

## **ANCILLARY SERVICES**

### ***In this Section:***

[Overview](#)

[Loss Election Procedure](#)

[Self Supply Losses or Purchase Losses from a Third Party](#)

[Loss Compensation](#)

### **1.0 OVERVIEW**

Under Sections 3 and 15.7 of BC Hydro's [Open Access Transmission Tariff](#) (OATT), Transmission Customers must have ancillary services as part of their transmission service.

<b>Ancillary Service</b>	<b>Source</b>	<b>Rate Schedule</b>
Scheduling, System Control and Dispatch	Must purchase from BC Hydro	03
Reactive Supply and Voltage Control	Must purchase from BC Hydro	04
Regulation and Frequency Response	Can self supply, purchase from BC Hydro or purchase from a third party	05
Energy Imbalance	Can self supply, purchase from BC Hydro or purchase from a third party	06
Operating Reserve-Spinning	Can self supply, purchase from BC Hydro or purchase from a third party	07
Operating Reserve-Supplemental	Can self supply, purchase from BC Hydro or purchase from a third party	08
Loss Compensation	Can self supply or purchase from BC Hydro	09 and 10

If the Transmission Customer is purchasing Ancillary Services from a third party, the third party must be able to supply BC Hydro when called upon. The Transmission Customer must inform BC Hydro which Ancillary Services it will purchase from BC Hydro prior to the commencement of service requested. Refer to BC Hydro's OATT Business Practice on *Becoming a BC Hydro Transmission Customer* for election requirements in the registration process.

These Business Practices provide clarification of the rules, standards and practices used by BC Hydro to implement its OATT. While the terms of BC Hydro's OATT and these Business Practices govern, the Transmission Customers should also refer to the NAESB WEQ Business Standards, WECC Regional Criteria, which BC Hydro has followed in most, but not all, respects. BC Hydro also complies with the Mandatory Reliability Standards adopted by the BCUC.

## 2.0 LOSS ELECTION PROCEDURE

Per Section 15.7 of BC Hydro's OATT, BC Hydro requires the supply of losses for all Transmission Service. Transmission Customers may choose to purchase Loss Compensation Service from BC Hydro (Rate Schedule 09), or, self supply losses or as approved by BC Hydro, purchase losses from a third party (Rate Schedule 10).

All Transmission Customers must renew their election for the supply of losses every year in April. On April 1st of every year, BC Hydro will notify Transmission Customers about the requirement for loss supply election. The Transmission Customer must upload the Losses Supply Election Form by April 15th on the BC Hydro Transmission Customer portal or provide an email specifying the election to BC Hydro at [go.atf@bchydro.com](mailto:go.atf@bchydro.com). Otherwise, BC Hydro will deem the Transmission Customer to have elected to purchase Loss Compensation Service from BC Hydro.

## 3.0 SELF SUPPLY LOSSES OR PURCHASE LOSSES FROM A THIRD PARTY

If a Transmission Customer has elected to self supply or has been approved by BC Hydro to purchase energy losses from a third party, the following conditions apply:

1. The Transmission Customer must provide losses for each hour it has energy scheduled. Through the OATI electronic tagging system, the Transmission Customer must submit one of the below:
  - one loss e-Tag for each hour,
  - one loss e-Tag that covers all hours, or
  - one loss e-Tag for each e-Tag.
2. The full parent e-Tag number(s)/ID(s) must be entered in the Misc (Token/Value) field for successful linkage between the loss e-Tag(s) and parent e-Tag(s).
3. A loss e-Tag must reference a valid Transmission Reservation on an import or an internal path where the suffix of the POD is ".Losses". Refer to Table 1 of BC Hydro's OATT Business Practice on *Posting of Transmission Service Offerings* for valid Path Name and POR/POD combinations.
4. If a loss e-Tag references multiple Transmission Reservations on more than one path, it will be DENIED.
5. The loss e-Tag(s) is subject to the scheduling timelines of energy schedules as defined in BC Hydro's OATT Business Practices on *Submitting and Processing of Energy Schedules*.
6. Transmission Customers cannot submit partial losses, it must be in whole MWs. Refer to examples above.

### 3.1 Loss Calculation

Rate Schedule 10 is used to determine the MW of losses by the Transmission Customer.

The amount of losses a Transmission Customer must provide on its energy schedule is determined as follows:

$$\text{Required Loss Amount} = \text{Energy Schedule} \times [1 / (1 - \text{Real Power Losses \% at Point of Receipt}) - 1]$$

#### Example

Energy Schedule = 100 MW for HE2

Real Power Losses % = 6.28% at Point of Receipt (POR)

$$\begin{aligned} \text{Required Loss Amount} &= 100 \text{ MW} \times [1 / (1 - 6.28\%) - 1] \\ &= 100 \text{ MW} \times 0.067 \\ &= 6.7 \text{ MW} \end{aligned}$$

For the Transmission Customer to receive 100 MW at the Point of Delivery (POD), the Transmission Customer is required to inject 106.7 MW into the BC Hydro transmission system at the POR.

