

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: #8000  
 M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No. 1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 12 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/11/58 SHEET: 1 of 1

REV.: 5/14/58 Resagged for Flamingo 10/84 Oper name chgd  
 6/9/58 Rev Mile Changed 12/12 Rebuilt AL 61  
 11/17/58 Change Anchor Rods Str 11/7 11/2017 Oper Name ch due to HC Sub  
 12/16/58 Add HX & Side Guys Str 11/7  
 9/10/59 Rev 11/6 Anchor Rods  
 1/14 AL 65 Rebuilt

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
12/1	AL 63	530+00	827.9		1432.2		WA2	65	70	60		1-1/2" SM HX, 1-wood per strand 2-1/2" SM DPA, side guys 2-28 Anchors, 3/4" x 10' Rods
12/2	AL 64	538+99.2 BK 538+30.0 AH	295.0	0 10' LT	1527.4		WA1	60	65	55		Rake 6" X-Brace
12/3	AL 65	541+25	1676.6		1498.1		23WE-WSH	80	90	80	75	Class H1 Poles 3-1/2" HS DP2AD Line Guys 6-28" Plate Anchors, 1"x10' Rods
12/4	AL 66	558+01.6	705.4		1410.0		FH	85	90	85	85	2-1/2" SM HX, 1-wood per strand 2-1/2" SM DPA Side guys 2-28" Anchors, 3/4" x 10' Rods 3-1/2" Sm DP2AD Line Guys 6-28" Anchors, 3/4" x 10' Rods
12/5	AL 67	565+07	673.0		1383.4		WA1	55	55	55		X-Brace
12/6	AL 68	571+80	867.5		1324.6		WA2	70	70	70		1-1/2" SM HX, 1-wood per strand 2-1/2" SM DPA side guys 2-28" Anchors, 3/4" x 10' Rods
12/7	AL 69	580+47.5	562.5	26 51' RT	1306.4		FH	60	60	60	60	6-1/2" SM DPAD Line guys 6-28" Anchors, 3/4" x 10' rods Rake 12" Sectionalizing Jumpers

### STRUCTURE LIST

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 13 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 73  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
13/1	AL 70	586+10	1015.0		1321.7		WA2	55	55	55		X-Brace
13/2	AL 71	596+25	284.0		1307.5		WA1	50	50	50		X-Brace
13/3	AL 72	599+09	1211.0		1300.4		WA1	55	55	55		X-Brace
13/4	AL 73	611+20	490.0		1278.2		23WE-WSH	60	60	60	60	3-DP2AD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
13/5	AL 74	616+10	586.8		1277.3		WA1	55	55	55		X-Brace
13/6	AL 75	621+96.8	1053.2		1269.3		WA2	60	60	60		1-HX Guy, 1W Guy Insul/Strand 3-DP2AS Side Guys 6-28" Plate Anchor, 3/4"x10' Rods
13/7	AL 76	632+50	525.0		1254.4		WA2	65	65	65		1-HX Guy, 1W Guy Insul/Strand 3-DP2AS Side Guys 6-28" Plate Anchor, 3/4"x10' Rods

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 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING: \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 14 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 81  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	REMARKS C	DESCRIPTION & REMARKS
14/1	AL 77	637+75	575.0		1273.9		WA1	55	55	55		X-Brace
14/2	AL 78	643+50	590.0		1268.2		WA1	60	60	60		X-Brace
14/3	AL 79	649+40	660.0		1250.7		WA1	60	60	60		X-Brace
14/4	AL 80	656+00	479.6		2109.4		WA2	70	70	70		
14/5	AL 81	660+79.6	2143.5	12°00'Lt	1049.6		T23WG-WSH-W1H1**	80	85	80*	85	Rake 9" 2-HX Guy, 1W Guy Insul/Strand 2-1/2" HS DPA Side Guy 2-28" Plate Anchors, 1"x10' Rods 3-1/2" HS DP2AD Line Guys 6-28" Plate Anchors, 1"x10' Rods
14/6	AL 82	682+23.1 Bk 682+22.2 Ah	602.8	49°51'Rt	1159.2		FHXW	75	75	75	75	2-HX Guy, 1W Guy Insul/Strand 2-1/2" HS DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods 6-1/2" HS DPAD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods

\*\* Note: Reverse insulators back  
 \* Note: 80' nominal based on final center line elevation of 1045.1

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: 15 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/13/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 1/14 AL84, AL85, AL87 Rebuilt, AL90 Replaced Pole A  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
15/1	AL 83	688+25	472.7		1173.9		WA1	50	50	50		X-Brace
15/2	AL 84	692+97.7	1090.1		1141.9		22WA-WSH	65	65	70		X-Brace 1-1/2" HS HX Guy, 1-14' FG Ins/Strand 2-1/2" HS DPA Side Guys 2-28" Plate Anchors, 1"x10' Rods
15/3	AL 85	703+87.8	472.2		1138.7		22WA-WSH	60	60	60		X-Brace 1-1/2" HS HX Guy, 1-14' FG Ins/Strand 2-1/2" HS DPA Side Guys 2-28" Plate Anchors, 1"x10' Rods
15/4	AL 86	708+60	333.2		1178.1		WA1	45	45	45		
15/5	AL 87	711+93.2	706.8	21 48' LT	1182.2		22WC-WSH	50	50	50	50	Rake 12" 6-1/2" HS PA Side Guys 6-28" Plate Anchors, 1"x10' Rods
15/6	AL 88	719+00	550.0		1191.1		WA1	55	55	55		X-Brace
15/7	AL 89	724+50	534.8		1191.8		WA1	55	55	55		X-Brace
15/8	AL 90	729+84.8	215.2	15 26'LT	1177.5		23WC-WSH	60	60	60	60	Rake 9" 2-1/2" HS PA Guys 2-28" Plate Anchors, 1"x10' Rods 2-1/2" HS DPA Side Guys 2-28" Plate Anchors, 1"x10' Rods
15/9	AL 91	732+00	825.0		1176.6		WA1	55	55	55		X-Brace

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 16 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2-4-58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 1/14 AL95 & AL96 Rebuilt

11/2017 Oper Name ch due to HC Sub

NOTES:

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	REMARKS C	DESCRIPTION & REMARKS
16/1	AL 92	740+25	425.0		1165.2		WA1	45	45	50		X-Brace
16/2	AL 93	744+50	650.0		1140.8		WA1	60	60	60		X-Brace
16/3	AL 94	751+00	550.0		1135.4		WA1	60	60	60		X-Brace
16/4	AL 95	756+50	320.7		1151.0		22WA-WSH	55	55	55		
16/5	AL 96	759+70.7	746.3	14 10' LT	1138.5		23WC-WSH	55	55	55	60	Rake 9" 2-1/2" HS PA Guys, 1-14' FG Ins/Strand 2-28" Plate Anchors, 1"x10' Rods 2-1/2" HS DPA Side Guys, 1-14' FG Ins/Strand 2-28" Plate Anchors, 1"x10' Rods
16/6	AL 97	767+17	333.0		1147.7		WA1	50	50	50		X-Brace
16/7	AL 98	770+50	692.2		1153.1		WA1	50	50	50		X-Brace
16/8	AL 99	777+42.2	360.6		1158.8		WA1	50	50	50		X-Brace
16/9	AL 100	781+02.8	894.2	23 18' RT	1116.7		FH*	70	70	70	75	6-1/2" HS DPAD Guys, 6-28" Plate anchors 3/4"x 10' Rods Line guys Rake 12"
16/10	AL101	790+00	614.9		1129.8		WA2	60	60	60		X-Brace

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 17 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2-4-58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added 11/2017 Oper Name ch due to HC Sub  
 10/84 Oper name chgd  
 1/14 AL95 & AL96 Rebuilt

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	REMARKS C	DESCRIPTION & REMARKS
17/1	AL 102	796+14.9	477.6	14°41'Lt	1123.3		C	65	65	65	65	Rake 9" 2-1/2" SM PA Side Guys, 2-4" Channels, 3/4"x7' Rods 2-1/2" SM DPA Side Guys 2-28" Plate Anchors, 3/4"x10'
17/2	AL 103	800+92.5	816.2		1126.4		WA1	50	50	50		X-Brace
17/3	AL 104	809+08.7	663.3		1084.6		WA1	70	70	70		1-HX, 1 Wood insulator per strand 2-1/2" SM DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
17/4	AL 105	815+87.5		36°00'Lt	1127.4		WA1	55	55	60		
17/5	AL 106	818+87.5	812.5	36°00'Lt	1116.0		C2	60	55	60	65	Rake 15" 6-1/2" SM PA Side Guys 6-4' Channels, 3/4"x10' Rods
17/6	AL 107	827+00	192.0		1131.3		WA1	50	50	50		X-Brace
17/7	AL 108	828+92	908.0		1124.0		WA1	65	70	65		
17/8	AL 109	838+00	342.4		1196.9		WA1	55	55	55		X-Brace
17/9	AL 110	841+42.4	600.8		1183.0		WA1	55	55	55		

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 18 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2-4-58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added 11/2017 Oper Name ch due to HC Sub  
 10/84 Oper name chgd  
 1/14 AL95 & AL96 Rebuilt

NOTES:

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	REMARKS C	DESCRIPTION & REMARKS
18/1	AL 111	847+43.2	1891.8	8°14'Rt	1152.5		FH	55	55	55	55	Rake 6" 2 HX, 1 Wood insulator per strand 2-1/2" HS DPA Side Guys 2-28" Anchor Plates, 1"x10' Rods 3-1/2" HS DP2AD Line Guys 6-28" Anchor Plates, 1"x10' Rods
18/2	AL 112	866+35	269.6		1129.6		FH	50	50	50	50	2 HX, 1 Wood insulator per strand 2-1/2" HS DPA Side Guys 2-28" Anchor Plates, 1"x10' Rods 3-1/2" HS DP2AD Line Guys 6-28" Anchor Plates, 1"x10' Rods
18/3	AL 113	869+04.6	720.4	21°52'Rt	1162.0		C2	55	55	55	55	Rake 12" 6-1/2" SM PA Side Guys 6-4' Channels, 3/4"x7' Rods
18/4	AL 114	876+25	625.0		1273.1		WA1	65	65	65		1 HX, 1 Wood Insulator per strand 2-1/2" SM PA Side Guys 2-4' Channels, 3/4"x7' Rods
18/5	AL 115	882+50	750.0		1436.2		WA1	60	60	60		X-Brace
18/6	AL 116	890+00	380.7		1558.9		WA1	60	60	60		X-Brace
18/7	AL 117	893+80.7	324.4	51°57'Rt	1619.0		FH	55	55	55		Rake 15" 6-1/2" SM DPAD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
18/8	AL 118	897+05.1	1294.9		1603.6		WA2	60	60	65		1 HX, 1 Wood Insulators 2-1/2" SM DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 19 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 124  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
19/1	AL 119	910+00	900.0		1593.1		KFH	65	65	65	70	2-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 2/4"x10' 3-DP2AD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
19/2	AL 120	919+00	200.0		1604.5		WA1	50	50	50		X-Brace
19/3	AL 121	921+00	650.0		1606.4		WA1	50	50	50		
19/4	AL 122	927+50	882.0		1532.1		WA2	70	75	70		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
19/5	AL 123	936+32	743.0		1388.2		WA2	65	65	65		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
19/6	AL 124	943+75	385.9		1187.3		22WA-WSH	70	75	70		X-Brace
19/7	AL 125	947+60.9	989.1	2°56'Lt	1099.5		KFH	65	70	65	60	Rake 6" 3-DP2AD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods



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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 20 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/84 Oper name chgd  
 12/12 Rebuilt AL 128  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
20/1	AL 126	957+50	350.0		1079.3		WA1	50	50	50		X-Brace
20/2	AL 127	961+00	1266.6		1043.0		WA2	70	70	70		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guy 2-28" Plate Anchors, 3/4"x10' Rods
20/3	AL 128	973+66.6	733.4	45°00'Lt	1023.1		23WG-WSH	75	75	75	80	Rake 18" 6-DPAD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
20/4	AL 129	981+00	325.0		1094.7		WA1	65	65	65		
20/5	AL 130	984+25	1195.0		1114.2		WA2	85	85	85		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
20/6	AL 131	996+20	295.7		1151.3		WA1	80	80	80		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
20/7	AL 132	999+15.7	612.5	Const. 0°03'Rt	1175		WA1	50	50	55		

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ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING: \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 21 STATION: \_\_\_\_\_ PL-6: \_\_\_\_\_  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1  
 453865

REV.: 10/84 Oper name chgd  
 12/12 Rebuilt AL 128  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
21/1	AL 133	1004+90.8 Ah 1005+28.2 Bk	374.2		1132.2		WA1	60	60	60		
21/2	AL 134	1008+65	992.0		1116.1		WA1	55	55	60		X-Brace
21/3	AL 135	1018+57.0	403.0	31°58'Lt	1067.5		FH	50	50	50	50	Sectionalizing Jumpers Rake 15" 6-1/2" SM DPAD Line Guys 6-28" Anchor Plates, 3/4"x10' Rods
21/4	AL 136	1022+60	740.0		1076.3		WA1	55	55	55		X-Brace
21/5	AL 137	1030+00	485.1		1081.7		WA1	65	65	65		X-Brace
21/6	AL 138	1034+85.1	614.9		1099.0		WA1	55	55	55		X-Brace
21/7	AL 139	1041+00	650.0		1098.6		WA1	55	55	55		X-Brace
21/8	AL 140	1047+50	739.1		1076.7		WA1	60	60	60		X-Brace
21/9	AL 141	1054+89.1	428.3	15°22'Lt	1081.8		C	55	55	55	60	Rake 9" 2-1/2" SM PA Side Guys 2-4' Channels, 3/4"x7' Rods 2-1/2" SM DPA Side Guys 2-28" Anchor Plates, 3/4"x10' Rods

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 M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING: \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 22 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/84 Oper name chgd  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
22/1	AL 142	1059+17.4	857.3		1081.2		WA1	55	55	55		X-Brace
22/2	AL 143	1067+74.7	400.3		1109.4		WA1	60	60	60		X-Brace
22/3	AL 144	1071+75	800.0		1123.6		WA1	50	50	55		X-Brace
22/4	AL 145	1079+75	608.4		1144.3		WA1	55	55	60		X-Brace
22/5	AL 146	1085+83.4 Bk 1085+78.2 Ah	696.8	3°30'RLt	1112.6		B2	55	55	55	55	Rake 6" 1-1/2" SM DPA Side Guy 1-28" Anchor Plate, 3/4"x10' Rod
22/6	AL 147	1092+75	1350.0		1067.4		FH	50	50	50	55	2-HX, 1 Wood insulator/strand 2-1/2" SM DPA Side Guys 2-28" Anchor Plates, 3/4"x10' Rods 3-1/2" SM DP2AD Line Guys 6-28" Anchor Plates, 3/4"x10' Rods
22/7	AL 148	1106+25	775.0		1058.6		FH	65	60	65	70	2-HX, 1 Wood insulator/strand 2-1/2" SM DPA Side Guys 2-28" Anchor Plates, 3/4"x10' Rods 3-1/2" SM DP2AD Line Guys 6-28" Anchor Plates, 3/4"x10' Rods

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: #8000  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 22 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/84 Oper name chgd  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	REMARKS C	DESCRIPTION & REMARKS
23/1	AL 149	1114+00	525.0		1183.0		WA1	65	65	65		X-Brace
23/2	AL 150	1119+25	476.8		1286.8		WA2	60	60	60		
23/3	AL 151	1124+18 Bk 1130+20.0 Ah	689.5	27°26'Rt	1222.5		C2	70	70	70	70	Rake 12" 6-1/2" SM PA Side Guys 6-4' Channels, 3/4"x7' Rods
23/4	AL 152	1137+09.5	1165.5		1099.6		FH	55	55	55	55	2 HX, 1 Wood insulator/strand 2-1/2" HS DPA Side Guys 2-28" Anchor Plates, 1"x10' Rods 3-1/2" HS DP2AD Line Guys 6-28" Anchor Plates, 1"x10' Rods
23/5	AL 153	1148+75	605.0		1055.6		FH	55	50	55	60	2 HX, 1 Wood insulator/strand 2-1/2" HS DPA Side Guys 2-28" Anchor Plates, 1"x10' Rods 3-1/2" HS DP2AD Line Guys 6-28" Anchor Plates, 1"x10' Rods
23/6	AL 154	1154+80	345.0		1057.4		WA1	55	55	60		
23/7	AL 155	1158+25	568.6		1048.6		WA1	60	60	60		
23/8	AL 156	1163+93.6	731.4		1012.6		WA1	55	55	55		X-Brace

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: #8000  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 22 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/84 Oper name chgd  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
24/1	AL 157	1171+25	305.0		1010.9		WA1	50	50	50		X-Brace
24/2	AL 158	1174+30	986.8		996.0		WA1	50	50	55		X-Brace
24/3	AL 159	1184+16.8	855.3	5°12'Rt	959.4		FH	50	50	50		2 HX, 1 Wood insulator/strand 2-1/2" SM DPA Side Guys 2-28" Anchor Plates, 3/4"x10' Rods 3-1/2" SM DP2AD Line Guys 6-28" Anchor Plates, 3/4"x10' Rods
24/4	AL 160	1192+72.1	592.9		933.6		WA1	50	50	50		X-Brace
24/5	AL 161	1198+65	750.1		921		WA1	55	55	60		X-Brace
24/6	AL 162	1206+15.1	534.9		902.9		WA1	55	55	60		X-Brace
24/7	AL 163	1211+50	644.8		893.9		WA1	50	50	55		X-Brace
	Eq	1213+93.2 Bk = 1213+83.2 Ah					No S Structure					
24/8	AL 164	1217+84.8	679.0		841.3		WA1	55	55	60		X-Brace

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: #8000  
 M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 25 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt 165  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
25/1	AL 165	1224+63.8	636.2	22°18'Rt	795.3		23WC-WSH	50	50	50		Rake 12" 6-PA Side Guys 6-4' Plates, 3/4"x7' Rods
25/2	AL 166	1231+00	750.0		728.9		WA1	75	75	75		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guy 2-28" Plate Anchors, 3/4"x10' Rods
25/3	AL 167	1238+50	640.0		718.5		WA1	75	75	75		1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guy 2-28" Plate Anchors, 3/4"x10' Rods
25/4	AL 168	1244+90.0 Bk 1244.90.3 Ah	674.7	Const. 14°56'Lt	1094.7		KC	65	65	65	65	Rake 9" 2-PA Guys 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
		1245+00.0		15°03'Lt			Survey angle point no structure					
25/5	AL 169	1251+65*	584.1		708.5		WA1	65	65	70		X-Brace
25/6	AL 170	1257+49.1 Bk 1258+00.0 Ah	715.0	Const. 17°17'Lt	682.5		KC	70	70	70	70	Rake 9" 2-PA Guy 2-4" Plates, 3/4"x7' Rods 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
25/7	AL 171	1265+15	585.0		689.4		WA1	75	75	75		1-HX Guy, 1W Guy Insul/Strand 2-PA Side Guys 2-4" Plates, 3/4"x7' Rods
25/8	AL 172	1271+00	725.0		688.1		WA1	80	80	80		1-HX Guy, 1W Guy Insul/Strand 2-PA Side Guys 2-4" Plates, 3/4"x7' Rods

2/1/2018

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: #8000  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 26 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 173  
 11/2017 Oper Name ch due to HC Sub

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
26/1	AL 173	1278+25	675.0		690.3		22WA-WSH	75	75	75		X-Brace 1-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods
26/2	AL 174	1285+00	700.0		688.8		WA1	65	65	65		X-Brace
26/3	AL 175	1292+00	700.0		686.0		WA1	65	65	65		1-HX Guy, 1W Guy Insul/Strand 2-PA Side Guy 2-4" Plate Anchors, 3/4"x7' Rods
26/4	AL 176	1299+00	680.0		684.6		WA1	60	60	60		X-Brace
26/5	AL 177	1305+80	695.0		683.3		WA1	60	60	60		X-Brace
26/6	AL 178	1312+75	675.0		680.3		WA1	60	60	60		X-Brace
26/7	AL 179	1319+50	550.0		677.8		WA1	70	70	70		1-HX Guy, 1W Guy Insul/Strand 2-PA Side Guys 2-4" Plates, 3/4"x7' Rods
26/8	AL 179	1325+00	840.0		674.3		WA1	70	70	70		1-HX Guy, 1W Guy Insul/Strand 2-PA Side Guys 2-4" Plates, 3/4"x7' Rods

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: 8000#  
 M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: 27 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 182  
 5/2018 Oper Name ch due to HC Sub, added BEL 190.

**NOTES:**

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
27/1	AL 181	1333+40	435.0	15°45' Lt	723.4		KFH	65	60	70		Rake 9" 2-HX Guy, 1W Guy Insul/Strand 2-DPA Side Guys 2-28" Plate Anchors, 3/4"x10' Rods 6-DPAD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
27/2	AL 182	1337+75	380.7		745.2		22WA-WSH	50	50	55		
27/3	AL 183	1341+55.7	547.5		728.8		WA1	55	55	60		
27/4	AL 184	1347+03.2	599.4	8°37' Lt	699.1		KB1	60	60	60	60	Rake 6" 3-PA Side Guy 3-4' Anchors, 3/4"x7' Rods
27/5	AL 185	1353+02.6	695.3		695.9		WA1	55	55	55		X-Brace
27/6	AL 186	1359+97.9	702.1	93°05' Lt	684.2		KEH	45	40	50		Rake 6" 6-DPAD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods
27/7	AL 187	1367+00	500.0		666.5		WA1	60	60	60		X-Brace
27/8	AL 188	1372+00	440.0		666.5		WA1	70	70	70		
27/9	AL 189	1376+40	274.0	1°36' Lt	678.3	736.6	KFH	75	75	75	75	3-DP2AD Line Guys 6-28" Plate Anchors, 3/4"x10' Rods Cond MWT 4000#
27/10	BEK 190	1379+14.0 Bk 8+31.5 Ah	168.5	94°29' Rt	681.7	741.2	OLP2-N	103	103			Glu-lam pole (dwg 332741) Embedment depth 18 feet Type D2-E Assemblies Bk Type D-E Assemblies Ah Cond MWT 1000#
SSDE		10+00		20°07' Rt	681.9	722.0						Holden Creek Substation (EWEB)



### STRUCTURE LIST

COND.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Cougar - Holden Creek No.1  
 ICE: \_\_\_\_\_ DESIGN NAME: Eugene Water and Electric Board  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Tubular Steel MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: 26 STATION: \_\_\_\_\_ PL-6: \_\_\_\_\_  
 BY: WHH CK: FRN,JBT DATE: 11/20/84 SHEET: 1 of 1  
 453865

REV.: 7-10-61 Twr AL 45 angle marked (const) 11/2017 Oper Name ch due to HC Sub  
 1-31-62 Add Rake to angle Towers  
 6-26-73 Add Disc Sw in Mile 6 WO 880-239  
 10-84 Oper name changed

NOTES:  
 Supplemental Steel Tower List

OPER STR NO.	SERIAL NO.	STATION	ANGLE	STR. TYPE	POLE LENGTH			POLE FOOTING		GUYING		GUY ANCHOR		Anchor Rod Length	DESCRIPTION & REMARKS
					A	B	C	Plate	Earth	Down	Cross	Plate	Rock		
2/1	AL 8	852+72.9	13°43'Lt	30C2	65	62.5	57.5	3		7	2	7		10'	Rake 9"
2/4	AL 11	889+34.2	61°00'Lt	30F2	77.5	75	70	3		7	2	7		10'	Rake 12"
2/5	AL 12	900+50		30F1	62.5	62.5	62.5	3		8	2	8		10'	
3/2	AL 14	920+52.3	52°38'Lt	30F2	95	95	95	3		7	2	7		10'	Rake 15"
3/5	AL 17	958+51.1	26°20'Lt	30F1	80	82.5	82.5	3		8	2	8		10'	Rake 12"
4/4	AL 21	1000+00.0 Bk 129+86.5 Ah	15°30'Rt	30C1	67.5	67.5	67.5	3		5	2	5		10'	Rake 9"
5/4	AL 27	190+85.3	41°29'Lt	30F2	42.5	42.5	42.5	3		7	2	7		10'	Rake 18"
6/2	AL 30	223+00.4		10SW	55	55			2	12		12		10'	See Dwg 154276A-H-DTW-D See Dwg 118728
6/3	AL 31	230+11.6	33°47'Rt	30F2	57.5	57.5	57.5	3		7	2	7		10'	Rake 15"
7/3	AL 36	288+25.7	32°53'Rt	30F2	62.5	62.5	62.5	3		7	2	7		10'	Rake 15"
7/5	AL 38	308+50.4 Bk 324+60.3 Ah	52°56'Lt	30F2	42.5	42.5	45	3		7	2	7		10'	Rake 15"
8/4	AL 42	362+84.0	6°23'Rt	30C1	55	62.5	75	3		5	2	5		10'	Rake 6" Guy to Rt H/L=4.5
9/2	AL 45	392+78.6 Bk 392+79.7 Ah	(const) 8°56'Lt	30F1	62.5	67.5	72.5	3		8	2	8		12'	Rake 6"

### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: 8000#  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Holden Creek - Thurston No. 1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: 1 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 10/26/60 Retyped serial numbers added  
 10/84 Oper name chgd  
 12/12 Rebuilt AL 190  
 9/14 Raised AL 190

**NOTES:**

5/2018 Oper name ch & renumber due to HC Sub, modified BEK 190.

