW includes excerpts from FERC Orders and other regulatory references. The FERC Order cites are provided for ease of reference only, and this document does not necessarily include all applicable Order provisions. In the event of a discrepancy between FERC Orders, and the language included in this document, FERC Orders shall prevail.

² Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs.

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Legend:

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| Text with blue background: | Fixed text – do not edit |
| Text entry area with Green background: | Entity-supplied information |
| Text entry area with white background: | Auditor-supplied information |

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Findings

(This section to be completed by the Compliance Enforcement Authority)

| Req. | Finding | Summary and Documentation | Functions Monitored |
|------|---------|---------------------------|---------------------|
| R1 | | | |
| R2 | | | |
| R3 | | | |
| R4 | | | |
| R5 | | | |
| R6 | | | |
| R7 | | | |
| R8 | | | |
| R9 | | | |
| R10 | | | |
| R11 | | | |
| R12 | | | |

| Req. | Areas of Concern |
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| Req. | Recommendations |
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| Req. | Positive Observations |
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Subject Matter Experts

Identify the Subject Matter Expert(s) responsible for this Reliability Standard.

Registered Entity Response (Required; Insert additional rows if needed):

| SME Name | Title | Organization | Requirement(s) |
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R1 Supporting Evidence and Documentation

R1. Each Transmission Owner shall:

- 1.1 Identify BES buses for which sequence of events recording (SER) and fault recording (FR) data is required by using the methodology in PRC-002-2, Attachment 1:
- 1.2 Notify other owners of BES Elements connected to those BES buses, if any, within 90-calendar days of completion of Part 1.1 that those BES Elements require SER data and/or FR data;
- 1.3 Re-evaluate all BES buses at least once every five calendar years in accordance with Part 1.1 and notify other owners, if any, in accordance with Part 1.2, and implement the reevaluated list of BES buses as per the Implementation Plan.

M1. The Transmission Owner has a dated (electronic or hard copy) list of BES buses for which SER and FR data are required, identified in accordance with PRC-002-2, Attachment 1, and evidence that all BES buses have been reevaluated within the required interval under Requirement R1. The Transmission Owner will also have dated (electronic or hard copy) evidence that it notified other owners in accordance with Requirement R1.

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedⁱ:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| A list of owners of BES Elements connected to applicable BES buses. |
| Dated documentation providing evidence of following the steps outlined in Attachment 1, including all steps ,as applicable, at least once every five calendar years to identify the BES buses for which SER and FR data is required. |
| Dated documentation or other evidence that the entity notified other owners of BES Elements connected to their BES buses within 90-calendar days, if identified per Part 1.1. |

Registered Entity Evidence (Required):

| The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found. | | | | | |
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| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R1

This section to be completed by the Compliance Enforcement Authority

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| | (Part 1.1) Select all, or a sample of, entity’s BES buses and verify Requirement R1 Part 1.1 identification has occurred using the methodology in PRC-002-2, Attachment 1. |
| | (Part 1.2) Select all, or a sample of other owners of BES Elements connected to applicable BES buses, and verify entity notified other owner within 90-calendar days of completion of Part 1.1 that Elements require SER and/or FR data. |
| | (Part 1.3) Review evidence that entity evaluated BES buses at least once every five calendar years in accordance with Part 1.1 and notified other owners, if any, in accordance with Part 1.2 and implement the re-evaluated list of BES buses as per the Implementation Plan. |

Note to Auditor: A calendar year is defined as January 1 through December 31.

Use of a system one-line, list of buses or other information may be appropriate for identifying buses for auditor to determine if they were appropriately identified by entity.

See Attachment 1 of PRC-002-2 for methodology to be used in identifying applicable BES buses.

The PRC-002-2 Implementation Plan States, “Entities shall be 100 percent compliant with a re-evaluated list from Requirement R1 or R5 within three (3) years following the notification by the Transmission Owner or the Responsible Entity that re-evaluated the list.”

Auditor Notes:

R2 Supporting Evidence and Documentation

- R2.** 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.
- M2.** The Transmission Owner or Generator Owner has evidence (electronic or hard copy) of SER data for circuit breaker position as specified in Requirement R2. Evidence may include, but is not limited to: (1) documents describing the device interconnections and configurations which may include a single design standard as representative for common installations; or (2) actual data recordings; or (3) station drawings.

