

**Reliability Standard Audit Worksheet[[1]](#footnote-2)**

# PRC-006-5 – Automatic Underfrequency Load Shedding

***This section to be completed by the Compliance Enforcement Authority.***

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| **Registered Entity:** | Registered name of entity being audited |
| **NCR Number:** | NCRnnnnn |
| **Compliance Enforcement Authority:** | Region or NERC performing audit |
| **Compliance Assessment Date(s)[[2]](#footnote-3):** | 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**

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|  | **BA** | **DP** | **GO** | **GOP** | **PA/PC** | **RC** | **RP** | **RSG** | **TO** | **TOP** | **TP** | **TSP** |
| **D.B.1** |  |  |  |  | X |  |  |  |  |  |  |  |
| **D.B.2** |  |  |  |  | X |  |  |  |  |  |  |  |
| **D.B.3** |  |  |  |  | X |  |  |  |  |  |  |  |
| **D.B.4** |  |  |  |  | X |  |  |  |  |  |  |  |
| **R6** |  |  |  |  | X |  |  |  |  |  |  |  |
| **R7** |  |  |  |  | X |  |  |  |  |  |  |  |
| **R8** |  | X\* |  |  |  |  |  |  | X\* |  |  |  |
| **R9** |  | X\* |  |  |  |  |  |  | X\* |  |  |  |
| **R10** |  |  |  |  |  |  |  |  | X |  |  |  |
| **D.B.11** |  |  |  |  | X |  |  |  |  |  |  |  |
| **D.B.12** |  |  |  |  | X |  |  |  |  |  |  |  |

\* UFLS entities shall mean all entities that are responsible for the ownership, operation, or control of UFLS equipment as required by the UFLS program established by the Planning Coordinators. Such entities may include one or more of the following: Distribution Providers, UFLS-Only Distribution Providers, Transmission Owners, and Transmission Owners that own Elements identified in the UFLS program established by the Planning Coordinators.

**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 |

Findings

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

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| **Req.** | **Finding** | **Summary and Documentation** | **Functions Monitored** |
| [**D.B.1**](#DB1_Summary) |  |  |  |
| [**D.B.2**](#DB2_Summary) |  |  |  |
| [**D.B.3**](#DB3_Summary) |  |  |  |
| [**D.B.4**](#DB4_Summary) |  |  |  |
| [**R6**](#R6_Summary) |  |  |  |
| [**R7**](#R7_Summary) |  |  |  |
| [**R8**](#R8_Summary) |  |  |  |
| [**R9**](#R9_Summary) |  |  |  |
| [**R10**](#R10_Summary) |  |  |  |
| [**D.B.11**](#DB11_Summary) |  |  |  |
| [**D.B.12**](#DB12_Summary) |  |  |  |

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| **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):**

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

WECC Regional Variance D.B.1 replaces R1 in its entirety.

As used in the RV, Planning Coordinator is specific to those Planning Coordinators providing Planning Coordinator service(s) to entities within the Western Interconnection, regardless of where the Planning Coordinator is located.

D.B.1 Supporting Evidence and Documentation

**D.B.1.** Each Planning Coordinator shall participate in a joint regional review with the other Planning Coordinators that develops and documents criteria, including consideration of historical events and system studies, to select portions of the Bulk Electric System (BES) that may form islands. *[VRF: Medium][Time Horizon: Long-term Planning]*

**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[[3]](#endnote-2):

|  |
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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Correspondence of regional review providing input, comments, or acceptance of results |
| Meeting minutes or other records of regional review demonstrating PC participation. |

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-006-3, D.B.1

***This section to be completed by the Compliance Enforcement Authority***

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| Review the evidence to verify the entity has: | |
|  | Participated in a joint regional review with other Planning Coordinators of the WECC area. |
|  | The joint regional review addressed criteria in selecting portions of the BES that may form islands. |
| **Note to Auditor:** D.B.1 similar to the original R1 are related to the original development of a UFLS Plan or a revision to the plan/program. It is not a periodic activity. | |

