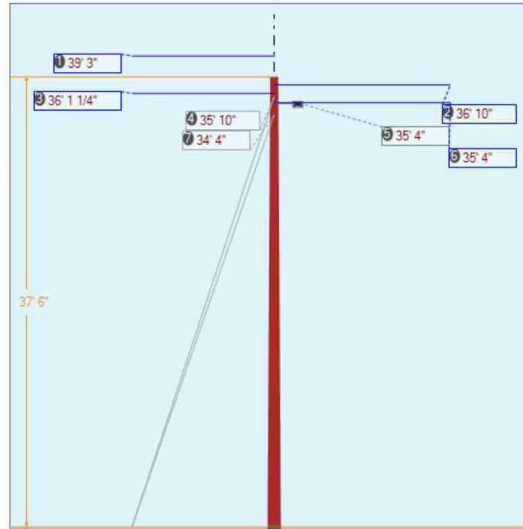
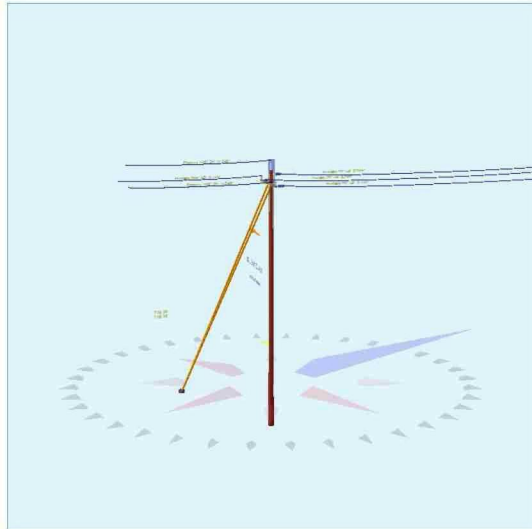




PASSED [REDACTED] 05/22/2021

Pole Num:	0	Pole Length / Class:	45 / 4	Code:	HFTD 2-3 Peak Wind	Structure Type:	Guyed Tangent
PM Order Number	35217268	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.50
Estimator LAN ID	[REDACTED]	Setting Depth (ft):	7.50	Construction Grade:	B	Transverse Wind LF:	1.00
Sketch Location	LOC_106	G/L Circumference (in):	34.46	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	120047659	Allowable Stress (psi):	3,800	Wind Speed (mph):	90.00	Pole Factor of Safety:	3.64
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	20.74	Vertical Factor of Safety:	9.39
Latitude:	39.910787 Deg	Longitude:	-121.327455 Deg	Elevation:	1795.999942528 Feet	Bending Factor of Safety:	3.88



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Maximum	55.0	0.0
Groundline	55.0	0.0
Vertical	21.3	34.0

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	21,144	312.7
Groundline	21,144	312.7
GL Allowable	41,035	
Overturn	67,000	



Digitally signed

by [REDACTED]

Date: 2021.05.24

09:15:35 -07'00'

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	16.0	208.0		62.3	300.7	66.4	30.0	
EHS 3/8 (Down)			35.8	81.4	300.7	86.2	30.0	
EHS 3/8 (Down)			34.3	80.4	300.7	86.2	30.0	
System Capacity Summary:					Adequate		Adequate	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 312.7°										
	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	1,521	174.0	50,635	239.5	123.4	5,047	36	0	5,048	132.8
GuyBraces	-1,261	-144.2	-41,077	-194.3	-100.1	-4,095	11,387	120	-3,974	-104.6
Pole	560	64.0	9,777	46.2	23.8	975	975	10	985	25.9
Crossarms	5	0.5	151	0.7	0.4	15	63	1	16	0.4
Insulators	49	5.6	1,659	7.8	4.0	165	34	0	166	4.4
Pole Load	875	100.0	21,144	100.0	51.5	2,108	12,494	132	2,240	58.9
Pole Reserve Capacity			19,891		48.5	1,692			1,560	41.1

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 312.7°										
	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	315	36.0	11,367	53.8	27.7	1,133	11,519	122	1,255	33.0
Pole	560	64.0	9,777	46.2	23.8	975	975	10	985	25.9
Totals:	875	100.0	21,144	100.0	51.5	2,108	12,494	132	2,240	58.9

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)	
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	39.25	0.00	0.7480	0.11	0.284	25.0	208.0	25.0	75	-745	0	613	-132
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	22.13	0.7480	0.53	0.284	59.0	28.0	59.0	1,872	17,446	1	1,357	18,804

Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.11	50.33	0.7480	0.11	0.284	25.0	208.0	25.0	75	-686	14	564	-108
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.11	50.33	0.7480	0.11	0.284	25.0	208.0	25.0	75	-686	-15	564	-136
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	35.33	49.72	0.7480	0.53	0.284	59.0	28.0	59.0	1,872	16,735	2	1,302	18,040
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	35.33	49.72	0.7480	0.53	0.284	59.0	28.0	59.0	1,872	16,735	-2	1,302	18,035
Totals:											48,800	0	5,703	54,503	

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	9L Composite Dead-End Arm	PG&E	35.33	5.78	208.0	208.0	63.00	3.63	4.63	108.00	-8	170	162
Totals:											-8	170	162

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)		
Pin	Kingpin w/ Insulator	PG&E	37.50	0.00	0.0	208.0	10.00	2.30	21.00	0	261	261	
Deadend	Dead-End Insulator	PG&E	36.83	0.00	28.0	28.0	4.00	3.90	18.75	2	379	381	
Pin	Insulator	PG&E	35.48	50.00	291.4	0.0	6.00	5.50	7.50	23	207	231	
Pin	Insulator	PG&E	35.48	-50.00	124.6	0.0	6.00	5.50	7.50	-25	207	182	
Deadend	Dead-End Insulator	PG&E	35.33	48.00	291.1	180.0	4.00	3.90	18.75	17	364	381	
Deadend	Dead-End Insulator	PG&E	35.33	-48.00	124.9	180.0	4.00	3.90	18.75	-14	364	350	
Totals:											3	1,783	1,785

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 3/8	Down	PG&E	35.83	0.00	16.00	0.375	75.00	208.0	65.7	0.273	45.59	1.80
EHS 3/8	Down	PG&E	34.33	0.00	16.00	0.375	75.00	208.0	64.8	0.273	44.19	1.72

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 Tension ² (lbs)	Applied Tension ³ (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL ³ (ft-lb)	
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	6,634	6,634	6,267	5,712	2,578	-652	-22,310
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	6,640	6,640	6,192	5,602	2,638	-667	-21,905
Totals:										11,314	5,215	-1,320	-44,215

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 Load ² (lbs)	Load at Pole MCU ³ (lbs)	Max Required Capacity ² (%)
Anchor - 20M	PG&E	6.00	16.00	208.0	40,000	0.50	20,000	13,274	12,459	66.4

Pole Buckling													
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	34.00	35.31	9.60	7.45	6.69	10.98	2.38e+6	60.00	57.00	37.50	58,786	586.59	4.69

Notes		
Date	Author	Description
8/26/2015		Outside Dead-Ends are at 48", inside phase at 23". Outside top insulators are at 50", inside are at 18"