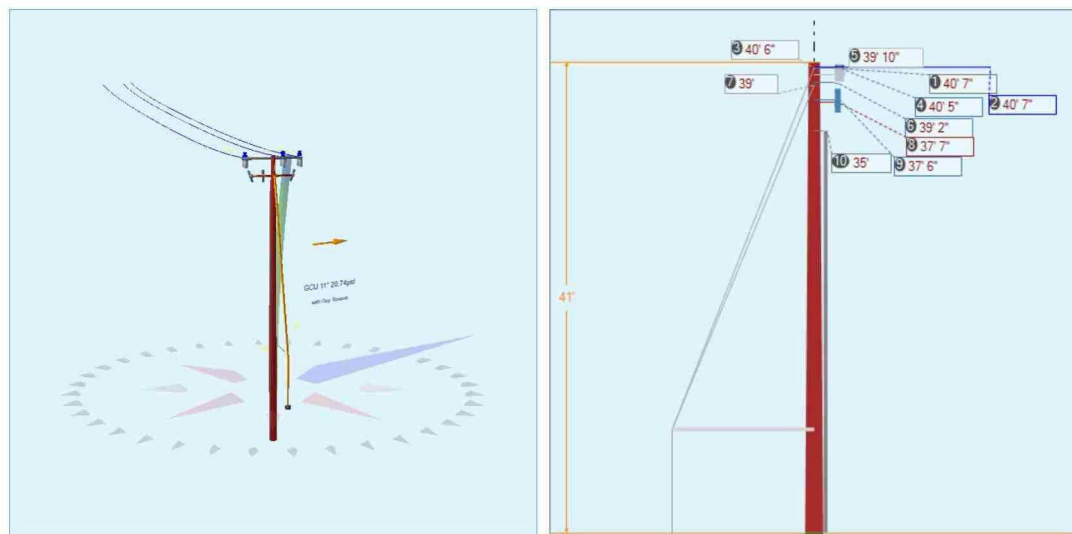




Pole Num:	0	Pole Length / Class:	50 / H2	Code:	NESC	Structure Type:	Deadend
PM Order Number	35217268	Species:	DOUGLAS FIR	GO 95 Rule:	At Replace (Existing)	Pole Strength Factor:	0.50
Estimator LAN ID		Setting Depth (ft):	9.00	Construction Grade:	B	Transverse Wind LF:	1.00
Sketch Location	LOC_3	G/L Circumference (in):	49.17	Loading District:	Heavy	Wire Tension LF:	1.00
Joint Pole Number	Unset	G/L Fiber Stress (psi):	7,600	Ice Thickness (in):	0.00	Vertical LF:	1.00
Notification	117045209	Allowable Stress (psi):	3,800	Wind Speed (mph):	90.00	Pole Factor of Safety:	2.95
Aux Data 6	1.0.6542.28955	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	20.74	Vertical Factor of Safety:	22.47
Latitude:	39.911238 Deg	Longitude:	-121.327187 Deg	Elevation:	1778.999943072 Feet	Bending Factor of Safety:	3.06



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Maximum	67.9	0.0
Groundline	67.9	0.0
Vertical	8.9	37.6

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	77,984	342.7
Groundline	77,984	342.7
GL Allowable	119,197	
Overturn	170,000	

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load With Overload Applied	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max* Load Capacity (%)	Wind Angle (deg)
? Anchor - 20M	11.0	122.0		78.8	11.2	85.3	305.0
? EHS 7/16 (Sidewalk)			40.5	75.2	11.2	81.2	300.0
? Sidewalk Strut	11.0	122.0	9.0	21.5	11.2	23.3	300.0
? EHS 7/16 (Sidewalk)			39.0	76.3	11.2	82.7	310.0
System Capacity Summary:				Adequate		Adequate	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 342.7°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Powers	4,526	77.8	153,616	197.0	128.9	5,855	96	0	5,855	154.1
GuyBraces	51	0.9	-102,635	-131.6	-86.1	-4,493	14,987	78	-4,415	-116.2
GenericEquipments	189	3.3	6,422	8.2	5.4	245	180	1	246	6.5
Pole	794	13.6	13,636	17.5	11.4	520	2,222	12	531	14.0
Crossarms	60	1.0	2,159	2.8	1.8	82	551	3	85	2.2
Risers	145	2.5	2,835	3.6	2.4	108	0	0	108	2.8
Insulators	55	0.9	1,952	2.5	1.6	74	96	0	75	2.0
Pole Load	5,820	100.0	77,984	100.0	65.4	2,391	18,132	94	2,485	65.4
Pole Reserve Capacity			41,213		34.6	1,409			1,315	34.6

