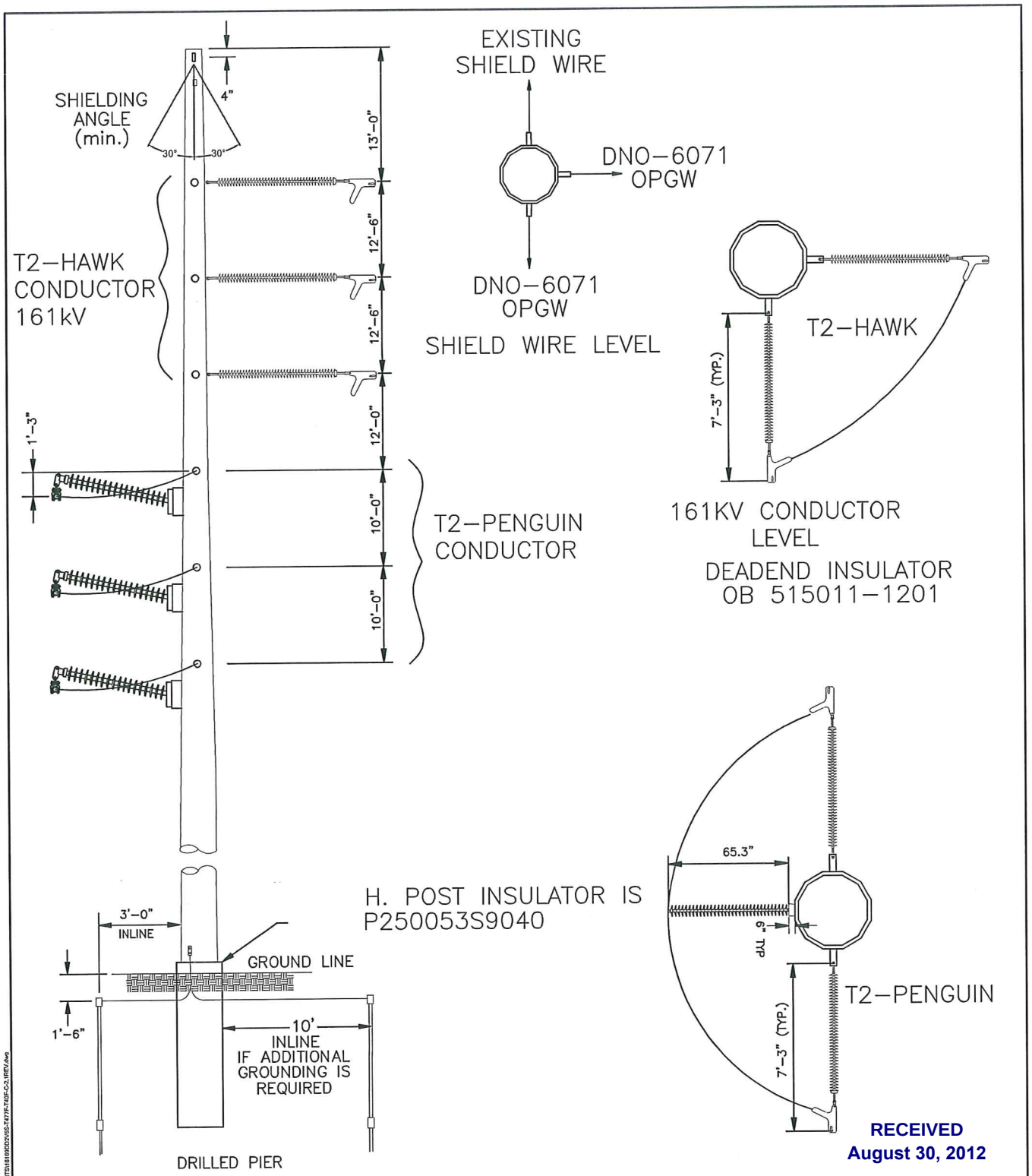


RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

CONFIDENTIAL
These documents are for the use of ITC Holdings Corp. ITC Holdings Corp. disclaims all warranties, both expressed and implied. Use by anyone other than ITC Holdings Corp. is at their own risk.

