Distribution System Loss Factors
AEP-Texas Central Company (TCC) and
AEP-Texas North Company (TNC)

The AEP companies are submitting for use during calendar year 2025 Coefficients for use in determining the Settlement Interval Loss Factors as defined in the ERCOT Protocols for both AEP-TCC and AEP-TNC. The required coefficients are derived from loss analysis completed in February 2024 for the AEP TCC and AEP TNC transmission and distribution systems based on calendar year 2021 system operation. These analyses referred to as "Loss Studies" are applicable to the current TCC and TNC service areas respectively.

The AEP loss studies are used to develop energy expansion factors for selected system voltage levels that would be used to adjust metered energy deliveries to the generation level. The energy expansion factors are applicable to annual and monthly energy for cost allocation, rate design and billing purposes. These energy expansion factors are applicable to the average of all load intervals from the minimum to the maximum over the year. Thus the energy expansion factors represent the average distribution losses and are the basis of using the system loss studies to define the required SILF coefficients for the Protocols.

Since the energy loss studies are for the entire system including the transmission voltage level, the results are adjusted to be applicable to the distribution system only. This calculation is shown on Attachment A in column "d". In addition, the loss factors as determined in the loss studies represent expansion factors to be applied to metered energy to determine energy at a higher level on the system. In column "e" the expansion factors are converted to average loss factors that are used for determining the losses for the respective service levels.

The coefficients submitted are calculated based on the allocated losses and voltage level deliveries (sales) used to determine the energy expansion factors in the loss studies. Attachment B shows the no-load and load portion of losses for the distribution system as shown in the loss studies. These amounts are summed for the distribution primary and distribution secondary systems and the ratio of no-load losses to total losses for the voltage level is determined. The proper determination of losses allocable to deliveries from a particular voltage level is performed in Attachment C. The simple ratio of no-load and load losses for the voltage level is adjusted to account for actual deliveries (sales) at the respective voltage level which results in a ratio applicable to the loss factor for the delivery voltage level. The resulting coefficients are calculated from the average loss factors and the loss ratios in Attachment A.

The coefficient F_1 is based on the portion of losses that vary as the square of the distribution load. The coefficient F_3 is based on the portion of losses that does not vary with the load level. The coefficient F_2 is zero because there is not a portion of losses that can be identified as varying linearly with the load.

The resulting SILF equation coefficients are as follows:

		F_1	F_2	F_3
AEP-TCC	Secondary	0.02222	0	0.02654
	Primary	0.01331	0	0.00687

		F_1	F_2	F_3
AEP-TNC	Secondary	0.02398	0	0.03638
	Primary	0.00571	0	0.01438

The DLF codes that correspond to the generic rate classifications for the AEP DSP are as follows:

DSP Rate Classification	DLF Code
Residential	A
General Service < 10 kw	A
General Service > 10 kw	A
Lighting	A
Primary	B
Transmission	T

The classifications with a DLF code of A are for delivery voltages up to and including 2400 volt single or 3 phase delta and 2400Y/4160 volt 3 phase service. Delivery voltages higher than this but less than 69 kV are DLF code B. Delivery voltages of 69 kV or higher are DLF code T. Certain exceptions apply to delivery voltages of 2400 volt single or 3 phase delta and 2400Y/4160 volt 3 phase where the primary distribution system in the area is operated at these voltages. Service taken directly from the distribution line in these cases is considered primary and will have a DLF code of "B".

The coefficients for the SILF equation are applicable during calendar year 2025 and AEP will make another submittal in October 2025 to be consistent with the ERCOT Protocols at that time.

Note: Attachments A-C are contained in the pdf file with the file name:
AEP TCC & TNC SILF 2025.pdf