

FAC-501-WECC-2 – Transmission Maintenance

## A. Introduction

1. **Title:** Transmission Maintenance
2. **Number:** FAC-501-WECC-2
3. **Purpose:** To ensure the Transmission Owner of a transmission path identified in Attachment B, Major WECC Transfer Paths in the Bulk Electric System, including associated facilities has a Transmission Maintenance and Inspection Plan (TMIP); and performs and documents maintenance and inspection activities in accordance with the TMIP.
4. **Applicability**
  - 4.1 Transmission Owners that maintain the transmission paths in Attachment B.
5. **Effective Date\*:** The first day of the first quarter following applicable regulatory approval.

## B. Requirements and Measures

- 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 Content. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]*
- 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.
- R2. Each Transmission Owner shall annually update its TMIP to reflect all changes to its TMIP. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]*
- 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.
- R3. Each Transmission Owner shall adhere to its TMIP. *[Violation Risk Factor: Medium] [Time Horizon: Operations Assessment]*
- 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 transmission Facility or Element on which the maintenance was performed;
  - 1.3 A description of the inspection results or maintenance performed.

## C. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Enforcement Authority:

The British Columbia Utilities Commission.

- 1.2. Evidence Retention:** The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Owners listed in section 4.1 shall keep data or evidence of Requirements 1-3 for three calendar years, or since the last audit, whichever is longer.

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

## Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
<b>R1.</b>	The Transmission Owner's TMIP did not include one of the items listed in Attachment A, as required in Requirement R1.	The Transmission Owner's TMIP did not include two of the items listed in Attachment A, as required in Requirement R1.	The Transmission Owner's TMIP did not include three of the items listed in Attachment A, as required in Requirement R1.	The Transmission Owner's TMIP did not include four or more of the items listed in Attachment A, as required in Requirement R1.
<b>R2.</b>	The Transmission Owner did not annually update its TMIP (within the 365 days following the last review), as required by R2.	The Transmission Owner did not update its TMIP within the last one year and 1 day (within the 366 days following the last review), as required by R2.	The Transmission Owner did not update its TMIP within the last two years and 1 day (within the 731 days following the last review), as required by R2.	The Transmission Owner did not update its TMIP within the last three years and 1 day (within the 1095 days following the last review), as required by R2.
<b>R3.</b>	The Transmission Owner failed to adhere to: 1) one transmission line maintenance item, or 2) one station maintenance item, as contained in its TMIP, as required in R3.	The Transmission Owner failed to adhere to: 1) two transmission line maintenance items; or, 2) two station maintenance items; or 3) any combination of two items taken from the above list, for items contained in its TMIP, as required in R3.	The Transmission Owner failed to adhere to: 1) three transmission line maintenance items; or, 2) three station maintenance items; or 3) any combination of three items taken from the above list, for items contained in its TMIP, as required in R3.	The Transmission Owner failed to adhere to: 1) four or more transmission line maintenance items; or, 2) four or more station maintenance items; or, 3) any combination of four or more items taken from the above list, for items contained in its TMIP, as required in R3.

## D. Regional Variances

None.

## E. Associated Documents

None

**Version History** – Shows Approval History and Summary of Changes in the Action Field

Version	Date	Action	Change Tracking
1	April 16, 2008	Permanent Replacement Standard for PRC-STD-005-1	
1	October 29, 2008	NERC BOT conditional approval	
1	April 21, 2011	FERC Approved in Order 751	
2	July 1, 2017	Approved by the WECC Board of Directors.	1) Conformed to newest NERC template and drafting conventions, 2) eliminated URLs, 3) clarified Attachment A, and Measure M3.
2	February 8, 2018	Adopted by the NERC Board of Trustees.	
2	May 30, 2018	FERC Order issued approving FAC-501-WECC-2. Docket No. RD18-5-000	

## **Attachment A Transmission Maintenance and Inspection Plan Content**

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

### **1. Facilities**

A list of Facilities (e.g., transmission lines, transformers, etc.) and Elements (e.g. circuit breaker, bus section, etc.) that comprise each transmission path(s) identified in Attachment B, Major WECC Transfer Paths in the Bulk Electric System.