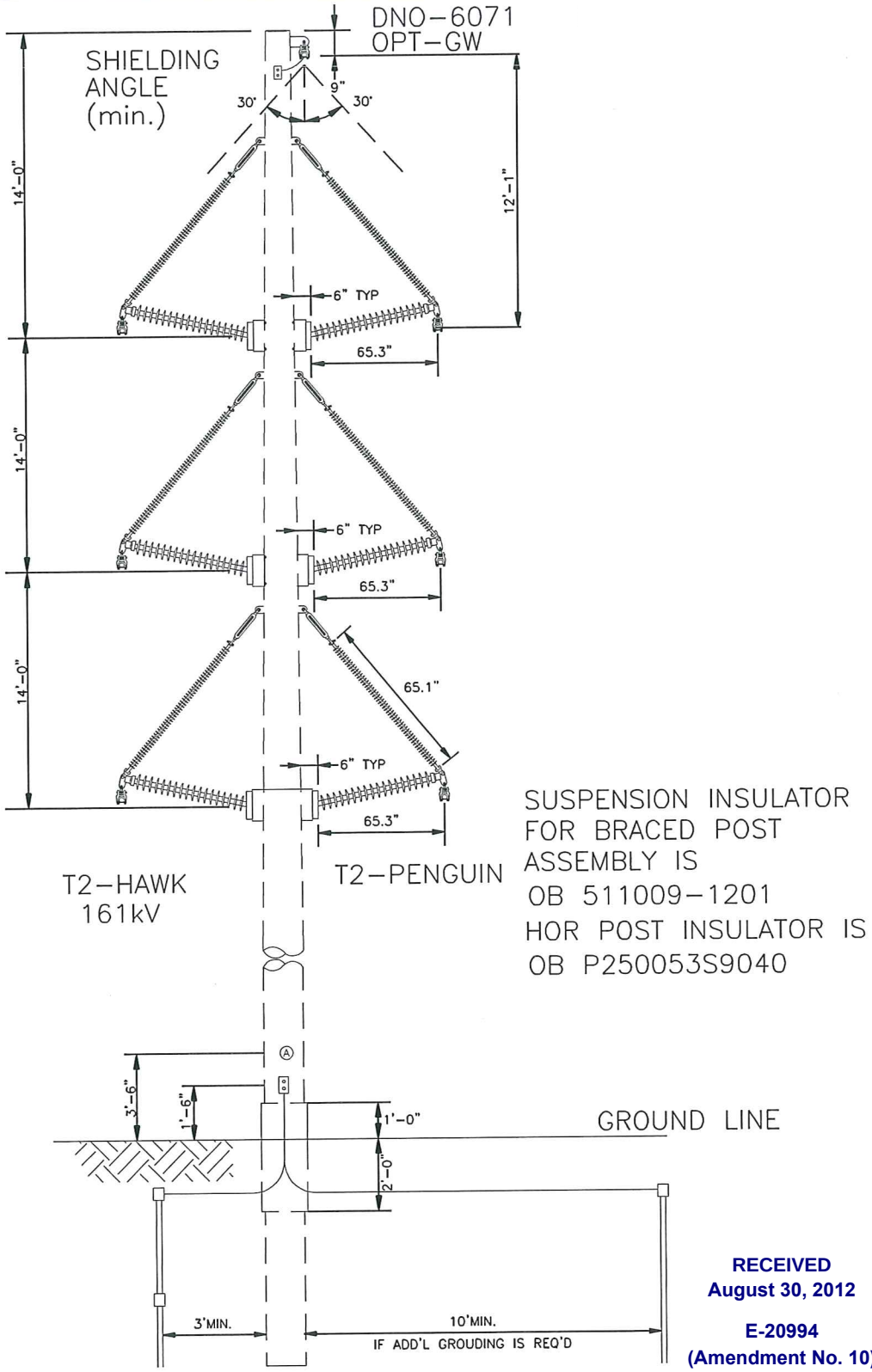
ITC HOLDINGS CORP.