**[Compliance Summary:](#Findingstable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

R2 Supporting Evidence and Documentation

**WECC Regional Variance D.B.2 replaces R2 in its entirety.**

D.B.2 Supporting Evidence and Documentation

**D.B.2.** Each Planning Coordinator shall identify one or more islands from the regional review (per D.B.1) to serve as a basis for designing a Western Interconnection-wide coordinated UFLS program including: *[VRF: Medium][Time Horizon: Long-term Planning]*

**D.B.2.1.** Those islands selected by applying the criteria in Requirement D.B.1.

**D.B.2.2.** Any portions of the BES designed to detach from the Interconnection (planned islands) as a result of the operation of a relay scheme or Remedial Action Scheme.

**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.** |
| Evidence may include, but is not limited to, reports, memorandums, e-mails, or other documentation supporting the PC’s identification of an island(s). |

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.** | | | | | |
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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-006-3, D.B.2

***This section to be completed by the Compliance Enforcement Authority***

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| Review the evidence to verify the Registered Entity has: | |
|  | Identified one or more islands from the regional review (per D.B.1) to serve as a basis for designing the WECC Off Nominal Under Frequency Load Shedding Plan, including: |
|  | **(D.B.2.1)** Islands selected by applying the criteria in D.B.1 and |
|  | **(D.B.2.2)** Any portions of the BES designed to detach from the Interconnection (planned islands) as a result of a relay scheme or Special Protection System. |
| **Note to Auditor:** D.B.1 similar to the original R2 are related to the original development of a UFLS Plan or a revision to the plan/program. It is not a periodic activity. | |

**[Compliance Summary:](#Findingstable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

R3 Supporting Evidence and Documentation

**WECC Regional Variance D.B.3 replaces R3 in its entirety.**

D.B.3 Supporting Evidence and Documentation

**D.B.3.** Each Planning Coordinator will adopt a UFLS program, coordinated across the Western Interconnection, including notification of, and a schedule for implementation by UFLS entities within its area. that meets the following performance characteristics in simulations of underfrequency conditions resulting from an imbalance scenario, where an imbalance = [(load — actual generation output) / (load)], of up to 25 percent within the identified island(s). *[VRF: High][Time Horizon: Long-term Planning]*

**D.B.3.1**. Frequency will remain above the Underfrequency Performance Characteristic curve in PRC-006-3 - Attachment 1, either for 60 seconds or until a steady-state condition between 59.3 Hz and 60.7 Hz is reached, and

**D.B.3.2.** Frequency will remain below the Overfrequency Performance Characteristic curve in PRC-006-3 - Attachment 1, either for 60 seconds or until a steady-state condition between 59.3 Hz and 60.7 Hz is reached.

**D.B.3.3.** Volts per Hz (V/Hz) will not exceed 1.18 per unit for longer than two seconds cumulatively per simulated event, and will not exceed 1.10 per unit for longer than 45 seconds cumulatively per simulated event at each generator bus and generator step-up transformer high-side bus associated with each of the following:

**D.B.3.3.1**. Individual generating units greater than 20 MVA (gross nameplate rating) directly connected to the BES;

**D.B.3.3.2.** Generating plants/facilities greater than 75 MVA (gross aggregate nameplate rating) directly connected to the BES;

**D.B.3.3.3.** Facilities consisting of one or more units connected to the BES at a common bus with total generation above 75 MVA gross nameplate rating.

**Registered Entity Response (Required):**

**Question:** Has the PC adopted the current version of the WECC “Off Nominal Frequency Load Shedding Plan”?

**Registered Entity Response (Required):**

**Question:** Provide a list of all UFLS entities (TO & DP) within your planning area.

**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.

**NOTE: If the PC has adopted the WECC Regional Plan, the sub requirements D.B.3.1 through D.B.3.3.3 should be satisfied through the WECC Regional Off-Nominal Frequency Load Shedding Plan. Entity should specify “Adopted WECC Plan”:**

Evidence Requestedi:

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| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Provide a list of all UFLS entities (TO & DP) within your planning area: |
| Evidence of notification to all UFLS Entities in your planning area of their UFLS implementation requirements |
| Evidence of Frequency Performance that meets Attachment 1 |
| Evidence of Volts per Hz performance that meets criteria of D.B.3.3 |

