

## Attachment A

### Summary of SILF equation coefficients- 2025

#### Texas Central Company (AEP-TCC)

a	b	c	d	e	f	g	h	i	J
SERV LEVEL	DLF	ENERGY SYSTEM LOSS	ENERGY DISTRIB LOSS	Average Dist Losses	Load Loss Factor	No-Load Loss Factor	F1	F2	F3
CODE	CODE	FACTOR*	FACTOR	(d-1)/d	(Att C)	(Att C)	e*f		e*g
(Formula)		Divide by transmission loss							
Secondary	A	1.070820	1.051266	0.048766	0.4557	0.5443	0.02222	0	0.02654
Primary	B	1.039580	1.020597	0.020181	0.6596	0.3404	0.01331	0	0.00687
Transmission	T	1.018600	1.000000						

\* From TCC 2021 System Loss Study

#### Texas North Company (AEP-TNC)

a	b	c	d	e	f	g	h	i	J
SERV LEVEL	DLF	ENERGY SYSTEM LOSS	ENERGY DISTRIB LOSS	Average Dist Losses	Load Loss Factor	No-Load Loss Factor	F1	F2	F3
CODE	CODE	FACTOR*	FACTOR	(d-1)/d	(Att C)	(Att C)	e*f		e*g
(Formula)		Divide by transmission loss							
Secondary	A	1.098150	1.064233	0.060356	0.3973	0.6027	0.02398	0	0.03638
Primary	B	1.053030	1.020506	0.020094	0.2843	0.7157	0.00571	0	0.01438
Transmission	T	1.031870	1.000000						

\* From TNC 2021 System Loss Study

**AEP ERCOT SILF for use in 2020**

**Attachment B**

**Calculation of AEP TCC Electric Distribution Loss Factors- 2021  
Ratio of No-Load and Load losses on primary and secondary systems**

	Energy Losses, MWh *		
	Load	No-Load	Total
Dist. Substation	47,855	123,088	170,943
Primary Feeders	269,656	6,964	276,620
Line Transformers	32,479	411,237	443,716
Residential Sec. Lines	94,917	14,411	109,328
<b>Total Primary &amp; Sec</b>	<b>444,907</b>	<b>555,700</b>	<b>1,000,607</b>

**Distribution System**

Primary	317,511	130,052	447,563
Secondary	127,396	425,648	553,044
<b>Total Primary &amp; Sec</b>	<b>444,907</b>	<b>555,700</b>	<b>1,000,607</b>

Primary ratio	0.70942	0.29058
Secondary ratio	0.23035	0.76965

\* From Summary of Sales and Calculated Losses in 2021 Loss Analysis for TCC

**Calculation of AEP TNC Electric Distribution Loss Factors- 2021  
Ratio of No-Load and Load losses on primary and secondary systems**

	Energy Losses, MWh *		
	Load	No-Load	Total
Dist. Substation	11,213	38,915	50,128
Primary Feeders	39,613	5,557	45,170
Line Transformers	8,883	111,022	119,905
Residential Sec. Lines	11,449	3,034	14,483
<b>Total Primary &amp; Sec</b>	<b>71,158</b>	<b>158,528</b>	<b>229,686</b>

**Distribution System**

Primary	50,826	44,472	95,298
Secondary	20,332	114,056	134,388
<b>Total Primary &amp; Sec</b>	<b>71,158</b>	<b>158,528</b>	<b>229,686</b>

Primary ratio	0.53334	0.46666
Secondary ratio	0.15129	0.84871

\* From Summary of Sales and Calculated Losses in 2021 Loss Analysis for TNC

### Attachment C

**AEP TCC-** Calculation of Electric Distribution Loss Factors- 2021  
Portion of Loss Factor Not Sensitive to Load

Voltage Level	At	Input Reqmt. Responsibility Factor	Energy Loss Fraction		Energy, kWh			
			Load	No-Load	Sales*	Load Losses	No-Load Losses	Total
Secondary	Sec. Sales @ Meter Input to Sec. Level Losses due to Sec. Sales	1.030051	0.2304	0.7696	18,121,425,000	125,441,594	419,118,053	544,559,646
					18,665,984,646			
Primary	Output (=Sec. Input) Input to Pri. Level due to Sec. Losses due to Sec. Sales Pri. Sales	1.020597	0.7094	0.2906	18,665,984,646	272,745,325	111,716,051	384,461,376
					19,050,446,022			
	Losses due to Pri. Sales Total Input	1.020597	0.7094	0.2906	2,718,227,000	39,718,436	16,268,608	55,987,043
					2,774,214,043			
					21,824,660,066			

\* Deliveries at the distribution primary and secondary level are from calendar 2021

**Distribution System**

Losses due to:	Losses, kWh		
	Load	No-Load	Total
Secondary Sales	398,186,919	530,834,104	929,021,022
Primary Sales	39,718,436	16,268,608	55,987,043
Total	437,905,354	547,102,711	985,008,066

**Distribution System**

	Fraction of Total Loss	
	Load	No-Load
Secondary Sales	0.4286	0.5714
Primary Sales	0.7094	0.2906

**AEP TNC- Calculation of Electric Distribution Loss Factors- 2021**  
 Portion of Loss Factor Not Sensitive to Load

Voltage Level	At	Input Reqmt. Responsibility Factor	Energy Loss Fraction		Energy, kWh			
			Load	No-Load	Sales*	Load Losses	No-Load Losses	Total
Secondary	Sec. Sales @ Meter Input to Sec. Level Losses due to Sec. Sales	1.042848	0.5333	0.4667	3,644,522,000	83,285,821	72,873,864	156,159,685
					3,800,681,685			
Primary	Output (=Sec. Input) Input to Pri. Level due to Sec. Losses due to Sec. Sales Pri. Sales	1.020506	0.1513	0.8487	3,800,681,685	11,791,574	66,146,950	77,938,524
					3,878,620,208			
	Losses due to Pri. Sales Total Input	1.020506	0.1513	0.8487	1,636,803,000 1,670,368,034	5,078,164	28,486,870	33,565,034

\* Deliveries at the distribution primary and secondary level are from calendar 2021

**Distribution System**

Losses due to:	Losses, kWh		
	Load	No-Load	Total
Secondary Sales	95,077,395	139,020,814	234,098,208
Primary Sales	5,078,164	28,486,870	33,565,034
Total	100,155,558	167,507,684	267,663,242

**Distribution System**

	Fraction of Total Loss	
	Load	No-Load
Secondary Sales	0.4061	0.5939
Primary Sales	0.1513	0.8487