NO.	DATE	REVISION	BY	CHK'D	APV'D

STEEL POLE
161kV/69kV DOUBLE CIRCUIT
2-WAY DEADEND ON DRILLED PIER

Scale: NONE

DWG. NO. 16169DD2V5S-T477-T40F



RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

CONFIDENTIAL
These documents are for the use of ITC Holdings Corp. ITC Holdings Corp. disclaims all warranties, both expressed and implied. Use by anyone other than ITC Holdings Corp. is at their own risk.

ITC HOLDINGS CORP.

NO.	DATE	REVISION	BY	CHK'D	APV'D
0	9/22/11	ORIGINAL ISSSUE	UEI		

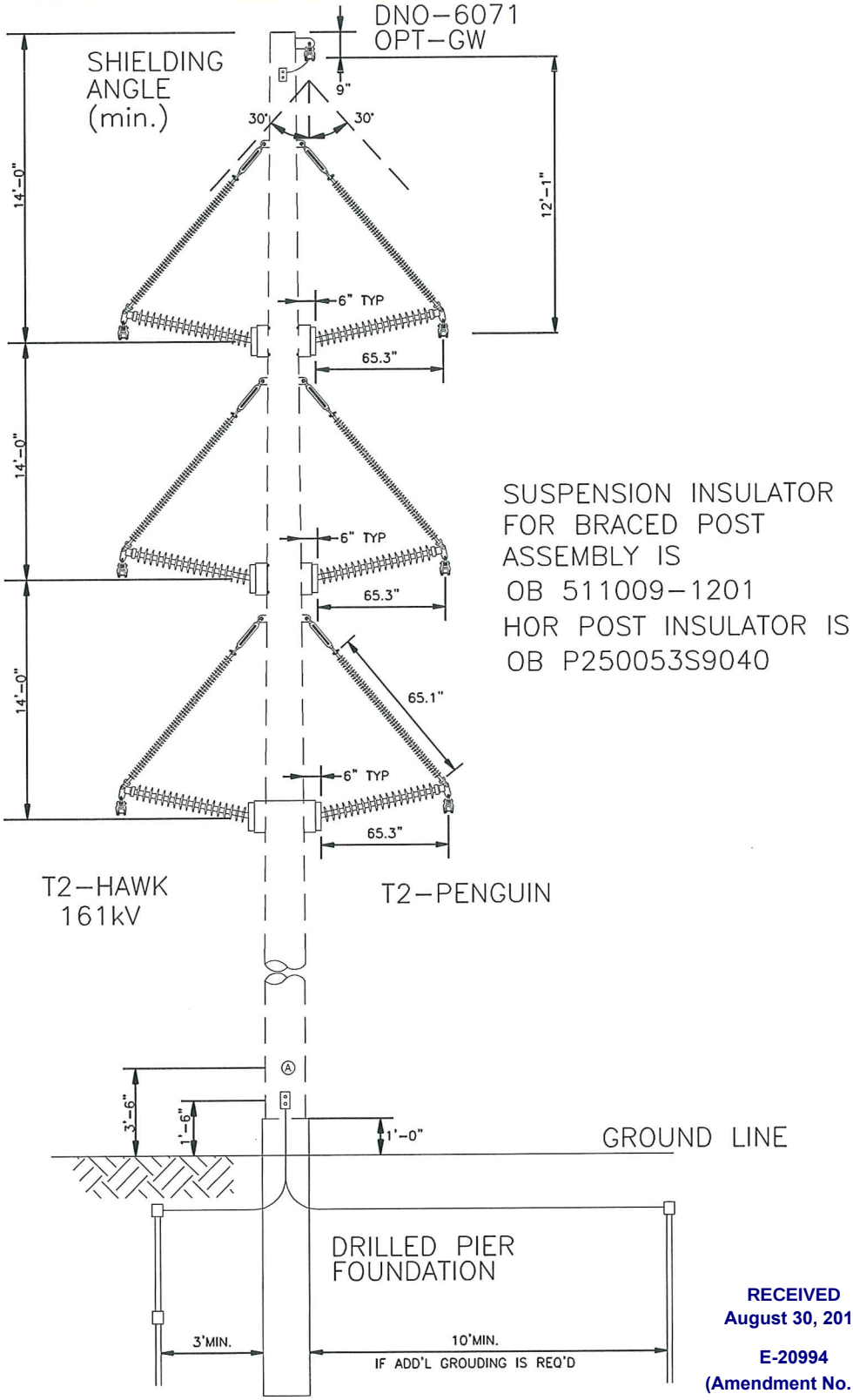
ITC

STEEL POLE
161kV TANGENT, (0°-2°) DBL CKT
BRACED POST, T2-HAWK/PENGUIN

Scale: NONE

DWG. NO. 16169DTNVPS-T477F-T40F

File:D:\Projects\2011\11.02128\Transmission\DUB Coffey-Hawatha\EXHIBITS\16169DTNVPS-T477F-T40F-C-2.2.dwg