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.** | | | | | |
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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-006-3, D.B.3

***This section to be completed by the Compliance Enforcement Authority***

Review the evidence to verify the Registered Entity has:

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|  | Adopted the current WECC “Off Nominal Frequency Load Shedding Plan” |
|  | Provided evidence of the notification of settings to the UFLS entities within its area. |
|  | Provided evidence a schedule was provided for implementing the plan by the UFLS entities. |
|  | If D.B.3.3 is in scope, verify frequency and volts per Hz criteria are met for the PC area |
| **Note to Auditor:** Per this standard the Planning Coordinator (PC) must demonstrate that it has adopted “a regionally coordinated plan”. d    For this requirement, the Planning Coordinator must demonstrate it has adopted the WECC coordinated plan or some other regionally coordinated plan and demonstrate the registered UFLS entities have been notified of its adoption and the schedule for implementation.  Per FERC Docket No. RM06-16-000: The language in the proposed variance is intended to ensure that the Planning Coordinators in the Western Interconnection continue to implement the WECC Coordinated Plan rather than developing new UFLS Plans that are not fully coordinated with the WECC Coordinated Plan. The variance language requires this coordination, while still requiring the individual Planning Coordinators to meet the system performance levels identified in the NERC Continent-wide Reliability Standard.  **IF** the PC adopts the WECC plan then the content of D.B.3.1 through D.B.3.3 can be assessed by review of the WECC UFLS Assessment Report or data requested from the PC as needed. | |

**[Compliance Summary:](#Findingstable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

**R4 Supporting Evidence and Documentation**

**WECC Regional Variance D.B.4 replaces R4 and R5 in their entirety.**

D.B.4 Supporting Evidence and Documentation

**D.B.4.** Each Planning Coordinator will participate in and document a coordinated UFLS design assessment with the other Planning Coordinators in the Western Interconnection at least once every five years that determines through dynamic simulation whether the UFLS program design meets the performance characteristics in Requirement D.B.3 for each island identified in Requirement D.B.2. The simulation will model each of the following: [VRF: High][Time Horizon: Long-term Planning]

**D.B.4.1.** Underfrequency trip settings of individual generating units greater than 20 MVA (gross nameplate rating) directly connected to the BES that trip above the Generator Underfrequency Trip Modeling curve in PRC-006-3 - Attachment 1.

**D.B.4.2.** Underfrequency trip settings of generating plants/facilities greater than 75 MVA (gross aggregate nameplate rating) directly connected to the BES that trip above the Generator Underfrequency Trip Modeling curve in PRC-006-3 - Attachment 1.

**D.B.4.3.** Underfrequency trip settings of any facility consisting of one or more units connected to the BES at a common bus with total generation above 75 MVA (gross nameplate rating) that trip above the Generator Underfrequency Trip Modeling curve in PRC-006-3 - Attachment 1.

**D.B.4.4.** Overfrequency trip settings of individual generating units greater than 20 MVA (gross nameplate rating) directly connected to the BES that trip below the Generator Overfrequency Trip Modeling curve in PRC-006-3 — Attachment 1.

**D.B.4.5.** Overfrequency trip settings of generating plants/facilities greater than 75 MVA (gross aggregate nameplate rating) directly connected to the BES that trip below the Generator Overfrequency Trip Modeling curve in PRC-006-3 — Attachment 1.

**D.B.4.6.** Overfrequency trip settings of any facility consisting of one or more units connected to the BES at a common bus with total generation above 75 MVA (gross nameplate rating) that trip below the Generator Overfrequency Trip Modeling curve in PRC-006-3 — Attachment 1.

**D.B.4.7.** Any automatic Load restoration that impacts frequency stabilization and operates within the duration of the simulations run for the assessment.