OPER STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS
SSDE		10+00	186	2*29' Lt	681.9	725.1						Holden Creek Sub (EWEB) North Bay Cond MWT 1000#
1/1	BEL 190	11+86 Bk 1380+00 Ah	1300	27*51' Rt	685.4	754.0	23WG-WSH	85	85	85	85	Rake 18" 6-DPAD Line Guys, 1-14' FG Insulators/Strand 3-28" Plate Anchors, 3/4"x10' Rods Bk 3-28" Plate Anchors, 1"x10' Rods Ah Type D-E Assemblies Bk Type D2-E Assemblies Ah Cond MWT 8000#

**STEEL TOWER LIST**

REV. 10/84 Oper Name Chdg 11/2017 Oper Name ch due to HC Sub, modified BEK 190.	Type construction	<u>Single Circuit</u>		Operating Name	<u>Holden Creek - Thurston No. 1</u>	
	Design voltage	<u>115 kV</u>	Ice load <u>1/2"</u>	Design Name	<u>Cougar - Station "S" No.1</u>	
	Conductor	<u>ACSR Flamingo</u>		Section	_____	
	M. W. T.	<u>10000# Except as noted</u>		Work Order	<u>453865</u>	
	Ground Wire	_____		By:	<u>WHH</u>	Ck by: <u>JBT</u>
	M. W. T.	_____		Date:	<u>3/28/61</u>	
Insulators:	<u>15k #</u>	Susp _____	D.E. _____			

TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
1/1	BEK 190	11+86 Bk 1380+00 Ah	1300		23WG-WSH								Cond MWT 8000#
1/2	AL 191	1393+00	722.2		10L	50	25	22.5	22.5	25	Plate	Earth	Cond MWT 8000#
1/3	AL 192	1400+22.2	1674.3	16°56'Lt	30F1		See supplemental tower list				Earth & Rock		
1/4	AL 193	1416+96.5	828.5	14°16'Rt	30C1		See supplemental tower list				Earth		
1/5	AL 194	1425+25	1117.5		10L	50	15	12.5	12.5	15	Plate	Earth	



### STRUCTURE LIST

COND.: ACSR Flamingo M.W.T.: 10000#  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Holden Creek - Thurston No. 1  
 ICE: \_\_\_\_\_ DESIGN NAME: Cougar - Station S No. 1  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Steel & Spar Arms MARKING: \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: 3 STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 2/12/58 SHEET: 1 of 1

REV.: 7-10-61 Cond MWT note removed  
 10/84 Oper Name Chdg  
 \*Tower design MWT - 12,000#  
 5/18 Oper Name ch & renumber for HC Sub, added AL 199A.

**NOTES:**

OPER											
STR NO.	SERIAL NO.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B C	DESCRIPTION & REMARKS
3/1	AL 199A	1487+35	515		1139.3	1189.0	22WA-WSH	65	65	65	X-Brace Type S-E Assemblies 2 - 100# weights per phase

**STEEL TOWER LIST**

REV. 7-10-61 Cond MWT note removed 10/84 Oper Name Chdg *Tower design MWT - 12,000# 11/2017 Oper Name ch due to HC Sub, added AL 199A.	Type construction <u>Single Circuit</u> Design voltage <u>115 kV</u> Ice load <u>1/2"</u> Conductor <u>ACSR Flamingo</u> M. W. T. <u>10000# Except as noted</u> Ground Wire _____ M. W. T. _____ Insulators: 15k # Susp _____ D.E. _____	Operating Name <u>Holden Creek - Thurston No. 1</u> Design Name <u>Cougar - Station "S" No.1</u> Section _____ _____ Work Order <u>453865</u> By: <u>WHH</u> Ck by: <u>JBT</u> Date: <u>3/28/61</u>
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TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
3/1	AL 199A	1487+35	515.0		22SA-WSH			See wood pole structure list					
3/2	AL 200	1492+50	528.9		10L	50	20	17.5	17.5	20	Plate	Earth	
3/3	AL 201	1497+78.9	1321.1		10L	50	10	5	5	10	Plate	Earth & Broken Rock	
3/4	AL 202	1511+00	978.0		10L	50	10	5	5	10	Plate	Earth & Broken Rock	
3/5	AL 203	1520+78.0	822.0	4°16'Rt	OA1*	50	7.5	5	5	7.5	Plate	Earth	200# Wt. each phase
3/6	AL 204	1529+00	875		10L	50	7.5	5	5	5	Plate	Earth	







**STEEL TOWER LIST**

REV. 7-10-61 Cond MWT note removed 10/84 Oper Name Chdg *Tower design MWT - 12,000# 11/2017 Oper Name ch due to HC Sub	Type construction <u>Single Circuit</u> Design voltage <u>115 kV</u> Ice load <u>1/2"</u> Conductor <u>ACSR Flamingo</u> M. W. T. <u>10000# Except as noted</u> Ground Wire _____ M. W. T. _____ Insulators: 15k # Susp _____ D.E. _____	Operating Name <u>Holden Creek - Thurston No. 1</u> Design Name <u>Cougar - Station "S" No.1</u> Section _____ _____ Work Order <u>453865</u> By: <u>WHH</u> Ck by: <u>JBT</u> Date: <u>3/28/61</u>
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TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
6/1	AL 214	1658+64.3	760.7	26°18'Lt	30C2		See Supplemental Tower List				Earth & Broken Rock		
6/2	AL 215	1666+25	1625.8		10L	50	12.5	12.5	10	10	Plate	Earth & Broken Rock	
6/3	AL 216	1682+50.8	699.2		10L	50	10	5	5	10	Plate	Earth & Broken Rock	
6/4	AL 217	1689+50	870		10L	50	7.5	5	5	10	Plate	Earth	
6/5	AL 218	1698+20	830		10L	50	7.5	5	5	7.5	Plate	Earth	



**STEEL TOWER LIST**

REV. 7-10-61 Twr AL 228 span corrected 6-12-68 Danger sign 35/3-36/4 10-84 Oper Name Change 11/2017 Oper Name ch due to HC Sub	Type construction <u>Single Circuit</u> Design voltage <u>115 kV</u> Ice load <u>1/2"</u> Conductor <u>ACSR Flamingo</u> M. W. T. <u>10000# Except as noted</u> Ground Wire _____ M. W. T. _____ Insulators: 15k # Susp _____ D.E. _____	Operating Name <u>Holden Creek - Thurston No. 1</u> Design Name <u>Cougar - Station "S" No.1</u> Section _____ _____ Work Order <u>453865</u> By: <u>WHH</u> Ck by: <u>JBT</u> Date: <u>3/28/61</u>
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TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
8/1	AL 224	1760+47.5	1102.5		10L	50	7.5	5	5	7.5	Plate	Earth & Boulders	
8/2	AL 225	1771+50	1130.6		10L	50	7.5	5	5	7.5	Plate	Earth	
8/3	AL 226	1782+80.6	929.9	11°02'Lt	30C1		See Supplemental Tower List				Earth	Danger Sign Bk.	
8/4	AL 227	1792+10.5	1469.5		10L	50	7.5	7.5	5	5	Plate	Earth & Boulders	
8/5	AL 228	1806+80	645		10L	50	27.5	22.5	25	27.5	Plate	Earth	

**STEEL TOWER LIST**

REV. 7-10-61 Twr AL 228 span corrected 2-20-62 Leg 3 changed AL 230 6-12-68 Danger sign 35/3-36/4 10-84 Oper Name Change 11/2017 Oper Name ch due to HC Sub	Type construction <u>Single Circuit</u> Design voltage <u>115 kV</u> Ice load <u>1/2"</u> Conductor <u>ACSR Flamingo</u> M. W. T. <u>10000# Except as noted</u> Ground Wire _____ M. W. T. _____ Insulators: 15k # Susp _____ D.E. _____	Operating Name <u>Holden Creek - Thurston No. 1</u> Design Name <u>Cougar - Station "S" No.1</u> Section _____ Work Order <u>453865</u> By: <u>WHH</u> Ck by: <u>JBT</u> Date: <u>3/28/61</u>
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TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
9/1	AL 229	1813+25	1075		10L	50	7.5	7.5	5	5	Plate	Earth	
9/2	AL 230	1824+00	1043.1		10L	50	25	25	25	25	Plate	Earth	
9/3	AL 231	1834+43.1	1056.9	10°11'Rt	30C1		See Supplemental Tower List					Earth	
9/4	AL 232	1845+00	1333.4		10L	50	27.5	27.5	25	27.5	Plate	Earth	Danger Sign Ah.
9/5	AL 233	1858+33.4	891.6	12°15'Lt	30C1		See Supplemental Tower List					Earth	

**STEEL TOWER LIST**

REV. 10-84 Oper Name Change 11/2017 Oper Name ch due to HC Sub	Type construction	<u>Single Circuit</u>		Operating Name	<u>Holden Creek - Thurston No. 1</u>		
	Design voltage	<u>115 kV</u>	Ice load <u>1/2"</u>	Design Name	<u>Cougar - Station "S" No.1</u>		
	Conductor	<u>ACSR Flamingo</u>		Section	_____		
	M. W. T.	<u>10000# Except as noted</u>		Work Order	<u>453865</u>		
	Ground Wire	_____		M. W. T.	_____		
	M. W. T.	_____		Insulators: 15k # Susp	_____	D.E.	_____
	By: <u>WHH</u>	Ck by: <u>JBT</u>	Date: <u>3/28/61</u>				

TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
10/1	AL 234	1867+25	1525		10L	65	17.5	20	17.5	17.5	Plate	Earth	
10/2	AL 235	1882+50	750		10L	65	27.5	27.5	27.5	27.5	Plate	Earth	
10/3	AL 236	1890+00	1250		10L	50	25	25	25	25	Plate	Earth	
10/4	AL 237	1902+50	1000		10L	50	15	12.5	12.5	15	Plate	Earth	
10/5	AL 238	1912+50	1088.5		10L	50	25	25	25	25	Plate	Earth	



**STEEL TOWER LIST**

REV.  
 11/84 Retyped, Oper name changed, removed guys  
 and switches str. AL247A  
 \*Tower design MWT - 12,000#  
 11/2017 Oper Name ch due to HC Sub

Type construction Single Circuit  
 Design voltage 115 kV Ice load 1/2" Operating Name Holden Creek - Thurston No. 1  
 Conductor ACSR Flamingo Design Name Cougar - Station "S" No.1  
 M. W. T. 10000# Except as noted Section \_\_\_\_\_  
 Ground Wire \_\_\_\_\_ Work Order 453865  
 M. W. T. \_\_\_\_\_  
 Insulators: 15k # Susp \_\_\_\_\_ D.E. \_\_\_\_\_ By: WHH Ck by: JBT Date: 3/28/61

TOWER		STATION	SPAN	ANGLE	TOWER		LEG EXTENSIONS				FOOTING TYPE	SOIL TYPE	REMARKS
OPRNG. NO.	SERIAL NO.				TYPE	HT							
12/1	AL 244	1978+57.2	642.8		10L	50	7.5	5	5	7.5	Plate	Earth & Rock	
12/2	AL 245	1985+00	1650		10L	50	10	10	5	5	Plate 1&2 Rock 3&4	Earth & Rock	
12/3	AL 246	2001+50	1350		OA1*	50	27.5	25	22.5	25	Plate	Earth & Rock	
12/4	AL 247	2015+00	342.6		10L	50	7.5	7.5	10	10	Plate 3 Rock 1,2,4	Earth & Rock	
		2018+04± (BPA)= 1+00± (EWEB)			EWEB Loop (Tap) to Thurston Substation See Drawing 160264-TAB-A1								
12/5	AL 247A	2018+42.6			Wood FH	70	PoleA 75	PoleB 70	PoleC 70		Unguyed		Coupling Capacitors

### STRUCTURE LIST

COND.: ACSR Drake M.W.T.: #5000  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Holden Creek - Thurston No. 1  
 ICE: \_\_\_\_\_ DESIGN NAME: Eugene Water and Electric Board  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: DC Wood HF (except as noted) MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE 26 STATION: \_\_\_\_\_ PL-6: \_\_\_\_\_  
 BY: WHH CK: FRN,JBT DATE: 11/20/84 SHEET: 1 of 1  
 453865

**REV.:** Other circuit of double circuit operates as  
 Thurston-Willakenzie No. 1  
 \*Single Circuit Structure  
 11/2017 Oper Name ch due to HC Sub  
 Mi 40 constructed, owned, maintained by EWEB

**NOTES:**  
 40/1-40/2 AAc Arbutus@700#MWT  
 40/10-SSDE AAC Arbutus @700#MWT

OPER STR NO.	EWEB No.	STATION	SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV.	STR. TYPE	STR. HT	POLE A	LENGTH B	C	DESCRIPTION & REMARKS	
13/1	--	0+71.6 1+00	109.2				DE* Tap Point See Drawing	45	45	45		LG Back 160264-TAB-A1	
13/2	TC1/1	1+80.8	559.5				DE*	86	86			Wave Traps LG Back	
13/3	TCW 1/1	7+40.3	470.5				Susp	105	105				
13/4	TCW 1/2	12+10.8	529.2				Susp	101	101				
13/5	TCW 1/3	17+40	539.7				Susp	95	95				
13/6	TCW 1/4	22+79.7	520.3				Susp	96	96				
13/7	TCW 1/5	28+00	640.1				Susp	100	100				
13/8	TCW 1/6	34+40.1	609.9				Susp	96	96				
13/9	TCW 1/7	40+50	372.9				Susp	90	90				
13/10	TC1/2	44+22.9 Bk 44+20.9 Ah	157.6				DE*	70	70			LG Ahead	
45+78.5 Thurston Substation EWEB							SW Stand						



### STRUCTURE LIST

COND.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 GW.: \_\_\_\_\_ M.W.T.: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_

ICE: 1/2" OPER. NAME: Holden Creek - Thurston No. 1  
 ICE: \_\_\_\_\_ DESIGN NAME: Eugene Water and Electric Board  
 ICE: \_\_\_\_\_ 115 -kV, ST TYPE: Tubular Steel MARKING \_\_\_\_\_  
 ICE: \_\_\_\_\_ MILE: \_\_\_\_\_ STATION: \_\_\_\_\_ PL-6: 453865  
 BY: WHH CK: FRN,JBT DATE: 11/20/84 SHEET: 1 of 1  
 453865

REV.: 7-10-61 Twr AL 45 angle marked (const) 11/2017 Oper Name ch due to HC Sub  
 1-31-62 Add Rake to angle Towers  
 6-26-73 Add Disc Sw in Mile 6 WO 880-239  
 10-84 Oper name changed

NOTES:  
 Supplemental Steel Tower List

OPER STR NO.	SERIAL NO.	STATION	ANGLE	STR. TYPE	POLE LENGTH			POLE FOOTING		GUYING		GUY ANCHOR		Anchor Rod Length	DESCRIPTION & REMARKS
					A	B	C	Plate	Earth	Down	Cross	Plate	Rock		
1/3	AL 192	1400+22.2	16°56'Lt	30F1	52.5	50	47.5	3		8	2	8		10'	Rake 9"
1/4	AL 193	1416+96.5	14°16'Rt	30C1	57.5	55	52.5	3		5	2	5		10'	Rake 9"
2/5	AL 199	1479+72.6	18°42'Lt	30F1	40	37.5	35	3		8	2	8		10'	Rake 9"
4/5	AL 209	1588+83.9 Bk 1599+81.4 Ah	13°40'Rt	30C1	60	55	52.5	3		5	2	5		10'	Rake 9"
5/4	AL 213	1640+78.1	13°23'Lt	30C1	82.5	82.5	82.5	3		5	2	3	2	10'	Rake 9"
6/1	AL 214	1658+64.3	26°18'Lt	30C2	42.5	42.5	42.5	3		7	2	7		10'	Rake 12"
7/2	AL 220	1722+46.1	40°00'Rt	30F2	45	42.5	42.5	3		7	2	7		12'	Rake 15"
8/3	AL 226	1782+80.6	11°02'Lt	30C1	55	52.5	52.5	3		5	2	5		10'	Danger sign Back Rake 9"
9/3	AL 231	1834+43.1	10°11'Rt	30C1	60	60	57.5	3		5	2	5		10'	Rake 9"
9/5	AL 233	1858+33.4	12°15'Lt	30F1	77.5	80	80	3		5	2	5		10'	Rake 9"
11/1	AL 239	1923+38.5	19°00'Rt	30C2	75	75	72.5	3		7	2	7		10'	Rake 9"

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
SSDE	CUGR SUB	SSDE	CUGR SUB		
1/1	AL 2	1/1	AL 2		
1/2	AL 3	1/2	AL 3		
1/3	AL 4	1/3	AL 4		
1/4	AL 5	1/4	AL 5		
1/5	AL 6	1/5	AL 6		
1/6	AL 7	1/6	AL 7		
2/1	AL 8	2/1	AL 8		
2/2	AL 9	2/2	AL 9		
2/3	AL 10	2/3	AL 10		
2/4	AL 11	2/4	AL 11		
2/5	AL 12	2/5	AL 12		
3/1	AL 13	3/1	AL 13		
3/2	AL 14	3/2	AL 14		
3/3	AL 15	3/3	AL 15		
3/4	AL 16	3/4	AL 16		
3/5	AL 17	3/5	AL 17		
4/1	AL 18	4/1	AL 18		
4/2	AL 19	4/2	AL 19		
4/3	AL 20	4/3	AL 20		
4/4	AL 21	4/4	AL 21		
4/5	AL 22	4/5	AL 22		
4/6	AL 23	4/6	AL 23		
5/1	AL 24	5/1	AL 24		
5/2	AL 25	5/2	AL 25		
5/3	AL 26	5/3	AL 26		
5/4	AL 27	5/4	AL 27		
5/5	AL 28	5/5	AL 28		

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
6/1	AL 29	6/1	AL 29		
6/2	AL 30	6/2	AL 30		
6/3	AL 31	6/3	AL 31		
6/4	AL 32	6/4	AL 32		
6/5	AL 33	6/5	AL 33		
7/1	AL 34	7/1	AL 34		
7/2	AL 35	7/2	AL 35		
7/3	AL 36	7/3	AL 36		
7/4	AL 37	7/4	AL 37		
7/5	AL 38	7/5	AL 38		
8/1	AL 39	8/1	AL 39		
8/2	AL 40	8/2	AL 40		
8/3	AL 41	8/3	AL 41		
8/4	AL 42	8/4	AL 42		
8/5	AL 43	8/5	AL 43		
9/1	AL 44	9/1	AL 44		
9/2	AL 45	9/2	AL 45		
9/3	AL 46	9/3	AL 46		
9/4	AL 47	9/4	AL 47		
9/5	AL 48	9/5	AL 48		
10/1	AL 49	10/1	AL 49		
10/2	AL 50	10/2	AL 50		
10/3	AL 51	10/3	AL 51		
10/4	AL 52	10/4	AL 52		
10/5	AL 53	10/5	AL 53		
10/6	AL 54	10/6	AL 54		
11/1	AL 55	11/1	AL 55		
11/2	AL 56	11/2	AL 56		

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
11/3	AL 57	11/3	AL 57		
11/4	AL 58	11/4	AL 58		
11/5	AL 59	11/5	AL 59		
11/6	AL 60	11/6	AL 60		
11/7	AL 61	11/7	AL 61		
11/8	AL 62	11/8	AL 62		
12/1	AL 63	12/1	AL 63		
12/2	AL 64	12/2	AL 64		
12/3	AL 65	12/3	AL 65		
12/4	AL 66	12/4	AL 66		
12/5	AL 67	12/5	AL 67		
12/6	AL 68	12/6	AL 68		
12/7	AL 69	12/7	AL 69		
13/1	AL 70	13/1	AL 70		
13/2	AL 71	13/2	AL 71		
13/3	AL 72	13/3	AL 72		
13/4	AL 73	13/4	AL 73		
13/5	AL 74	13/5	AL 74		
13/6	AL 75	13/6	AL 75		
13/7	AL 76	13/7	AL 76		
14/1	AL 77	14/1	AL 77		
14/2	AL 78	14/2	AL 78		
14/3	AL 79	14/3	AL 79		
14/4	AL 80	14/4	AL 80		
14/5	AL 81	14/5	AL 81		
14/6	AL 82	14/6	AL 82		
15/1	AL 83	15/1	AL 83		
15/2	AL 84	15/2	AL 84		

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
15/3	AL 85	15/3	AL 85		
15/4	AL 86	15/4	AL 86		
15/5	AL 87	15/5	AL 87		
15/6	AL 88	15/6	AL 88		
15/7	AL 89	15/7	AL 89		
15/8	AL 90	15/8	AL 90		
15/9	AL 91	15/9	AL 91		
16/1	AL 92	16/1	AL 92		
16/2	AL 93	16/2	AL 93		
16/3	AL 94	16/3	AL 94		
16/4	AL 95	16/4	AL 95		
16/5	AL 96	16/5	AL 96		
16/6	AL 97	16/6	AL 97		
16/7	AL 98	16/7	AL 98		
16/8	AL 99	16/8	AL 99		
16/9	AL 100	16/9	AL 100		
16/10	AL 101	16/10	AL 101		
17/1	AL 102	17/1	AL 102		
17/2	AL 103	17/2	AL 103		
17/3	AL 104	17/3	AL 104		
17/4	AL 105	17/4	AL 105		
17/5	AL 106	17/5	AL 106		
17/6	AL 107	17/6	AL 107		
17/7	AL 108	17/7	AL 108		
17/8	AL 109	17/8	AL 109		
17/9	AL 110	17/9	AL 110		
18/1	AL 111	18/1	AL 111		
18/2	AL 112	18/2	AL 112		

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
18/3	AL 113	18/3	AL 113		
18/4	AL 114	18/4	AL 114		
18/5	AL 115	18/5	AL 115		
18/6	AL 116	18/6	AL 116		
18/7	AL 117	18/7	AL 117		
18/8	AL 118	18/8	AL 118		
19/1	AL 119	19/1	AL 119		
19/2	AL 120	19/2	AL 120		
19/3	AL 121	19/3	AL 121		
19/4	AL 122	19/4	AL 122		
19/5	AL 123	19/5	AL 123		
19/6	AL 124	19/6	AL 124		
19/7	AL 125	19/7	AL 125		
20/1	AL 126	20/1	AL 126		
20/2	AL 127	20/2	AL 127		
20/3	AL 128	20/3	AL 128		
20/4	AL 129	20/4	AL 129		
20/5	AL 130	20/5	AL 130		
20/6	AL 131	20/6	AL 131		
20/7	AL 132	20/7	AL 132		
21/1	AL 133	21/1	AL 133		
21/2	AL 134	21/2	AL 134		
21/3	AL 135	21/3	AL 135		
21/4	AL 136	21/4	AL 136		
21/5	AL 137	21/5	AL 137		
21/6	AL 138	21/6	AL 138		
21/7	AL 139	21/7	AL 139		
21/8	AL 140	21/8	AL 140		