RECEIVED
August 30, 2012
E-20994
(Amendment No. 10)

CONFIDENTIAL
These documents are for the use of ITC Holdings Corp. ITC Holdings Corp. disclaims all warranties, both expressed and implied. Use by anyone other than ITC Holdings Corp. is at their own risk.

ITC HOLDINGS CORP.

NO.	DATE	REVISION	BY	CHK'D	APV'D
0	9/22/11	ORIGINAL ISSSUE	UEI		

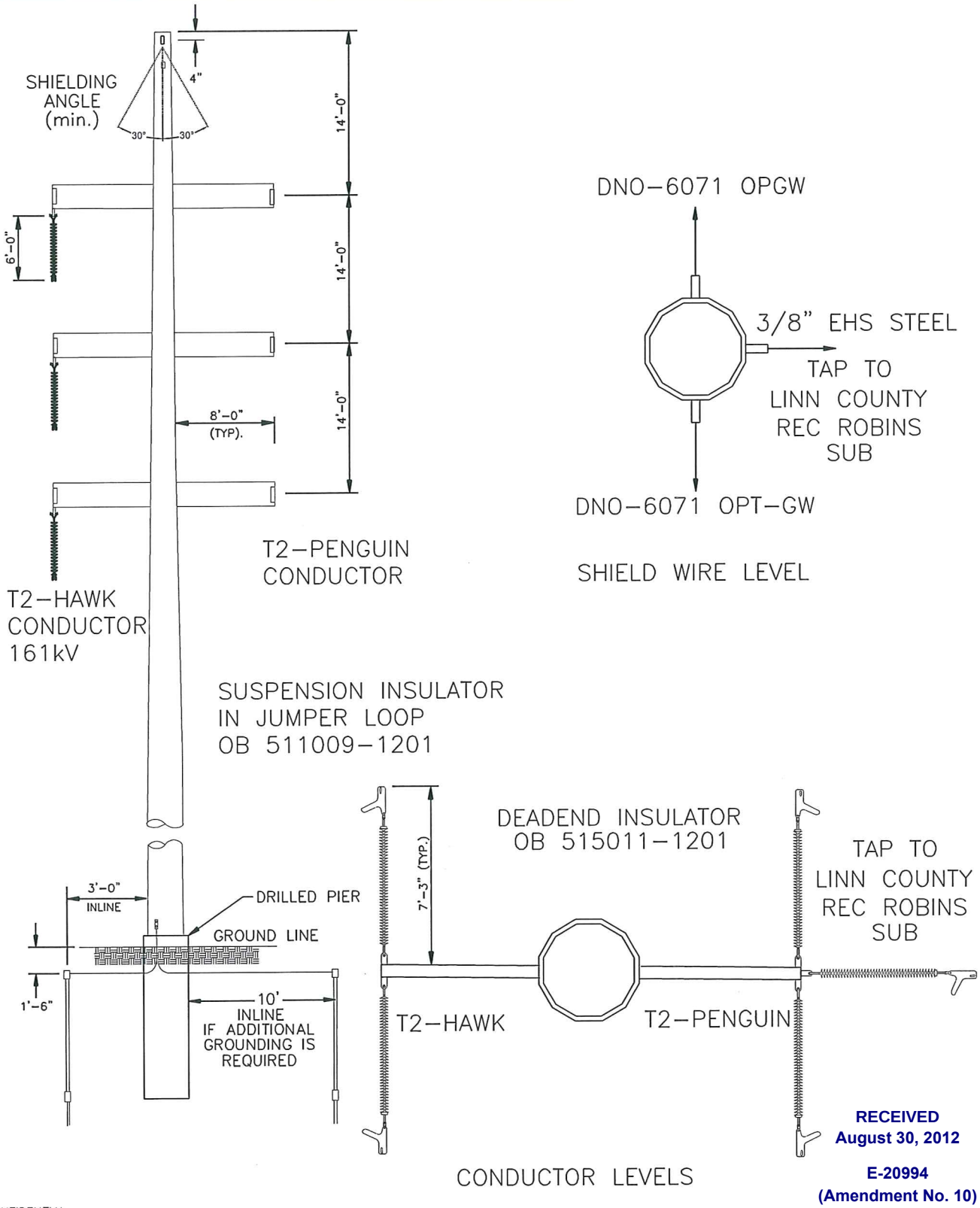
ITC

STEEL POLE
161kV SMALL ANGLE, (2°-8°) DBL CKT
BRACED POST, T2-HAWK/PENGUIN

Scale: NONE

DWG. NO. 16169DASVPS-T477F-T40F

File:O:\Projects\2011\11.02128\Transmission\IUB Coffey-Hawatha\EXHIBITS\16169DASVPS-T477F-T40F-C-2.3.dwg



RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

CONFIDENTIAL
These documents are for the use of ITC Holdings Corp. ITC Holdings Corp. disclaims all warranties, both expressed and implied. Use by anyone other than ITC Holdings Corp. is at their own risk.

ITC HOLDINGS CORP.

NO.	DATE	REVISION	BY	CHK'D	APV'D

STEEL POLE
161kV/69kV DOUBLE CIRCUIT
2-WAY DEADEND ON DRILLED PIER (SUB TAP)

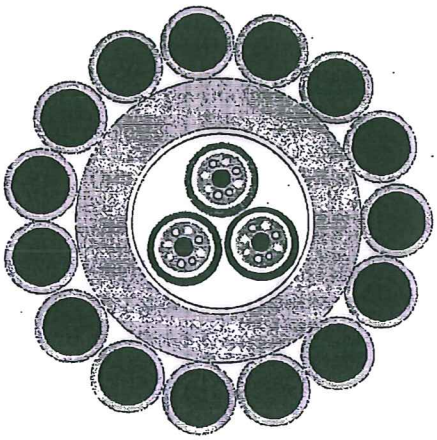
Scale: NONE

DWG. NO. 16169DD2V5S-T477-T40F

AFL Telecommunications LLC
A Fujikura Business
PO Box 3127
Spartanburg, SC 29304
Tel: 1 800 235 3423
Fax: 1 864 433 5560

