

ISO Rules

Part 500 Facilities

Division 503 Technical & Operating Requirements

Section 503.19 Reactive Power Verification Testing



Applicability

- 1 Section 503.19 applies to:
 - (a) the **legal owner** of a **generating unit, aggregated facility, or energy storage resource** that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including a **generating unit, aggregated facility, or energy storage resource** situated within an industrial complex that is directly connected to the **transmission system**;
 - and
 - (b) the **ISO**.

Requirements

Reactive Power Verification Testing

2(1) The **legal owner** must, subject to subsection 2(3), verify the **reactive power** capability of the **generating unit, aggregated facility, or energy storage resource** at:

- (a) the **maximum authorized real power**; and
- (b) the **maximum authorized charging power** if applicable

at regular intervals no later than 5 years from the date the prior **reactive power** verification or re-verification testing was completed.

(2) The **legal owner** must ensure that the **reactive power** testing for the **generating unit, aggregated facility, or energy storage resource** for both the **maximum authorized real power** and the **maximum authorized charging power**, if applicable, achieves:

- (a) the **gross reactive power** at 0.90 **power factor** supplying **reactive power**; and
- (b) the **gross reactive power** at 0.95 **power factor** absorbing **reactive power**.

(3) The **legal owner** may test the **generating unit, aggregated facility, or energy storage resource** at values other than the **maximum authorized real power** and **maximum authorized charging power**, but only if ambient conditions or **transmission system** limits do not allow the **generating unit, aggregated facility, or energy storage resource** to achieve the **maximum authorized real power** and **maximum authorized charging power** or the **reactive power** requirements.

(4) The **legal owner** of a **generating unit, aggregated facility, or energy storage resource** that:

- (a) has a common **point of connection** with another **generating unit, aggregated facility, or energy storage resource**; and
- (b) share **reactive power** resources;

must verify that the **reactive power** capability is in accordance with the applicable requirements of Section 503.3 of the **ISO rules, Reactive Power**.

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Inconsistent Test Results

3(1) The **legal owner** must, if the **ISO** provides written notice that the modeled response of the **generating unit, aggregated facility, or energy storage resource** is not consistent with the observed response:

- (a) perform the applicable testing in accordance with this Section 503.19; and
- (b) provide the written results of the test to the **ISO** no later than 60 **business days** after receipt of the **ISO's** notice.

(2) The **legal owner** is, notwithstanding subsection 3(1), not required to perform testing if between the date the **ISO** delivers the written notice and the deadline date for the submission of model testing results:

- (a) the **legal owner** demonstrates to the satisfaction of the **ISO** that the inconsistency described in subsection 3(1) was caused by equipment problems that the **legal owner** corrected prior to the testing date; and
- (b) the **ISO** provides written notice to the **legal owner** that the testing results are not required.

Reporting

4(1) The **legal owner** must report to the **ISO** the results of reactive power verification testing performed pursuant to this Section 503.19 in the form specified by the **ISO**.

(2) The **legal owner** must, in the form specified by the **ISO**, submit an additional reactive power testing report to the **ISO** no later than 180 **days** after the date of completion of each of the following:

- (a) the first connection of a **generating unit, aggregated facility, or energy storage resource** to the **transmission system** or a **transmission facility** within the **service area** of the City of Medicine Hat;
- (b) a modification of a **generating unit, aggregated facility, or energy storage resource** to the **transmission system** or a **transmission facility** within the **service area** of the City of Medicine Hat;
- (c) the in-service date of any increase to the **maximum authorized real power** or **maximum authorized charging power** of a **generating unit, aggregated facility, or energy storage resource** that the **ISO** approves;
- (d) any model revalidation testing; and
- (e) any **reactive power** verification or re-verification testing other than that required in subsection 3(1).

Revision History

Date	Description
2024-04-01	Initial release.