**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.** |
| Dated evidence such as reports, dynamic simulation models and results, or other dated documentation which demonstrates participation in the design assessment. |

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.** | | | | | |
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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-006-3, D.B.4

***This section to be completed by the Compliance Enforcement Authority***

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|  | Participated in, and documented, a coordinated UFLS design assessment at least once every five years. |
|  | Verify the design assessment determined through dynamic simulation whether the UFLS program design meets the performance characteristics in requirement D.B.3 for each planned island. |
| **Note to Auditor:** UFLS Design Assessments are performed by the WECC Underfrequency Load Shedding Work Group. The PC/PA must demonstrate participation in the assessment process**.** Responsibility for compliance with the content of the simulation model as specified in D.B.4.1 through D.B.4.7 will remain with the Planning Coordinators as specified in the NERC requirements of this standard. | |

**[Compliance Summary:](#FindingsTable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

R6 Supporting Evidence and Documentation

**R6.** Each Planning Coordinator shall maintain a UFLS database containing data necessary to model its UFLS program for use in event analyses and assessments of the UFLS program at least once each calendar year, with no more than 15 months between maintenance activities.

**M6.** Each Planning Coordinator shall have dated evidence such as a UFLS database, data requests, data input forms, or other dated documentation to show that it maintained a UFLS database for use in event analyses and assessments of the UFLS program per Requirement R6 at least once each calendar year, with no more than 15 months between maintenance activities.

**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.** |
| Dated evidence, such as a UFLS database, data requests, data input forms, or other dated documentation to show that a UFLS database containing data necessary to model your UFLS program for use in event analyses and assessments was maintained for use in event analyses and assessments of the UFLS program per Requirement R6 at least once each calendar year, with no more than 15 months between maintenance activities. |

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.** | | | | | |
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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-006-5 R6

***This section to be completed by the Compliance Enforcement Authority***

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|  | Review the evidence to verify the entity has: |
|  | Maintained a UFLS database to model its UFLS program for use in event analyses and assessments of the UFLS program. |
|  | A database that includes model data sufficient to be effective when the entity is performing an event analysis or assessment of the UFLS program. |
|  | Documentation demonstrating the database was maintained at least once each calendar year but with no more than 15 months between maintenance activities. |
| **Note to Auditor:** Examples of “model data sufficient to be effective” can be subjective depending on the size and scope of the Planning Coordinator’s area. Potential examples may include model data specified in the R4 sub-requirements. | |

**[Compliance Summary:](#FindingsTable)**

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| Finding Summary:  Primary Documents Supporting Findings: |

Auditor Notes:

R7 Supporting Evidence and Documentation

**R7.** Each Planning Coordinator shall provide its UFLS database containing data necessary to model its UFLS program to other Planning Coordinators within its Interconnection within 30 calendar days of a request.

**M7.** Each Planning Coordinator shall have dated evidence such as letters, memorandums, e-mails, or other dated documentation that it provided their UFLS database to other Planning Coordinators within their Interconnection within 30 calendar days of a request per Requirement R7.

**Registered Entity Response (Required):**

**Question:** Did the entity receive a request to provide its UFLS database to other Planning Coordinators within its Interconnection?  Yes  No

[If Yes, provide a list of requests and proceed to the Compliance Narrative section below. If No, proceed to the Compliance Narrative section 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 Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Dated evidence, such as letters, memorandums, e-mails, or other dated documentation that entity provided its UFLS database containing data necessary to model its UFLS program to other Planning Coordinators within their Interconnection within 30 calendar days of a request per Requirement R7. |

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.** | | | | | |
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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-006-5 R7

***This section to be completed by the Compliance Enforcement Authority***

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|  | Review the evidence to verify the entity has: |
|  | Dated request(s) received from other Planning Coordinators within its Interconnection. |
|  | Dated response(s) providing the requested UFLS database. |
|  | Provided a response within 30 calendar days of the request. |
| **Note to Auditor: In WECC due to the role of the WECC Underfrequency Load Shedding Work Group, PC to PC data requests should be rare, but possible.** | |

**[Compliance Summary:](#FindingsTable)**

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| Finding Summary:  Primary Documents Supporting Findings: |

Auditor Notes:

R8 Supporting Evidence and Documentation

**R8.** Each UFLS entity shall provide data to its Planning Coordinator(s) according to the format and schedule specified by the Planning Coordinator(s) to support maintenance of each Planning Coordinator’s UFLS database.