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| A one-line diagram or list of the BES buses identified in Requirement R1 or a list of each circuit breaker owned connected directly to the BES buses identified in Requirement R1. This evidence does not show compliance but facilitates the auditor’s testing of compliance. |
| Documents describing the SER device interconnections and configurations which can include a single design standard as representative for common installations. Actual data recordings or station drawings for those BES buses may also be presented. |

Registered Entity Evidence (Required):

| The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found. | | | | | |
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| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R2

This section to be completed by the Compliance Enforcement Authority

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| Select all, or a sample of, entity-owned circuit breakers connected directly to the BES buses identified in Requirement R1 and examine evidence to verify existence of SER data for circuit breaker position. If no events occurred to create SER data, then auditor may rely on basis documents such as installation drawings or device configurations to support compliance. |
| Note to Auditor: |

Auditor Notes:

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R3 Supporting Evidence and Documentation

R3. Each Transmission Owner and Generator Owner shall have FR data to determine the following electrical quantities for each triggered FR for the BES Elements it owns connected to the BES buses identified in Requirement R1:

3.1 Phase-to-neutral voltage for each phase of each specified BES bus.

3.2 Each phase current and the residual or neutral current for the following BES Elements:

3.2.1 Transformers that have a low-side operating voltage of 100kV or above.

3.2.2 Transmission Lines.

M3. The Transmission Owner or Generator Owner has evidence (electronic or hard copy) of FR data is sufficient to determine electrical quantities as specified in Requirement R3. Evidence may include, but is not limited to: (1) documents describing the device specifications and configurations which may include a single design standard as a representation for common installations; or (2) actual data recordings or derivations; or (3) station drawings.

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| Documents describing the device specification and configurations as described in Measure M3. |
| Actual data recordings for applicable BES buses. |
| For electrical quantities not directly measured, provide documentation regarding the determination (calculation) of these quantities. |

Registered Entity Evidence (Required):

| The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found. | | | | | |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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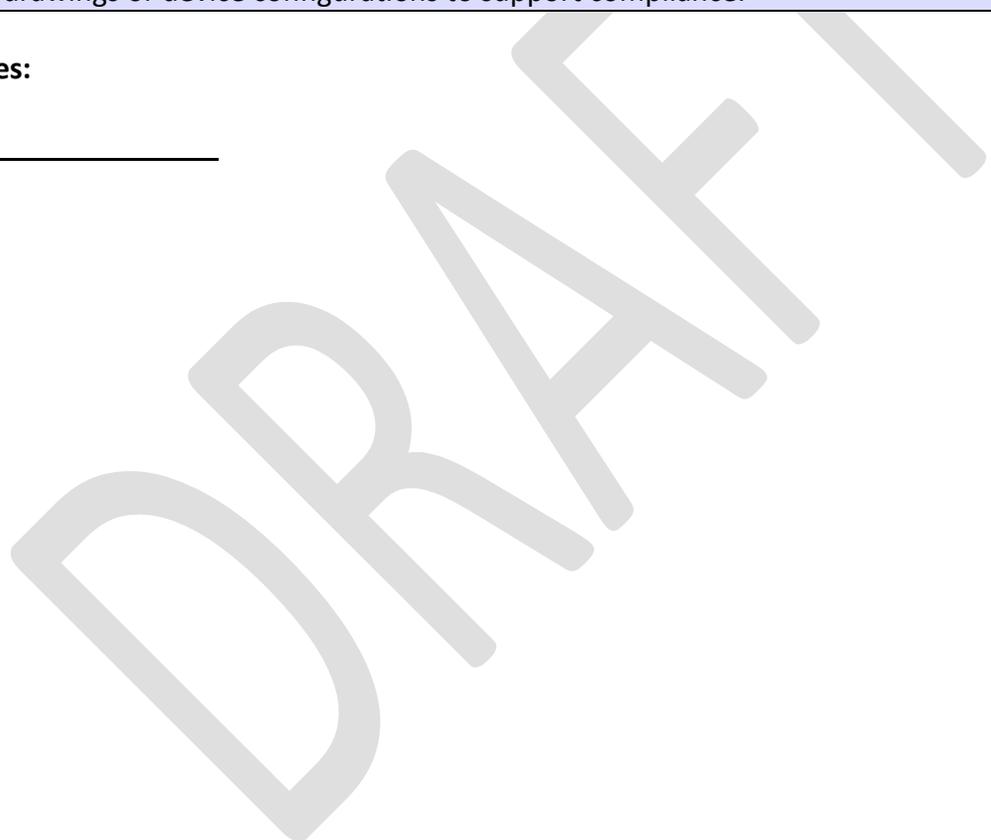
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Compliance Assessment Approach Specific to PRC-002-2, R3

