

Calculated Magnetic Flux Density (milligauss) for Proposed Line Design

Distance Above Ground Level (Feet)	System Condition	Current (Amps)	Distance to Proposed Centerline (feet)														
			-300	-200	-100	-75	-50	-35	-25	0	25	35	50	75	100	200	300
3.28 (1m)	Peak	166	0.16	0.34	1.29	2.17	4.27	7.12	10.47	22.57	12.03	8.08	4.75	2.35	1.37	0.35	0.16
	Average	83	0.08	0.17	0.65	1.09	2.14	3.56	5.23	11.28	6.02	4.04	2.37	1.18	0.69	0.18	0.08
5	Peak	166	0.16	0.34	1.30	2.20	4.38	7.44	11.16	26.09	12.95	8.49	4.89	2.38	1.38	0.36	0.16
	Average	83	0.08	0.17	0.65	1.10	2.19	3.72	5.58	13.05	6.48	4.25	2.44	1.19	0.69	0.18	0.08
10	Peak	166	0.16	0.35	1.33	2.28	4.69	8.38	13.40	42.83	16.00	9.71	5.27	2.47	1.41	0.36	0.16
	Average	83	0.08	0.17	0.66	1.14	2.35	4.19	6.70	21.42	8.00	4.85	2.63	1.24	0.71	0.18	0.08
20	Peak	166	0.16	0.35	1.36	2.38	5.17	10.01	18.16	207.66	22.74	11.89	5.86	2.60	1.45	0.36	0.16
	Average	83	0.08	0.17	0.68	1.19	2.58	5.01	9.08	103.83	11.37	5.95	2.93	1.30	0.73	0.18	0.08
30	Peak	166	0.16	0.35	1.37	2.41	5.32	10.60	20.21	418.75	25.57	12.67	6.05	2.63	1.47	0.36	0.16
	Average	83	0.08	0.17	0.69	1.21	2.66	5.30	10.10	209.37	12.79	6.34	3.03	1.32	0.73	0.18	0.08
40	Peak	166	0.16	0.35	1.36	2.36	5.09	9.71	17.20	135.03	21.33	11.48	5.76	2.58	1.45	0.36	0.16
	Average	83	0.08	0.17	0.68	1.18	2.54	4.86	8.60	67.51	10.67	5.74	2.88	1.29	0.72	0.18	0.08
50	Peak	166	0.16	0.35	1.32	2.24	4.56	7.96	12.38	33.91	14.58	9.16	5.10	2.43	1.40	0.36	0.16
	Average	83	0.08	0.17	0.66	1.12	2.28	3.98	6.19	16.96	7.29	4.58	2.55	1.22	0.70	0.18	0.08
60	Peak	166	0.15	0.34	1.25	2.07	3.91	6.17	8.53	15.11	9.53	6.88	4.30	2.24	1.33	0.35	0.16
	Average	83	0.08	0.17	0.63	1.04	1.95	3.08	4.26	7.55	4.77	3.44	2.15	1.12	0.67	0.18	0.08
70	Peak	166	0.15	0.34	1.18	1.88	3.26	4.70	5.95	8.54	6.43	5.10	3.53	2.01	1.25	0.35	0.16
	Average	83	0.08	0.17	0.59	0.94	1.63	2.35	2.98	4.27	3.21	2.55	1.77	1.00	0.62	0.17	0.08

Notes & Assumptions:

Voltage: 69 kV Nominal, 72 kV Maximum (105%)

Conductor: 397.5 kcmil 26/7 ACSR (IBIS)

Minimum NESC Clearance: 19'-3"

Shield: 3/8" HS Steel

Current (Loading): Line loading listed are the average daily loading and possible peak loading expected based on a 2018 line energization. Note that line loading varies throughout the day based on customer demand, these values are used to represent the highest possible field levels that would be experienced.

Calculations done using existing single circuit wood poles with horizontal posts in a delta configuration for tangent structures and vertical strain insulator configuration for dead-end and angle structures. Typical diagrams and example photos shown for reference only.

Calculations are done using worst case maximum sag conditions at minimum NESC conductor to ground clearances. This does not represent conditions along the entire line route but provides the maximum calculated field levels that could be encountered. Actual field levels at any point along the line will be less than those listed.

Typical Dead-End / Angle Structure



Typical Tangent Structure