Specification DNO-6071

AlumaCore Optical Ground Wire



AC-65/555

Component Details					
Component	#	OD		Area	
CENTER					
Aluminum Pipe	1	9.40 mm	0.3701 in	41.12 mm²	0.0637 in²
LAYER 1 - LEFT HAND LAY					
Aluminum Clad Steel (20.3% IACS)	15	2.35 mm	0.0925 in	65.06 mm²	0.1008 in²

Standards	
Designed and Manufactured in accordance with the following:	
Cable	*IEEE 1138, IEC 60794-4*
Fiber	*IEC 60793, ITU-T G.65x Series*
Color Code	*ANSI/EIA 359-A, 598-A, IEC 60304*
Aluminum Pipes	*ASTM B483*
Aluminum Clad Steel Wires	*ASTM B415*

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

Specification DNO-6071

Mechanical / Electrical Details		
Calculated Breaking Load	8,600 kg	18,960 lbs
Approximate Cable Diameter	14.10 mm	0.555 in
Total Cross-Sectional Area	106.18 mm²	0.1646 in²
Approximate Cable Weight	570 kg/km	2,021 lbs/mile
Modulus of Elasticity	12,183 kg/mm²	17,328 kpsi
Coefficient of Linear Expansion	1.48E-05 1/°C	8.22E-06 1/°F
Sag10™ Chart Number	1-1461	1-1461
Calculated DC Resistance (20°C)	0.4681 Ohms/km	0.7534 Ohms/mile
Short Circuit Rating	84 (kA)²•sec	84 (kA)²•sec
Short Circuit Ambient Temperature	40 °C	104 °F
Short Circuit Duration 1 sec	9.1 kA	9.1 kA
Short Circuit Max Cable Temperature	210 °C	410 °F