This section to be completed by the Compliance Enforcement Authority

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| | (R3) Select all, or a sample of, entity-owned BES Elements (from list or one-line diagram) connected to the BES buses identified in Requirement R1 and verify existence of FR data for the following electrical quantities for each triggered FR: |
| | (Part 3.1) Phase-to-neutral voltages for each phase of each specified BES bus. |
| | (Part 3.2) Each phase current and the residual or neutral current for Transformers that have a low-side operating voltage of 100kV or above and Transmission Lines. |
| Note to Auditor: If no events occurred to create FR data, then auditor may rely on basis documents such as installation drawings or device configurations to support compliance. | |

Auditor Notes:



R4 Supporting Evidence and Documentation

R4. Each Transmission Owner and Generator Owner shall have FR data as specified in Requirement R3 that meets the following:

4.1 A single record or multiple records that include:

- A pre-trigger record length of at least two cycles and a total trigger record length of at least 30 cycles for the same trigger point, or
- At least two cycles of the pre-trigger data, the first three cycles of the post-trigger data, and the final cycle of the fault as seen by the fault recorder.

4.2 A minimum recording rate of 16 samples per cycle.

4.3 Trigger settings for at least the following:

4.3.1 Neutral (residual) overcurrent.

4.3.2 Phase undervoltage or overcurrent.

M4. The Transmission Owner or Generator Owner has evidence (electronic or hard copy) that FR data meets Requirement R4. Evidence may include, but is not limited to: (1) documents describing the device specification (R4, Part 4.2) and device configuration or settings (R4, Parts 4.1 and 4.3), or (2) actual data recordings or derivations.

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| Data device specification(s) that meet Requirement R4, Part 4.2 and data device configuration that meet Requirement R4, Parts 4.1 and 4.3. Actual data recordings or derivations to prove compliance with Requirement R4, Parts 4.1-4.3. |

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R4

This section to be completed by the Compliance Enforcement Authority

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| | (R4) Using items selected by auditor for Requirement R3, verify data meets the following: |
| | (Part 4.1) A single record or multiple records that include a pre-trigger record length of at least two cycles and a post-trigger record length of at least 30 cycles for the same trigger point, or at least two cycles of the pre-trigger data, the first three cycles of the post-trigger data, and the final cycle of the fault as seen by the fault recorder. |
| | (Part 4.2) A minimum recording rate of 16 samples per cycle. |
| | (Part 4.3) Trigger settings for at least the following 1) neutral (residual) overcurrent and 2) and phase undervoltage or overcurrent. |
| Note to Auditor: If no events occurred to create FR data, then auditor may rely on basis documents such as installation drawings or device configurations to support compliance. | |

Auditor Notes:

R5 Supporting Evidence and Documentation

R5. Each Responsible Entity shall:

5.1 Identify BES Elements for which dynamic Disturbance recording (DDR) data is required including the following:

5.1.1 Generating resource(s) with:

5.1.1.1 Gross individual nameplate rating greater than or equal to 500 MVA, or

5.1.1.2 Gross individual nameplate rating greater than or equal to 300 MVA where the gross plant/facility aggregate nameplate rating is greater than or equal to 1000 MVA.

5.1.2 Any one BES Element that is part of a stability (angular or voltage) related System Operating Limit (SOL).

5.1.3 Each terminal of a high voltage direct current (HVDC) circuit with nameplate rating greater than or equal to 300 MVA, on the alternating current (AC) portion of the converter.

5.1.4 One or more BES Elements that are part of an Interconnection Reliability Operating Limits (IROL).

5.1.5 Any one BES Element within a major voltage sensitive area as defined by an area with an in-service undervoltage load shedding (UVLS) program.

5.2 Ensure a minimum DDR coverage, inclusive of those BES Elements identified in Part 5.1, of at least:

5.2.1 One BES Element.

5.2.2 One BES Element per 3,000 MW of its historical peak System Demand.

5.3 Notify all owners of identified BES Elements, within 90-calendar days of completion of Part 5.1, that their respective BES Elements require DDR data when requested.

5.4 Re-evaluate all BES Elements at least once every five calendar years in accordance with Parts 5.1 and 5.2 and notify owners in accordance with Part 5.3, and implement the reevaluated list of BES Elements as per the Implementation Plan.