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
21/9	AL 141	21/9	AL 141		
22/1	AL 142	22/1	AL 142		
22/2	AL 143	22/2	AL 143		
22/3	AL 144	22/3	AL 144		
22/4	AL 145	22/4	AL 145		
22/5	AL 146	22/5	AL 146		
22/6	AL 147	22/6	AL 147		
22/7	AL 148	22/7	AL 148		
23/1	AL 149	23/1	AL 149		
23/2	AL 150	23/2	AL 150		
23/3	AL 151	23/3	AL 151		
23/4	AL 152	23/4	AL 152		
23/5	AL 153	23/5	AL 153		
23/6	AL 154	23/6	AL 154		
23/7	AL 155	23/7	AL 155		
23/8	AL 156	23/8	AL 156		
24/1	AL 157	24/1	AL 157		
24/2	AL 158	24/2	AL 158		
24/3	AL 159	24/3	AL 159		
24/4	AL 160	24/4	AL 160		
24/5	AL 161	24/5	AL 161		
24/6	AL 162	24/6	AL 162		
24/7	AL 163	24/7	AL 163		
24/8	AL 164	24/8	AL 164		
25/1	AL 165	25/1	AL 165		
25/2	AL 166	25/2	AL 166		
25/3	AL 167	25/3	AL 167		
25/4	AL 168	25/4	AL 168		





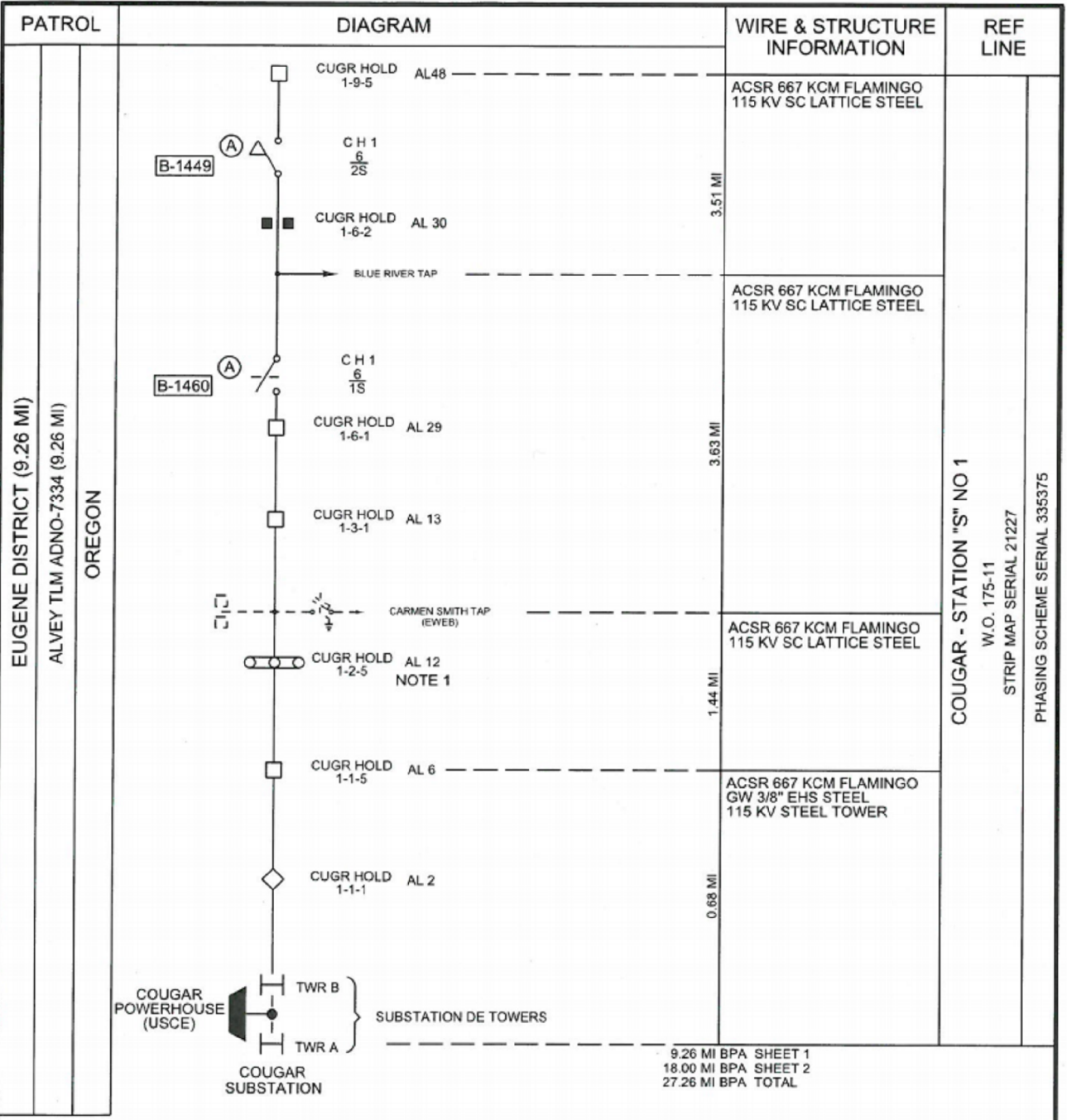
**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
28/5	AL 194			1/5	AL 194
29/1	AL 195			2/1	AL 195
29/2	AL 196			2/2	AL 196
29/3	AL 197			2/3	AL 197
29/4	AL 198			2/4	AL 198
29/5	AL 199			2/5	AL 199
				3/1	AL 199A
30/1	AL 200			3/2	AL 200
30/2	AL 201			3/3	AL 201
30/3	AL 202			3/4	AL 202
30/4	AL 203			3/5	AL 203
30/5	AL 204			3/6	AL 204
31/1	AL 205			4/1	AL 205
31/2	AL 206			4/2	AL 206
31/3	AL 207			4/3	AL 207
31/4	AL 208			4/4	AL 208
31/5	AL 209			4/5	AL 209
32/1	AL 210			5/1	AL 210
32/2	AL 211			5/2	AL 211
32/3	AL 212			5/3	AL 212
32/4	AL 213			5/4	AL 213
33/1	AL 214			6/1	AL 214
33/2	AL 215			6/2	AL 215
33/3	AL 216			6/3	AL 216
33/4	AL 217			6/4	AL 217
33/5	AL 218			6/5	AL 218
34/1	AL 219			7/1	AL 219
34/2	AL 220			7/2	AL 220

Prop str

**Structure Number Crosswalk for Cougar-Thurston Interconnection into Holden Creek**

Cougar - Thurston No. 1		Cougar - Holden Creek No. 1		Holden Creek - Thurston No. 1	
STR NO	SERIAL NO	STR NO	SERIAL NO	STR NO	SERIAL NO
34/3	AL 221			7/3	AL 221
34/4	AL 222			7/4	AL 222
34/5	AL 223			7/5	AL 223
35/1	AL 224			8/1	AL 224
35/2	AL 225			8/2	AL 225
35/3	AL 226			8/3	AL 226
35/4	AL 227			8/4	AL 227
35/5	AL 228			8/5	AL 228
36/1	AL 229			9/1	AL 229
36/2	AL 230			9/2	AL 230
36/3	AL 231			9/3	AL 231
36/4	AL 232			9/4	AL 232
36/5	AL 233			9/5	AL 233
37/1	AL 234			10/1	AL 234
37/2	AL 235			10/2	AL 235
37/3	AL 236			10/3	AL 236
37/4	AL 237			10/4	AL 237
37/5	AL 238			10/5	AL 238
38/1	AL 239			11/1	AL 239
38/2	AL 240			11/2	AL 240
38/3	AL 241			11/3	AL 241
38/4	AL 242			11/4	AL 242
38/5	AL 243			11/5	AL 243
39/1	AL 244			12/1	AL 244
39/2	AL 245			12/2	AL 245
39/3	AL 246			12/3	AL 246
39/4	AL 247			12/4	AL 247
39/5	AL 247A			12/5	AL 247A



**NOTES:**  
 1. AL 12 IS A 3 POLE TUBULAR STEEL STRUCTURE

1	UPDATED CARMEN TAP LINE NAME	GLL	05/01/18	<i>GLL</i>
0	THIS SHEET CREATED FROM COUGAR-THURSTON 108825-1 BECAUSE OF LINE SPLIT FOR NEW HOLDEN SUBSTATION	GLL	02/07/18	
NO.	420013	COMPUTER REVISION ONLY	BY	DATE
<small>C=CONTRACT CONSTR. FA=FORCE ACCOUNT CONSTR. R=RECORD. FILE NAME: 335344-1-1</small> APPROVED				
COMPILED	GLL	UNITED STATES DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION HEADQUARTERS, PORTLAND, OREGON		
DRAWN	GLL	TRANSMISSION LINE ONE-LINE DIAGRAM		
CHECKED	NDM	COUGAR - HOLDEN CREEK NO 1		
CHECKED		115 KV COUGR-HOLD-1		
APPROVED	GAV	SERIAL	SOURCE	SIZE
DATE	02/07/18	335344	LBL	ANSI A
		SHEET	1 OF 2	REVISION
				1

OPERATING LINE NAME      Cougar-Holden Creek No 1  
 DESIGN NAME  
 OPERATING LINE XREF      CUGR-HOLD-1  
 OPERATING VOLTAGE        115  
 OPERATING LINE INDEX    C300

PHYSICAL LINE	Code (PLC)	Description
	C1	Cougar-Holden Creek No 1 SSDE (CUGR 1) to SSDE (HOLD 1S)

DESIGN PROJECT	Work Order	Voltage	Name
	00453865	115	Cougar-Holden Creek No 1
	175-11	115	Cougar-Station "S" No 1

CONDUCTOR	Type	Name	Section
	ACSR	ACSR Flamingo	( 0/1 CUGR 1 -> 27/11 HOLD 1S )

MARKING	Poles	Towers
	C H 1	CUGR HOLD 1

COND: ACSR Flamingo (CUGR 1 - AL 10M) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 10M - AL 11) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV	COND ELEV	STRUCTURE TYPE	STR HT	STRUCTURE CATEGORY				DESCRIPTION & REMARKS
		BACK	AHEAD											
0/1	CUGR 1	789+31.50		161.0			1349.3	S2DL-72-32-15		Bay (SSDE)				
0/2	CUGR 1 TT1	790+92.50		276.6	25°35'0"L		1349.4	S2DL-72-32-15		Bay (SSDE)				
									TWR BODY	LEG EXTENSIONS				
										1	2	3	4	
1/1	AL 2	793+69.10		446.0	72°13'0"L	1281.9	1366.4	02D	62.0	22.5	22.5	22.5	22.5	
1/2	AL 3	798+15.10		1147.9	42°51'0"L	1277.9	1374.7	10D	62.0	35	35	35	35	
1/3	AL 4	809+63.00		1247.0		1274.8	1434.6	04B2 SPEC	131.3	37.5	32.5	30	35	
1/4	AL 5	822+10.00		301.6		1448.8	1504.9	00A1	50.0	12.5	7.5	5	12.5	
1/5	AL 6	825+11.60		1323.4	28°52'0"R	1406.6	1478.6	10D	42.0	35	27.5	25	32.5	
1/6	AL 7	838+35.00		1437.9		1489.9	1574.1	00A1	65.0	27.5	22.5	22.5	25	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
2/1	AL 8	852+72.90		1471.4	13°43'0"L	1502.4	1558.5	30SP-C2		65	62.5	57.5		Rake 9"
									TWR BODY	LEG EXTENSIONS				
										1	2	3	4	
2/2	AL 9	867+44.30		1435.7		1349.3	1430.1	00A1	65.0	25	20	17.5	22.5	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
2/3	AL 10M	882+20.00		754.2		1404.4	1456.5	22WA-WSH-C1	70.0	70	70		1	X-Brace

COND: ACSR Flamingo (AL 11 - AL 18) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 18 - AL 19) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
2/4	AL 11	889+34.20		1115.8	61°0'0"L	1361.3	1431.5	30SP-F2		77.5	75	70		Rake 12"
2/5	AL 12	900+50.00		991.9		1207.0	1264.5	30SP-F1		62.5	62.5	62.5		
		901+07.00		Mid Span Tap to CARMEN SMITH TAP										
									TWR BODY	LEG EXTENSIONS				
3/1	AL 13	910+41.90		1010.4		1199.1	1259.7	10L	50.0	15	15	15	15	
									NOM HT	POLE LENGTH			Pole Class	
3/2	AL 14	920+52.30		772.7	52°38'0"L	1185.5	1276.1	30SP-F2		95	95	95		Rake 15"
									TWR BODY	LEG EXTENSIONS				
3/3	AL 15	928+25.00		1735.2		1185.3	1276.5	00A1	65.0	30	32.5	30	30	
3/4	AL 16	945+60.20	945+53.90	1297.2	41°58'0"R	1251.8	1347.2	10D	62.0	30	32.5	35	30	
									NOM HT	POLE LENGTH			Pole Class	
3/5	AL 17	958+51.10		1063.9	26°20'0"L	1255.5	1332.5	30SP-F1		80	82.5	82.5		Rake 12"
									TWR BODY	LEG EXTENSIONS				
4/1	AL 18	969+15.00		885.0		1276.6	1352.7	10L	65.0	15	17.5	17.5	15	

COND: ACSR Flamingo (AL 19 - AL 28) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
ACSR Flamingo (AL 28 - AL 29) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV	COND ELEV	STRUCTURE TYPE	TWR BODY	LEG EXTENSIONS				DESCRIPTION & REMARKS
		BACK	AHEAD							1	2	3	4	
4/2	AL 19	978+00.00		915.0		1236.3	1309.2	10L	50.0	27.5	27.5	27.5	27.5	
4/3	AL 20	987+15.00		1285.0		1202.5	1275.7	10L	50.0	27.5	27.5	27.5	27.5	
									NOM HT	POLE LENGTH			Pole Class	
4/4	AL 21	1000+00.00	129+86.50	1038.5	15°30'0"R	1194.4	1256.4	30SP-C1		67.5	67.5	67.5		Rake 9"
									TWR BODY	LEG EXTENSIONS				
4/5	AL 22	140+25.00		1026.0		1131.6	1204.2	10L	50.0	27.5	27.5	27.5	27.5	
4/6	AL 23	150+51.00		1109.0		1127.0	1187.7	10L	50.0	15	15	15	15	
5/1	AL 24	161+60.00		1000.7		1112.9	1169.7	10L	50.0	10	12.5	12.5	10	
5/2	AL 25	171+60.70		1069.3		1109.0	1163.7	10L	50.0	10	10	10	10	
5/3	AL 26	182+30.00		855.3		1088.3	1144.7	10L	50.0	12.5	12.5	12.5	12.5	
									NOM HT	POLE LENGTH			Pole Class	
5/4	AL 27	190+85.30		877.3	41°29'0"L	1083.2	1120.8	30SP-F2		42.5	42.5	42.5		Rake 18"
									TWR BODY	LEG EXTENSIONS				
5/5	AL 28	199+62.60		1107.4		1078.4	1148.2	10L	50.0	25	25	25	25	

COND: ACSR Flamingo (AL 29 - AL 36) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 36 - AL 37) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV	COND ELEV	STRUCTURE TYPE	TWR BODY	LEG EXTENSIONS				DESCRIPTION & REMARKS	
		BACK	AHEAD							1	2	3	4		
6/1	AL 29	210+70.00		1230.4		1077.9	1141.2	10L	50.0	17.5	17.5	17.5	17.5		
		198+90.00													
									NOM HT	POLE LENGTH			Pole Class		
		222+50.00		Mid Span Tap to BLRIT-CUHO-1											
6/2	AL 30	223+00.40		711.2		1085.2	1146.0	10SW		55	55				
		223+00.40		Switch Dispatch											
6/3	AL 31	230+11.60		1063.4	33°47'0"R	1081.7	1134.0	30SP-F2		57.5	57.5	57.5		Rake 15"	
									TWR BODY	LEG EXTENSIONS					
6/4	AL 32	240+75.00		1193.0		1075.1	1146.2	10L	50.0	27.5	25	25	27.5		
6/5	AL 33	252+68.00		1157.0		1071.5	1144.7	10L	50.0	27.5	27.5	27.5	27.5		
7/1	AL 34	264+25.00		1225.0		1053.0	1125.6	10L	50.0	27.5	27.5	27.5	27.5		
7/2	AL 35	276+50.00		1175.7		1046.6	1119.7	10L	50.0	27.5	27.5	27.5	27.5		
									NOM HT	POLE LENGTH			Pole Class		
7/3	AL 36	288+25.70		1144.3	32°53'0"R	1036.7	1094.0	30SP-F2		62.5	62.5	62.5		Rake 15"	



COND: ACSR Flamingo (AL 37 - AL 45) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 45 - AL 46) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV	COND ELEV	STRUCTURE TYPE	TWR BODY	LEG EXTENSIONS				DESCRIPTION & REMARKS
		BACK	AHEAD							1	2	3	4	
7/4	AL 37	299+70.00		880.4		1030.2	1100.7	10L	50.0	25	25	25	25	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
7/5	AL 38	308+50.40	324+68.40	786.6	53°38'0"L	1025.9	1064.0	30SP-F2		42.5	42.5	45		Rake 15"
									TWR BODY	LEG EXTENSIONS				
										1	2	3	4	
8/1	AL 39	332+55.00		1325.2		1021.0	1081.2	10L	50.0	15	15	15	15	
8/2	AL 40	345+80.20		590.4	20°4'0"L	1032.7	1158.2	S10D	102.0	25	37.5	27.5	20	
8/3	AL 41	351+70.60	351+66.40	1117.6	2°21'0"L	1029.2	1091.2	10D	42.0	20	25	22.5	17.5	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
8/4	AL 42	362+84.00		751.0	6°23'0"R	1041.6	1103.2	30SP-C1		55	62.5	75		Rake 6"
									TWR BODY	LEG EXTENSIONS				
										1	2	3	4	
8/5	AL 43	370+35.00		966.6		1079.0	1151.2	10L	65.0	5	20	25	7.5	
9/1	AL 44	380+01.60		1277.0	0°33'0"L	1047.5	1098.2	10L	50.0	5	5	5	5	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
9/2	AL 45	392+78.60	392+79.70	859.3	8°56'0"L	1031.6	1094.6	30SP-F1		62.5	67.5	72.5		Rake 6"

COND: ACSR Flamingo (AL 46 - AL 59) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 59 - AL 60) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV	COND ELEV	STRUCTURE TYPE	TWR BODY	LEG EXTENSIONS				DESCRIPTION & REMARKS
		BACK	AHEAD							1	2	3	4	
9/3	AL 46	401+39.00		1031.7		1010.1	1088.9	10L	65.0	17.5	20	20	17.5	
9/4	AL 47	411+70.70		1249.3	2°45'0"R	999.5	1071.5	00A1	50.0	27.5	30	30	27.5	
9/5	AL 48	424+20.00		878.2		994.4	1071.0	10D	62.0	15	15	15	15	
									NOM HT	POLE LENGTH			Pole Class	
										A	B	C		
10/1	AL 49	432+98.20	433+00.00	1233.6	56°0'0"R	998.0	1049.0	T23WE-AWH-H1	65.0	65	65	65	2	Rake 15"
10/2	AL 50	445+33.60		704.2	22°29'0"L	1300.6	1345.6	T23WE-AWH-H1	60.0	65	60	60	2	Rake 12"
10/3	AL 51	452+37.80		177.2		1270.8	1315.6	T22WA-TSH	60.0	65	60		2	
10/4	AL 52	454+15.00		1085.0		1266.5	1307.4	T22WA-TSH	55.0	60	55		2	X-Brace
10/5	AL 53	465+00.00		222.1		1269.7	1319.2	T22WA-TSH	65.0	70	65		2	X-Brace
10/6	AL 54	467+22.10		877.9		1272.5	1329.0	22WA-WSH	70.0	75	70		2	X-Brace
11/1	AL 55	476+00.00		662.1		1351.8	1405.3	T22WA-TSH-C1	70.0	75	70		2	
11/2	AL 56	482+62.10		437.9	11°56'0"R	1365.8	1405.4	23WC-WSH	55.0	60	55	50	1	Rake 9"
11/3	AL 57	487+00.00		700.0		1336.2	1386.4	T22WA-TSH	65.0	70	60		1	X-Brace
11/4	AL 58	494+00.00		476.9		1278.5	1328.2	T22WA-TSH	65.0	70	65		2	X-Brace
11/5	AL 59	498+76.90		912.3		1219.7	1274.1	T22WA-TSH	70.0	75	65		2	

COND: ACSR Flamingo (AL 60 - AL 74) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 74 - AL 75) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
11/6	AL 60	507+89.20		1231.8		1196.4	1241.1	T23WE-AWH-H1	60.0	70	65	60	2	
11/7	AL 61	520+21.00		179.0	18°1'0"L	1394.6	1443.7	23WG-WSH	65.0	75	65	60	2	Rake 9"
11/8	AL 62	522+00.00		800.0		1410.3	1451.5	T22WA-TSH	55.0	60	55		2	
12/1	AL 63	530+00.00		827.9		1431.9	1481.4	T22WA-TSH-C1	65.0	70	60		2	
12/2	AL 64	538+27.90	538+30.00	295.0	0°10'0"L	1527.8	1572.2	T22WA-TSH	60.0	65	55		2	X-Brace
12/3	AL 65	541+25.00		1676.6		1500.1	1561.8	T23WE-AWH-H1	80.0	90	80	80	2	
12/4	AL 66	558+01.60		705.4		1409.5	1477.7	T23WE-AWH-H1	85.0	90	85	85	2	
12/5	AL 67	565+07.00		673.0		1383.2	1425.0	T22WA-TSH	55.0	55	55		2	X-Brace
12/6	AL 68	571+80.00		867.5		1323.8	1378.2	T22WA-TSH-C1	70.0	70	70		2	
12/7	AL 69	580+47.50		562.5	26°51'0"R	1306.4	1351.6	T23WE-AWH-H1	60.0	60	60	60	2	Rake 12"
13/1	AL 70	586+10.00		1015.0		1321.0	1361.1	T22WA-TSH-C1		55	55		2	X-Brace
13/2	AL 71	596+25.00		284.0		1305.8	1344.0	22WA-WSH		50	50		1	X-Brace
13/3	AL 72	599+09.00		1211.0		1300.1	1341.5	22WA-WSH		55	55		1	X-Brace
13/4	AL 73	611+20.00		490.0		1278.4	1323.6	23WE-WSH		60	60	60	1	
13/5	AL 74	616+10.00		586.8		1277.5	1318.9	T22WA-TSH		55	55		2	X-Brace

COND: ACSR Flamingo (AL 75 - AL 89) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
ACSR Flamingo (AL 89 - AL 90) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
DESIGN NAME: \_\_\_\_\_  
OPER. LINE XREF: CUGR-HOLD-1  
OPER. VOLTAGE: 115 kV  
MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
13/6	AL 75	621+96.80		1053.2		1269.2	1313.8	T22WA-TSH-C1		60	60		2	
13/7	AL 76	632+50.00		525.0		1252.7	1302.7	T22WA-TSH-C1		65	65		2	
14/1	AL 77	637+75.00		575.0		1273.8	1315.0	T22WA-TSH		55	55		2	X-Brace
14/2	AL 78	643+50.00		590.0		1267.9	1314.0	T22WA-TSH		60	60		2	X-Brace
14/3	AL 79	649+40.00		660.0		1250.2	1296.5	T22WA-TSH		60	60		2	X-Brace
14/4	AL 80	656+00.00		479.6		1209.5	1263.7	T22WA-TSH-C1		70	70		2	
14/5	AL 81	660+79.60		2143.5	12°0'0"L	1051.6	1108.9	T23WG-WSH-W1H1	80.0	85	80	85	2	Rake 9"
14/6	AL 82	682+23.10	682+22.20	602.8	49°51'0"R	1159.1	1217.7	T23WG-WSH-W1H1		75	75	75	2	
15/1	AL 83	688+25.00		472.7		1173.5	1210.5	T22WA-TSH		50	50		2	X-Brace
15/2	AL 84	692+97.70		1090.1		1141.6	1190.9	T22WA-TSH-C1		65	70		2	
15/3	AL 85	703+87.80		472.2		1138.4	1182.8	T22WA-TSH-C1		60	60		2	
15/4	AL 86	708+60.00		333.2		1178.5	1210.3	T22WA-TSH		45	45		2	
15/5	AL 87	711+93.20		706.8	21°48'0"L	1182.4	1217.5	23WC-WSH		50	50	50	1	Rake 12"
15/6	AL 88	719+00.00		550.0		1191.0	1232.0	22WA-WSH		55	60		1	X-Brace
15/7	AL 89	724+50.00		534.8		1191.9	1232.6	T22WA-TSH		55	55		2	X-Brace