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 342.7°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
PG&E	5,026	86.4	64,348	82.5	54.0	1,871	15,910	83	1,954	51.4
Pole	794	13.6	13,636	17.5	11.4	520	2,222	12	531	14.0
Totals:	5,820	100.0	77,984	100.0	65.4	2,391	18,132	94	2,485	65.4

Detailed Load Components:

Power	Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
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Primary	1/0 (6/1) ACSR XLPE TW	PG&E	40.57	62.53	0.7480	4.33	0.284	225.0	302.0	225.1	1,872	57,613	12	3,594	61,219
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	40.57	33.84	0.7480	4.33	0.284	225.0	302.0	225.1	1,872	57,613	13	3,594	61,221
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	40.57	62.53	0.7480	4.33	0.284	225.0	302.0	225.1	1,872	57,613	-4	3,594	61,204
											Totals:	172,839	21	10,783	183,644

Generic Equipment		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Box	Insulator Bracket	PG&E	40.39	57.42	302.0	0.0	10.00	3.00	30.00	--	6.00	35	558	593
Cylinder	Switch Insulator	PG&E	39.81	59.47	15.4	0.0	10.00	14.00	--	8.00	--	42	575	616
Cylinder	Switch Insulator	PG&E	39.81	57.08	35.0	0.0	10.00	14.00	--	8.00	--	29	575	604
Box	Insulator Bracket	PG&E	40.39	23.08	302.0	0.0	10.00	3.00	30.00	--	6.00	16	558	574
Cylinder	Switch Insulator	PG&E	39.81	22.21	39.9	0.0	10.00	14.00	--	8.00	--	10	575	585
Cylinder	Switch Insulator	PG&E	39.81	27.78	354.4	0.0	10.00	14.00	--	8.00	--	23	575	597
Box	Insulator Bracket	PG&E	40.39	57.42	302.0	0.0	10.00	3.00	30.00	--	6.00	-27	558	531
Cylinder	Switch Insulator	PG&E	39.81	59.47	228.6	0.0	10.00	14.00	--	8.00	--	-20	575	554
Cylinder	Switch Insulator	PG&E	39.81	57.08	209.0	0.0	10.00	14.00	--	8.00	--	-33	575	542
Box	Switch SB	PG&E	39.14	57.42	302.0	0.0	10.00	1.00	36.00	--	3.00	-27	213	186
Box	Switch SB	PG&E	39.14	57.42	302.0	0.0	10.00	1.00	36.00	--	3.00	35	213	248
Box	Switch SB	PG&E	39.14	23.08	302.0	0.0	10.00	1.00	36.00	--	3.00	16	213	229
Cylinder	Pothead	PG&E	37.49	46.54	302.0	0.0	20.00	25.00	--	5.00	--	67	594	661
Cylinder	Pothead	PG&E	37.49	46.54	302.0	0.0	20.00	25.00	--	5.00	--	-29	594	565
Cylinder	Pothead	PG&E	37.49	22.91	302.0	0.0	20.00	25.00	--	5.00	--	-2	594	592
											Totals:	137	7,540	7,677

Crossarm		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Normal	US Air Switch 900A - Deadend	PG&E	40.57	6.96	302.0	302.0	515.00	4.25	4.00	126.00	227	1,442	1,669	
Normal	Cutout Arm w/Potheads	PG&E	37.57	6.18	302.0	302.0	36.00	4.00	2.00	92.00	14	898	912	
											Totals:	241	2,340	2,581