M5. The Responsible Entity has a dated (electronic or hard copy) list of BES Elements for which DDR data is required, developed in accordance with Requirement R5, Part 5.1 and Part 5.2; and re-evaluated in accordance with Part 5.4. The Responsible Entity has dated evidence (electronic or hard copy) that each Transmission Owner or Generator Owner has been notified in accordance with Requirement R5, Part 5.3. Evidence may include, but is not limited to: letters, emails, electronic files, or hard copy records demonstrating transmittal of information.

Registered Entity Response (Required):

Compliance Narrative:

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Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| One-line diagram(s) of entity's system. Although not evidence of compliance, such diagrams can be used by auditor to identify candidates for identification. |
| Dated documentation, or other evidence, that the Responsible Entity notified other owners of BES Elements connected to their BES buses within 90-calendar days. |
| Dated documentation providing evidence of reevaluation of the BES Elements at least once every five calendar years for which DDR data is required. If the audit falls within the first five years of the Implementation Plan for this standard, this evidence is not required. |

Registered Entity Evidence (Required):

| The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found. | | | | | |
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| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R5

This section to be completed by the Compliance Enforcement Authority

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| | Review evidence that entity identified BES Elements for which DDR data is required. Using one-line diagram(s) (or other evidence) obtain reasonable assurance that entity identified BES Elements as follows: |
| | (Part 5.1.1) Generating resources with gross individual nameplate rating greater than or equal to 500 MVA, or gross individual nameplate rating greater than or equal to 300 MVA where the gross plant/facility aggregate nameplate rating is greater than or equal to 1000 MVA. |
| | (Part 5.1.2) Any one BES Element that is part of a stability (angular or voltage) related SOL. |
| | (Part 5.1.3) Each terminal of a high voltage direct current (HVDC) circuit with nameplate rating greater than or equal to 300 MVA, on the AC portion of the converter. |
| | (Part 5.1.4) One or more BES Elements that are part of IROLs. |

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| | (Part 5.1.5) Any one BES Element within a major voltage sensitive area as defined by an area with an in-service UVLS program. |
| | (Part 5.2) The BES Elements includes a minimum of one BES Element and one BES Element per 3,000 MW of its historal peak System Demand. |
| | (Part 5.3) For all, or a sample of, BES Elements identified and having other owners, verify entity notified other owners of the BES Elements, within 90-calendar days of completion of Part 5.1, that their respective BES Elements require DDR data when requested. |
| | (Part 5.4) Verify that buses were reevaluated once every five calendar years in accordance with Parts 5.1 and 5.2 and notified owners in accordance with Part 5.3, and implemented the reevaluated list of BES Elements as per the Implementation Plan. |

Note to Auditor: A calendar year is defined as January 1 through December 31.

With regard to Requirement R5 Part 5.2, auditor should consider the number of BES Elements required to be the peak demand divided by 3,000 MWs.

The PRC-002-2 Implementation Plan States, "Entities shall be 100 percent compliant with a re-evaluated list from Requirement R1 or R5 within three (3) years following the notification by the Transmission Owner or the Responsible Entity that re-evaluated the list."

Auditor Notes:

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R6 Supporting Evidence and Documentation

R6. Each Transmission Owner shall have DDR data to determine the following electrical quantities for each BES Element it owns for which it received notification as identified in Requirement R5:

6.1 One phase-to-neutral or positive sequence voltage.

6.2 The phase current for the same phase at the same voltage corresponding to the voltage in Requirement R6, Part 6.1, or the positive sequence current.

6.3 Real Power and Reactive Power flows expressed on a three phase basis corresponding to all circuits where current measurements are required.

6.4 Frequency of any one of the voltage(s) in Requirement R6, Part 6.1.

M6. The Transmission Owner has evidence (electronic or hard copy) of DDR data to determine electrical quantities as specified in Requirement R6. Evidence may include, but is not limited to: (1) documents describing the device specifications and configurations, which may include a single design standard as representative for common installations; or (2) actual data recordings or derivations; or (3) station drawings.

Registered Entity Response (Required):

Questions: Were there any quantities identified in Parts 6.1-6.4 that the entity could not determine (directly or through calculation)? Yes No

If yes, provide a list of such disturbances and quantities.