COND: ACSR Flamingo (AL 90 - AL 105) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 105 - AL 106) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
15/8	AL 90	729+84.80		215.2	15°26'0"L	1177.3	1221.1	T23WC-SWH		60	60	60	2	Rake 9"
15/9	AL 91	732+00.00		825.0		1176.4	1218.0	T22WA-TSH		55	55		2	X-Brace
16/1	AL 92	740+25.00		425.0		1164.3	1196.5	T22WA-TSH		45	50		2	X-Brace
16/2	AL 93	744+50.00		650.0		1139.0	1186.5	T22WA-TSH		60	60		2	X-Brace
16/3	AL 94	751+00.00		550.0		1135.5	1181.0	T22WA-TSH		60	60		2	X-Brace
16/4	AL 95	756+50.00		320.7		1151.0	1191.5	22WA-WSH		55	55		1	
16/5	AL 96	759+70.70		746.3	14°10'0"L	1138.1	1177.9	23WC-WSH		55	50	60	1	Rake 9"
16/6	AL 97	767+17.00		333.0		1146.8	1184.0	T22WA-TSH		50	50		2	X-Brace
16/7	AL 98	770+50.00		692.2		1151.9	1189.0	T22WA-TSH		50	50		2	X-Brace
16/8	AL 99	777+42.20		360.6		1158.0	1194.6	T22WA-TSH		50	50		2	X-Brace
16/9	AL 100	781+02.80		897.2	23°18'0"R	1116.4	1170.7	T23WE-AWH-H1		70	70	75	2	Rake 12"
16/10	AL 101	790+00.00		614.9		1129.6	1174.8	T22WA-TSH-C1		60	60		2	X-Brace
17/1	AL 102	796+14.90		477.6	14°41'0"L	1123.4	1172.1	T23WC-SWH		65	65	65	2	Rake 9"
17/2	AL 103	800+92.50		816.2		1126.2	1162.9	T22WA-TSH		50	50		2	X-Brace
17/3	AL 104	809+08.70		666.3		1084.2	1139.5	T22WA-TSH		70	70		2	
17/4	AL 105	815+75.00		312.5		1127.0	1168.5	T22WA-TSH		55	60		2	

COND: ACSR Flamingo (AL 106 - AL 120) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 120 - AL 121) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
17/5	AL 106	818+87.50		812.5	36°0'0"L	1116.5	1160.6	23WC-WSH		55	60	65	2	Rake 15"
17/6	AL 107	827+00.00		192.0		1130.9	1168.0	T22WA-TSH		50	50		2	X-Brace
17/7	AL 108	828+92.00		908.0		1123.3	1174.5	T22WA-TSH		70	65		2	
17/8	AL 109	838+00.00		342.4		1196.5	1238.0	T22WA-TSH		55	55		2	X-Brace
17/9	AL 110	841+42.40		600.8		1183.2	1223.5	T22WA-TSH		55	55		2	
18/1	AL 111	847+43.20		1891.8	8°14'0"R	1152.5	1193.4	T23WE-AWH-H1		55	55	55	2	Rake 6"
18/2	AL 112	866+35.00		269.6		1129.9	1165.3	23WE-WSH		50	50	50	2	
18/3	AL 113	869+04.60		720.4	21°51'0"R	1162.7	1201.8	T23WC-SWH-H2		55	55	55	2	Rake 12"
18/4	AL 114	876+25.00		625.0		1273.9	1323.4	T22WA-TSH		65	65		2	
18/5	AL 115	882+50.00		750.0		1438.6	1482.7	T22WA-TSH		60	60		2	X-Brace
18/6	AL 116	890+00.00		380.7		1561.0	1605.3	T22WA-TSH		60	60		2	X-Brace
18/7	AL 117	893+80.70		324.4	51°57'0"R	1620.3	1660.8	T23WE-AWH-H1		55	55	55	2	Rake 15"
18/8	AL 118	897+05.10		1294.9		1604.8	1648.9	T22WA-TSH-C1		60	65		2	
19/1	AL 119	910+00.00		900.0		1541.1	1589.9	T23WE-AWH-H1		65	65	70	2	
19/2	AL 120	919+00.00		200.0		1605.9	1641.3	T22WA-TSH		50	50		2	X-Brace

COND: ACSR Flamingo (AL 121 - AL 135) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
ACSR Flamingo (AL 135 - AL 136) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
\_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
DESIGN NAME: \_\_\_\_\_  
OPER. LINE XREF: CUGR-HOLD-1  
OPER. VOLTAGE: 115 kV  
MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
19/3	AL 121	921+00.00		650.0		1606.7	1643.0	T22WA-TSH		50	50		2	
19/4	AL 122	927+50.00		882.0		1532.2	1586.0	T22WA-TSH-C1	70.0	75	70		2	
19/5	AL 123	936+32.00		743.0		1387.2	1437.4	T22WA-TSH-C1		65	65		2	
19/6	AL 124	943+75.00		385.9		1187.2	1241.3	22WA-WSH	70.0	75	70		2	X-Brace
19/7	AL 125	947+60.90		989.1	2°56'0"L	1099.1	1149.0	T23WE-AWH-H1	65.0	70	65	60	2	Rake 6"
20/1	AL 126	957+50.00		350.0		1078.9	1116.0	T22WA-TSH		50	50		2	X-Brace
20/2	AL 127	961+00.00		1266.6		1042.8	1096.4	22WA-WSH		70	70		1	X-Brace
20/3	AL 128	973+66.60		733.4	45°0'0"L	1022.5	1081.1	23WG-WSH		75	75	80	2	Rake 18"
20/4	AL 129	981+00.00		325.0		1094.5	1145.1	22WA-WSH		65	65		1	
20/5	AL 130	984+25.00		1195.0		1114.5	1182.0	T22WA-TSH-C1		85	85		2	
20/6	AL 131	996+20.00		295.7		1151.2	1215.0	T22WA-TSH		80	80		2	
20/7	AL 132	999+15.70		612.5	0°3'0"R	1175.0	1212.0	T22WA-TSH		50	55		2	
21/1	AL 133	1005+28.20	1004+90.80	374.2		1132.4	1177.3	T22WA-TSH		55	60		1	X-Brace
21/2	AL 134	1008+65.00		992.0		1116.9	1157.7	22WA-WSH		60	65		1	X-Brace
21/3	AL 135	1018+57.00		403.0	31°58'0"L	1067.5	1103.9	T23WE-AWH-H1		50	50	50	2	Rake 15"

COND: ACSR Flamingo (AL 136 - AL 151) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 151 - AL 152) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
21/4	AL 136	1022+60.00		740.0		1076.4	1117.3	T22WA-TSH		55	55		2	X-Brace
21/5	AL 137	1030+00.00		485.1		1082.3	1131.8	T22WA-TSH		65	65		2	X-Brace
21/6	AL 138	1034+85.10		614.9		1098.7	1140.0	T22WA-TSH		55	55		2	X-Brace
21/7	AL 139	1041+00.00		650.0		1098.5	1138.8	T22WA-TSH		55	55		2	X-Brace
21/8	AL 140	1047+50.00		739.1		1075.8	1122.0	T22WA-TSH		60	60		2	X-Brace
21/9	AL 141	1054+89.10		428.3	15°22'0"L	1081.2	1120.4	23WC-WSH		55	55	60	1	Rake 9"
22/1	AL 142	1059+17.40		857.3		1080.7	1122.0	22WA-WSH		55	55		1	X-Brace
22/2	AL 143	1067+74.70		400.3		1109.6	1155.0	22WA-WSH		60	60		1	X-Brace
22/3	AL 144	1071+75.00		800.0		1123.7	1160.5	T22WA-TSH		50	55		2	X-Brace
22/4	AL 145	1079+75.00		608.4		1143.2	1185.5	T22WA-TSH		55	60		2	X-Brace
22/5	AL 146	1085+83.40	1085+78.20	696.8	3°30'0"R	1112.7	1152.0	T23WB-SWH		55	55	55	2	Rake 6"
22/6	AL 147	1092+75.00		1350.0		1066.1	1103.5	23WE-WSH		50	50	55	2	
22/7	AL 148	1106+25.00		775.0		1060.7	1108.4	23WE-WSH	65.0	60	65	70	2	X-Brace
23/1	AL 149	1114+00.00		525.0		1182.6	1232.7	T22WA-TSH		65	65		2	X-Brace
23/2	AL 150	1119+25.00		476.8		1286.6	1331.0	T22WA-TSH-C1		60	60		2	
23/3	AL 151	1124+01.80	1130+20.00	689.5	27°26'0"R	1222.3	1275.5	T23WC-SWH-H2		70	70	70	2	Rake 12"



COND: ACSR Flamingo (AL 152 - AL 165) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 165 - AL 166) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
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 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
23/4	AL 152	1137+09.50		1165.5		1098.8	1140.1	23WE-WSH		55	55	55	2	
23/5	AL 153	1148+75.00		605.0		1055.1	1095.0	T23WE-AWH-H1		50	55	60	2	
23/6	AL 154	1154+80.00		345.0		1056.2	1098.5	T22WA-TSH		55	60		2	
23/7	AL 155	1158+25.00		568.6		1050.1	1094.1	T22WA-TSH		60	60		2	
23/8	AL 156	1163+93.60		731.4		1012.3	1053.5	T22WA-TSH		55	55		2	X-Brace
24/1	AL 157	1171+25.00		305.0		1011.6	1047.6	T22WA-TSH		50	50		2	X-Brace
24/2	AL 158	1174+30.00		986.8		995.4	1032.5	T22WA-TSH		50	55		2	X-Brace
24/3	AL 159	1184+16.80		855.3	5°12'0"R	959.3	995.0	T23WE-AWH-H1		50	50	50	2	Rake 6" X-Brace
24/4	AL 160	1192+72.10		592.9		932.1	970.0	T22WA-TSH		50	50		2	X-Brace
24/5	AL 161	1198+65.00		750.1		922.3	962.0	T22WA-TSH		55	60		2	X-Brace
24/6	AL 162	1206+15.10		534.9		902.7	944.0	T22WA-TSH		55	60		2	X-Brace
24/7	AL 163	1211+50.00		644.8		892.4	930.0	T22WA-TSH		50	55		2	X-Brace
	NO STRUC	1213+93.20	1213+83.20	Mid-Span Equation										
24/8	AL 164	1217+84.80		679.0		839.6	882.0	T22WA-TSH		55	60		2	X-Brace
25/1	AL 165	1224+63.80		636.2	22°18'0"R	795.1	830.2	23WC-WSH		50	50	50	2	Rake 12"

COND: ACSR Flamingo (AL 166 - AL 180) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 ACSR Flamingo (AL 180 - AL 181) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
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 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
25/2	AL 166	1231+00.00		750.0		728.7	788.2	T22WA-TSH		75	75		2	
25/3	AL 167	1238+50.00		640.0		718.5	777.7	T22WA-TSH		75	75		2	
25/4	AL 168	1244+90.00	1244+90.30	674.7	14°56'0"L	714.6	763.4	T23WC-SWH		65	65	65	2	Rake 9"
25/5	AL 169	1251+65.00		584.1		709.8	758.3	T22WA-TSH		65	70		2	X-Brace
25/6	AL 170	1257+49.10	1258+00.00	715.0	17°17'0"L	682.6	735.5	T23WC-SWH		70	70	70	2	Rake 9"
25/7	AL 171	1265+15.00		585.0		690.4	749.0	T22WA-TSH		75	75		2	
25/8	AL 172	1271+00.00		725.0		688.5	752.6	T22WA-TSH		80	80		2	
26/1	AL 173	1278+25.00		675.0		690.5	745.1	22WA-WSH		75	75		2	X-Brace
26/2	AL 174	1285+00.00		700.0		688.6	738.2	T22WA-TSH		65	65		2	X-Brace
26/3	AL 175	1292+00.00		700.0		686.1	736.0	T22WA-TSH		65	65		2	
26/4	AL 176	1299+00.00		680.0		685.4	731.1	T22WA-TSH		60	60		2	X-Brace
26/5	AL 177	1305+80.00		695.0		682.4	729.1	T22WA-TSH		60	60		2	X-Brace
26/6	AL 178	1312+75.00		675.0		680.3	726.6	T22WA-TSH		60	60		2	X-Brace
26/7	AL 179	1319+50.00		550.0		677.0	732.9	22WA-WSH		70	70			X-Brace
26/8	AL 180	1325+00.00		840.0		674.2	729.6	22WA-WSH		70	70		1	X-Brace

COND: ACSR Flamingo (AL 181 - HOLD 1S) M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 SHLD: \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_  
 \_\_\_\_\_ M.W.T.: \_\_\_\_\_ ICE: \_\_\_\_\_

OPER. NAME: Cougar-Holden Creek No 1  
 DESIGN NAME: \_\_\_\_\_  
 OPER. LINE XREF: CUGR-HOLD-1  
 OPER. VOLTAGE: 115 kV  
 MARKING: Pole: C H 1 Tower: CUGR HOLD 1

TLDD Extract Date: 10/8/2020

MILE/ STRUC	SERIAL NUMBER	STATION		SPAN AHEAD	ANGLE	CL ELEV.	COND ELEV	STRUCTURE TYPE	NOM HT	POLE LENGTH			Pole Class	DESCRIPTION & REMARKS
		BACK	AHEAD							A	B	C		
27/1	AL 181	1333+40.00		435.0	15°45'0"L	723.2	773.0	T23WE-AWH-H1		60	60	70	2	Rake 9"
27/2	AL 182	1337+75.00		380.7		747.6	781.9	22WA-WSH		50	55		2	
27/3	AL 183	1341+55.70		547.5		725.5	768.4	22WA-WSH		55	60		2	
27/4	AL 184	1347+03.20		599.4	8°37'0"L	699.1	743.7	T23WC-SWH-U2		60	60	60	2	Rake 6"
27/5	AL 185	1353+02.60		695.3		695.9	736.4	T22WA-TSH		55	55		2	X-Brace
27/6	AL 186	1359+97.90		702.1	93°5'0"R	683.8	721.4	T23WE-AWH-H1	45.0	40	45	50	2	Rake 6"
27/7	AL 187	1367+00.00		500.0		665.7	712.0	T22WA-TSH		60	60		2	X-Brace
27/8	AL 188	1372+00.00		440.0		666.5	721.1	T22WA-TSH		70	70		2	
27/9	AL 189	1376+40.00		274.0	1°36'0"L	674.5	733.8	T23WE-AWH-H1		75	75	75	2	
27/10	BEK 190	1379+14.00	8+31.50	168.5	94°29'0"R			0LP2-N		103				
									STR HT	STRUCTURE CATEGORY				
27/11	HOLD 1S	10+00.00					722.0	S2ST-38-30-10-01		Bay (SSDE)				

Poles				Xref: CUGR-HOLD-1 Line Name: Cougar-Holden Creek No 1 Physical Line: C1						
Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 8	A	30SP	30SP-C2		65	S	1959-01-01	1959-01-01		
AL 8	B	30SP	30SP-C2		62.5	S	1959-01-01	1959-01-01		
AL 8	C	30SP	30SP-C2		57.5	S	1959-01-01	1959-01-01		
AL 10M	A	P-2SWH	22WA-WSH-C1	1	70	D	2019-03-01	2016-01-01		
AL 10M	B	P-2SWH	22WA-WSH-C1	1	70	D	2019-03-01	2016-01-01		
AL 10M	XA1	P-2SWH	22WA-WSH-C1				2019-03-01	2019-01-01	Double Wide Flange Horz	Steel
AL 10M	XB1	P-2SWH	22WA-WSH-C1				2019-03-01	2019-01-01		Steel
AL 11	A	30SP	30SP-F2		77.5	S	1959-01-01	1959-01-01		
AL 11	B	30SP	30SP-F2		75	S	1959-01-01	1959-01-01		
AL 11	C	30SP	30SP-F2		70	S	1959-01-01	1959-01-01		
AL 12	A	30SP	30SP-F1		62.5	S	1959-01-01	1959-01-01		
AL 12	B	30SP	30SP-F1		62.5	S	1959-01-01	1959-01-01		
AL 12	C	30SP	30SP-F1		62.5	S	1959-01-01	1959-01-01		
AL 14	A	30SP	30SP-F2		95	S	1959-01-01	1959-01-01		
AL 14	B	30SP	30SP-F2		95	S	1959-01-01	1959-01-01		
AL 14	C	30SP	30SP-F2		95	S	1959-01-01	1959-01-01		
AL 17	A	30SP	30SP-F1		80	S	1959-01-01	1959-01-01		
AL 17	B	30SP	30SP-F1		82.5	S	1959-01-01	1959-01-01		
AL 17	C	30SP	30SP-F1		82.5	S	1959-01-01	1959-01-01		
AL 21	A	30SP	30SP-C1		67.5	S	1959-01-01	1959-01-01		
AL 21	B	30SP	30SP-C1		67.5	S	1959-01-01	1959-01-01		
AL 21	C	30SP	30SP-C1		67.5	S	1959-01-01	1959-01-01		
AL 27	A	30SP	30SP-F2		42.5	S	1959-01-01	1959-01-01		
AL 27	B	30SP	30SP-F2		42.5	S	1959-01-01	1959-01-01		
AL 27	C	30SP	30SP-F2		42.5	S	1959-01-01	1959-01-01		
AL 30	A	10	10SW		55	S	1965-01-01	1965-01-01		
AL 30	B	10	10SW		55	S	1965-01-01	1965-01-01		
AL 30	S1	P-OSW-AUX	01WD-XXX-AUX	2	30	F	1965-01-01	1965-01-01		
AL 30	S2	P-OSW-AUX	01WD-XXX-AUX	2	30	F	1965-01-01	1965-01-01		
AL 30	S3	P-OSW-AUX	01WD-XXX-AUX	2	30	F	1965-01-01	1965-01-01		
AL 30	XA1	10	10SW				1965-01-01		Lattice Horz	Steel
AL 30	XA2	10	10SW				1965-01-01		Lattice Horz	Steel
AL 31	A	30SP	30SP-F2		57.5	S	1959-01-01	1959-01-01		
AL 31	B	30SP	30SP-F2		57.5	S	1959-01-01	1959-01-01		
AL 31	C	30SP	30SP-F2		57.5	S	1959-01-01	1959-01-01		
AL 36	A	30SP	30SP-F2		62.5	S	1959-01-01	1959-01-01		
AL 36	B	30SP	30SP-F2		62.5	S	1959-01-01	1959-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 36	C	30SP	30SP-F2		62.5	S	1959-01-01	1959-01-01		
AL 38	A	30SP	30SP-F2		42.5	S	1959-01-01	1959-01-01		
AL 38	B	30SP	30SP-F2		42.5	S	1959-01-01	1959-01-01		
AL 38	C	30SP	30SP-F2		45	S	1959-01-01	1959-01-01		
AL 42	A	30SP	30SP-C1		55	S	1959-01-01	1959-01-01		
AL 42	B	30SP	30SP-C1		62.5	S	1959-01-01	1959-01-01		
AL 42	C	30SP	30SP-C1		75	S	1959-01-01	1959-01-01		
AL 45	A	30SP	30SP-F1		62.5	S	1959-01-01	1959-01-01		
AL 45	B	30SP	30SP-F1		67.5	S	1959-01-01	1959-01-01		
AL 45	C	30SP	30SP-F1		72.5	S	1959-01-01	1959-01-01		
AL 49	A	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 49	B	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 49	C	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 49	XA1	P-2SWH	T23WE-AWH-H1				1980-01-01		Sawn Horz	Wood
AL 50	A	P-2SWH	T23WE-AWH-H1	2	65	D	1995-07-07	1995-01-01		
AL 50	B	P-2SWH	T23WE-AWH-H1	2	60	D	1995-07-07	1995-01-01		
AL 50	C	P-2SWH	T23WE-AWH-H1	2	60	F	1959-01-01	1959-01-01		
AL 50	XA1	P-2SWH	T23WE-AWH-H1				1980-01-01		Sawn Horz	Wood
AL 51	A	P-2SWH	T22WA-TSH	2	65	D	1982-01-01	1977-01-01		
AL 51	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 51	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 52	A	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 52	B	P-2SWH	T22WA-TSH	2	55	D	1982-01-01	1982-01-01		
AL 52	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 52	XB1	P-2SWH	T22WA-TSH							
AL 53	A	P-2SWH	T22WA-TSH	2	70	F	1959-01-01	1959-01-01		
AL 53	B	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 53	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 53	XB1	P-2SWH	T22WA-TSH							
AL 54	A	P-2SWH	22WA-WSH	2	75	D	2012-06-21	2010-01-01		
AL 54	B	P-2SWH	22WA-WSH	2	70	D	2012-06-21	2011-01-01		
AL 54	XA1	P-2SWH	22WA-WSH				2012-06-21		Wide Flange Horz	Steel
AL 54	XB1	P-2SWH	22WA-WSH							

AL 55	A	P-2SWH	T22WA-TSH-C1	2	75	D	1981-01-01	1981-01-01		
AL 55	B	P-2SWH	T22WA-TSH-C1	2	70	F	1959-01-01	1959-01-01		
AL 55	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 56	A	P-2SWH	23WC-WSH	1	60	D	2019-09-01	2015-01-01		
AL 56	B	P-2SWH	23WC-WSH	1	55	D	2019-09-01	2015-01-01		
AL 56	C	P-2SWH	23WC-WSH	1	50	D	2019-09-01	2015-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 56	XA1	P-2SWH	23WC-WSH				2019-09-01	2019-01-01	Spar Horz	Steel
AL 57	A	P-2SWH	22WA-WSH	1	70	D	2018-09-01	2016-01-01		
AL 57	B	P-2SWH	22WA-WSH	1	60	D	2018-09-01	2015-01-01		
AL 57	XA1	P-2SWH	22WA-WSH				2018-09-01	2018-01-01	Wide Flange Horz	Steel
AL 57	XB1	P-2SWH	22WA-WSH				2018-09-01	2018-01-01		
AL 58	A	P-2SWH	T22WA-TSH	2	70	D	2010-05-18	2009-01-01		
AL 58	B	P-2SWH	T22WA-TSH	2	65	D	1977-01-01	1977-01-01		
AL 58	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 58	XB1	P-2SWH	T22WA-TSH							
AL 59	A	P-2SWH	T22WA-TSH	2	75	F	1959-01-01	1959-01-01		
AL 59	B	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 59	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 60	A	P-2SWH	T23WE-AWH-H1	2	70	D	1975-01-01	1975-01-01		
AL 60	B	P-2SWH	T23WE-AWH-H1	2	65	D	1975-01-01	1975-01-01		
AL 60	C	P-2SWH	T23WE-AWH-H1	2	60	P	1971-01-01	1971-01-01		
AL 60	XA1	P-2SWH	T23WE-AWH-H1				1977-01-01		Sawn Horz	Wood
AL 61	A	P-2SWH	23WG-WSH	2	75	D	2012-06-14	2010-01-01		
AL 61	B	P-2SWH	23WG-WSH	2	65	D	2012-06-14	2011-01-01		
AL 61	C	P-2SWH	23WG-WSH	2	60	D	2012-06-14	2011-01-01		
AL 61	XA1	P-2SWH	23WG-WSH				1981-01-01		Wide Flange Horz	Steel
AL 62	A	P-2SWH	T22WA-TSH	2	60	D	2012-07-26	2010-01-01		
AL 62	B	P-2SWH	T22WA-TSH	2	55	D	2012-07-26	2012-01-01		
AL 62	XA1	P-2SWH	T22WA-TSH				2012-07-26		Truss Horz	Steel
AL 63	A	P-2SWH	T22WA-TSH-C1	2	70	D	1987-10-23	1981-01-01		
AL 63	B	P-2SWH	T22WA-TSH-C1	2	60	F	1959-01-01	1959-01-01		
AL 63	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 64	A	P-2SWH	T22WA-TSH	2	65	D	2010-05-19	2008-01-01		
AL 64	B	P-2SWH	T22WA-TSH	2	55	D	2010-05-19	2007-01-01		
AL 64	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 64	XB1	P-2SWH	T22WA-TSH							