Losses must be submitted in whole MWs, therefore, in the above example, the Transmission Customer must submit a Loss eTag for 7 MW. BC Hydro uses the round up and carry forward methodology for energy schedules with multiple hours. Refer to Section 3.2 below for an example.

### 3.2 Round Up and Carry Forward Methodology

Transmission Customers must use the “round up and carry forward” method to create the profile of the loss e-Tag to address loss obligations under 1 MW.

The following example demonstrates how the round up and carry forward method works and provides a brief illustration of how loss e-Tags will be evaluated.

#### Example #1

	HE01 (MW)	HE02 (MW)	HE03 (MW)	HE04 (MW)	HE05 (MW)	TOTAL
e-Tag	100	100	50	100	100	450
Loss e-Tag	7	7	3	7	7	31
	round up (100 x 6.70% = 6.70) CF = -.30	round up (100 x 6.70% - 0.30 CF = 6.40) CF = -.60	round up (50 x 6.7% - 0.60 CF = 2.75) CF = -.25	round up (100 x 6.70% - 0.25 CF = 6.45) CF = -.55	round up (100 x 6.7% - 0.55 CF = 6.15)	

\*CF = Carried Forward

The loss e-Tag in the Example #1 is accepted because:

- a) In each hour, the loss coverage is within 1 MW of 6.70% of the e-Tag’s profile;
- b) The last hour is rounded up to 7 MW because there is no partial losses (HE 05 is 6.15); and
- c) The total energy on the loss eTag (31 MW) is not less than 6.70% of the e-Tag (6.70% of 450 MW = 30.15 MW).

**Example #2**

	HE01 (MW)	HE02 (MW)	HE03 (MW)	HE04 (MW)	HE05 (MW)	TOTAL
e-Tag 1	100	100	50	100	100	450
e-Tag 2	50	50	50			150
e-Tag 3	10		10		10	30
e-Tag 4	5	5	5	5		20
Loss e-Tag	12	10	8	7	7	44
	round up (165 x 6.70% = 11.06) CF = -.94	round up (155 x 6.70% - 0.94 CF = 9.45) CF = -.55	round up (115 x 6.7% - 0.55 CF = 7.17) CF = -.83	round up (105 x 6.70% - 0.83 CF = 6.21) CF = -.79	round up (110 x 6.7% - 0.79 CF = 6.58)	

The loss e-Tag in the Example #2 is accepted because:

- a) In each hour, the loss coverage is within 1 MW of 6.70% of all the total of the e-Tags;
- b) The last hour is rounded up to 7 MW because there is no partial losses (HE 05 is 6.58); and
- c) The total energy on the loss e-Tag (44 MW) is not less than 6.70% of the all the e-Tags (6.70% of 650 MW = 43.55 MW).

**3.3 Loss Calculator**

To assist Transmission Customers in determining the amount of losses required for an energy schedule, BC Hydro has developed a [loss calculator](#).

**3.4 Definition of the Three Strike Rule**

Pursuant to Section 15.7 of the OATT, if a Transmission Customer fails to submit valid losses for its energy schedules associated with its Transmission Reservation(s), BC Hydro will:

- i. charge the Transmission Customer for loss compensation service pursuant to Rate Schedule 09 for the amount that was deficient in the loss supply; and

- ii. inform the Transmission Customer, via email and/or letter, that it has received a “strike” because it failed to submit a valid loss schedule and/or it did not adequately supply losses.

The Transmission Customer will receive a “strike” for every hour that it did not supply valid losses for its energy schedule(s) or there was a partial or full deficiency in supply.

If a Transmission Customer has received a “strike” three times, BC Hydro will:

- i. not permit the Transmission Customer to self supply losses until the next election period (refer to Section 2.0); and
- ii. notify the Transmission Customer, via email and/or letter, of the commencement date for Loss Compensation Service per Rate Schedule 09.

BC Hydro validates after the fact (next working day) if a Transmission Customer has submitted valid losses for its energy schedules on the previous day.

**Document Change History**

<b>Issue</b>	<b>Reason for Issue</b>	<b>Date</b>
5	Updated language and re-ordered sections.	September XX, 2022
4	Updated hyper links to tariff and loss calculator.	July 22, 2015
3	Updated language.	December 9, 2013
2	Defined a valid loss tag.	December 31, 2010
1	Updated procedures to Loss Compensation. Previously Business Practice 11.	November 1, 2010

[Back to Top of Section](#)