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| List of BES Elements for which entity owns and received notification pursuant to Requirement R5. |
| Documents describing the DDR device interconnections and configurations which can include a single design standard as representative for common installations. Actual DDR data recordings for those BES Elements buses. |
| For electrical quantities not directly measured, provide documentation regarding the determination (calculation) of these quantities. |

Registered Entity Evidence (Required):

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The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R6

This section to be completed by the Compliance Enforcement Authority

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| | (R6) Select all, or a sample of, BES Elements where entity received notification pursuant to Requirement R5 and verify entity has DDR data to determine the following electrical quantities: |
| | (Part 6.1) One phase-to-neutral or positive sequence voltage. |
| | (Part 6.2) The phase current for the same phase at the same voltage corresponding to the voltage in Requirement R6, Part 6.1, or the positive sequence current. |
| | (Part 6.3) Real Power and Reactive Power flows expressed on a three-phase basis corresponding to all circuits where current measurements are required. |
| | (Part 6.4) Frequency of any one of the voltage(s) in Requirement R6, Part 6.1. |

Note to Auditor:

Auditor Notes:

R7 Supporting Evidence and Documentation

R7. Each Generator Owner shall have DDR data to determine the following electrical quantities for each BES Element it owns for which it received notification as identified in Requirement R5:

7.1 One phase-to-neutral, phase-to-phase, or positive sequence voltage at either the generator step up (GSU) transformer high-side or low-side voltage level.

7.2 The phase current for the same phase at the same voltage corresponding to the voltage in Requirement R7, Part 7.1, phase current(s) for any phase-to-phase voltages, or positive sequence current.

7.3 Real Power and Reactive Power flows expressed on a three phase basis corresponding to all circuits where current measurements are required.

7.4 Frequency of at least one of the voltages in Requirement R7, Part 7.1.

M7. The Generator Owner has evidence (electronic or hard copy) of DDR data to determine electrical quantities as specified in Requirement R7. Evidence may include, but is not limited to: (1) documents describing the device specifications and configurations which may include a single design standard as representative for common installations; or (2) actual data recordings or derivations; or (3) station drawings.

Registered Entity Response (Required):

Were there any quantities, identified in Parts 7.1-7.4, that the entity could not determine (directly or through calculation)? Yes No

If yes, provide a list of such disturbances and quantities.

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| List of BES Elements for which entity owns and received notification pursuant to Requirement R5. |
| Documents describing the DDR device interconnections and configurations which can include a single design standard as representative for common installations. Actual DDR data recordings for those BES Elements buses. |
| For electrical quantities not directly measured, provide documentation regarding the determination (calculation) of these quantities. |

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R7

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| | (R7) Select all, or a sample of, BES Elements where entity received notification pursuant to Requirement R5 and verify entity has DDR data to determine the following electrical quantities: |
| | (Part 7.1) One phase-to-neutral or positive sequence voltage at either the generator step-up (GSU) transformer high-side or low-side voltage level. |
| | (Part 7.2) The phase current for the same phase at the same voltage corresponding to the voltage in Requirement R7, Part 7.1, phase current(s) for any phase-to-phase voltages, or positive sequence current. |
| | (Part 7.3) Real Power and Reactive Power flows expressed on a three phase basis corresponding to all circuits where current measurements are required. |
| | (Part 7.4) Frequency of any one of the voltage(s) in Requirement R7, Part 7.1. |

Note to Auditor:

Auditor Notes:

R8 Supporting Evidence and Documentation

R8. Each Transmission Owner and Generator Owner responsible for DDR data for the BES Elements identified in Requirement R5 shall have continuous data recording and storage. If the equipment was installed prior to the effective date of this standard and is not capable of continuous recording, triggered records must meet the following:

8.1 Triggered record lengths of at least three minutes.

8.2 At least one of the following three triggers:

- Off nominal frequency trigger set at:

| | Low | High |
|--------------------------------|-----------|----------|
| ○ Eastern Interconnection | <59.75 Hz | >61.0 Hz |
| ○ Western Interconnection | <59.55 Hz | >61.0 Hz |
| ○ ERCOT Interconnection | <59.35 Hz | >61.0 Hz |
| ○ Hydro-Quebec Interconnection | <58.55 Hz | >61.5 Hz |

- Rate of change of frequency trigger set at:

| | | |
|--------------------------------|-------------------|-----------------|
| ○ Eastern Interconnection | < -0.03125 Hz/sec | > 0.125 Hz/sec |
| ○ Western Interconnection | < -0.05625 Hz/sec | > 0.125 Hz/sec |
| ○ ERCOT Interconnection | < -0.08125 Hz/sec | > 0.125 Hz/sec |
| ○ Hydro-Quebec Interconnection | < -0.18125 Hz/sec | > 0.1875 Hz/sec |

- Undervoltage trigger set no lower than 85% of normal operating voltage for a duration of 5 seconds.

