

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

**FAC-501-WECC-4— Transmission Maintenance**

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

|  |  |
| --- | --- |
| **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-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**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | **BA** | **DP** | **GO** | **GOP** | **IA** | **LSE** | **PA** | **PSE** | **RC** | **RP** | **RSG** | **TO** | **TOP** | **TP** | **TSP** |
| **R1** |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| **R2** |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| **R3** |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |

**Legend:**

|  |  |
| --- | --- |
| 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 Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req.** | **Finding** | **Summary & Documentation** | **Functions Monitored** |
| [**R****1.**](#R1_Summary) |  |  | TO |
| [**R****2.**](#R2_Summary) |  |  | TO |
| [**R****3.**](#R3_Summary) |  |  | TO |

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

Identify subject matter expert(s) responsible for this Reliability Standard. Insert additional lines if necessary.

**Registered Entity Response (Required):**

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

R1. Each Transmission Owner shall have a TMIP that includes, at a minimum, each of the items listed in Attachment A, Transmission Maintenance and Inspection Plan (TMIP) Content.

M1. Each Transmission Owner will have evidence that it has a TMIP detailing each of the items listed in Attachment A, as required in Requirement R1.

Question: Do you own any of the Facilities or associated Elements in a transmission path identified in Attachment A, “Major WECC Transfer Paths in the Bulk Electric System” of the Table Revision Process (as posted on the WECC website under *Standards/Policies and Procedures*)?

If yes, please list or provide a list of all such Facilities or elements and the transmission paths with which they associated.

If no, this standard is not applicable. No additional information is required.

**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.** |
| A copy of your Transmission Maintenance and Inspection Program (TMIP) |
| A list of Facilities or associated Elements in a transmission path identified in Attachment A, “Major WECC Transfer Paths in the Bulk Electric System” of the Table Revision Process. |

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 FAC-501-WECC-4 R1**

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

Review the evidence to verify the entity has the following:

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| --- | --- |
|  | Determine if the Transmission Owner owns any transmission paths or facilities on those paths applicable to this Standard. If not, no further assessment is required. |
|  | Verify the Transmission Owner developed a Transmission Maintenance and Inspection Plan (TMIP) that includes, at a minimum, items listed in Attachment A, Transmission Maintenance and Inspection Plan Content. |
| Note to Auditor: The Attachment A, “Major WECC Transfer Paths in the Bulk Electric System” of the Table Revision Process is located on the WECC website [(here)](https://www.wecc.org/program-areas/standards). | |

[**Compliance Summa****ry:**](#R1_Finding)

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

# **R2 Supporting Evidence and Documentation**

R2. Each Transmission Owner shall annually update its TMIP to reflect all changes to its TMIP.

M2. Each Transmission Owner will have evidence that it annually updated its TMIP, as required in Requirement R2. When an annual update shows that no changes are required to the TMIP, evidence may include but is not limited to, attestation that the update was performed but showed that no changes were required.

**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.** |
| A copy of your Transmission Maintenance and Inspection Program (TMIP) or related documentation of revision history which identifies the annual reviews or revisions to the TMIP. |

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 FAC-501-WECC-4 R2**

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

Review the evidence to verify the entity has the following:

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|  | Verify the Transmission Owner annually updated its TMIP to reflect all changes in its TMIP. |
| Note to Auditor: | |

[**Compliance S****ummary:**](#R2_Finding)

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

# **R3 Supporting Evidence and Documentation**

**R3.** Each Transmission Owner shall adhere to its TMIP.

**M3.** Each Transmission Owner will have evidence that it adhered to its TMIP, as required in Requirement R3. Evidence may include, but is not limited to:

1.1 The date(s) the patrol, inspection or maintenance was performed;

1.2 The equipment on which the maintenance was performed;

1.3 A description of the inspection results or maintenance performed.

**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.** |
| Records of all patrols, inspections, and maintenance efforts using the TMIP criteria. |

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 FAC-501-WECC-4 R3**

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

Review the evidence to verify the entity has the following:

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| --- | --- |
| Verify the Transmission Owner has evidence that it adhered to its TMIP. | |
|  | Verify the patrol, inspection or maintenance was performed within the periodicity specified in the entity’s TMIP; |
|  | Verify the specified patrol, inspection or maintenance activity was performed on each transmission Facility or Element as identified or described in the TMIP. |

[**Compl****iance Summary:**](#R3_Finding)

(Finding Summary):

Primary Documents Supporting Finding:

**Auditor Notes:**

**Supplemental Information**

**Other ‑** The list of questions above is not all inclusive of evidence required to show compliance with the Reliability Standard. Provide additional information here**, as necessary that** demonstrates compliance with this Reliability Standard.

**Standard:** [**FAC-501-WECC-4— Transmission Maintenance**](https://www.nerc.com/pa/Stand/RegionalReliabilityStandardsUnder%20Development/FAC-501-WECC-4_Attachment_C-1_Clean_As_Proposed_08162023.pdf)

**Attachment A**

**Transmission Maintenance and Inspection Plan (TMIP) Content**

The TMIP shall include, at a minimum, each of the following items:

**1. Facilities**

A list of Facilities, Elements, Transmission Lines and other equipment comprising the named paths on the Table Revision Process (Process), Attachment A, Major WECC Transfer Paths in the Bulk Electric System (Table).

**2. Maintenance Methodology**

A description of the maintenance method(s) used for the equipment included in the TMIP.

The TMIP maintenance method may be any one of the following or any combination thereof,

but must include at least one of the following:

* Performance-based
  + This approach conducts maintenance by first defining the outcome then designing

a maintenance program to meet the end performance.

* Time-based
  + This approach conducts maintenance based on defined timelines or specific

events.

* Condition-based
  + This approach conducts maintenance based on the current condition of

equipment.

* Risk-based
  + This approach conducts maintenance proactively based on predictive modeling.

This approach is a benefit/burden analysis weighing the cost of maintenance

against the likelihood of component failure. Equipment posing a greater risk to

reliability in the event of failure may be maintained more frequently than

components posing a lower reliability risk in the event of failure.

* Original Equipment Manufacturer
  + This approach is based on the recommendations of the equipment manufacturer.

**3. Periodicity**

Based on the maintenance method(s) selected in Item 2 above, the TMIP shall include a specification of the periodicity at which the described maintenance will occur or under what circumstances it occurs.

**4. Transmission Line Maintenance and Inspection**

A description of each of the following for the transmission line(s) included in the TMIP:

1. Inspection requirements
2. Patrol requirements
3. Tower and wood pole structure management

**5. Station Maintenance and Inspection**

A description of each of the following for each station included in the TMIP:

1. Inspection requirements
2. Equipment maintenance for each of the following:
3. Circuit breakers
4. Power transformers, specifically including phase-shifting

transformers, where present.

1. Reactive devices, specifically including shunt capacitors, series

capacitors, synchronous condensers, shunt reactors, and tertiary reactors, where present.

Revision History for RSAW

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| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | 11/22/2024 | WECC Compliance | New RSAW for updated standard |
|  |  |  |  |

1. WECC developed this Reliability Standard Audit Worksheet (RSAW) language in order to facilitate WECC and the Regional Entities’ assessment of a registered entity’s compliance with this Reliability Standard. The WECC RSAW language is written to specific versions of each WECC 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 WECC 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 and registered 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. WECC 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 WECC 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 WECC 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. [↑](#footnote-ref-1)
2. Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs. [↑](#footnote-ref-2)