AL 65	A	P-2SWH	T23WE-AWH-H1	2	90	F	1959-01-01	1959-01-01		
AL 65	B	P-2SWH	T23WE-AWH-H1	2	80	F	1959-01-01	1959-01-01		
AL 65	C	P-2SWH	T23WE-AWH-H1	H1	80	D	2014-05-15	2014-01-01		
AL 65	XA1	P-2SWH	T23WE-AWH-H1				1992-04-16		Sawn Horz	Wood
AL 66	A	P-2SWH	T23WE-AWH-H1	2	90	D	1975-01-01	1975-01-01		
AL 66	B	P-2SWH	T23WE-AWH-H1	2	85	F	1959-01-01	1959-01-01		
AL 66	C	P-2SWH	T23WE-AWH-H1	2	85	D	1990-08-06	1988-01-01		
AL 66	XA1	P-2SWH	T23WE-AWH-H1				1992-04-16		Sawn Horz	Wood
AL 67	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 67	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 67	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 67	XB1	P-2SWH	T22WA-TSH							
AL 68	A	P-2SWH	T22WA-TSH-C1	2	70	D	1975-01-01	1975-01-01		
AL 68	B	P-2SWH	T22WA-TSH-C1	2	70	D	1998-08-12	1998-01-01		
AL 68	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 69	A	P-2SWH	T23WE-AWH-H1	2	60	D	2004-05-06	2000-01-01		
AL 69	B	P-2SWH	T23WE-AWH-H1	2	60	D	2004-05-06	2000-01-01		
AL 69	C	P-2SWH	T23WE-AWH-H1	2	60	D	2004-05-06	2002-01-01		
AL 69	XA1	P-2SWH	T23WE-AWH-H1				1992-03-13		Sawn Horz	Wood
AL 70	A	P-2SWH	T22WA-TSH-C1	2	55	D	2007-02-15	2005-01-01		
AL 70	B	P-2SWH	T22WA-TSH-C1	2	55	D	2007-02-14	2005-01-01		
AL 70	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 70	XB1	P-2SWH	T22WA-TSH-C1							
AL 71	A	P-2SWH	22WA-WSH	1	50	D	2017-08-01	2016-01-01		
AL 71	B	P-2SWH	22WA-WSH	1	50	D	2017-08-01	2016-01-01		
AL 71	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel
AL 71	XB1	P-2SWH	22WA-WSH				2017-08-02			Steel
AL 72	A	P-2SWH	22WA-WSH	1	55	D	2017-08-01	2015-01-01		
AL 72	B	P-2SWH	22WA-WSH	1	55	D	2017-08-01	2015-01-01		
AL 72	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel
AL 72	XB1	P-2SWH	22WA-WSH				2017-08-02			Steel
AL 73	A	P-2SWH	23WE-WSH	1	60	D	2012-06-20	2012-01-01		
AL 73	B	P-2SWH	23WE-WSH	1	60	D	2012-06-20	2012-01-01		
AL 73	C	P-2SWH	23WE-WSH	1	60	D	2012-06-20	2012-01-01		
AL 73	XA1	P-2SWH	23WE-WSH				1977-01-01		Wide Flange Horz	Steel

AL 74	A	P-2SWH	T22WA-TSH	2	55	D	2006-05-01	2005-01-01		
AL 74	B	P-2SWH	T22WA-TSH	2	55	D	2006-05-01	2005-01-01		
AL 74	XA1	P-2SWH	T22WA-TSH				2006-05-01		Truss Horz	Steel

AL 74	XB1	P-2SWH	T22WA-TSH							
AL 75	A	P-2SWH	T22WA-TSH-C1	2	60	D	2006-05-02	2005-01-01		
AL 75	B	P-2SWH	T22WA-TSH-C1	2	60	D	2006-05-02	2005-01-01		
AL 75	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 76	A	P-2SWH	T22WA-TSH-C1	2	65	D	2006-05-15	2005-01-01		
AL 76	B	P-2SWH	T22WA-TSH-C1	2	65	D	2006-05-15	2005-01-01		
AL 76	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 77	A	P-2SWH	T22WA-TSH	2	55	D	2006-05-03	2005-01-01		
AL 77	B	P-2SWH	T22WA-TSH	2	55	D	2006-05-02	2002-01-01		
AL 77	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 77	XB1	P-2SWH	T22WA-TSH							
AL 78	A	P-2SWH	T22WA-TSH	2	60	D	2006-05-04	2004-01-01		
AL 78	B	P-2SWH	T22WA-TSH	2	60	D	2006-05-03	2004-01-01		
AL 78	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 78	XB1	P-2SWH	T22WA-TSH							
AL 79	A	P-2SWH	T22WA-TSH	2	60	D	1998-08-13	1998-01-01		
AL 79	B	P-2SWH	T22WA-TSH	2	60	D	2006-05-17	2005-01-01		
AL 79	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 79	XB1	P-2SWH	T22WA-TSH							
AL 80	A	P-2SWH	T22WA-TSH-C1	2	70	D	2006-05-16	2004-01-01		
AL 80	B	P-2SWH	T22WA-TSH-C1	2	70	D	2006-05-16	2005-01-01		
AL 80	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 81	A	P-2SWH	T23WG-WSH-W1H1	2	85	D	2012-08-14	2011-01-01		
AL 81	B	P-2SWH	T23WG-WSH-W1H1	2	80	D	2012-08-14	2010-01-01		
AL 81	C	P-2SWH	T23WG-WSH-W1H1	2	85	D	2012-08-14	2011-01-01		
AL 81	XA1	P-2SWH	T23WG-WSH-W1H1				1982-01-01		Wide Flange Horz	Steel
AL 82	A	P-2SWH	T23WG-SWH-W1H1	2	75	D	2017-08-01	2015-01-01		
AL 82	B	P-2SWH	T23WG-SWH-W1H1	2	75	D	2017-08-01	2015-01-01		
AL 82	C	P-2SWH	T23WG-SWH-W1H1	2	75	D	2017-08-01	2015-01-01		
AL 82	XA1	P-2SWH	T23WG-SWH-W1H1				2017-08-02		Spar Horz	Wood

AL 83	A	P-2SWH	T22WA-TSH	2	50	D	2006-05-04	2000-01-01		
AL 83	B	P-2SWH	T22WA-TSH	2	50	D	1985-01-01	1985-01-01		
AL 83	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 83	XB1	P-2SWH	T22WA-TSH							
AL 84	A	P-2SWH	T22WA-TSH-C1	2	65	D	2014-10-19	2014-01-01		
AL 84	B	P-2SWH	T22WA-TSH-C1	2	70	D	2014-10-19	2011-01-01		

AL 84	XA1	P-2SWH	T22WA-TSH-C1				2014-10-19		Double Truss Horz	Steel
AL 85	A	P-2SWH	T22WA-TSH-C1	2	60	D	2014-10-19	2013-01-01		
AL 85	B	P-2SWH	T22WA-TSH-C1	2	60	D	2014-10-19	2013-01-01		
AL 85	XA1	P-2SWH	T22WA-TSH-C1				2014-10-19		Double Truss Horz	Steel
AL 86	A	P-2SWH	T22WA-TSH	2	45	N	1992-04-14	1991-01-01		
AL 86	B	P-2SWH	T22WA-TSH	2	45	F	1959-01-01	1959-01-01		



Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 86	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 87	A	P-2SWH	23WC-WSH	1	50	D	2018-09-01	2016-01-01		
AL 87	B	P-2SWH	23WC-WSH	1	50	D	2018-09-01	2015-01-01		
AL 87	C	P-2SWH	23WC-WSH	1	50	D	2018-09-01	2016-01-01		
AL 87	XA1	P-2SWH	23WC-WSH				2018-09-01		Truss Horz	Steel
AL 88	A	P-2SWH	22WA-WSH	1	55	D	2018-08-01	2015-01-01		
AL 88	B	P-2SWH	22WA-WSH	1	60	D	2018-08-01	2015-01-01		
AL 88	XA1	P-2SWH	22WA-WSH				2018-09-01		Wide Flange Horz	Steel
AL 88	XB1	P-2SWH	22WA-WSH				2018-09-02			
AL 89	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 89	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 89	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 89	XB1	P-2SWH	T22WA-TSH							
AL 90	A	P-2SWH	T23WC-SWH	2	60	D	2014-10-19	2013-01-01		
AL 90	B	P-2SWH	T23WC-SWH	2	60	D	1988-09-01	1987-01-01		
AL 90	C	P-2SWH	T23WC-SWH	2	60	D	2006-05-05	2004-01-01		
AL 90	XA1	P-2SWH	T23WC-SWH				1982-01-01		Spar Horz	Wood
AL 91	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 91	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 91	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 91	XB1	P-2SWH	T22WA-TSH							
AL 92	A	P-2SWH	T22WA-TSH	2	45	D	1981-01-01	1981-01-01		
AL 92	B	P-2SWH	T22WA-TSH	2	50	D	1985-01-01	1985-01-01		
AL 92	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 92	XB1	P-2SWH	T22WA-TSH							
AL 93	A	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 93	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 93	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 93	XB1	P-2SWH	T22WA-TSH							

AL 94	A	P-2SWH	T22WA-TSH	2	60	N	1992-04-14	1991-01-01		
AL 94	B	P-2SWH	T22WA-TSH	2	60	D	1982-01-01	1982-01-01		
AL 94	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 94	XB1	P-2SWH	T22WA-TSH							

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 95	A	P-2SWH	22WA-WSH	1	55	D	2018-08-01	2017-01-01		
AL 95	B	P-2SWH	22WA-WSH	1	55	D	2018-09-01	2017-01-01		
AL 95	XA1	P-2SWH	22WA-WSH				2018-09-01		Wide Flange Horz	Steel
AL 96	A	P-2SWH	23WC-WSH	1	55	D	2018-09-01	2015-01-01		
AL 96	B	P-2SWH	23WC-WSH	1	50	D	2018-09-01	2017-01-01		
AL 96	C	P-2SWH	23WC-WSH	1	60	D	2018-09-01	2015-01-01		
AL 96	XA1	P-2SWH	23WC-WSH				2018-09-01		Truss Horz	Steel
AL 97	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 97	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 97	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 97	XB1	P-2SWH	T22WA-TSH							
AL 98	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 98	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 98	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 98	XB1	P-2SWH	T22WA-TSH							
AL 99	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 99	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 99	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 99	XB1	P-2SWH	T22WA-TSH							
AL 100	A	P-2SWH	T23WE-AWH-H1	2	70	D	1998-08-12	1996-01-01		
AL 100	B	P-2SWH	T23WE-AWH-H1	2	70	F	1959-01-01	1959-01-01		
AL 100	C	P-2SWH	T23WE-AWH-H1	2	75	F	1959-01-01	1959-01-01		

AL 100	XA1	P-2SWH	T23WE-AWH-H1				1981-01-01		Sawn Horz	Wood
AL 101	A	P-2SWH	T22WA-TSH-C1	2	60	F	1959-01-01	1959-01-01		
AL 101	B	P-2SWH	T22WA-TSH-C1	2	60	F	1959-01-01	1959-01-01		
AL 101	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel

AL 101	XB1	P-2SWH	T22WA-TSH-C1							
AL 102	A	P-2SWH	T23WC-SWH	2	65	F	1959-01-01	1959-01-01		
AL 102	B	P-2SWH	T23WC-SWH	2	65	N	1994-05-18	1991-01-01		
AL 102	C	P-2SWH	T23WC-SWH	2	65	N	1992-04-15	1991-01-01		
AL 102	XA1	P-2SWH	T23WC-SWH				1984-01-01		Spar Horz	Wood
AL 103	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 103	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 103	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 103	XB1	P-2SWH	T22WA-TSH							
AL 104	A	P-2SWH	T22WA-TSH	2	70	D	2006-05-18	2005-01-01		
AL 104	B	P-2SWH	T22WA-TSH	2	70	D	2006-05-18	2004-01-01		
AL 104	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 105	A	P-2SWH	T22WA-TSH	2	55	D	2006-05-18	2005-01-01		
AL 105	B	P-2SWH	T22WA-TSH	2	60	D	2006-05-17	2004-01-01		
AL 105	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 106	A	P-2SWH	23WC-WSH	2	55	D	2017-08-01	2015-01-01		
AL 106	B	P-2SWH	23WC-WSH	2	60	D	2017-08-01	2015-01-01		
AL 106	C	P-2SWH	23WC-WSH	2	65	D	2017-08-01	2015-01-01		
AL 106	XA1	P-2SWH	23WC-WSH				2017-08-02		Spar Horz	Wood
AL 107	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 107	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 107	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 107	XB1	P-2SWH	T22WA-TSH							

AL 108	A	P-2SWH	T22WA-TSH	2	70	D	1988-09-01	1987-01-01		
AL 108	B	P-2SWH	T22WA-TSH	2	65	D	1987-01-01	1987-01-01		
AL 108	XA1	P-2SWH	T22WA-TSH				1970-01-01		Truss Horz	Steel
AL 109	A	P-2SWH	T22WA-TSH	2	55	D	2002-05-23	2001-01-01		
AL 109	B	P-2SWH	T22WA-TSH	2	55	D	2002-05-23	2000-01-01		
AL 109	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 109	XB1	P-2SWH	T22WA-TSH							
AL 110	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 110	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 110	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 111	A	P-2SWH	T23WE-AWH-H1	2	55	F	1959-01-01	1959-01-01		
AL 111	B	P-2SWH	T23WE-AWH-H1	2	55	F	1959-01-01	1959-01-01		
AL 111	C	P-2SWH	T23WE-AWH-H1	2	55	D	1984-01-01	1984-01-01		
AL 111	XA1	P-2SWH	T23WE-AWH-H1				1985-01-01		Sawn Horz	Wood
AL 112	A	P-2SWH	23WE-WSH	2	50	D	2018-09-01	2015-01-01		
AL 112	B	P-2SWH	23WE-WSH	2	50	D	2018-09-01	2016-01-01		
AL 112	C	P-2SWH	23WE-WSH	2	50	D	2018-09-01	2016-01-01		
AL 112	XA1	P-2SWH	23WE-WSH				2018-09-02		Sawn Horz	Wood

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 113	A	P-2SWH	T23WC-SWH-H2	2	55	F	1959-01-01	1959-01-01		
AL 113	B	P-2SWH	T23WC-SWH-H2	2	55	F	1959-01-01	1959-01-01		
AL 113	C	P-2SWH	T23WC-SWH-H2	2	55	D	1981-01-01	1981-01-01		

AL 113	XA1	P-2SWH	T23WC-SWH-H2				1982-01-01		Spar Horz	Wood
AL 114	A	P-2SWH	T22WA-TSH	2	65	P	1965-01-01	1965-01-01		
AL 114	B	P-2SWH	T22WA-TSH	2	65	D	1967-01-01	1967-01-01		
AL 114	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 115	A	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 115	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 115	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 115	XB1	P-2SWH	T22WA-TSH							

AL 116	A	P-2SWH	T22WA-TSH	2	60	P	1984-01-01	1984-01-01		
AL 116	B	P-2SWH	T22WA-TSH	2	60	D	1974-01-01	1974-01-01		
AL 116	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 116	XB1	P-2SWH	T22WA-TSH							
AL 117	A	P-2SWH	T23WE-AWH-H1	2	55	D	2011-05-02	2008-01-01		
AL 117	B	P-2SWH	T23WE-AWH-H1	2	55	D	2011-05-04	2007-01-01		
AL 117	C	P-2SWH	T23WE-AWH-H1	2	55	D	2011-05-05	2007-01-01		

AL 117	XA1	P-2SWH	T23WE-AWH-H1				1977-01-01		Sawn Horz	Wood
AL 118	A	P-2SWH	T22WA-TSH-C1	2	60	F	1959-01-01	1959-01-01		
AL 118	B	P-2SWH	T22WA-TSH-C1	2	65	F	1959-01-01	1959-01-01		
AL 118	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 119	A	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 119	B	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 119	C	P-2SWH	T23WE-AWH-H1	2	70	F	1959-01-01	1959-01-01		
AL 119	XA1	P-2SWH	T23WE-AWH-H1				1977-01-01		Sawn Horz	Wood

AL 120	A	P-2SWH	T22WA-TSH	2	50	D	2007-02-14	2002-01-01		
AL 120	B	P-2SWH	T22WA-TSH	2	50	D	2007-02-13	1999-01-01		
AL 120	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 120	XB1	P-2SWH	T22WA-TSH							
AL 121	A	P-2SWH	T22WA-TSH	2	50	D	2007-02-13	2000-01-01		
AL 121	B	P-2SWH	T22WA-TSH	2	50	D	2007-02-13	2002-01-01		
AL 121	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 122	A	P-2SWH	T22WA-TSH-C1	2	75	F	1959-01-01	1959-01-01		
AL 122	B	P-2SWH	T22WA-TSH-C1	2	70	D	1981-01-01	1981-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 122	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 123	A	P-2SWH	T22WA-TSH-C1	2	65	D	1973-01-01	1973-01-01		
AL 123	B	P-2SWH	T22WA-TSH-C1	2	65	D	2010-05-21	2007-01-01		

AL 123	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 124	A	P-2SWH	22WA-WSH	2	75	D	2012-08-17	2012-01-01		
AL 124	B	P-2SWH	22WA-WSH	2	70	D	2012-08-17	2012-01-01		
AL 124	XA1	P-2SWH	22WA-WSH				1959-01-01		Wide Flange Horz	Steel
AL 124	XB1	P-2SWH	22WA-WSH							

AL 125	A	P-2SWH	T23WE-AWH-H1	2	70	D	1981-01-01	1981-01-01		
AL 125	B	P-2SWH	T23WE-AWH-H1	2	65	F	1959-01-01	1959-01-01		
AL 125	C	P-2SWH	T23WE-AWH-H1	2	60	F	1959-01-01	1959-01-01		
AL 125	XA1	P-2SWH	T23WE-AWH-H1				1982-01-01		Sawn Horz	Wood
AL 126	A	P-2SWH	T22WA-TSH	2	50	D	1978-01-01	1978-01-01		
AL 126	B	P-2SWH	T22WA-TSH	2	50	D	2004-05-05	2001-01-01		
AL 126	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 126	XB1	P-2SWH	T22WA-TSH							

AL 127	A	P-2SWH	22WA-WSH	1	70	D	2019-09-01	2015-01-01		
AL 127	B	P-2SWH	22WA-WSH	1	70	D	2019-09-01	2015-01-01		
AL 127	XA1	P-2SWH	22WA-WSH				2019-09-01	2019-01-01	Double Truss Horz	Steel
AL 127	XB1	P-2SWH	22WA-WSH				2019-09-02			Steel
AL 128	A	P-2SWH	23WG-WSH	2	75	D	2012-06-29	2012-01-01		
AL 128	B	P-2SWH	23WG-WSH	2	75	D	2012-06-29	2012-01-01		
AL 128	C	P-2SWH	23WG-WSH	2	80	D	2012-06-29	2012-01-01		
AL 128	XA1	P-2SWH	23WG-WSH				1987-08-01		Wide Flange Horz	Steel
AL 129	A	P-2SWH	22WA-WSH	1	65	D	2018-09-01	2015-01-01		
AL 129	B	P-2SWH	22WA-WSH	1	65	D	2018-09-01	2016-01-01		
AL 129	XA1	P-2SWH	22WA-WSH				2018-09-01		Wide Flange Horz	Steel

AL 130	A	P-2SWH	22WA-WSH-C1	2	85	D	2018-09-01	2016-01-01		
AL 130	B	P-2SWH	22WA-WSH-C1	2	85	D	2018-09-01	2016-01-01		
AL 130	XA1	P-2SWH	22WA-WSH-C1				1959-01-01		Double Truss Horz	Steel
AL 131	A	P-2SWH	22WA-WSH-C1	2	80	D	2018-09-01	2016-01-01		
AL 131	B	P-2SWH	22WA-WSH-C1	2	80	D	2018-09-01	2016-01-01		
AL 131	XA1	P-2SWH	22WA-WSH-C1				1959-01-01		Truss Horz	Steel

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 132	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 132	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 132	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 133	A	P-2SWH	T22WA-TSH	1	55	D	2017-08-01	2015-01-01		
AL 133	B	P-2SWH	T22WA-TSH	1	60	D	2017-08-01	2016-01-01		
AL 133	XA1	P-2SWH	T22WA-TSH				2017-08-01		Truss Horz	Steel

AL 133	XB1	P-2SWH	T22WA-TSH							Steel
AL 134	A	P-2SWH	22WA-WSH	1	60	D	2017-08-01	2016-01-01		
AL 134	B	P-2SWH	22WA-WSH	1	65	D	2017-08-01	2016-01-01		
AL 134	XA1	P-2SWH	22WA-WSH				2018-09-01		Wide Flange Horz	Steel
AL 134	XB1	P-2SWH	22WA-WSH				2017-08-01			
AL 135	A	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 135	B	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 135	C	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 135	XA1	P-2SWH	T23WE-AWH-H1				1959-01-01		Sawn Horz	Wood

AL 136	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 136	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 136	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 136	XB1	P-2SWH	T22WA-TSH							
AL 137	A	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 137	B	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 137	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 137	XB1	P-2SWH	T22WA-TSH							
AL 138	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 138	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 138	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 138	XB1	P-2SWH	T22WA-TSH							
AL 139	A	P-2SWH	T22WA-TSH	2	55	D	2004-05-04	2002-01-01		
AL 139	B	P-2SWH	T22WA-TSH	2	55	D	2004-05-04	2002-01-01		
AL 139	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 139	XB1	P-2SWH	T22WA-TSH							
AL 140	A	P-2SWH	T22WA-TSH	2	60	D	2004-05-04	2001-01-01		
AL 140	B	P-2SWH	T22WA-TSH	2	60	D	2004-05-04	2000-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 140	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 140	XB1	P-2SWH	T22WA-TSH							

AL 141	A	P-2SWH	23WC-WSH	1	55	D	2019-09-01	2017-01-01		
AL 141	B	P-2SWH	23WC-WSH	1	55	D	2019-09-01	2015-01-01		
AL 141	C	P-2SWH	23WC-WSH	1	60	D	2019-09-01	2016-01-01		
AL 141	XA1	P-2SWH	23WC-WSH				2018-09-01		Truss Horz	Steel
AL 142	A	P-2SWH	22WA-WSH	1	55	D	2017-08-01	2015-01-01		
AL 142	B	P-2SWH	22WA-WSH	1	55	D	2017-08-01	2015-01-01		
AL 142	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel

AL 142	XB1	P-2SWH	22WA-WSH				2017-08-02			Steel
AL 143	A	P-2SWH	22WA-WSH	1	60	D	2017-08-01	2015-01-01		
AL 143	B	P-2SWH	22WA-WSH	1	60	D	2017-08-01	2015-01-01		
AL 143	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel

AL 143	XB1	P-2SWH	22WA-WSH				2017-08-02			Steel
AL 144	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 144	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 144	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 144	XB1	P-2SWH	T22WA-TSH							
AL 145	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 145	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 145	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 145	XB1	P-2SWH	T22WA-TSH							
AL 146	A	P-2SWH	T23WB-SWH	2	55	F	1959-01-01	1959-01-01		
AL 146	B	P-2SWH	T23WB-SWH	2	55	F	1959-01-01	1959-01-01		
AL 146	C	P-2SWH	T23WB-SWH	2	55	F	1959-01-01	1959-01-01		
AL 146	XA1	P-2SWH	T23WB-SWH				1980-01-01		Spar Horz	Wood
AL 147	A	P-2SWH	23WE-WSH	2	50	D	2018-09-01	2016-01-01		
AL 147	B	P-2SWH	23WE-WSH	2	50	D	2018-09-01	2016-01-01		
AL 147	C	P-2SWH	23WE-WSH	2	55	D	2018-09-01	2016-01-01		
AL 147	XA1	P-2SWH	23WE-WSH				2018-09-02		Sawn Horz	Wood