M8. Each Transmission Owner and Generator Owner has dated evidence (electronic or hard copy) of data recording and storage in accordance with Requirement R8. Evidence may include, but is not limited to: (1) documents describing the device specifications and configurations, which may include a single design standard as representative for common installations; or (2) actual data recordings.

Registered Entity Response (Required):

Question:

Does entity have non-continuous triggered recording capability installed prior to the effective date of PRC-002-2? Yes No

If yes, provide documentation that trigger points were set according to the Requirements of R8.

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

Registered Entity Response (Required):

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Audit ID: Audit ID if available; or NCRnnnnn-YYYYMMDD

RSAW Version: RSAW_PRC-002-2_2014_v1 Revision Date: September, 2014 RSAW Template: RSAW2014R1.2

DRAFT NERC Reliability Standard Audit Worksheet

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

Provide the following evidence, or other evidence to demonstrate compliance.

Data device specification(s) and configuration(s) meeting criteria of Requirement R8. Actual data recordings or derivations to prove compliance with Requirement R8.

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R8

This section to be completed by the Compliance Enforcement Authority

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| | (R8) For all, or a sample of, BES Elements where entity is responsible for DDR data for the BES Elements identified in Requirement R5, examine evidence to verify that entity has continuous data recording and storage. If entity has recording equipment installed prior to the effective date of this standard and is not capable of continuous recording, skip this Compliance Assessment Step and perform the next step, which is not applicable if entity has continuous data recording and storage. |
| | (Part 8.1 and 8.2) Select all, or a sample of, BES Elements where entity is responsible for DDR data for the BES Elements identified in Requirement R5 and verify (Part 8.1) triggered records record lengths of at least three minutes for (Part 8.2) at least one of the three triggers listed in Part 8.2. |

Note to Auditor:

Auditor Notes:

R9 Supporting Evidence and Documentation

R9. Each Transmission Owner and Generator Owner responsible for DDR data for the BES Elements identified in Requirement R5 shall have DDR data that meet the following:

9.1 Input sampling rate of at least 960 samples per second.

9.2 Output recording rate of electrical quantities of at least 30 times per second.

M9. The Transmission Owner or Generator Owner has evidence (electronic or hard copy) that DDR data meets Requirement R9. Evidence may include, but is not limited to: (1) documents describing the device specification, device configuration, or settings; or (2) actual data recordings (R9, Part 9.2).

Evidence Requested¹:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| Actual DDR data recordings or derivations to prove compliance with Requirement R9. |

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R9

This section to be completed by the Compliance Enforcement Authority

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| | (R9) For all, or a sample of, BES Elements where entity is responsible for DDR data for BES Elements identified in Requirement R5, examine evidence to verify that entity data meets the following technical specifications: |
| | (Part 9.1) Input sampling rate of at least 960 samples per second. |
| | (Part 9.2) Output recording rate of electrical quantities of at least 30 times per second. |

Note to Auditor:

Auditor Notes:

R10 Supporting Evidence and Documentation

R10. Each Transmission Owner and Generator Owner shall time synchronize all SER and FR data for the BES buses identified in Requirement R1 and DDR data for the BES Elements identified in Requirement R5 that meet the following:

- 10.1.** Synchronization to Coordinated Universal Time (UTC) with or without a local time offset.
- 10.2.** Synchronized device clock accuracy within ± 2 milliseconds of (UTC).

M10. The Transmission Owner or Generator Owner has evidence (electronic or hard copy) of time synchronization described in Requirement R10. Evidence may include, but is not limited to: (1) documents describing the device specification, configuration or setting; (2) time synchronization indication or status; or (3) station drawings.

