

## **SUPPLIER LOAD ESTIMATION ALLOCATION OF LOSSES TO SUPPLIERS**

- **Loss Allocation Process**

National Grid calculates Supplier hourly loads, including distribution and transmission losses, in a two step process. First, the hourly loads of each retail customer are estimated at the customer's meter and multiplied by one of three distribution loss factors, depending upon the customer's rate class. Customer hourly loads including these distribution loss factors are then summed by Supplier and the total is compared to the distribution company "Delivered load." Delivered load is defined as load measured at substation and tie-line metering points inside the National Grid System. Delivered load includes all distribution line losses but no transmission losses. Differences between the sum of estimated customer hourly loads, including distribution loss factors, and actual Delivered loads are allocated to Suppliers based on their share in total estimated load. These differences can be positive or negative and vary by hour, but their expected value is zero.

Second, National Grid calculates transmission losses as the difference between "System load" and Delivered load. System load is defined as net load at generation and tie-line metering points that connect National Grid to NEPOOL transmission facilities (PTF). However, municipal load within the National Grid system and low-voltage PTF losses, as estimated by NEPOOL, are both subtracted from System load before calculating transmission losses. National Grid then allocates the resulting non-PTF transmission losses, which vary by hour, to each Supplier based on the Supplier's share in total Delivered load.

After National Grid reports loads which include distribution and non-PTF transmission losses to the ISO-NE, the ISO further allocates PTF losses to each Supplier in NEPOOL. In this way, the hourly loads used for Settlement include the total energy requirements of each customer served.

- **Distribution Loss Factors**

The distribution loss factors which National Grid multiplies by the estimated hourly loads – at the meter – of each retail customer are as follows:

**Primary Voltage Customers: 1.038**

Primary voltage customers are those on the following rates:

Massachusetts and Nantucket Electric's G3 rate  
Narragansett Electric's G32 and G62 rates  
Granite State Electric's G01 rate

**Primary Voltage Customers with High Voltage Discount: 1.027**

These are large customers on the Primary Voltage rates above who also receive a special high voltage discount and distribution loss adjustment factor because their meter is on the high side of the transformer. Check with your customer to see if they are receiving a high voltage discount rate.

**Secondary Voltage Customers: 1.069**

All other customers.

- **Transmission Loss Factors: 1.0019**

National Grid allocates non-PTF transmission losses to each Supplier based on its share in total Delivered load. These loss factors average **1.0019** for all hours and customers. The table below presents values the Supplier can expect to have allocated to it for non-PTF transmission losses. The losses are expressed as the ratio of System load to Delivered load:

**TRANSMISSION LOSS FACTORS  
RANGE OF EXPECTED VALUES\***

<b>EXPECTED VALUE</b>	<b>LOW (5% QUANTILE)</b>	<b>HIGH (95%QUANTILE)</b>
<b>1.0019</b>	<b>0.9783</b>	<b>1.0402</b>

\* Statistical results are for the period January 1, 2017 through December 31, 2017

- **Total National Grid Loss Allocation**

The table below shows the total amount of losses Suppliers can expect to have allocated to them, on average, for different types of customer load:

**TOTAL LOSSES APPLIED BY NATIONAL GRID ON AVERAGE  
(DISTRIBUTION PLUS AVERAGE TRANSMISSION)**

<b>LOSS TYPE</b>	<b>PRIMARY VOLTAGE CUSTOMERS</b>	<b>HIGH VOLTAGE DISCOUNT CUSTOMERS</b>	<b>SECONDARY VOLTAGE CUSTOMERS</b>
Distribution	1.038	1.027	1.069
Average Transmission	<b>1.002</b>	<b>1.002</b>	<b>1.002</b>
<b>Total</b>	<b>1.040</b>	<b>1.029</b>	<b>1.071</b>

- **PTF Losses**

After National Grid reports Supplier hourly loads to ISO-NE, the ISO allocates PTF losses to each Supplier within NEPOOL. For more information on these losses, their magnitude and how they are allocated to Suppliers, contact ISO-NE Customer Service (contact information is available on the ISO-NE website under the Customer Service button).