Optical Details

Attenuation Characteristics for Corning® SMF-28e™ Single-mode Fiber

Max Individual

0.40 dB/km 1310 nm
0.30 dB/km 1550 nm

36 Fiber Tight Structure Design (3 - 12 fiber units)		
Unit	**Fiber Type**	**Fiber Count**
Blue	Corning® SMF-28e™ Single-mode	12
Orange	Corning® SMF-28e™ Single-mode	12
Green	Corning® SMF-28e™ Single-mode	12
	Total Fiber Count	36

Standard Fiber Color Code

Fiber	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Rose	Aqua

Designs with more than 12 fibers per tube will use the standard color code and binders for identification of the fibers.

Installation and Handling Recommendations

Installation and cable preparation procedures are outlined in the AFL Telecommunications documents listed below. Contact AFL to request copies.

Recommended Installation Procedures for Composite Optical Ground Wire

Installation Instructions for Installing Optical Ground Wire in an AFL Telecommunications Splice Enclosure

Fiber Optic Cable Receiving, Handling and Storage. Document ACS-WI-809

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

Specification DNO-6071

Quick Reference Installation Notes		
Approximate Cable Diameter	14.10 mm	0.555 in
Maximum Stringing Tension (at tensioner)*	1,720 kg	3,792 lbs
Minimum Bull Wheel Diameter	99 cm	39 in
Stringing Sheave Diameter**	57 cm	23 in
Minimum Bending Radius		
Cable		
Static (No load)	22 cm	9 in
Dynamic (under tension)	29 cm	12 in
Fiber		
Static (No load)	3.8 cm	1.5 in
Buffer Tube		
Static (No load)	8.0 cm	3.0 in

* - The stringing tension is always measured at the tensioner side. In general the maximum stringing tension should be approximately half of the maximum sagging tension and should never exceed 20% RBS of the OPT-GW.

** - The value indicated is for the first and last structures of the pull and is based on 40 times the diameter of the OPT-GW. Smaller diameters can be used at tangent structures. Reference AFL's installation instructions for more details.

Reference AFL's "Recommended Installation Procedures for Composite Optical Ground Wire" for detailed installation instructions.

Shipping Reels

Reel Type	*FL*	*TR*	*DR*	*OW*	*Tare*	*FL*	*TR*	*DR*	*OW*	*Tare*	*Capacity*	
	(cm)				*(kgs)*	*(in)*				*(lbs)*	*(meters)*	*(feet)*
Wood	147	81	71	97	200	58	32	28	38	441	4,410	14,460
Wood	168	91	91	107	260	66	36	36	42	573	5,930	19,450
Wood	183	91	91	107	300	72	36	36	42	662	6,360	20,860
Wood	213	86	89	104	385	84	34	35	41	849	6,360	20,860
Steel	152	81	81	97	345	60	32	32	38	761	4,370	14,330
Steel	183	91	102	107	540	72	36	40	42	1,191	7,000	22,960
Steel	213	114	107	130	773	84	45	42	51	1,704	7,000	22,960

FL - Flange Diameter; TR - Inside Traverse Width; DR - Drum Diameter; OW - Outside Overall Width

Arbor Hole Diameter: Wood: 3-1/4in (7.9cm)
Steel: 3in (7.6cm)

Maximum lengths shown are the longest lengths that AFL offers. Longer lengths may be possible.

Ordered lengths should include a distribution of lengths, i.e., all reels cannot be ordered at the maximum. A typical reel length distribution is as follows:

6000m – 7000m ~ 15% of reels
4500m – 6000m ~ 55% of reels
2500m – 4500m ~ 25% of reels
<2500m ~ 5% of reels

Wood reels with flex-wrap covering are standard. Non-returnable steel reels and/or wood lagging are available upon request. Additional reel sizes may be available upon request.

Steel reels are recommended for long term storage. Reference AFL's "Fiber Optic Cable Receiving, Handling and Storage" document for additional information.