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| Actual DDR data recordings or derivations to prove compliance with Requirement R10. |
| Basis documents such as installation drawings or device configurations supporting the time synchronization of all SER and FR data as described in Requirement R10. |

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R10

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This section to be completed by the Compliance Enforcement Authority

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| | (R10) For all, or a sample of, BES buses/Elements examine evidence to verify that entity time synchronized all SER, and FR data for the BES buses identified in Requirement R1 and DDR data for the BES Elements identified in Requirement R5 as follows: |
| | (Part 10.1) UTC with or without a local time offset. |
| | (Part 10.2) device clock accuracy within ± 2 milliseconds of UTC |
| Note to Auditor: Auditors should rely on basis documents such as installation drawings or device configurations to the extent synchronization cannot be determined by reviewing the data. | |

Auditor Notes:

DRAFT

R11 Supporting Evidence and Documentation

R11. Each Transmission Owner and Generator Owner shall provide, upon request, all SER and FR data for the BES buses identified in Requirement R1 and DDR data for the BES Elements identified in Requirement R5 to the Responsible Entity, Regional Entity, or NERC in accordance with the following:

11.1 Data will be retrievable for the period of 10 calendar days, inclusive of the day the data was recorded.

11.2 Data will be provided within 30 calendar days of a request unless an extension is granted by the requestor.

11.3 SER data will be provided in ASCII Comma Separated Value (.CSV) format following Attachment 2.

11.4 FR and DDR data will be provided in electronic files that are formatted in conformance with C37.111 IEEE Standard for Common Format for Transient Data Exchange (COMTRADE) revision C37.111-1999 or later.

11.5 Data files will be named in conformance with C37.232, IEEE Standard for Common Format for Naming Time Sequence Data Files (COMNAME), revision C37.232-2011 or later.

M11. The Transmission Owner or Generator Owner has evidence (electronic or hard copy) data was submitted upon request in accordance with Requirement R11. Evidence may include, but is not limited to: (1) dated transmittals to the requesting entity with formatted records, (2) documents describing data storage capability, device specification, configuration or settings, or (3) actual data recordings.

Registered Entity Response (Required):

Question: Did entity receive any requests for SER, FR and/or DDR data? Yes No

If yes, provide a list of such requests.

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested¹:

Provide the following evidence, or other evidence to demonstrate compliance.

Dated transmittals to the requesting entity with formatted records in accordance with Requirement R11, Parts 11.1 and 11.2.

Actual data recordings that conform with Requirement R11, Parts 11.3-11.5.

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Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R11

This section to be completed by the Compliance Enforcement Authority

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| | (R11) For all, or a sample of, requests for SER and FR data for BES buses identified in Requirement R1 and DDR data for the BES Elements identified in Requirement R5, verify that entity provided the data to the Responsible Entity, Regional Entity or NERC in accordance with the following: |
| | (Part 11.1) Data was retrievable for the period of 10-calendar days, inclusive of the day the data was recorded. |
| | (Part 11.2) Data was provided within 30-calendar days of a request unless an extension was granted by the requestor. |
| | (Part 11.3) provided in ASCII .CSV format following Attachment 2 of this Reliability Standard. |
| | (Part 11.4) FR and DDR data provided in electronic files that are formatted in conformance with C37.111 IEEE COMTRADE, revision C37.232-2011 or later. |
| | (Part 11.5) Data file named in conformance with C37.232 format per IEEE COMNAME, revision C37.232-2011 or later. |

Note to Auditor: See Attachment 2 of PRC-002-2 for information regarding format of submitted SER data.

Auditor Notes:

R12 Supporting Evidence and Documentation

R12. Each Transmission Owner and Generator Owner shall, within 90 calendar days of the discovery of a failure of the recording capability for the SER, FR or DDR data, either:

- Restore the recording capability, or
- Submit a Corrective Action Plan (CAP) to the Regional Entity and implement it.

M12. The Transmission Owner or Generator Owner has dated evidence (electronic or hard copy) that meets Requirement R12. Evidence may include, but is not limited to: (1) dated reports of discovery of a failure, (2) documentation noting the date the data recording was restored, or (3) SCADA records, or (4) dated CAP transmittals to the Regional Entity and evidence that it implemented the CAP.

Registered Entity Response (Required):

Question: Did entity experience a failure of recording capability for SER, FR or DDR data? Yes No

If yes, provide a dated list of such failures.

[Include additional information regarding the question here, including the type of response and format of the response requested, as appropriate.]

