

9.2 Transmission Loss Factors

9.2.1 Purpose of Rule

The purpose of this rule is to describe the means by which the ISO determines annual **loss factors** to provide for the reasonable cost recovery of transmission line **losses** in accordance with the requirements of the [Transmission Regulation](#).

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9.2.2 Establish and Maintain Loss Factors

a. The ISO must establish and maintain for each calendar year **loss factors** in accordance with this **rule**.

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b. Despite **rule** 9.2.2.a, if the ISO determines that, in its opinion, an enhancement, upgrade, or change to the transmission system, generation or interconnected load, materially affects **loss factors** it may adjust the **loss factors** in accordance with this **rule** 9.2.2. A material change for the purpose of this rule would be any change in loss factor to one or more generating units of 0.25%.

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c. The ISO must post on its web site and make publicly available the following:

i. A list of annual **loss factors** for:

- all generators directly connected to the **interconnected electric system**, and
- firm imports (service not currently available).

The loss factors will be posted by the first week in November prior to them becoming effective.

ii. A list of annual loss factors for:

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- each import and export transmission path or groups of paths, as defined by the ISO, respecting line losses, and
- for any opportunity service in respect of whom the ISO determines a loss factor is to apply.

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The opportunity service **loss factors** will be posted by the first week in November prior to them becoming effective.

iii. The effective date of establishment of the **loss factors** and the period of time they are in force pursuant to **rule** 9.2.2.b;

iv. A list of estimated **loss factors** (non-binding) for the fifth year subsequent to the year referenced in the foregoing 9.2.2.c.i. for all generators expected to be directly connected to the **interconnected electric system**.

v. The annual **generic stacking order**.

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d. The ISO must follow the **loss factor methodology** to determine **loss factors**. Without restricting the foregoing, the **loss factor methodology** must have regard for the following:

- i. **Loss factors** must be determined for each location on the transmission system as if no abnormal operating conditions exist;
- ii. The **loss factor methodology** should be a long-term signal and relatively stable, to allow it to be factored into investment decisions.
- iii. The **loss factor** in each location must be representative of the impact on average **transmission system losses** by each respective **generating unit** or group of **generating units** relative to load;
- iv. **Loss factors** must be one number at each location that does not vary, except as a result of revisions referred to in **rule 9.2.2.b**;
- v. After determining which **loss factors** result in a charge or credit, every **loss factor** must be adjusted by a common method to limit the **loss factors** as follows:

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(i) loss factors associated with a charge must not exceed 2 times the average **transmission system loss factor**, and

(ii) loss factors associated with a credit must not exceed one times the average **transmission system loss factor**.

- vi. on or after January 1, 2009, and in place of clause 9.2.2 d v, after determining which loss factors result in a charge or credit, every loss factor must be adjusted by a common method to limit the loss factors as follows:

(i) loss factors associated with a charge must not exceed 12%, and

(ii) loss factors associated with a credit must not exceed 12%.

e. The ISO must make **rules** with respect to the designation of **loss factors** in any place in Alberta where a **generating unit** is not located, and on request, determine a **loss factor** with respect to a **generating unit** that a person proposes to construct.

f. A request pursuant to rule 9.2.2.e by a market participant must be made by completing and submitting a "Preliminary Loss Factor Calculation Application" available on the ISO's website as well as paying the fee specified on the foregoing application. Loss Factor requests as the result of significant changes to the AIES will require an application to the AESO Projects group prior to the calculation of the loss factor.

g. The ISO may not amend the **loss factor methodology** unless it has posted on its website not less than 3 months prior to the proposed date of amendment, a notice

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of its intention to do so and has sent a copy of such notice to the address specified for notices in each System Access Agreement then in force for each **generating unit**. An amendment to this Rule will require the ISO to undertake a formal stakeholder consultation process.

h. An amendment to Appendix 7, "Transmission Loss Factor Methodology and Assumptions" will be treated as an amendment to this **rule 9.2**.

9.2.3 Recovery of Costs of Transmission Losses

- a. Up to and including 2008, the ISO must establish each year with respect to each **loss factor**, charges or credits which if applied, would result in the recovery of the forecast costs of **transmission system losses** for such year.
- b. In accordance with the **rules**, the ISO will adjust the charges for **losses** with the application of a **single calibration factor to loss factors** to ensure that the actual cost of **losses** is reasonably recovered through charges and credits under the ISO tariff on an annual basis.
- c. If the actual cost of **losses** is over or under recovered in one year, the over or under recovery must be collected or refunded in the next year or subsequent years.
- d. The ISO must follow the methodology set forth in the ISO's Tariff, Rider E, to determine the **calibration factor**.
- e. The Calibration Factor is applicable for recovery of losses through the application of loss factors. The Calibration Factor will not apply to the average losses calculated on the import/export flow paths.
- f. Subject to **rule 9.2.3.h**, the owner of a **generating unit** must pay the charges, and is entitled to the credits, determined by the ISO in accordance with this **rule**.
- g. A **market participant** importing **electric energy** under a firm service arrangement, must pay the charges, and is entitled to the credits, as determined by the ISO.
- h. A **market participant** receiving **system access service** under an interruptible service arrangement for **load**, import or export must pay location-based loss charges or receive credits that recover the full cost of **losses** required to provide this service.
- i. A market participant receiving **system access service** for merchant transmission lines connected to the **interconnected electric system**, internally or intra-control area will be treated the same as the existing inter-tie lines from Alberta to Saskatchewan and British Columbia. For merchant lines not connected to the **interconnected electric system** (isolated), no **loss factors** will be accrued.
- j. The payment of charges and entitlement to credits pursuant to **rules 9.2.3.g – 9.2.3.i** inclusive, will be administered in accordance with the ISO **rules**.

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9.2.4 Recovery of Costs of Transmission Losses After December 31, 2008

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July 11, 2007

- a. The owner of a **generating unit** must pay the charges, and is entitled to the credits, determined by the ISO in accordance with this **rule**.
- b. A **market participant** importing **electric energy** must pay the charges, and is entitled to the credits:
 - (i) in the same manner as for **generating units**, and
 - (ii) at the point where the import path connects to the remainder of the **interconnected electric system**.
- c. A **market participant** receiving **system access service** for import or export must pay transmission **line losses** representing the average level of losses incurred in transporting electric energy on an import path or export path as defined by the ISO in Appendix 7 of these **rules**.
- d. A market participant receiving opportunity service where the ISO determines that a **line loss factor** applies must pay losses or receive credits that are determined in a similar manner as the losses and credits determined for owners of **generation**.
- e. A market participant receiving **system access service** for merchant transmission lines connected to the **interconnected electric system**, internally or intra-control area will be treated the same as the existing inter-tie lines from Alberta to Saskatchewan and British Columbia. For merchant lines not connected to the **interconnected electric system** (isolated), no **loss factors** will be accrued.
- f. The payment of charges and entitlement to credits pursuant to **rules 9.2.4.g – 9.2.4.e** inclusive, will be administered in accordance with the ISO **rules**.

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9.2.5 Loss Factor Modeling and Assumption Details

A description of the **loss factor methodology** and the assumptions used to calculate **loss factors** are described in Appendix 7 of the ISO **rules**.

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