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
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AL 148	A	P-2SWH	23WE-WSH	2	60	D	2018-09-01	2016-01-01		
AL 148	B	P-2SWH	23WE-WSH	2	65	D	2018-09-01	2016-01-01		
AL 148	C	P-2SWH	23WE-WSH	2	70	D	2018-09-01	2016-01-01		
AL 148	XA1	P-2SWH	23WE-WSH				2018-09-02		Sawn Horz	Wood
AL 148	XB1	P-2SWH	23WE-WSH				2018-09-03			
AL 149	A	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 149	B	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 149	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 149	XB1	P-2SWH	T22WA-TSH							
AL 150	A	P-2SWH	T22WA-TSH-C1	2	60	N	1993-09-09	1992-01-01		
AL 150	B	P-2SWH	T22WA-TSH-C1	2	60	F	1959-01-01	1959-01-01		
AL 150	XA1	P-2SWH	T22WA-TSH-C1				1959-01-01		Double Truss Horz	Steel
AL 151	A	P-2SWH	T23WC-SWH-H2	2	70	F	1959-01-01	1959-01-01		
AL 151	B	P-2SWH	T23WC-SWH-H2	2	70	D	2010-05-14	2009-01-01		
AL 151	C	P-2SWH	T23WC-SWH-H2	2	70	N	1993-09-09	1992-01-01		

AL 151	XA1	P-2SWH	T23WC-SWH-H2				1985-01-01		Spar Horz	Wood
AL 152	A	P-2SWH	23WE-WSH	2	55	D	2018-09-01	2016-01-01		
AL 152	B	P-2SWH	23WE-WSH	2	55	D	2018-09-01	2016-01-01		
AL 152	C	P-2SWH	23WE-WSH	2	55	D	2018-09-01	2016-01-01		

AL 152	XA1	P-2SWH	23WE-WSH				1985-01-01		Sawn Horz	Wood
AL 153	A	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 153	B	P-2SWH	T23WE-AWH-H1	2	55	D	1982-01-01	1982-01-01		
AL 153	C	P-2SWH	T23WE-AWH-H1	2	60	F	1959-01-01	1959-01-01		
AL 153	XA1	P-2SWH	T23WE-AWH-H1				1982-01-01		Sawn Horz	Wood
AL 154	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 154	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 154	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 155	A	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 155	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 155	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 156	A	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
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Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 156	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 156	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 156	XB1	P-2SWH	T22WA-TSH							

AL 157	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 157	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 157	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 157	XB1	P-2SWH	T22WA-TSH							
AL 158	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 158	B	P-2SWH	T22WA-TSH	2	55	F	1959-01-01	1959-01-01		
AL 158	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 158	XB1	P-2SWH	T22WA-TSH							
AL 159	A	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 159	B	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 159	C	P-2SWH	T23WE-AWH-H1	2	50	F	1959-01-01	1959-01-01		
AL 159	XA1	P-2SWH	T23WE-AWH-H1				1959-01-01		Sawn Horz	Wood

AL 159	XB1	P-2SWH	T23WE-AWH-H1							
AL 160	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 160	B	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 160	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 160	XB1	P-2SWH	T22WA-TSH							

AL 161	A	P-2SWH	T22WA-TSH	2	55	D	1982-01-01	1982-01-01		
AL 161	B	P-2SWH	T22WA-TSH	2	60	N	1993-09-09	1992-01-01		
AL 161	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 161	XB1	P-2SWH	T22WA-TSH							
AL 162	A	P-2SWH	T22WA-TSH	2	55	D	2010-05-20	2008-01-01		
AL 162	B	P-2SWH	T22WA-TSH	2	60	D	2010-05-20	2009-01-01		
AL 162	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 162	XB1	P-2SWH	T22WA-TSH							
AL 163	A	P-2SWH	T22WA-TSH	2	50	F	1959-01-01	1959-01-01		
AL 163	B	P-2SWH	T22WA-TSH	2	55	D	2002-05-22	2001-01-01		
AL 163	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 163	XB1	P-2SWH	T22WA-TSH							
AL 164	A	P-2SWH	T22WA-TSH	2	55	D	2002-04-26	2000-01-01		
AL 164	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 164	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 164	XB1	P-2SWH	T22WA-TSH							

AL 165	A	P-2SWH	23WC-WSH	2	50	D	2002-04-24	2000-01-01		
AL 165	B	P-2SWH	23WC-WSH	2	50	D	2012-06-20	2010-01-01		
AL 165	C	P-2SWH	23WC-WSH	2	50	D	2012-06-20	2010-01-01		
AL 165	XA1	P-2SWH	23WC-WSH				1959-01-01		Wide Flange Horz	Steel
AL 166	A	P-2SWH	T22WA-TSH	2	75	F	1959-01-01	1959-01-01		
AL 166	B	P-2SWH	T22WA-TSH	2	75	D	1990-08-07	1988-01-01		
AL 166	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 167	A	P-2SWH	T22WA-TSH	2	75	D	1992-04-15	1988-01-01		
AL 167	B	P-2SWH	T22WA-TSH	2	75	D	1975-01-01	1975-01-01		

AL 167	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 168	A	P-2SWH	T23WC-SWH	2	65	D	2002-04-24	2001-01-01		
AL 168	B	P-2SWH	T23WC-SWH	2	65	D	1971-01-01	1971-01-01		
AL 168	C	P-2SWH	T23WC-SWH	2	65	D	1971-01-01	1971-01-01		
AL 168	XA1	P-2SWH	T23WC-SWH				1980-01-01		Spar Horz	Wood
AL 169	A	P-2SWH	T22WA-TSH	2	65	P	1972-01-01	1972-01-01		
AL 169	B	P-2SWH	T22WA-TSH	2	70	D	1970-01-01	1970-01-01		
AL 169	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel

AL 169	XB1	P-2SWH	T22WA-TSH							
AL 170	A	P-2SWH	T23WC-SWH	2	70	D	2002-05-21	2001-01-01		
AL 170	B	P-2SWH	T23WC-SWH	2	70	D	2002-05-21	2001-01-01		
AL 170	C	P-2SWH	T23WC-SWH	2	70	D	2002-05-21	2001-01-01		

AL 170	XA1	P-2SWH	T23WC-SWH				1980-01-01		Spar Horz	Wood
AL 171	A	P-2SWH	T22WA-TSH	2	75	F	1959-01-01	1959-01-01		
AL 171	B	P-2SWH	T22WA-TSH	2	75	F	1959-01-01	1959-01-01		
AL 171	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 172	A	P-2SWH	T22WA-TSH	2	80	D	1985-01-01	1985-01-01		
AL 172	B	P-2SWH	T22WA-TSH	2	80	F	1959-01-01	1959-01-01		

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 172	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 173	A	P-2SWH	22WA-WSH	2	75	D	2012-06-19	2012-01-01		
AL 173	B	P-2SWH	22WA-WSH	2	75	D	2012-06-19	2012-01-01		
AL 173	XA1	P-2SWH	22WA-WSH				2012-06-19		Wide Flange Horz	Steel
AL 173	XB1	P-2SWH	22WA-WSH							
AL 174	A	P-2SWH	T22WA-TSH	2	65	D	1972-01-01	1972-01-01		
AL 174	B	P-2SWH	T22WA-TSH	2	65	D	2004-05-03	2002-01-01		
AL 174	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 174	XB1	P-2SWH	T22WA-TSH							
AL 175	A	P-2SWH	T22WA-TSH	2	65	F	1959-01-01	1959-01-01		
AL 175	B	P-2SWH	T22WA-TSH	2	65	D	1971-01-01	1971-01-01		
AL 175	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 176	A	P-2SWH	T22WA-TSH	2	60	D	2010-05-12	2009-01-01		
AL 176	B	P-2SWH	T22WA-TSH	2	60	D	2010-05-12	2008-01-01		
AL 176	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 176	XB1	P-2SWH	T22WA-TSH							
AL 177	A	P-2SWH	T22WA-TSH	2	60	D	2010-05-11	2009-01-01		
AL 177	B	P-2SWH	T22WA-TSH	2	60	D	2010-05-11	2009-01-01		
AL 177	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 177	XB1	P-2SWH	T22WA-TSH							
AL 178	A	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 178	B	P-2SWH	T22WA-TSH	2	60	F	1959-01-01	1959-01-01		
AL 178	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 178	XB1	P-2SWH	T22WA-TSH							
AL 179	A	P-2SWH	22WA-WSH		70	D	2018-09-01	2016-01-01		
AL 179	B	P-2SWH	22WA-WSH		70	D	2017-08-01	2016-01-01		
AL 179	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel
AL 179	XB1	P-2SWH	22WA-WSH				2017-08-01			Steel
AL 180	A	P-2SWH	22WA-WSH	1	70	D	2017-08-01	2015-01-01		
AL 180	B	P-2SWH	22WA-WSH	1	70	D	2017-08-01	2016-01-01		
AL 180	XA1	P-2SWH	22WA-WSH				2017-08-01		Wide Flange Horz	Steel

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
AL 180	XB1	P-2SWH	22WA-WSH				2017-08-01			Steel
AL 181	A	P-2SWH	T23WE-AWH-H1	2	60	D	1990-08-08	1989-01-01		
AL 181	B	P-2SWH	T23WE-AWH-H1	2	60	D	1990-07-12	1988-01-01		
AL 181	C	P-2SWH	T23WE-AWH-H1	2	70	D	1975-01-01	1975-01-01		
AL 181	XA1	P-2SWH	T23WE-AWH-H1				1975-01-01		Sawn Horz	Wood
AL 182	A	P-2SWH	22WA-WSH	2	50	D	2012-06-18	2012-01-01		
AL 182	B	P-2SWH	22WA-WSH	2	55	D	2012-06-18	2008-01-01		
AL 182	XA1	P-2SWH	22WA-WSH				2012-06-18		Wide Flange Horz	Steel
AL 183	A	P-2SWH	22WA-WSH	2	55	D	2018-09-01	2016-01-01		
AL 183	B	P-2SWH	22WA-WSH	2	60	D	2018-09-01	2016-01-01		

AL 183	XA1	P-2SWH	22WA-WSH				2018-09-02		Wide Flange Horz	Steel
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AL 184	A	P-2SWH	T23WC-SWH-U2	2	60	D	2010-05-12	2009-01-01		
AL 184	B	P-2SWH	T23WC-SWH-U2	2	60	D	2010-05-12	2008-01-01		
AL 184	C	P-2SWH	T23WC-SWH-U2	2	60	D	1997-06-26	1992-01-01		
AL 184	XA1	P-2SWH	T23WC-SWH-U2				1985-01-01		Spar Horz	Wood
AL 185	A	P-2SWH	T22WA-TSH	2	55	D	2010-05-13	2007-01-01		
AL 185	B	P-2SWH	T22WA-TSH	2	55	N	1994-05-19	1993-01-01		
AL 185	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 185	XB1	P-2SWH	T22WA-TSH							
AL 186	A	P-2SWH	23WF-WSH	2	40	D	2018-09-01	2016-01-01		
AL 186	B	P-2SWH	23WF-WSH	2	45	D	2019-09-01	2009-01-01		
AL 186	C	P-2SWH	23WF-WSH	2	50	D	2019-09-01	2008-01-01		
AL 186	XA1	P-2SWH	23WF-WSH				2019-09-02		Sawn Horz	Wood

AL 187	A	P-2SWH	T22WA-TSH	2	60	D	1996-07-01	1995-01-01		
AL 187	B	P-2SWH	T22WA-TSH	2	60	N	1960-07-01	1959-01-01		
AL 187	XA1	P-2SWH	T22WA-TSH				1992-06-10		Truss Horz	Steel

AL 187	XB1	P-2SWH	T22WA-TSH							
AL 188	A	P-2SWH	T22WA-TSH	2	70	F	1959-01-01	1959-01-01		
AL 188	B	P-2SWH	T22WA-TSH	2	70	D	1981-01-01	1981-01-01		
AL 188	XA1	P-2SWH	T22WA-TSH				1959-01-01		Truss Horz	Steel
AL 189	A	P-2SWH	T23WE-AWH-H1	2	75	D	2010-05-13	2007-01-01		
AL 189	B	P-2SWH	T23WE-AWH-H1	2	75	D	1972-01-01	1972-01-01		
AL 189	C	P-2SWH	T23WE-AWH-H1	2	75	F	1959-01-01	1959-01-01		
AL 189	XA1	P-2SWH	T23WE-AWH-H1				1984-01-01		Sawn Horz	Wood

Structure Serial Number	Pole Position	Structure Class Code	Structure Type Code	Pole Class	Pole Length	Pole Kind	Install Date	Manuf Date	Crossarm Type	Non Pole Mat'l
BEK 190	A	OLP2	OLP2-N		103	X	2018-01-01	2018-01-01		

Towers			Xref: CUGR-HOLD-1 Line Name: Cougar-Holden Creek No 1 Physical Line: C1								
Mile	Struc	Structure Serial Number	Leg 1 Soil	Leg 1 Footing	Leg 2 Soil	Leg 2 Footing	Leg 3 Soil	Leg 3 Footing	Leg 4 Soil	Leg 4 Footing	
1	1	AL 2	Loose Rock	Grill	Loose Rock	Grill	Loose Rock	Grill	Loose Rock	Grill	
1	2	AL 3	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	
1	3	AL 4	Earth	Grill	Earth	Grill	Earth	Grill	Earth	Grill	
1	4	AL 5	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	
1	5	AL 6	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	
1	6	AL 7	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	
2	2	AL 9	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
3	1	AL 13	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
3	3	AL 15	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
3	4	AL 16	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
4	1	AL 18	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
4	2	AL 19	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
4	3	AL 20	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
4	5	AL 22	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
4	6	AL 23	Earth	Plate	Earth	Plate	Earth	Plate	Earth	Plate	
5	1	AL 24	Earth &	Plate	Earth &	Plate	Earth &	Plate	Earth &	Plate	
5	2	AL 25	Earth &	Plate	Earth &	Plate	Earth &	Plate	Earth &	Plate	
5	3	AL 26	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
5	5	AL 28	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
6	1	AL 29	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
6	4	AL 32	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
6	5	AL 33	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	Earth & Rock	Plate	
7	1	AL 34	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
7	2	AL 35	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
7	4	AL 37	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
8	1	AL 39	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
8	2	AL 40	Earth & Rock	Grill	Earth & Rock	Grill	Earth & Rock	Grill	Earth & Rock	Grill	
8	3	AL 41	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	
8	5	AL 43	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	
9	1	AL 44	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	Loose Rock	Plate	
9	3	AL 46	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
9	4	AL 47	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	
9	5	AL 48	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	Earth & Gravel	Plate	

<b>Switches</b>				Xref: CUGR-HOLD-1 Line Name: Cougar-Holden Creek No 1 Physical Line: C1				
<b>Mile</b>	<b>Struc</b>	<b>Structure Serial Number</b>	<b>Delta FAL</b>	<b>SER Number</b>	<b>Drawing Number</b>	<b>Sheet Number</b>	<b>Revision Number</b>	<b>Operating Number</b>
115	6	AL 30	Ah	B-1460	115	1200		
115	6	AL 30	Bk	B-1449	115			

<b>Guying</b>				Xref: CUGR-HOLD-1 Line Name: Cougar-Holden Creek No 1 Physical Line: C1		
Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
2	1	AL 8	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
2	1	AL 8	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
2	1	AL 8	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
2	1	AL 8	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
2	4	AL 11	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
2	4	AL 11	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
2	4	AL 11	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
2	4	AL 11	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
2	5	AL 12	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
2	5	AL 12	2	PA	Side	5/8" EHS, Std Cable Attach Hrdw
2	5	AL 12	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
2	5	AL 12	8	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
3	2	AL 14	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
3	2	AL 14	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
3	2	AL 14	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
3	2	AL 14	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
3	5	AL 17	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
3	5	AL 17	2	PA	Side	5/8" EHS, Std Cable Attach Hrdw
3	5	AL 17	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
3	5	AL 17	8	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
4	4	AL 21	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
4	4	AL 21	5	PA	Side	5/8" EHS, Std Cable Attach Hrdw
4	4	AL 21	5	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles

5	4	AL 27	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
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Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
5	4	AL 27	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
5	4	AL 27	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
5	4	AL 27	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
6	2	AL 30	4	PA	Side	5/8" EHS, Std Cable Attach Hrdw
6	2	AL 30	8	PA	Line	5/8" EHS, Std Cable Attach Hrdw
6	2	AL 30	12	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
6	3	AL 31	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
6	3	AL 31	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
6	3	AL 31	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
6	3	AL 31	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
7	3	AL 36	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
7	3	AL 36	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
7	3	AL 36	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
7	3	AL 36	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
7	5	AL 38	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
7	5	AL 38	1	PA	Side	5/8" EHS, Std Cable Attach Hrdw
7	5	AL 38	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
7	5	AL 38	7	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
8	4	AL 42	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
8	4	AL 42	5	PA	Side	5/8" EHS, Std Cable Attach Hrdw
8	4	AL 42	5	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 12' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
9	2	AL 45	2	SPECGUY	Cross	5/8" HS, HX, For C1/ F Type Lattice Pole Steel Towers, Includes Pole Attachment
9	2	AL 45	2	PA	Side	5/8" EHS, Std Cable Attach Hrdw
9	2	AL 45	6	PA	Line	5/8" EHS, Std Cable Attach Hrdw
9	2	AL 45	8	GUYANCH		30" Square Pressed Plate, Single Guy Wire, 1-1/8" x 10' Turnbuckle Anchor Rod Assembly, For Lattice Steel Poles
10	1	AL 49	6	DPAD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
10	1	AL 49	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
10	1	AL 49	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
10	2	AL 50	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
10	2	AL 50	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
10	2	AL 50	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
10	2	AL 50	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
10	2	AL 50	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
10	2	AL 50	6	DPAD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
10	2	AL 50	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
10	2	AL 50	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod
11	1	AL 55	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
11	1	AL 55	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
11	1	AL 55	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
11	1	AL 55	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
11	1	AL 55	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
11	1	AL 55	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
11	2	AL 56	3	PA	Side	1/2" SM, Alt Cable Attach Hrdw
11	2	AL 56	3	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
11	2	AL 56	3	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
11	5	AL 59	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
11	5	AL 59	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
11	5	AL 59	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
11	5	AL 59	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
11	5	AL 59	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
11	5	AL 59	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

11	6	AL 60	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
11	6	AL 60	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
11	6	AL 60	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
11	6	AL 60	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
11	6	AL 60	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
11	6	AL 60	1	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 7' Anchor Rod
11	6	AL 60	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
11	6	AL 60	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
11	6	AL 60	7	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod
11	7	AL 61	2	HX	Cross	1-Unit, 8' Fiberglass, 503676, 1 Curved Guy Plate, 14' Spacing, Installed 2008-Present
11	7	AL 61	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
11	7	AL 61	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
11	7	AL 61	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
11	7	AL 61	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
11	7	AL 61	6	DPAD	Line	1/2" HS, Std Cable Attach Hrdw, No Insulators or Floating Insulators
11	7	AL 61	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
11	7	AL 61	8	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
12	1	AL 63	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
12	1	AL 63	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
12	1	AL 63	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
12	1	AL 63	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
12	1	AL 63	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
12	1	AL 63	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
12	3	AL 65	3	DP2AD		1/2" HS, Std Cable Attach Hrdw, No Insulators or Floating Insulators
12	3	AL 65	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
12	3	AL 65	6	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod

12	4	AL 66	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
12	4	AL 66	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
12	4	AL 66	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
12	4	AL 66	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
12	4	AL 66	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
12	4	AL 66	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
12	4	AL 66	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
12	4	AL 66	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod
12	6	AL 68	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
12	6	AL 68	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
12	6	AL 68	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
12	6	AL 68	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
12	6	AL 68	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
12	6	AL 68	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
12	7	AL 69	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
12	7	AL 69	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
12	7	AL 69	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
13	4	AL 73	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
13	4	AL 73	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
13	4	AL 73	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
13	6	AL 75	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
13	6	AL 75	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
13	6	AL 75	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
13	6	AL 75	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
13	6	AL 75	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
13	6	AL 75	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

13	7	AL 76	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
13	7	AL 76	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
13	7	AL 76	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
13	7	AL 76	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
13	7	AL 76	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
13	7	AL 76	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
14	5	AL 81	2	HX	Cross	1-Unit, 8' Fiberglass, 503676, 1 Curved Guy Plate, 14' Spacing, Installed 2008-Present

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
14	5	AL 81	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
14	5	AL 81	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
14	5	AL 81	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
14	5	AL 81	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
14	5	AL 81	3	DP2AD	Line	1/2" HS, Std Cable Attach Hrdw, No Insulators or Floating Insulators
14	5	AL 81	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
14	5	AL 81	8	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
14	6	AL 82	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
14	6	AL 82	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
14	6	AL 82	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
14	6	AL 82	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
14	6	AL 82	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
14	6	AL 82	6	DPAD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
14	6	AL 82	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
14	6	AL 82	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
15	2	AL 84	1	HX	Cross	1-Unit, 8' Fiberglass, 503676, 2 Curved Guy Plates, 12' Spacing, Installed 2008-Present
15	2	AL 84	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
15	2	AL 84	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
15	2	AL 84	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
15	2	AL 84	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
15	2	AL 84	2	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod

15	3	AL 85	1	HX	Cross	1-Unit, 8' Fiberglass, 503676, 2 Curved Guy Plates, 12' Spacing, Installed 2008-Present
15	3	AL 85	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
15	3	AL 85	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
15	3	AL 85	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
15	3	AL 85	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
15	3	AL 85	2	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod

15	5	AL 87	6	PA	Side	1/2" HS, Std Cable Attach Hrdw
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Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
15	5	AL 87	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
15	5	AL 87	6	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
15	8	AL 90	2	PA	Side	1/2" HS, Std Cable Attach Hrdw
15	8	AL 90	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
15	8	AL 90	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
15	8	AL 90	4	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
16	5	AL 96	2	PA	Side	1/2" HS, Std Cable Attach Hrdw
16	5	AL 96	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
16	5	AL 96	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
16	5	AL 96	6	GUYINSL-1		14 ft Fiberglass, 503681, At Pole, Installed 2008-Present
16	5	AL 96	4	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
16	9	AL 100	6	DPAD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
16	9	AL 100	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
16	9	AL 100	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
17	1	AL 102	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
17	1	AL 102	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
17	1	AL 102	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
17	1	AL 102	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
17	1	AL 102	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
17	3	AL 104	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
17	3	AL 104	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
17	3	AL 104	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
17	3	AL 104	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
17	3	AL 104	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
17	3	AL 104	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
17	5	AL 106	6	PA	Side	1/2" SM, Alt Cable Attach Hrdw
17	5	AL 106	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
17	5	AL 106	6	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod

18	1	AL 111	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
18	1	AL 111	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
18	1	AL 111	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
18	1	AL 111	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
18	1	AL 111	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
18	1	AL 111	3	DP2AD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
18	1	AL 111	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
18	1	AL 111	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod
18	2	AL 112	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
18	2	AL 112	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
18	2	AL 112	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
18	2	AL 112	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
18	2	AL 112	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
18	2	AL 112	3	DP2AD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
18	2	AL 112	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
18	2	AL 112	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod
18	3	AL 113	6	PA	Side	1/2" SM, Alt Cable Attach Hrdw
18	3	AL 113	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
18	3	AL 113	6	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
18	4	AL 114	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
18	4	AL 114	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
18	4	AL 114	1	PA	Side	1/2" SM, Alt Cable Attach Hrdw
18	4	AL 114	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
18	4	AL 114	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
18	7	AL 117	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
18	7	AL 117	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
18	7	AL 117	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

18	8	AL 118	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
18	8	AL 118	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
18	8	AL 118	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
18	8	AL 118	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
18	8	AL 118	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
18	8	AL 118	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
19	1	AL 119	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
19	1	AL 119	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
19	1	AL 119	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
19	1	AL 119	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
19	1	AL 119	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
19	1	AL 119	3	DP2AD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
19	1	AL 119	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
19	1	AL 119	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
19	4	AL 122	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
19	4	AL 122	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
19	4	AL 122	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
19	4	AL 122	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
19	4	AL 122	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
19	4	AL 122	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

19	5	AL 123	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
19	5	AL 123	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
19	5	AL 123	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
19	5	AL 123	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
19	5	AL 123	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
19	5	AL 123	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
19	7	AL 125	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
19	7	AL 125	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
19	7	AL 125	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

20	2	AL 127	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
20	2	AL 127	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
20	2	AL 127	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw



Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
20	2	AL 127	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
20	2	AL 127	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
20	2	AL 127	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
20	3	AL 128	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
20	3	AL 128	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
20	3	AL 128	6	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
20	5	AL 130	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
20	5	AL 130	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
20	5	AL 130	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
20	5	AL 130	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
20	5	AL 130	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
20	5	AL 130	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

20	6	AL 131	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
20	6	AL 131	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
20	6	AL 131	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
20	6	AL 131	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
20	6	AL 131	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
20	6	AL 131	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
21	3	AL 135	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
21	3	AL 135	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
21	3	AL 135	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
21	9	AL 141	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
21	9	AL 141	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
21	9	AL 141	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
21	9	AL 141	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
21	9	AL 141	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
22	5	AL 146	1	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
22	5	AL 146	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
22	5	AL 146	1	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
22	6	AL 147	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
22	6	AL 147	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
22	6	AL 147	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
22	6	AL 147	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
22	6	AL 147	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
22	6	AL 147	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
22	6	AL 147	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
22	6	AL 147	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

22	7	AL 148	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
22	7	AL 148	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
22	7	AL 148	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
22	7	AL 148	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
22	7	AL 148	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
22	7	AL 148	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
22	7	AL 148	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
22	7	AL 148	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
23	3	AL 151	6	PA	Side	1/2" SM, Alt Cable Attach Hrdw
23	3	AL 151	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
23	3	AL 151	6	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
23	4	AL 152	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
23	4	AL 152	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
23	4	AL 152	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
23	4	AL 152	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
23	4	AL 152	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
23	4	AL 152	3	DP2AD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
23	4	AL 152	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
23	4	AL 152	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod

23	5	AL 153	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
23	5	AL 153	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
23	5	AL 153	2	DPA	Side	1/2" HS, Alt Cable Attach Hrdw
23	5	AL 153	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
23	5	AL 153	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
23	5	AL 153	3	DP2AD	Line	1/2" HS, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
23	5	AL 153	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
23	5	AL 153	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 1" x 10' Anchor Rod

24	3	AL 159	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
24	3	AL 159	2	POLEATT		Guying: Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
24	3	AL 159	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
24	3	AL 159	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
24	3	AL 159	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
24	3	AL 159	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
24	3	AL 159	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
24	3	AL 159	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
25	1	AL 165	6	PA	Side	1/2" HS, Std Cable Attach Hrdw
25	1	AL 165	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
25	1	AL 165	6	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod
25	2	AL 166	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
25	2	AL 166	1	POLEATT		Guying: Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
25	2	AL 166	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
25	2	AL 166	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
25	2	AL 166	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
25	2	AL 166	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

25	3	AL 167	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
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Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
25	3	AL 167	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
25	3	AL 167	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
25	3	AL 167	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
25	3	AL 167	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
25	3	AL 167	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
25	4	AL 168	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
25	4	AL 168	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
25	4	AL 168	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
25	4	AL 168	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
25	4	AL 168	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

25	6	AL 170	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
25	6	AL 170	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
25	6	AL 170	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
25	6	AL 170	6	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
25	6	AL 170	2	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

25	7	AL 171	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
25	7	AL 171	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
25	7	AL 171	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
25	7	AL 171	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
25	7	AL 171	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
25	8	AL 172	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
25	8	AL 172	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
25	8	AL 172	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
25	8	AL 172	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
25	8	AL 172	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
26	1	AL 173	1	HX	Cross	1-Unit, 14' Fiberglass, 503681, 20' Spacing, Installed 2008-Present
26	1	AL 173	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
26	1	AL 173	2	DPA	Side	1/2" HS, Std Cable Attach Hrdw
26	1	AL 173	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
26	1	AL 173	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
26	1	AL 173	2	GUYANCH		28" Square Pressed Plate, Triple Eye, 1" x 10' Anchor Rod

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
26	3	AL 175	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
26	3	AL 175	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
26	3	AL 175	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
26	3	AL 175	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
26	3	AL 175	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
26	7	AL 179	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
26	7	AL 179	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
26	7	AL 179	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
26	7	AL 179	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
26	7	AL 179	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
26	8	AL 180	1	HX	Cross	1-Unit, Wood, 2 Curved Guy Plate, 12' Spacing
26	8	AL 180	1	POLEATT		Guying:Wood HX with Insulators For Two Curved Guy Plates - 3/4" Hardware
26	8	AL 180	2	PA	Side	1/2" SM, Alt Cable Attach Hrdw
26	8	AL 180	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
26	8	AL 180	2	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
27	1	AL 181	2	HX	Cross	1-Unit, Wood, 1 Curved Guy Plate, 14' Spacing
27	1	AL 181	2	POLEATT		Guying:Wood HX with Insulators For One Curved Guy Plate- 3/4" Hardware
27	1	AL 181	2	DPA	Side	1/2" SM, Alt Cable Attach Hrdw
27	1	AL 181	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, One Bolt with Curved Washer & Palnut For HX Side Guy
27	1	AL 181	2	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
27	1	AL 181	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
27	1	AL 181	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
27	1	AL 181	8	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
27	4	AL 184	3	PA	Side	1/2" SM, Alt Cable Attach Hrdw
27	4	AL 184	3	POLEATT		Guying: Wood Pole - 3/4" Hardware, 1 - One Hole Plate with Curved Washer
27	4	AL 184	3	GUYANCH		4' Channel Anchor, Twin Eye, 3/4" X 7' Anchor Rod
27	6	AL 186	6	DPAD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators
27	6	AL 186	6	POLEATT		Guying: Wood Pole - 1 - Dead End Attachment Plate with One Eyebolt & One Crossarm Bolt with a Curved Guy Plate; Dead End Cable Attachment to Eyebolt
27	6	AL 186	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod
27	9	AL 189	3	DP2AD	Line	1/2" SM, Alt Cable Attach Hrdw, No Insulators or Floating Insulators

Mile	Struc	Structure Serial Number	Quan	Assembly Type	Guy Type	Assembly Description
27	9	AL 189	6	POLEATT		Guying: Wood or Steel Pole - 1 - Dead End Attachment Plate with One Crossarm bolt; Dead End Cable Attachment to Plate
27	9	AL 189	6	GUYANCH		28" Square Pressed Plate, Twin Eye, 3/4" x 10' Anchor Rod

Line Dependent Items				Xref: CUGR-HOLD-1 Line Name: Cougar-Holden Creek No 1 Physical Line: C1					
Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
2	2	AL 9	1	C		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
2	2	AL 9	2	B		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
2	2	AL 9	3	A		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
9	4	AL 47	1	C		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
9	4	AL 47	2	B		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
9	4	AL 47	3	A		1		HDWEIGHT	100 lb Hold Down Weight for Flamingo / Gull, Hinged,
1	3	AL 4	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	3	AL 4	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	3	AL 4	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	4	AL 5	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	4	AL 5	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	4	AL 5	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	6	AL 7	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	6	AL 7	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
1	6	AL 7	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	2	AL 9	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	2	AL 9	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	2	AL 9	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	3	AL 10M	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	3	AL 10M	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	3	AL 10M	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	4	AL 11	1	C			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
2	4	AL 11	2	B			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
2	4	AL 11	3	A			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	1	AL 13	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	1	AL 13	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	1	AL 13	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	3	AL 15	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	3	AL 15	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	3	AL 15	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	4	AL 16	1	C			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	4	AL 16	2	B			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
3	4	AL 16	3	A			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	1	AL 18	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	1	AL 18	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	1	AL 18	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	3	AL 20	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	3	AL 20	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	3	AL 20	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

4	5	AL 22	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
4	5	AL 22	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,



Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
4	5	AL 22	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	1	AL 24	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	1	AL 24	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	1	AL 24	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	3	AL 26	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	3	AL 26	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	3	AL 26	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	5	AL 28	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	5	AL 28	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
5	5	AL 28	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	1	AL 29	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	1	AL 29	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	1	AL 29	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	2	AL 30	1	C			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	2	AL 30	2	B			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	2	AL 30	3	A			2	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

6	4	AL 32	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	4	AL 32	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
6	4	AL 32	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
7	1	AL 34	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	1	AL 34	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	1	AL 34	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	2	AL 35	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	2	AL 35	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	2	AL 35	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	4	AL 37	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	4	AL 37	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
7	4	AL 37	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	1	AL 39	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	1	AL 39	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	1	AL 39	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	3	AL 41	1	C	2			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	3	AL 41	2	B	2			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	3	AL 41	3	A	2			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

8	4	AL 42	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	4	AL 42	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
8	4	AL 42	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	1	AL 44	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
9	1	AL 44	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	1	AL 44	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	3	AL 46	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	3	AL 46	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	3	AL 46	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	4	AL 47	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	4	AL 47	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
9	4	AL 47	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	3	AL 51	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	3	AL 51	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	3	AL 51	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	5	AL 53	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	5	AL 53	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
10	5	AL 53	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

11	1	AL 55	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	1	AL 55	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	1	AL 55	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	3	AL 57	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	3	AL 57	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
11	3	AL 57	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	5	AL 59	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	5	AL 59	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	5	AL 59	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	8	AL 62	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	8	AL 62	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
11	8	AL 62	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	2	AL 64	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	2	AL 64	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	2	AL 64	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	5	AL 67	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	5	AL 67	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	5	AL 67	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

12	6	AL 68	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	6	AL 68	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
12	6	AL 68	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
13	5	AL 74	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
13	5	AL 74	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
13	5	AL 74	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
13	7	AL 76	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
13	7	AL 76	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
13	7	AL 76	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	2	AL 78	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	2	AL 78	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	2	AL 78	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	4	AL 80	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	4	AL 80	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
14	4	AL 80	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	1	AL 83	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	1	AL 83	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	1	AL 83	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

15	3	AL 85	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	3	AL 85	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	3	AL 85	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	5	AL 87	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	5	AL 87	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	5	AL 87	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	7	AL 89	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
15	7	AL 89	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	7	AL 89	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	9	AL 91	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	9	AL 91	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
15	9	AL 91	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	2	AL 93	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	2	AL 93	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	2	AL 93	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	4	AL 95	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	4	AL 95	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	4	AL 95	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

16	6	AL 97	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	6	AL 97	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	6	AL 97	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	8	AL 99	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	8	AL 99	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	8	AL 99	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	10	AL 101	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
16	10	AL 101	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
16	10	AL 101	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	2	AL 103	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	2	AL 103	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	2	AL 103	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	4	AL 105	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	4	AL 105	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	4	AL 105	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	6	AL 107	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	6	AL 107	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	6	AL 107	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

17	8	AL 109	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	8	AL 109	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	8	AL 109	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	9	AL 110	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	9	AL 110	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
17	9	AL 110	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	3	AL 113	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	3	AL 113	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	3	AL 113	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
18	5	AL 115	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	5	AL 115	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	5	AL 115	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	6	AL 116	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	6	AL 116	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
18	6	AL 116	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	2	AL 120	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	2	AL 120	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	2	AL 120	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

19	4	AL 122	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	4	AL 122	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	4	AL 122	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	6	AL 124	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	6	AL 124	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
19	6	AL 124	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	4	AL 136	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	4	AL 136	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	4	AL 136	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	6	AL 138	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,



Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
21	6	AL 138	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	6	AL 138	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	8	AL 140	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	8	AL 140	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
21	8	AL 140	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	1	AL 142	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	1	AL 142	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	1	AL 142	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

22	3	AL 144	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	3	AL 144	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	3	AL 144	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	5	AL 146	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	5	AL 146	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
22	5	AL 146	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	1	AL 149	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	1	AL 149	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	1	AL 149	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	3	AL 151	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	3	AL 151	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
23	3	AL 151	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	6	AL 154	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	6	AL 154	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	6	AL 154	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	8	AL 156	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	8	AL 156	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
23	8	AL 156	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

24	2	AL 158	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	2	AL 158	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	2	AL 158	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	4	AL 160	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	4	AL 160	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	4	AL 160	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	6	AL 162	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	6	AL 162	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	6	AL 162	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	8	AL 164	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	8	AL 164	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
24	8	AL 164	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
25	2	AL 166	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	2	AL 166	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	2	AL 166	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	4	AL 168	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	4	AL 168	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	4	AL 168	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

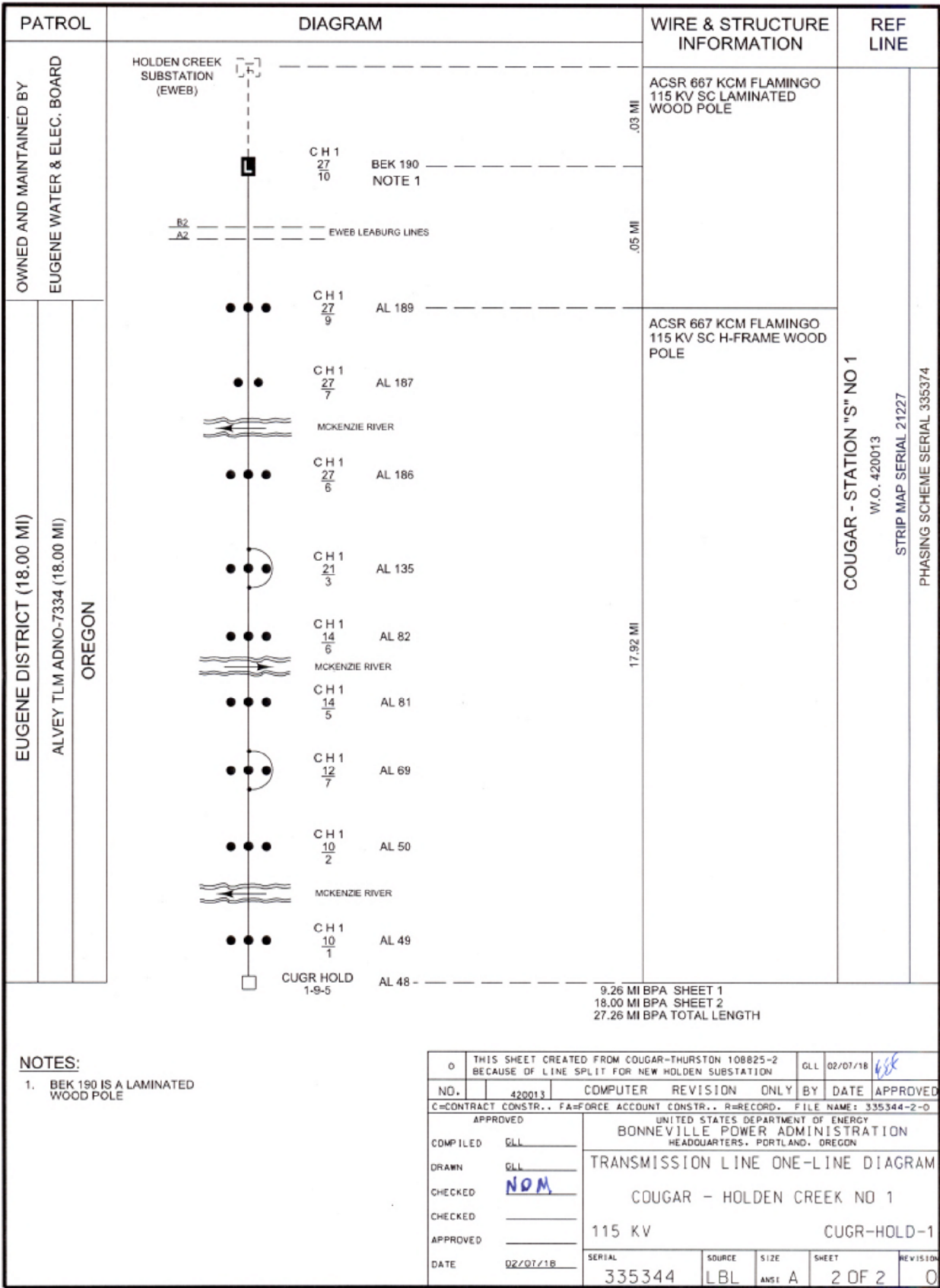
25	6	AL 170	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	6	AL 170	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	6	AL 170	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	8	AL 172	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	8	AL 172	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
25	8	AL 172	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	2	AL 174	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	2	AL 174	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	2	AL 174	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	4	AL 176	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	4	AL 176	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	4	AL 176	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	6	AL 178	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
26	6	AL 178	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	6	AL 178	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	8	AL 180	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	8	AL 180	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
26	8	AL 180	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

27	2	AL 182	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	2	AL 182	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	2	AL 182	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	4	AL 184	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	4	AL 184	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	4	AL 184	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	5	AL 185	1	C			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	5	AL 185	2	B			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	5	AL 185	3	A			1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	7	AL 187	1	C	1			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	7	AL 187	2	B	1			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	7	AL 187	3	A	1			DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	8	AL 188	1	C	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,
27	8	AL 188	2	B	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

Mile	Struc	Structure Serial Number	Cable Pos	Phase	BOL Quan	At Strc Quan	AOL Quan	Assembly Type	Assembly Description
27	8	AL 188	3	A	1		1	DAMPER	Stockbridge Damper for ACSR Flamingo/Gull, Alumoweld (1.015" Dia.) ACSR Egret, AAC Arbutus,

<b>Line Independent Items</b>				Xref: CUGR-HOLD-1    Line Name: Cougar-Holden Creek No 1 Physical Line: C1		
Mile	Struc	Structure Serial Number	Quan	Assembly Code	Assembly Type	Assembly Description
2	3	AL 10M	1	OG-1	999	Counterpoise Grounding for Single Wood Pole Structure



**NOTES:**  
 1. BEK 190 IS A LAMINATED WOOD POLE

0	THIS SHEET CREATED FROM COUGAR-THURSTON 108825-2 BECAUSE OF LINE SPLIT FOR NEW HOLDEN SUBSTATION	GLL	02/07/18		
NO.	420013	COMPUTER	REVISION	ONLY	APPROVED
C=CONTRACT CONSTR. FA=FORCE ACCOUNT CONSTR. R=RECORD. FILE NAME: 335344-2-0					
APPROVED		UNITED STATES DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION HEADQUARTERS, PORTLAND, OREGON			
COMPILED	GLL	TRANSMISSION LINE ONE-LINE DIAGRAM			
DRAWN	GLL	COUGAR - HOLDEN CREEK NO 1			
CHECKED	NOM	115 KV CUGR-HOLD-1			
CHECKED					
APPROVED					
DATE	02/07/18	SERIAL	SOURCE	SIZE	SHEET
		335344	LBL	ANSI A	2 OF 2
					REVISION
					0

Regional Forecast Discussions & Special Weather Statements

September 08

### Transmission Weather Alert: High Winds and Extreme Fire Danger

by Pytlak, Erik S (BPA) - PGPW-5 on 9/8/2020 7:18 AM  
Category: Transmission Weather Alert

Issued via email Sunday, September 6, 1:46pm

Hazard: Gusty east winds 50-70mph with very low humidity

Timing: 5pm Monday-Noon Tuesday

Location: Cascades and Columbia Gorge, although all areas outside the main risk area will have gusts of 40-50mph.

Districts Affected: Longview, Salem, The Dalles, Tri Cities, Wenatchee, Covington

Summary: PGPW, NWS and USFS have been tracking the increasing potential for a rare early September wind and extreme fire weather event Monday afternoon, Monday night and Tuesday morning. A strong cold front is dropping from Northern Canada, and will sweep and south and west across eastern Washington, eastern Oregon, Idaho and Montana on Labor Day. This incoming airmass will then try to funnel through the Cascade mountain gaps and Columbia Gorge into the I-5 corridor Monday night, but by the time it arrives this far south and west, it will be transformed into a hot, dry wind which will persist into Tuesday morning.

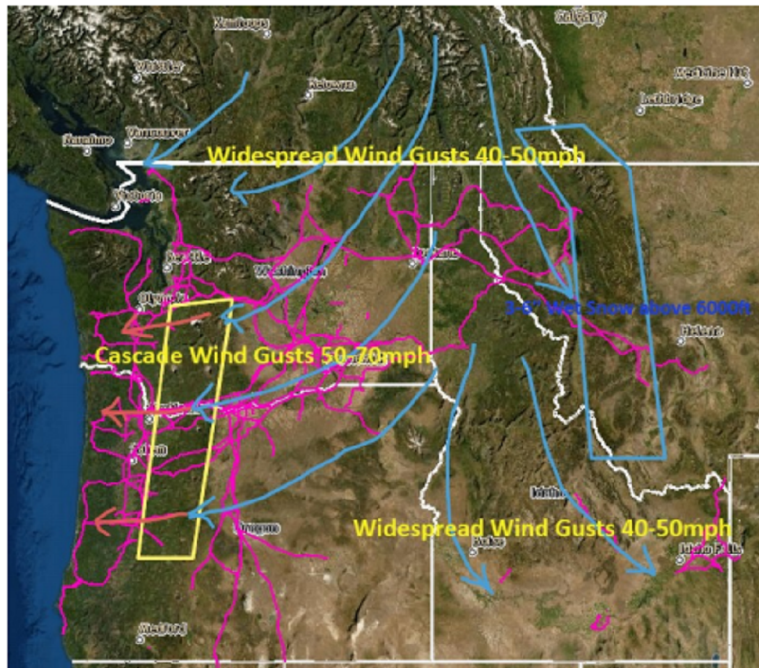
All areas in BPA's service territory will receive wind gusts of 40-50mph as the front passes (with trees in full leaf), along with a period of very low humidity. However as this airmass squeezes through mountain gaps, particularly between Mt. Rainier and The Sisters, the wind could accelerate to as high as 70mph as the humidity drops to 6-15%. The last time we had this kind of event in September 2017, several line outages were noted, and new fires spread very rapidly, including in the Gorge. Numerous Red Flag Warnings, Wind Advisories and High Wind Watches are already in effect for this event.

It is worth noting that this front is so strong, it will eventually meet up with some moisture over the northern Rockies and generate the first wet snowfall of the season above 6000 feet, mostly over far western Montana.

For specific BPA fire information, visit: <https://bpagis.maps.arcgis.com/home/index.html>

Here is a link to the current fires: <https://gacc.nifc.gov/nwcc/information/firemap.aspx>

For current weather watches and warnings in effect, visit: <https://www.weather.gov/wh/>



0 Comment(s)

#### Comments

There are no comments for this post.

#### Add Comment

Title

Body



Submit Comment



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## Regional Forecast Discussions &amp; Special Weather Statements

September  
08**Transmission Weather Alert: Active Fires**by Karafotias,Chris N (BPA) - PGPW-5 on 9/8/2020 2:30 PM  
Category: Transmission Weather Alert**Hazard:**

**Active Fires.** All listed fires below are directly impacting, or are extremely close to directly impacting BPA assets and/or infrastructure. Wind will be calmer east of the Cascades today, but strong and gusty easterly wind continues through the Cascade gaps and pouring into areas west of the Cascades, right to the beaches. Flow down the western slopes of the Cascades will boost warming and drying today and tomorrow, with poor overnight humidity recoveries. Easterly winds will ease up Thursday, eventually turning onshore. High pressure aloft will keep warm and dry conditions in the region for the rest of the week.

