PROTOCOL

10.3.2.2 Loss Compensation of EPS Meter Data

(1) Where the EPS Meter is not located at the Point of Interconnection (POI) to the ERCOT Transmission Grid, actual metered consumption must be adjusted for line and transformation losses to the POI in accordance with SMOG Section 8 Transformer and Line Loss Compensation Factors. The preferred method for loss compensation and correction is via internal meter programming.

(2) Recognizing the fact that some locations may not have the total functionality necessary to perform internal compensation, the Data Aggregation System (DAS) must have the functionality to perform approved loss compensation as necessary. ERCOT shall retain the discretion to allow or deny the continued use of this type of metering.

(3) No meter may be compensated internally for losses more than once. ERCOT may compensate multiple meters prior to netting to the POI. Pulse communications transfer of data between meters is not allowed.

***11.1.5 Loss Compensation of ERCOT Polled Settlement Meter Data***

(1) Adjustments will be made to actual metered consumption to accommodate the energy consumption related to line and transformation losses to the Point of Interconnection (POI) with the ERCOT Transmission Grid, in accordance with Protocols Section 10.3.2.2 Loss Compensation of EPS Meter Data. These adjustments are intended specifically to correct the metered consumption when the meter is not located at the POI with the ERCOT Transmission Grid.

(2) The preferred method for loss compensation and correction is by programming of the meter. Recognizing that some meters may not have the ability to perform internal compensation computations, ERCOT’s Data Aggregation System (DAS) will have the ability to perform approved loss compensation as necessary.

(3) TSPs and/or DSPs requesting loss compensation for a specific meter will comply with Section 10, Metering, and the Settlement Metering Operating Guides. ERCOT will provide a compensation mechanism based upon a single percentage value submitted by the TSP and/or DSP and approved by ERCOT. The loss compensation percentage value will remain in place and will be applied to all intervals of data until such time as the TSP and/or DSP submits, and ERCOT approves, revised loss compensation values. The loss compensation percentage values should not be changed more than once annually.

**SMOG**

***3.3.3 TDSP Transformer and Line Loss Compensation Calculation Sheet***

(1) This sheet from the TDSP shall convey the process used by the TDSP to calculate the transformer and line loss compensation for EPS Meters. This sheet can be accomplished by using the ERCOT example of loss calculation shown in Section 8.6.1, Transformer and Line Loss Compensation Sheet, or a TDSP calculation that meets the same standards. A TDSP-created sheet shall include all information required by Section 8.6.1 and the following additional information:

(a) Formula used to calculate loss compensation;

(b) Actual values entered into the formula; and

(c) Logic for calculation of losses if not at full transformer rating.

**8.4 Calculating Line Loss Constants**

(1) Line loss compensation calculations with electronic meters are accomplished internally with firmware. Various information about the radial line is required to calculate the value, which is programmed into the meter.

(2) The following information is required about the line:

(a) Line type;

(b) Ohms per mile; and

(c) Length in miles of each type of line.

(3) Line loss compensation is not required for:

(a) Losses in a network connected line, or

(b) Sections of line where the calculated watts copper loss percentage is less than 0.001%.

(i) The calculation to determine the percent watts copper loss percentage shall follow the calculation example of 8.6.1, utilizing the maximum meter current for the site in place of meter class amps divided by two. A power factor of 0.95 and an increase of 10% to the maximum expected power for the site shall be used to determine maximum meter current.

(ii) Increases in maximum site power above the expected power used in the calculation, shall require reverification of compliance with this section.

***8.4.1 Switched Lines***

(1) Line loss compensation for radial lines, which are switched, must be based on a negotiated average resistance based on the typical operating characteristics.

***8.4.2 Joint Use Facilities***

(1) In the case of joint use facilities (where facilities are used to deliver power to more than one entity) a fixed factor for losses is calculated based on the facilities’ peak load. Such fixed factor shall be applied to the energy measured by each meter.

**Design Proposal**

|  |
| --- |
| **B. Metering Facility Details** |
| 22. Unit or Load Name |  | 24. TDSP Project # |  |
| 23. Unit Capacity |  | 25. Meter ID as shown on one-line |  |
| 26. Meter Form Designation |  |
| 27. Load description and size |  |
| 28. Metering Purpose |  |
| **29. Loss Compensation Information** | Please describe any loss compensation that will be required at the installation. Include whether the compensation will be calculated in the meter (preferred) or if ERCOT will need to perform this calculation in the data aggregation system. State if loss compensation will not be programmed per SMOG 8.4(3) and provide a clarifying statement and/or supporting calculation. |
|  |
| **30. Voltage Transformer Information** | **31. Current Transformer Information** |
| **Name Plate** | **A ∅** | **B ∅** | **C ∅** | **Name Plate** | **A ∅** | **B ∅** | **C ∅** |
| Manufacturer |  |  |  | Manufacturer |  |  |  |
| Type |  |  |  | Type |  |  |  |
| Ratio |  |  |  | Ratio/Rating factor |  |  |  |
| Burden Rating |  |  |  | Burden Rating |  |  |  |
| Acc. Class |  |  |  | Acc. Class |  |  |  |
| **32. Meter Point Comments** |
|  |

1. **Loss Compensation:**

Describe any loss compensation that will be required at the installation. Include whether the compensation will be calculated in the meter or if ERCOT is being requested to perform this calculation. If ERCOT is being request to perform the calculation, please provide the fixed loss compensation value indicating the value for load and/or generation channels. If using a fixed value, please submit additional documentation along with the design proposal indicating how the values were derived.

If the meter is not located at the POI and line loss compensation will not be programmed per SMOG 8.4(3), a statement regarding connections per 8.4(3)(a) or the calculation required per SMOG 8.4(3)(b) must be provided.