**M8.** Each UFLS Entity shall have dated evidence such as responses to data requests, spreadsheets, letters or other dated documentation that it provided data to its Planning Coordinator according to the format and schedule specified by the Planning Coordinator to support maintenance of the UFLS database per Requirement R8.

**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.** |
| The format and schedule specified by the Planning Coordinator to receive data to support maintenance of the Planning Coordinator’s UFLS database. |
| Dated evidence, such as responses to data requests, spreadsheets, letters, or other dated documentation that entity provided data to its Planning Coordinator according to the format and schedule specified by the Planning Coordinator to support maintenance of the Planning Coordinator’s UFLS database. |

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.** | | | | | |
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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-006-5 R8

***This section to be completed by the Compliance Enforcement Authority***

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|  | Review the evidence to verify the entity has: |
|  | Dated documentation the data was provided to the Planning Coordinator in the format specified and in accordance with the established schedule. |
| **Note to Auditor:** A UFLS entity is an entity responsible for the ownership, operation, or control of UFLS equipment as required by the UFLS program established by the Planning Coordinators. UFLS entities shall be identified in R3.  If the UFLS entity states it notified the Planning Coordinator of no changes to its data since its last submission, verify the Planning Coordinator’s “format and schedule” allows for this type of submission.  WECC entities may communicate this data through a process initiated by the WECC Underfrequency Load Shed Working Group and the PRC-006-WECC-CRT-3 Reporting Forms. | |

**[Compliance Summary:](#FindingsTable)**

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| Finding Summary:  Primary Documents Supporting Findings: |

Auditor Notes:

R9 Supporting Evidence and Documentation

**R9.** Each UFLS entity shall provide automatic tripping of Load in accordance with the UFLS program design and schedule for implementation, including any Corrective Action Plan, as determined by its Planning Coordinator(s) in each Planning Coordinator area in which it owns assets.

**M9.** Each UFLS Entity shall have dated evidence such as spreadsheets summarizing feeder load armed with UFLS relays, spreadsheets with UFLS relay settings, or other dated documentation that it provided automatic tripping of load in accordance with the UFLS program design and schedule for implementation , including any Corrective Action Plan, per Requirement R9.

**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.** |
| Documentation of the UFLS program design and schedule for implementation, including any Corrective Action Plan as determined by the Planning Coordinator(s). |
| Dated evidence, such as spreadsheets summarizing feeder load armed with UFLS relays, spreadsheets with UFLS relay settings, or other dated documentation that it provided automatic tripping of Load in accordance with the UFLS program design and schedule for implementation, including any Corrective Action Plan, by the Planning Coordinator(s) in each Planning Coordinator area in which the entity owns assets. |

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-006-5 R9

***This section to be completed by the Compliance Enforcement Authority***

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|  | Review the evidence to verify the entity has*:* |
|  | Dated documentation the entity provided automatic tripping of Load in accordance with the UFLS program design and schedule for implementation, including any Corrective Action Plan, as determined by the associated Planning Coordinator. |
| **Note to Auditor:** A UFLS entity is an entity responsible for the ownership, operation, or control of UFLS equipment as required by the UFLS program established by the Planning Coordinators. Evidence may include, but is not limited to, spreadsheets summarizing feeder load and UFLS relay settings. | |

**[Compliance Summary:](#FindingsTable)**

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| Finding Summary:  Primary Documents Supporting Findings: |

Auditor Notes:

R10 Supporting Evidence and Documentation

**R10.** Each Transmission Owner shall provide automatic switching of its existing capacitor banks, Transmission Lines, and reactors to control over-voltage as a result of underfrequency load shedding if required by the UFLS program and schedule for implementation, including any Corrective Action Plan, as determined by the Planning Coordinator(s) in each Planning Coordinator area in which the Transmission Owner owns transmission.

**M10.** Each Transmission Owner shall have dated evidence such as relay settings, tripping logic or other dated documentation that it provided automatic switching of its existing capacitor banks, Transmission Lines, and reactors in order to control over-voltage as a result of underfrequency load shedding if required by the UFLS program and schedule for implementation, including any Corrective Action Plan, per Requirement R10.