**Location:**

**Pearl Hill.** 9 mi E of Bridgeport, WA  
**Beverly Burke.** 7 mi SE of Vantage, WA  
**White River.** 20 mi W of Wamic, OR  
**Beachie Creek.** 15 mi N of Detroit, OR

**Timing/Containment:**

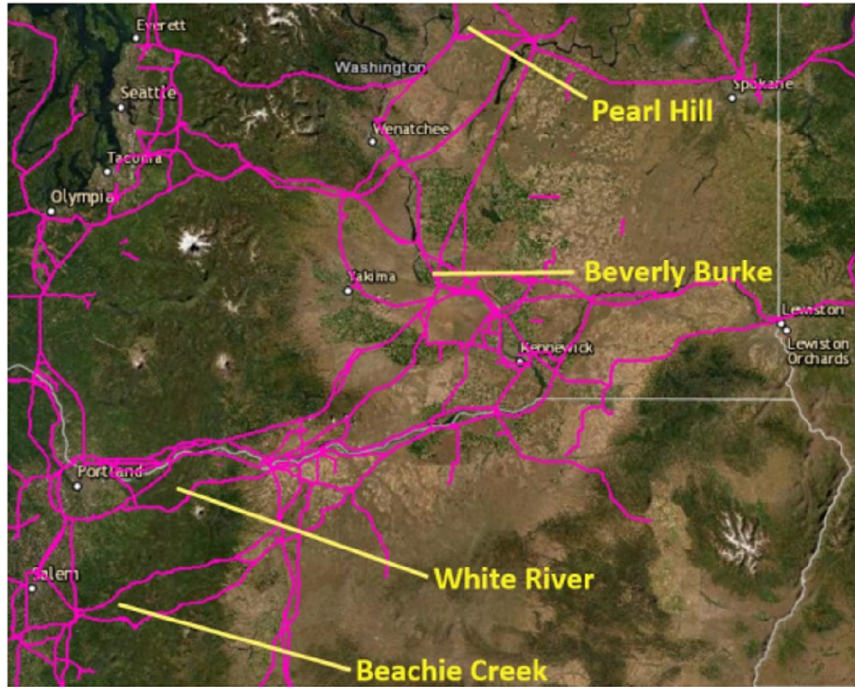
**Pearl Hill.** 9 mi E of Bridgeport, WA. Start 9/7. Full Suppression. Cause: Unknown. 174,000 acres. 0% Contained. Grass and brush. Extreme fire behavior. Evacuations and evacuation notices. Structures threatened. Road and area closures. Incident was split off from Cold Springs complex fire as it made a large southward run over the weekend due to a northerly wind shift. Today's wind east northeast 5-10 mph, afternoon humidity near 20% with afternoon temperatures near 70. For tomorrow, light wind which may offset any further spread, but temperatures warm to the low 80s and relative humidity lowers to between 10 and 15%. The fire is near the Grand Coulee-Chief Joseph and Chief Joseph-Sidder lines.

**Beverly Burke.** 7 mi SE of Vantage, WA. Start 9/7. Full Suppression. Cause: Unknown. 920 acres. 30% Contained. Grass and brush. Extreme fire behavior. Structures threatened. Road and area closures. Today's wind will be light, 5-10 mph, east northeast, tomorrow's will be similar. Today's afternoon temperatures in the low 70s, with relative humidity between 15-20%, lowering to 10-15% tomorrow (adverse for containment). This fire is near the Midway-Vantage and Vantage-Columbia lines.

**White River.** 20 mi W of Wamic, OR. Start 8/17. Full suppression. Cause: Lightning. 17,507 acres (+11). 70% containment. Timber. Moderate fire behavior. Structures threatened. Evacuation notices. Road, trail and area closures. East wind today, 25-35 mph, gusts between 45-55 mph. Humidity levels between 7-12%, extremely low, with afternoon temperatures in the mid and upper 80s. For tomorrow, east wind 15-25 mph, gusting to between 25-35 mph, with humidity levels between 15-20%. Warmer with afternoon temperatures near 90. These are all adverse conditions for fire containment. The fire is near the John Day-Marion line.

**Beachie Creek.** 15 mi N of Detroit, OR. Start 8/16. Monitor, Confine, Full suppression. Cause: Unknown. 776 acres (+307). 0% completed. Timber. Extreme fire behavior. Structures threatened. Road and trail closures. East wind today, 25-35 mph, gusts between 45-55 mph. Humidity levels near 10%, afternoon temperatures mid-80s. For tomorrow, little improvement although not as windy; East wind 15-25 mph, gusts between 30-35 mph. Humidity levels near 10%. This fire borders the Buckley-Marion and Detroit-Santiam lines (southern border is the Mad Hatter fire).

**Districts Affected:** Wenatchee, Longview, Salem



For specific BPA fire information, visit:

<https://bpagis.maps.arcgis.com/home/index.html>

Here is a link to the current fires:

<https://gacc.nifc.gov/nwcc/information/firemap.aspx>

For current weather watches and warnings in effect, visit:

<https://www.weather.gov/wrh/>

0 Comment(s)

### Comments

There are no comments for this post.

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Original  
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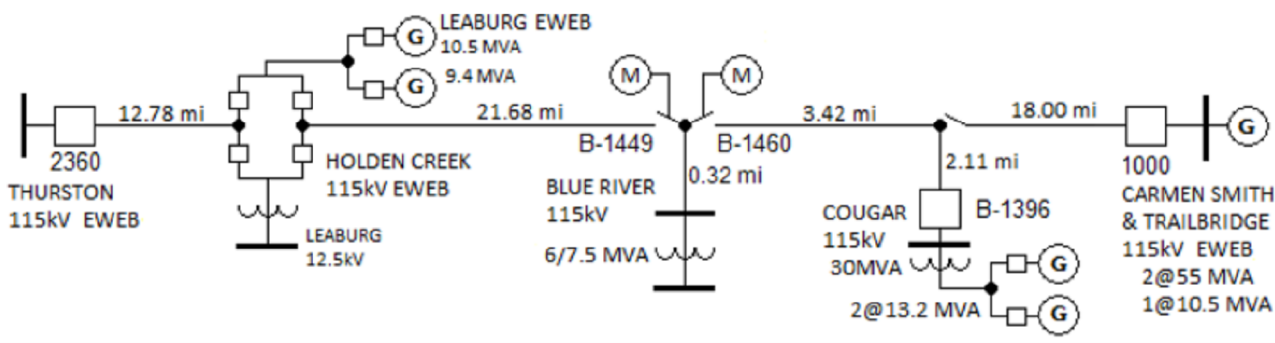
Branch Maint.  
 Area  
 District

**RELAY SETTING CALCULATIONS AND INSTRUCTIONS**

SUBSTATION BLUE RIVER TAP LINE OR EQUIPMENT 115kV Cougar-Thurston #1 Sectionalizing  
P.C.B. NO. B-1449 M.O.D. & B-1460 M.O.D.  $Z_1$  \_\_\_\_\_ DATE TO BE SET 2017  
C.T. RATIO \_\_\_\_\_ V.T. RATIO 600 /1  $Z_0$  \_\_\_\_\_ MILES \_\_\_\_\_ STUDY NO. \_\_\_\_\_

RELAY	21/21G	21/21G	21/21G	50	50/51	50/51/67G	59	27/59	50	79
	Zone 1	Zone 2	Zone 3	Z.F.D.	FO.C.	Ground			BFR	Recloser
TYPE							CV-2	IAY-53		
RANGE							55-140	55-140		

MVA PU at 30°/150°



**SECTIONALIZING SCHEME**

EWEB PCB 2360 at Thurston Substation has two shot reclosing at 8 and 28 seconds with no checking. B-1396 (1K) at Cougar and EWEB PCB 1000 at Carmen have no reclosing. There are two PTs at Blue River Tap. Both PTs are A-phase sensing. One for B-1449 sensing voltage on the Thurston / Holden Creek line, and one for B-1460 sensing voltage on the Cougar / Carmen line.

**For faults East of Blue River Tap (Note: Holden Creek is Future Connection)**

Time (seconds)

- 0 Cougar B-1396 and Carmen PCB 1000 relay open and lockout. Thurston PCB 2360 relays open.
- 8 PCB 2360 recloses, testing the entire line to Cougar and Carmen Powerhouses.
- 12 PCB 2360 relays open for the second time. (Allows 4 seconds for high resistance ground fault clearing)
- 16 Blue River B-1460 MOD opens on a dead line. 16 seconds= 2 seconds(IAY&CV) + Agastat delay + MOD operating time.
- 36 PCB 2360 recloses testing line to open B-1460 MOD and restores load at Blue river Substation.

**For faults Between Thurston and Blue River Tap**

Time (seconds)

- 0-36 Same as Above.
- 40 PCB 2360 relays open for the third time to lockout.
- 44 Blue River B-1449 MOD opens on a dead line. 44 seconds= 2 seconds(IAY&CV) + Agastat delay + MOD operating time.
- After the fault is located and repaired, MOD B-1449 should be closed to energize the line to Thurston, then PCB 2360 can be closed at Thurston to sync to the rest of the power system.

If stream flows permit Trailbridge generation, then the EWEB dispatcher can choose to order PCB 1000 closed at Carmen-Smith. The line would be energized up to the open MOD B-1460. Since 2014, EWEB has no contractual obligation to carry Blue River Substation load.

B-1460 MOD at Blue River Tap will close automatically on a hot line from Carmen-Smith or Cougar when the Thurston side is dead. If PCB 1000 relays out on this test, it would indicate a possible fault on the very short Blue River Tap line.

#### NOTES:

- 1) B-1460 motor operated disconnect (MOD) will not close if line is hot to B-1449 MOD due to close interlock HMA located in B-1449 MOD relay cabinet. This is to prevent a non-synchronized close between Carman Powerhouse generators and Thurston substation.
- 2) B-1460 MOD has a close interlock bypass push button located in the B-1460 MOD cabinet. This allows 1460 MOD to be manually closed when line is hot from Thurston and the line to Carman is dead. This allows Carman to synchronize.
- 3) B-1449 MOD has a dead line interlock bypass push button to allow B-1449 MOD to be manually opened when line is hot. This allows line to be sectionalized at B-1449 MOD. Then PCB 2360 can be opened to drop the line.

### SECTIONALIZING RELAYS

#### B-1449 MOD

Set CV-2 Under voltage Pick-up = 85 volts secondary / 51kV  $\phi$ -g / 88.33kV  $\phi$ - $\phi$  (approx. 75% nominal 118kV)

Set CV-2 time delay = 2.0 seconds on voltage collapse.

Set IAV-53 Under voltage Pick-up = 85 volts secondary / 51kV  $\phi$ -g / 88.33kV  $\phi$ - $\phi$  (approx. 75% nominal 118kV)

Set IAV-53 time delay = 2.0 seconds on voltage collapse.

Set IAV-53 Over voltage Pick-up = 95 volts secondary / 57kV  $\phi$ -g / 98.73kV  $\phi$ - $\phi$  (approx. 84% nominal 118kV)

Set IAV-53 time delay = 3.5 seconds on voltage applied from 0 to 115 Volts secondary.

Set Undervoltage relay time delay of 2 seconds

Set Agastat relay time delay of approximately 38 seconds

M.O.D. operate time Approximately 4 Seconds (Decoupled operate time will be faster than in-service operate time)

Set total time overall for B-1449 M.O.D. open = 44 seconds

#### B-1460 MOD

Set CV-2 Under voltage Pick-up = 85 volts secondary / 51kV  $\phi$ -g / 88.33kV  $\phi$ - $\phi$  (approx. 75% nominal 118kV)

Set CV-2 time delay = 2.0 seconds on voltage collapse.

Set IAV-53 Under voltage Pick-up = 85 volts secondary / 51kV  $\phi$ -g / 88.33kV  $\phi$ - $\phi$  (approx. 75% nominal 118kV)

Set IAV-53 time delay = 2.0 seconds on voltage collapse.

Set IAV-53 Over voltage Pick-up = 95 volts secondary / 57kV  $\phi$ -g / 98.73kV  $\phi$ - $\phi$  (approx. 84% nominal 118kV)

Set IAV-53 time delay = 3.5 seconds on voltage applied from 0 to 115 Volts secondary.

Set Undervoltage relay time delay of 2 seconds

Set Agastat relay time delay of approximately 10 seconds

M.O.D. operate time Approximately 4 Seconds (Decoupled operate time will be faster than in-service operate time)

Set total time overall for B-1460 M.O.D. open = 16 seconds

BY Dennis McConnell

DATE 9 May 2017

Original  
 Revision

Branch Maint.  
 Area  
 District

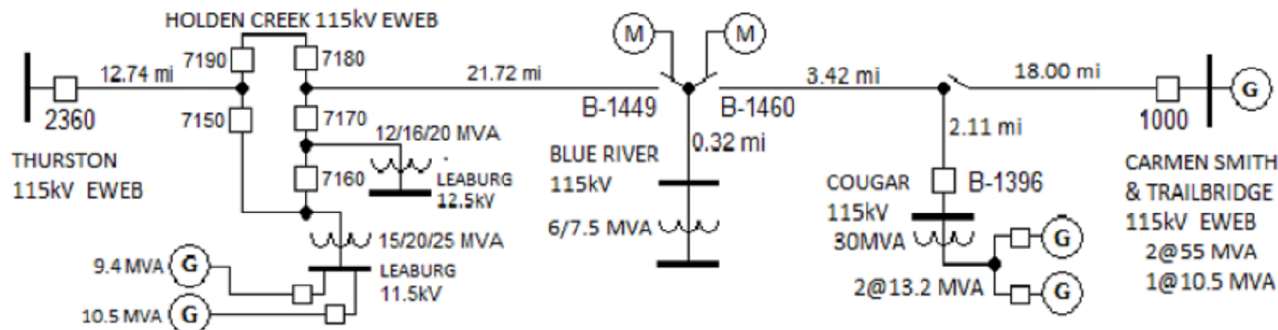
RELAY SETTING CALCULATIONS AND INSTRUCTIONS

SUBSTATION Cougar Power House LINE OR EQUIPMENT Cougar-Holden Creek #1 115KV  
P.C.B. NO. B-1396 (XW1) Z<sub>1</sub> 4.151 + j20.683 DATE TO BE SET Summer 2018  
C.T. RATIO 200/5 XFMR CT V.T. RATIO 1000/1 Z<sub>0</sub> 11.945 + j70.999 MILES 27.24 STUDY NO. BP17-12A

RELAY	21/21G	21/21G	21/21G	50	50/51	50/51/67G	59	81	50	79
	Zone 1	Zone 2	Zone 3	Z.F.D.	O.C.	Ground	O.V.	Over Freq.	BFR	Recloser
TYPE	GCY	GCY	GCY			JBCG-54	IAV			
RANGE	0.75-30	1-30	3-30			0.5-2 Amp				
			0.5 ohm			2-8 A Inst				
			Offset							

MVA PU at 30°/210° 128 MVA

- February 2013 – Settings reviewed per scheduled maintenance. Changes made to: apparent impedances, fault studies, zone 3 compliance information, Zone 2 ‘T’ setting, and Zone 3 ‘T’ setting.
- April 2016 - Review for periodic maintenance. Permanently remove unnecessary IJF over frequency relay. DDM
- Nov/Dec 2017 - Review for early periodic maintenance. Line shortened due to new EWEB Holden Creek Sub. DDM
- May 2018 - Review for early periodic maintenance. Overtrip Instantaneously to Thurston to avoid islanding Cougar DDM



26.4MVA at 115kV => 132.5 Amps primary / 3.31 Amps secondary

Actual Impedance from Cougar 115kV to Carmen Smith 115 kV = 15.310 Ω at 78.48 °

Actual Impedance from Cougar 115kV to Holden Creek 115 kV = 21.095 Ω at 78.65 °

Actual Impedance from Cougar 115kV to Thurston 115 kV = 31.094 Ω at 78.73 °

Actual Impedance from Cougar 115kV to Carmin Smith 12 kV = 64.8 Ω at 87.3 ° (ASPEN)

Apparent Impedance from Cougar 115kV to Carmen Smith 115 kV = 88.6 Ω at 86.1 ° (ASPEN)

Apparent Impedance from Cougar 115kV to Holden Creek 115 kV = 69.0 Ω at 79.0 ° (ASPEN)

Apparent Impedance from Cougar 115kV to Thurston 115 kV = 112.2 Ω at 78.8 ° (ASPEN)

Apparent Impedance from Cougar 115kV to Carmin Smith 12 kV = 468.8 Ω at 96.8 ° (ASPEN) (One unit online)

Fault Study (Cougar generation contribution shown):

3LG fault at Cougar 115kV = 414 Amps primary / 10.35 Amps secondary

3LG fault at Carmen Smith 115kV = 267 Amps primary / 6.675 Amps secondary

3LG fault at Holden Creek 115kV = 290 Amps primary / 7.25 Amps secondary

3LG fault at Thurston 115kV = 244 Amps primary / 6.10 Amps secondary

General Note: At present, generation at Cougar does not have adequate controls to serve Blue River load when isolated from the power system. Cougar does not reclose. Historically, EWEB Carmen Smith would carry Blue River load when the Thurston-Blue River section is out of service. The letter of agreement between BPA and EWEB for periodic Blue River service expired 9/30/2014. Digital governors on both units at Cougar will be installed by end of summer 2018. Cavitation damage to turbin runners at light load is still undesirable from a cost and maintenance perspective.

Set Zone 1 impedance reach 120% apparent impedance to Thurston. Overtrip Instantaneously to Thurston to avoid islanding Cougar for Holden Creek-Thurston line faults. Holden Creek-Thurston has transfer tripping and is expected to clear instantaneously.

#### 21 - Zone 1 Distance (12GCV51D1A):

Set reach 120% Zapparent to Thurston 115kV =  $(1.20)(112.2) = 134.64 \Omega$  primary /  $5.386 \Omega$  secondary at  $78.8^\circ$

Set M1 = 3.0  $\Omega$  Tap, (GCY can choose from 0.75, 1.5 or 3  $\Omega$ )

$T = 3.0 \cdot \cos(78.8-75) / 5.386 = 0.56$

Set MTA =  $75^\circ$  (GCY can only choose from: 45, 60 or  $75^\circ$ )

#### 21 - Zone 2 Distance:

Set reach 125% Zapparent to Thurston 115kV =  $(1.25)(112.2) = 140.25 \Omega$  primary /  $5.610 \Omega$  secondary at  $78.8^\circ$

Set M2 = 3.0  $\Omega$  Tap, (GCY can choose from 1, 2 or 3  $\Omega$ )

$T = 3.0 \cdot \cos(78.8-75) / 5.610 = 0.53$

Set MTA =  $75^\circ$  (GCY can only choose from: 45, 60 or  $75^\circ$ )

Set time delay (RPM-12RPM1102A) = **0.5 seconds / 30 cycles** (Do not want to go slower for Blue River)

(Note: EWEB Zone 2 time = 0.333 seconds / 20 cycles is a close margin, but line relaying is instantaneous)

(Lines out of Holden Creek and Thurston have pilot protection, banks have differential)

#### 21 - Zone 3 Distance:

Set reach 130% Zapparent to Thurston 115kV =  $(1.30)(112.2) = 145.86 \Omega$  pri /  $5.834 \Omega$  secondary at  $78.8^\circ$

Set OM3 = 3.0  $\Omega$  Tap, (GCY only 3  $\Omega$ )

$T = 3.0 \cdot \cos(78.8-75) / 5.834 = 0.51$

Set MTA =  $75^\circ$  (GCY can only choose from: 45, 60 or  $75^\circ$ )

Set offset link = **IN; 0.5  $\Omega$**

Set time delay (RPM) = **3.0 seconds / 180 cycles**

#### Zone 3 Compliance with NERC Loadability 2008 PRC-023-1:

Bottleneck-April 20 2018: 902 Amps for Cougar GMD LND B-1396 at  $-15^\circ$  C ambient. (600 Amp Disconnects)

NERC Loading criterion  $(.85 \cdot 115kV) / (1.5 \cdot 902 \text{ Amps} \cdot 1.732) = 41.71 \Omega$  at  $30^\circ = 58.99 \Omega$  at  $75^\circ$

Cannot meet criterion for Transmission Line Thermal Rating. New microprocessor relays with load encroachment settings should be installed to meet NERC PRC-023 should it be required for 115kV lines.

#### 50/51 – Ground Overcurrent (JBCG54E28A):

SLG fault at Holden Creek 115kV with System normal = 576 Amps primary / 14.40 Amps secondary

SLG fault at Holden Creek 115kV with Carmen Smith Tap out = 782 Amps primary / 19.55 Amps secondary

SLG fault at Holden Creek 115kV with Leaburg Gen Xfmr out = 678 Amps primary / 16.95 Amps secondary

SLG fault at Carmen Smith 115kV with System normal = 430 Amps primary / 10.75 Amps secondary

SLG fault at Carmen Smith 115kV with Holden Creek-Blue River out = 343 Amps primary / 8.575 Amps sec

SLG fault at Cougar 115kV with System normal = 1571 Amps primary / 39.275 Amps secondary

SLG fault at Behind Cougar 115kV with System normal = 1645 Amps primary / 41.125 Amps secondary

SLG fault at Thurston 115kV with System normal = 279 Amps primary / 6.975 Amps secondary

Set Pick-up = 60 Amps primary / **1.50 Amps secondary**

Set Time lever = **1.62** to delay 0.250 seconds at 576 Amps primary / 14.40 Amps secondary

Check 3x pickup = 180 Amps primary / 4.50 Amps secondary = 0.879 seconds = 52.75 cycles

Check 5x pickup = 300 Amps primary / 7.50 Amps secondary = 0.419 seconds = 25.17 cycles

Info: 25x pickup = 1500 Amps primary / 37.50 Amps secondary = 0.178 seconds = 10.66 cycles

51N Note 1: 51G is set too fast to coordinate with back-up EWEB 51G at Holden Creek on the Thurston 115kV line. The Thurston-Holden Creek line has instantaneous relaying in service, so normally no coordination difficulty exists. BPA requires fast clearing of ground faults on the Cougar-Carmen-Holden Creek line to avoid voltage rise on the unfaulted phases resulting in a single phase high voltage condition at the low side of the Blue River delta-wye bank.

51N Note 2: Normally, There is no reason for the JBCG54 to be directionally controlled at Cougar. The CT source for this relay set is the high side of the generator step-up transformer. Since the bank differential protection uses a CT in B-1396, the same breaker is tripped for a fault in front of or behind the relay set. The directionality of the overcurrent makes no difference. The optimal selection for the most protection is non-directional. ~~Make the relay non-directional by electrically jumpering the 2 directional contacts with a wire; this will also remove the possibility of the directional element blocking the overcurrent disk from rotating if the directional contacts bounce open because of the mechanical vibration that is present in the powerhouse.~~ Eventually digital numerical relays will be installed. So, Make JBCG54 directional by removing directional contact jumper and enable Instantaneous below. Necessary to minimize the chance of tripping on GSU transformer energization inrush.

51N Note 3: Overtrip Instantaneously to Thurston to avoid islanding Cougar for Holden Creek-Thurston line faults.

Set Instantaneous = 168 Amps primary / 4.20 Amps secondary (~60% of 279 Amps)

(Future Desired = 796.5 Amps primary / 19.9 Amps secondary -- 135% of 590 Amps primary – largest remote bus ground fault)

59 – Overvoltage Relay (Replaced 2018 maintenance/setting change with 12IAV52B1A):

Potential for the IAV and IJF relays are from PT (7200:120) on the 6.9kV bus. Transformer is 115kV / 6.6kV. For 115kV line voltage, the secondary potential is 110 VAC. (115kV → 6.6kV → 110VAC)

Transformer Voltage Relay PJV is also connected to this potential.

Set Pick-up = 7.59 kV primary / **126.5 Volts secondary** (110% of 6.9kV Generator rated voltage)

Set Time dial = **1.2** to delay 6.00 seconds / 360 cycles at 8.28 kV primary / 138 Volts secondary (120% of 6.9kV)

Check 1.2x pick-up = **2.67 seconds / 160 cycles** at 151.8 Volts secondary

BY Dennis McConnell

DATE 4 May 2018

#### Customer Correspondence:

Feb 2013 – Philip Peterson of EWEB is the main contact for relay settings. He sent all of the Thurston relay settings; they are stored on the district drive.

Apr 2016 – Philip Peterson of EWEB is the main contact for relay settings. He checked no changes to the Thurston relay settings, and sent the Carmen Smith relay settings; they are stored on the district drive.

Dec 2017 – April 2018 – Coordinating with Philip Peterson of EWEB on new Holden Creek substation and new settings.



COUGAR:

177407  
177409  
87135

CARMEN SMITH:

175984  
175985  
175986  
176060  
176351  
176353  
176358  
176360

TRAILBRIDGE:

176365

HOLDEN CREEK:

170635  
170637

substation	description	date_added	nominal_voltage	device_type	digital_id	id_desc
BLUE_RIV	B1450	9/7/97 0:00	115	DSC	STTS	STTS
BLUE_RIV	B1449	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1460	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1460	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1450	9/7/97 0:00	115	DSC	STTS	STTS
BLUE_RIV	B1449	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1460	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1450	9/7/97 0:00	115	DSC	STTS	STTS
BLUE_RIV	B1449	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1460	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1450	9/7/97 0:00	115	DSC	STTS	STTS
BLUE_RIV	B1449	9/7/97 0:00	115	MOD	STTS	STTS
BLUE_RIV	B1460	9/7/97 0:00	115	MOD	STTS	STTS