

Alberta Reliability Standard

Transmission Maintenance

FAC-501-WECC-AB-4

A. Introduction

1. Title: Transmission Maintenance
2. Number: FAC-501-WECC-AB-4
3. Purpose: To ensure the **legal owner** of a **transmission facility** of a path identified in AESO Information Document #2014-002RS, *FAC-501-WECC-AB2-1 R1 Identified Transmission Paths* and any amendments made thereto from time to time, has a transmission maintenance and inspection plan for those paths, annually updates its transmission maintenance and inspection plan, and adheres to the transmission maintenance and inspection plan.
4. Applicability:
 - 4.1. Functional Entities:
 - 4.1.1. each **legal owner** of a **transmission facility** maintaining paths listed in AESO Information Document #2014-002RS, *FAC-501-WECC-AB2-1 R1 Identified Transmission Paths* and any amendments made thereto from time to time.
5. Facilities:
 - 5.1. **Bulk electric system** facilities, elements, transmission lines, and other equipment as listed in Attachment A, Transmission Maintenance and Inspection Plan Content, comprising the named paths in AESO Information Document #2014-002RS, *FAC-501-WECC-AB2-1 R1 Identified Transmission Paths* and any amendments made thereto from time to time.
6. Effective Date: The later of (i) July 1, 2028, and (ii) the first **day** of the second calendar quarter following **Commission** approval.

B. Background

[Intentionally left blank.]

C. Requirements and Measures

- R1.** Each **legal owner** of a **transmission facility** must have a transmission maintenance and inspection plan that includes, at a minimum, each of the items listed in Attachment A, Transmission Maintenance and Inspection Plan Content. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- M1.** Each **legal owner** of a **transmission facility** must have evidence that it has a transmission maintenance and inspection plan detailing each of the items listed in Attachment A, as required in Requirement R1.
- R2.** Each **legal owner** of a **transmission facility** must annually update its transmission maintenance and inspection plan to reflect all changes to its transmission maintenance and inspection plan. *[Alberta Risk Rating: Medium] [Time Horizon: Long-term Planning]*
- M2.** Each **legal owner** of a **transmission facility** must have evidence that it annually updated its

Alberta Reliability Standard

Transmission Maintenance

FAC-501-WECC-AB-4

transmission maintenance and inspection plan, as required in Requirement R2. When an annual update shows no changes are required to the transmission maintenance and inspection plan, evidence may include attestation that the update was performed but showed no changes were required.

R3. Each **legal owner** of a **transmission facility** must adhere to its transmission maintenance and inspection plan. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M3. Each **legal owner** of a **transmission facility** must have evidence that it adhered to its transmission maintenance and inspection plan, as required in Requirement R3. Evidence may include:

- 1.1. The date(s) the patrol, inspection or maintenance was performed;
- 1.2. The equipment on which the maintenance was performed; and
- 1.3. A description of the inspection results or maintenance performed.

D. Compliance

[Intentionally left blank.]

E. Regional Variances

None.

F. Associated Documents

AESO Information Document #2014-002RS, *FAC-501-WECC-AB2-1 R1 Identified Transmission Paths* and any amendments made thereto from time to time

Version History

Version	Effective Date	Description of Changes
AB-4	The later of (i) July 1, 2028, and (ii) the first day of the second calendar quarter following Commission approval	Revised based on NERC/WECC FAC-501-WECC-4; approved in FERC in Docket No. RD24-7-000. Revisions improve clarity, consistency, and reduce regulatory burden. Administrative updates to standardize formatting and drafting style.
AB2-1	2015-07-01	Transmission paths identified by the AESO for the purposes of requirement R1 updated to include new Bennett 520S equipment and 632 Russell equipment and moved from the Appendix to another document. Administrative update to standardize formatting, definitions and drafting style.

Alberta Reliability Standard Transmission Maintenance FAC-501-WECC-AB-4

AB1-1	2012-12-17	Administrative update – “ <i>TFO</i> ” replaced with “ <i>legal owner of a transmission facility</i> ”; and other minor clean up items.
AB-1	2010-09-10	Initial Release.

Alberta Reliability Standard Transmission Maintenance FAC-501-WECC-AB-4

Attachment A

Transmission Maintenance and Inspection Plan Content

The transmission maintenance and inspection plan must 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 in AESO Information Document #2014-002RS, *FAC-501-WECC-AB2-1 R1 Identified Transmission Paths* and any amendments made thereto from time to time.

2. Maintenance Method

A description of the maintenance method(s) used for the equipment included in the transmission maintenance and inspection plan.

The transmission maintenance and inspection plan 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 transmission maintenance and inspection plan must include a specification of the periodicity at which the described maintenance will occur or under what circumstance it occurs.

Alberta Reliability Standard

Transmission Maintenance

FAC-501-WECC-AB-4

4. Transmission Line Maintenance and Inspection

A description of each of the following for the transmission line(s) included in the transmission maintenance and inspection plan:

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

5. Station Maintenance and Inspection

A description of each of the following for each station included in the transmission maintenance and inspection plan:

- a. Inspection requirements
- b. Equipment maintenance for each of the following:
 - 1. Circuit breakers
 - 2. Power transformers, specifically including phase-shifting transformers, where present.
 - 3. Reactive devices, specifically including shunt capacitors, series capacitors, synchronous condensers, shunt reactors, and tertiary reactors, where present.