**Registered Entity Response (Required):**

**Question:** Is the entity required by the UFLS programs of the Planning Coordinators in which it owns transmission to provide automatic switching to control over-voltage resulting from underfrequency load shedding?  Yes  No

[If Yes, provide details, stating if Corrective Action Plans were included, and proceed to the Compliance Narrative section below. If No, proceed to the Compliance Narrative section 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 Requestedi:

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| UFLS programs and schedules for implementation requirements for the entity to provide automatic switching to control over-voltage as a result of underfrequency load shedding, including any Corrective Action Plans. |
| Dated evidence, such as relay settings, tripping logic, or other dated documentation that it provided automatic switching of its existing capacitor banks, Transmission Lines, and reactors in order to control over-voltage as a result of underfrequency load shedding if required by the UFLS program and schedule for implementation, including any Corrective Action Plan, as determined by the Planning Coordinator(s) in each Planning Coordinator area in which you own transmission. |

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-006-5 R10

***This section to be completed by the Compliance Enforcement Authority***

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|  | Review the evidence to verify the entity has: |
|  | Documentation the entity provided the specified automatic switching of existing capacitor banks, Transmission Lines, and reactors to control over-voltage as a result of underfrequency load shedding where required by the UFLS program and schedule. |
| **Note to Auditor:** Evidence may include, but is not limited to, relays settings or tripping logic. | |

**[Compliance Summary:](#FindingsTable)**

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| Finding Summary:  Primary Documents Supporting Findings: |

Auditor Notes:

R11 Supporting Evidence and Documentation

**WECC Regional Variance D.B.11 replaces R11 in its entirety.**

D.B.11 Supporting Evidence and Documentation

**D.B.11.** Each Planning Coordinator, in whose area a BES islanding event results in system frequency excursions below the initializing set points of the UFLS program, will participate in and document a coordinated event assessment with all affected Planning Coordinators to conduct and document an assessment of the event within one year of event actuation to evaluate: [VRF: Medium][Time Horizon: Operations Assessment]

**D.B.11.1.** The performance of the UFLS equipment,

**D.B.11.2** The effectiveness of the UFLS program

**Registered Entity Response (Required):**

**Question:** Did the PC experience a BES islanding event that resulted in system frequency excursions below the initializing set points of the UFLS program?  Yes  No

[If Yes, provide evidence of the assessment of the event and proceed to the Compliance Narrative section below. If No, proceed to the Compliance Narrative section 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 Requestedi:

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| The dated BES islanding event report |
| Documentation to show a BES islanding event assessment was conducted, within one year of the event, to assess the performance of the UFLS equipment and the effectiveness of the UFLS program. |

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-006-3, D.B.11

***This section to be completed by the Compliance Enforcement Authority***

Review the evidence to verify the Registered Entity has:

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|  | Responded to the applicability Question and provided evidence of compliance if the response was yes, which demonstrates the following: |
|  | Participated in an assessment performed by WECC Review Group. |
|  | Provided its assessment as requested by the WECC Review Group. |
|  | Post Event Assessment includes an evaluation of the performance of the UFLS Equipment |
|  | Post Event Assessment includes an evaluation of the effectiveness of the UFLS Program |
| **Note to Auditor:** If the entity did not experience a BES islanding event that resulted in system frequency excursions below initializing set points of the UFLS program, no further compliance assessment is necessary.  The requirement is event driven. the PC required assessments may be performed by the WECC Underfrequency Load Shed Working Group. However, the Planning Coordinator, in whose area a BES islanding event resulting in system frequency excursions below the initializing set points of the UFLS program must show participation in such assessment by one or more of the following ways:   * Provided its assessment of the event to the review group. * Provided all data requests of the Review Group. * Reviewed the dated BES islanding event report, description, or other documentation to understand the event.   D.B.11 specifies the assessment must be completed within “one year” of the event. A period of one year is considered to be 365 days from the date of the event. | |