Riser		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Riser 3" PG&E	Riser 3" PG&E	PG&E	35.00	8.18	257.0	257.0	35.00	420.00	3.00	3.00	420.00	0	3,389	3,389
											Totals:	0	3,389	3,389

Insulator		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Post	Post 12 (P/N 2)	PG&E	40.75	57.00	25.0	0.0	13.00	6.00	12.00	46	374	420
Post	Post 12 (P/N 2)	PG&E	40.75	22.00	14.4	0.0	13.00	6.00	12.00	21	374	395
Post	Post 12 (P/N 2)	PG&E	40.75	-57.00	219.0	0.0	13.00	6.00	12.00	-35	374	339
Deadend	Dead-End 18.75 (P/N 2)	PG&E	40.57	57.00	25.0	0.0	4.00	3.90	18.75	19	375	394

Deadend	Dead-End 18.75 (P/N 2)	PG&E	40.57	22.00	14.4	0.0	4.00	3.90	18.75	11	375	386
Deadend	Dead-End 18.75 (P/N 2)	PG&E	40.57	-57.00	219.0	0.0	4.00	3.90	18.75	-6	375	369
Underhung	Single Bolt	PG&E	40.39	57.00	25.0	0.0	5.00	3.00	0.00	18	0	18
Underhung	Single Bolt	PG&E	40.39	22.00	14.4	0.0	5.00	3.00	0.00	8	0	8
Underhung	Single Bolt	PG&E	40.39	-57.00	219.0	0.0	5.00	3.00	0.00	-13	0	-13
Underhung	Single Bolt	PG&E	40.39	-57.00	219.0	0.0	5.00	3.00	0.00	-13	0	-13
Underhung	Single Bolt	PG&E	40.39	57.00	25.0	0.0	5.00	3.00	0.00	18	0	18
Underhung	Single Bolt	PG&E	40.39	22.00	14.4	0.0	5.00	3.00	0.00	8	0	8
Bolt	Cutout	PG&E	37.74	44.00	24.0	0.0	5.00	5.00	0.00	15	0	15
Bolt	Cutout	PG&E	37.74	-44.00	220.0	0.0	5.00	5.00	0.00	-9	0	-9
Bolt	Cutout	PG&E	37.74	-18.00	230.9	0.0	5.00	3.00	0.00	-2	0	-2
Totals:										86	2,247	2,333

Guy Wire and Brace	Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)
EHS 7/16 Sidewalk	PG&E	40.50	0.00	11.00	0.438	75.00	122.0	70.4	0.399	50.73	1.82
EHS 7/16 Sidewalk	PG&E	39.00	0.00	11.00	0.438	75.00	122.0	69.5	0.399	49.31	1.79

Guy Wire and Brace (Loads and Reactions)	Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension*2 (lbs)	Maximum Tension2 (lbs)	Applied Tension3 (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL3 (ft-lb)
EHS 7/16 Sidewalk	2.30e+7	20,800	0.50	10,400	700	8,447	8,447	7,822	7,367	2,628	-1,994	-61,066
EHS 7/16 Sidewalk	2.30e+7	20,800	0.50	10,400	700	8,605	8,605	7,934	7,430	2,781	-2,110	-61,632
Totals:									14,797	5,409	-4,104	-122,698

Anchor/Rod Load Summary	Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load2 (lbs)	Load at Pole MCU3 (lbs)	Max Required Capacity2 (%)
Anchor - 20M	PG&E	6.00	11.00	122.0	40,000	0.50	20,000	17,051	15,755	85.3

Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	37.62	35.09	13.79	8.54	9.87	15.66	2.38e+6	60.00	57.00	41.00	204,518	2037.31	11.24

Notes		
Date	Author	Description
8/3/2015		Install C/O Arm min 2.5 ft below Primary Conductor
Install C/O Arm min 2.5 ft below Primary Conductor		