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

Registered Entity Response (Required):

Compliance Narrative:

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested:

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| Provide the following evidence, or other evidence to demonstrate compliance. |
| If the responsible entity experienced the failure of recording capability for SER, FR or DDR, the responsible entity will provide (1) dated reports of discovery of a failure, (2) documentation noting the date the data recording was restored, or (3) dated CAP transmittals to the Regional Entity. |

Registered Entity Evidence (Required):

The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.

| File Name | Document Title | Revision or Version | Document Date | Relevant Page(s) or Section(s) | Description of Applicability of Document |
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Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

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Compliance Assessment Approach Specific to PRC-002-2, R12

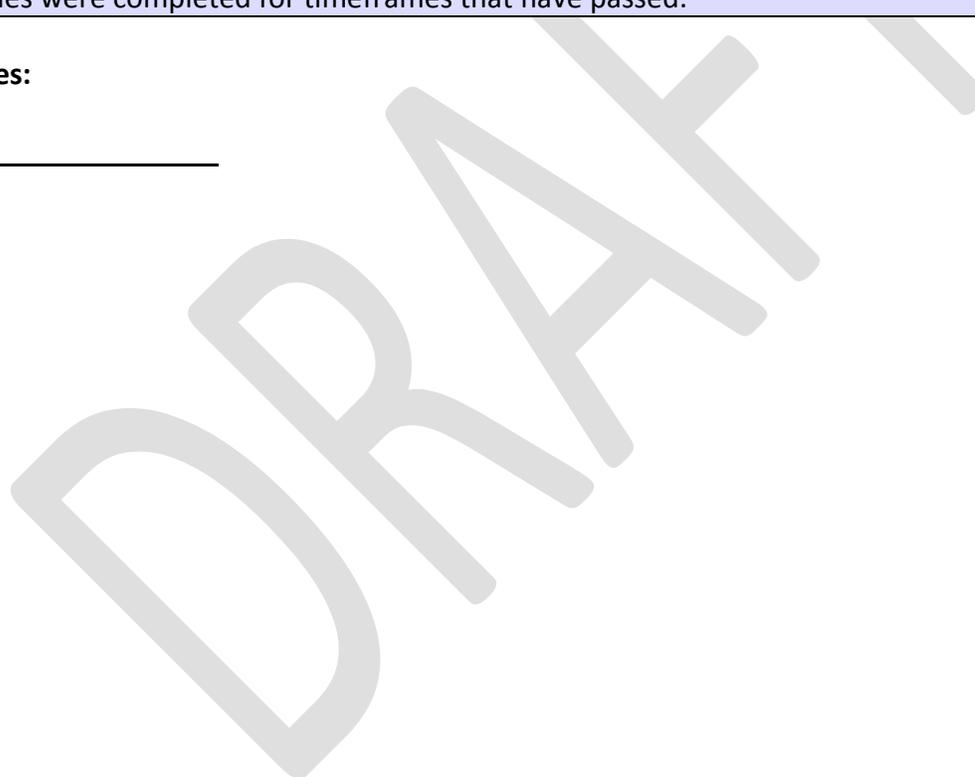
This section to be completed by the Compliance Enforcement Authority

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| | For all, or a sample of, recording device failures per Requirement R12, examine evidence and verify entity, within 90-calendar days, either restored the recording capability for the SER, FR or DDR data or developed a timeline for restoration and a CAP, which it submitted it to its Regional Entity. |
|--|--|

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| | If entity developed a CAP, verify CAP was implemented. |
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| Note to Auditor: Implementation means that an entity is following its documented CAP. For example, if the CAP calls for certain activities to be completed within specified timeframes, then the auditor can verify that such activities were completed for timeframes that have passed. |
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Auditor Notes:



Additional Information:

Reliability Standard

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard.

Sampling Methodology

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard, if applicable.

Regulatory Language

To be inserted by NERC Legal prior to posting of this RSAW associated with the enforceable date of this Reliability Standard.

Selected Glossary Terms

To be inserted by RSAW developer prior to posting of this RSAW associated with the enforceable date of this Reliability Standard, if applicable.

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DRAFT NERC Reliability Standard Audit Worksheet

Revision History for RSAW

| Version | Date | Reviewers | Revision Description |
|----------------|-------------|------------------------------------|---|
| 1 | 06/06/2014 | NERC Compliance | New Document |
| 2 | 09/19/2014 | NERC Compliance, NERC Standards | Revisions to RSAW to reflect changes to Reliability Standard for posting during second formal comment period. |
| | | | |

ⁱ Items in the Evidence Requested section are suggested evidence that may, but will not necessarily, demonstrate compliance. These items are not mandatory and other forms and types of evidence may be submitted at the entity's discretion.

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