**[Compliance Summary:](#Findingstable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

R12 Supporting Evidence and Documentation

**WECC Regional Variance D.B.12 replaces R12 and R13 in their entirety.**

D.B.12 Supporting Evidence and Documentation

**D.B.12.** Each Planning Coordinator, in whose islanding event assessment (per D.B.11) UFLS program deficiencies are identified, will participate in and document a coordinated UFLS design assessment of the UFLS program with all other Planning Coordinators in the Western Interconnection to consider the identified deficiencies within two years of event actuation. [VRF: Medium][Time Horizon: Operations Assessment]

**Registered Entity Response (Required):**

**Question:** Did the entity experience a BES islanding event that resulted in system frequency excursions below the initializing set points of the UFLS program?  Yes  No

[If Yes, proceed to the next question. If No, proceed to the Compliance Narrative section below.]

**Question:** Did the assessment conducted under Requirement D.B.11 identify any UFLS program deficiencies?  Yes  No

[If Yes, provide evidence of the assessment and deficiencies identified and proceed to the Compliance Narrative section below. If No, proceed to the Compliance Narrative section 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 Requestedi:

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| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| The dated BES islanding event report |
| The dated assessment of the effectiveness of the program and performance of the UFLS equipment for the event conducted under D.B.11. |
| A list of any deficiencies addressed in the assessments. |

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-006-3, D.B.12

***This section to be completed by the Compliance Enforcement Authority***

Review the evidence to verify the Registered Entity has:

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|  | Responded to the applicability Questions and provided evidence of compliance if the response was yes. |
|  | Participated in and documented a coordinated UFLS design assessment of the UFLS program with the other Planning Coordinators in the WECC area to consider the identified deficiencies within two years of actual event. |
| **Note to Auditor:** If the entity did not experience a BES islanding event that resulted in system frequency excursions below initializing set points of the UFLS program, or, conducted an assessment of the effectiveness of the program and equipment but did not identify deficiencies, no further compliance assessment is necessary. D.B.12 specifies that the design assessment must be completed within “two years” of the event A period of “two years” is considered to be 730 days from the date of the event. | |

**[Compliance Summary:](#Findingstable)**

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

R13 Supporting Evidence and Documentation

**WECC Regional Variance D.B.12 replaces R12 and R13 in their entirety.**

R14 Supporting Evidence and Documentation

**WECC Regional Variance removes R14 from applicability in WECC.**

R15 Supporting Evidence and Documentation

**WECC Regional Variance removes R15 from applicability in WECC.**

Additional Information:



Reliability Standard

In addition to the Reliability Standard, there is background information available on the NERC Web Site.

Capitalized terms in the Reliability Standard refer to terms in the NERC Glossary, which may be found on the NERC Web Site.

Sampling Methodology

Sampling is essential for auditing compliance with NERC Reliability Standards since it is not always possible or practical to test 100% of either the equipment, documentation, or both, associated with the full suite of enforceable standards. The Sampling Methodology Guidelines and Criteria (see NERC website), or sample guidelines, provided by the Electric Reliability Organization help to establish a minimum sample set for monitoring and enforcement uses in audits of NERC Reliability Standards.

Regulatory Language

By [Letter Order in Docket No. RD21-1-000](https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/20201223-3046_RD21-1-000_AD_Signature.PDF) on December 23, 2020, FERC approved proposed Reliability Standard PRC-006-5, which revised the WECC regional variance.

By [Letter Order in Docket No. RD20-4-000 on October 30, 2020](https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/RD20-4-000_AD_Signature.pdf), FERC approved proposed Reliability Standard PRC-006-4 as part of the project to align Reliability Standards with Registration.

Reliability Standard PRC-006-3 revised the regional Variance for the Québec Interconnection as necessary to account for the physical characteristics and operational practices of that Interconnection. No changes were made to any of the continent-wide Requirements of Commission-approved Reliability Standard PRC-006-2 nor the regional Variance for the WECC Interconnection.

The standard, which was developed in accordance with the NERC Rules of Procedure through the Northeast Power Coordinating Council (“NPCC”) standard development process, was adopted by the NPCC Board of Trustees on May 3, 2017 and by the NERC Board of Trustees on August 10, 2017.