### **2. Maintenance Methodology**

A description of the maintenance methodology used for the Facility, transmission line, or station included in the TMIP.

The TMIP maintenance methodology may be any one of the following or any combination thereof, but must include at least one of the following:

- Performance-based
- Time-based
- Condition based

### **3. Periodicity**

A specification of the periodicity that the described maintenance will occur, or under what circumstances it occurs.

### **4. Transmission Line Maintenance**

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

- a. Inspection requirements
- b. Patrol requirements
- c. Tower and wood pole structure management

### **5. Station Maintenance**

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

- a. Inspection requirements
- b. Equipment maintenance for each of the following:
  1. Circuit breakers
  2. Power transformers (including, but not limited to, phase-shifting transformers)
  3. Reactive devices (including, but not limited to, shunt capacitors, series capacitors, synchronous condensers, shunt reactors, and tertiary reactors)

**Attachment B**  
**Major WECC Transfer Paths in the Bulk Electric System**

	<b>PATH NAME*</b>	<b>Path Number</b>
1.	Alberta – British Columbia	1
2.	Northwest – British Columbia	3
3.	West of Cascades – North	4
4.	West of Cascades – South	5
5.	West of Hatwai	6
6.	Montana to Northwest	8
7.	Idaho to Northwest	14
8.	South of Los Banos or Midway- Los Banos	15
9.	Idaho – Sierra	16
10.	Borah West	17
11.	Idaho – Montana	18
12.	Bridger West	19
13.	Path C	20
14.	Southwest of Four Corners	22
15.	PG&E – SPP	24
16.	Northern – Southern California	26
17.	Intmntn. Power Project DC Line	27
18.	TOT 1A	30
19.	TOT 2A	31
20.	Pavant – Gonder 230 kV Intermountain – Gonder 230 kV	32
21.	TOT 2B	34
22.	TOT 2C	35
23.	TOT 3	36
24.	TOT 5	39
25.	SDGE – CFE	45
26.	West of Colorado River (WOR)	46
27.	Southern New Mexico (NM1)	47
28.	Northern New Mexico (NM2)	48
29.	East of the Colorado River (EOR)	49
30.	Cholla – Pinnacle Peak	50
31.	Southern Navajo	51
32.	Brownlee East	55
33.	Lugo – Victorville 500 kV	61
34.	Pacific DC Intertie	65
35.	COI	66
36.	North of John Day cutplane	73
37.	Alturas	76
38.	Montana Southeast	80
39.	SCIT**	
40.	COI/PDCI – North of John Day cutplane**	

\* For an explanation of terms, path numbers, and definition for the paths refer to WECC's Path Rating Catalog.

\*\* The SCIT and COI/PDCI-North of John Day Cutplane are paths that are operated in accordance with nomograms identified in WECC's Path Rating Catalog.

**THIS SECTION WILL NOT BE PART OF THE STANDARD BUT IS REQUIRED FOR NERC FILING.**

**Standards Authorization Request (SAR)**

[WECC-0120 FAC-501-WECC-2 Transmission Maintenance SAR](#)

**Approvals Required**

- |                           |         |
|---------------------------|---------|
| • WECC Ballot Pool        | Pending |
| • WECC Board of Directors | Pending |
| • NERC Board of Trustees  | Pending |
| • FERC                    | Pending |

**Applicable Entities**

Transmission Owners that maintain the transmission paths in the most current WECC Major Paths table (Attachment B of the standard)

**Conforming Changes to Other Standards**

None are required.

**Proposed Effective Date**

The first day of the first quarter following regulatory approval

**Justification**

The WECC-0120, FAC-501-WECC-2, Transmission Maintenance Drafting Team (DT) has reviewed NERC Standards, both in effect and those standards that are NERC Board of Trustees approved pending regulatory filing. The DT concluded that the proposed substantive changes pose a minimal burden beyond ordinary and current operations. As such, the short implementation time should impose no undue burden.

**Consideration of Early Compliance**

The DT foresees no negative impacts to reliability in the event of early compliance.

**Retirements**

None