[***North American Electric Reliability Corp.,* Unpublished Letter Order in Docket No. RD15-2-000 (Mar. 4, 2015).**](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/PRC-006-2%20Letter%20Order.pdf)

p. 2. The purpose of proposed Reliability Standard PRC-006-2 is to establish design and documentation requirements for automatic underfrequency load shedding (UFLS) programs to arrest declining frequency, assist recovery of frequency following underfrequency events and provide last resort system preservation measures. Proposed Reliability Standard PRC-006-2 states that it is applicable to planning coordinators, UFLS entities (a term defined in the proposed Reliability Standard), and transmission owners that own elements identified in the underfrequency load shedding programs established by planning coordinators. The petition maintains that the proposed Reliability Standard contains changes that address the Commission’s concern in Order No. 763 relating to Requirement R9 of PRC-006-1.In Order No. 763, the Commission approved Reliability Standard PRC-006-1. In addition, the Commission directed NERC to include explicit language in a subsequent version of the Reliability Standard clarifying that applicable entities are required to implement corrective actions identified by the planning coordinator in accordance with a schedule established by the same planning coordinator. The petition states that this is accomplished by additional language in Reliability Standard PRC-006-2, Requirements R9 and R10, and the introduction of a new Requirement R15. The revisions also place deadlines for corrective action plans to be developed by the planning coordinator. The petition states that these proposed deadlines are within the timeframes identified in Requirements R4, R5 or R12.

p. 2. NERC’s uncontested filing is hereby approved pursuant to the relevant authority delegated to the Director, Office of Electric Reliability under 18 C.F.R. § 375.303 (2014), effective as of the date of this Order.

***Automatic Underfrequency Load Shedding and Load Shedding Plans Reliability***

***Standards*,** [**Order No. 763**](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order_PRC-006-1_EOP-003-2_2012.5.7.pdf)**, 139 FERC ¶ 61,098, *order granting clarification*, 140 FERC ¶**

**61,164 (2012).**

P 4. The Commission neither approved nor remanded NERC-approved Reliability Standard PRC-006-0 in Order No. 693, which required regional reliability organizations to develop, coordinate, document and assess UFLS program design and effectiveness at least every five years. The Commission determined neither to approve nor remand this “fill-in-the-blank” Reliability Standard because the regional procedures had not been submitted, and the Commission held that it would not propose to approve or remand PRC-006-0 until the ERO submitted the additional information.

P 12. The UFLS program addressed in Reliability Standard PRC-006-1 is important to arresting declining frequency and assisting recovery of frequency following system events that lead to system instability, which can result in a blackout. Accordingly, the Reliability Standard is necessary for reliability because UFLS is used in extreme conditions to stabilize the balance between generation and load after an electrical island has been formed, dropping enough load to allow frequency to stabilize within the island. PRC-006-1, in conjunction with the conforming changes to EOP-003-2, provides last resort Bulk-Power System preservation measures by establishing the first national Reliability Standard of common performance characteristics that all UFLS programs must meet. For the same reasons, we approve the regional variance for WECC in PRC-006-1.

P 23. Reliability Standard PRC-006-1 does not limit the resources that can be modeled in the UFLS assessments and that power system models used in UFLS assessments generally model all qualifying generation, including resources not directly connected to the bulk electric system. In summary, although PRC-006-1 does not require all of the generation that is not directly connected to the bulk electric system to be included in the modeling, the subset of these resources that are required to assure that the UFLS models are sufficient to accurately predict system performance will be included.

Revision History for RSAW

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| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | 03/18/2021 | NERC Compliance Assurance, RSAW Task Force | New Document |
| 1 | 12/8/2021 | WECC Compliance | Reviewed for format consistency and content |

1. NERC developed this Reliability Standard Audit Worksheet (RSAW) language 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 RSAW may provide 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 reserve the right to request additional evidence from the registered entity that is not included in this RSAW. This RSAW may include excerpts from FERC Orders and other regulatory references which 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. [↑](#footnote-ref-2)
2. Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs. [↑](#footnote-ref-3)
3. 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. [↑](#endnote-ref-2)