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

Specification DNO-6071

Electrical Characteristics			
Composite DC Resistance	[20°C]	0.4681 Ohms/km	0.7534 Ohms/mile
Geometric Mean Radius		0.55 cm	0.0180 feet
Inductive Reactance	[60 Hz frequency]	0.3029 Ohms/km	0.4874 Ohms/mile
[one foot (0.3048 meter) spacing]			
	[50 Hz frequency]	0.2524 Ohms/km	0.4062 Ohms/mile
Capacitive Reactance	[60 Hz frequency]	0.1798 MOhms·km	0.1117 MOhms·mile
[one foot (0.3048 meter) spacing]			
	[50 Hz frequency]	0.2158 MOhms·km	0.1341 MOhms·mile

Composite Coefficient of Thermal Resistance 0.00369 (1/°C)

Temperature		DC Resistance		AC Resistance	
(°C)	(°F)	(Ohms/km)	(Ohms/mile)	(Ohms/km)	(Ohms/mile)
20	68	0.4681	0.7534	0.4775	0.7685
25	77	0.4768	0.7673	0.4863	0.7826
30	86	0.4854	0.7812	0.4951	0.7968
35	95	0.4940	0.7951	0.5039	0.8110
40	104	0.5027	0.8090	0.5127	0.8252
45	113	0.5113	0.8229	0.5215	0.8393
50	122	0.5200	0.8368	0.5304	0.8535
55	131	0.5286	0.8507	0.5392	0.8677
60	140	0.5372	0.8646	0.5480	0.8819
65	149	0.5459	0.8785	0.5568	0.8960
70	158	0.5545	0.8924	0.5656	0.9102
75	167	0.5631	0.9063	0.5744	0.9244
80	176	0.5718	0.9202	0.5832	0.9386
85	185	0.5804	0.9341	0.5920	0.9527
90	194	0.5890	0.9480	0.6008	0.9669
95	203	0.5977	0.9619	0.6096	0.9811
100	212	0.6063	0.9758	0.6184	0.9953
105	221	0.6149	0.9896	0.6272	1.0094
110	230	0.6236	1.0035	0.6360	1.0236
115	239	0.6322	1.0174	0.6449	1.0378
120	248	0.6408	1.0313	0.6537	1.0520
125	257	0.6495	1.0452	0.6625	1.0661
130	266	0.6581	1.0591	0.6713	1.0803
135	275	0.6668	1.0730	0.6801	1.0945
140	284	0.6754	1.0869	0.6889	1.1087
145	293	0.6840	1.1008	0.6977	1.1228
150	302	0.6927	1.1147	0.7065	1.1370

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

Specification DNO-6071

PLS-CADD Inputs

☐ Use simplified elastic cable model (no creep, no coefficient)

Name					
Description	AFL OPGW DNO-6071 AC-65/555				
Cross section area (in^2)	0.1646	Unit weight (lbs/ft)	0.383	Number of independent wires	1
Outside diameter (in)	0.555	Ultimate tension (lbs)	18,960	(above should be 1 unless cables are separated by spacers)	
Temperature at which strand data below obtained (deg F)	70				

Outer Strands

Final Modulus of elasticity	(psi/100)	173000
Thermal expansion coeff.	(/100 deg)	0.000850

Polynomial coefficients (all strains in %)

	A0	A1	A2	A3	A4
Stress-strain	-185.7	171722.8	-84267.1	110120	-88224
Creep	-202.1	127401.6	-33359.3	-25805	33849

Core Strands (if different from outer strands)

Final Modulus of elasticity	(psi/100)	
Thermal expansion coeff.	(/100 deg)	

Polynomial coefficients (all strains in %)

	A0	A1	A2	A3	A4
Stress-strain					
Creep					

Thermal Rating Properties

Resistance at two different temperatures

Resistance	(Ohm/mile)	0.7673	at	(deg F)	77
Resistance	(Ohm/mile)	0.9063	at	(deg F)	167

Emissivity coefficient		0.5
Solar absorption coefficient		0.5
* Outer strands heat capacity	(Watt-s/ft-deg F)	
* Core heat capacity	(Watt-s/ft-deg F)	

Generate Coefficients from points on stress-strain

OK Cancel

* These two fields do not need to be entered for OPGW - intentionally left blank.

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

T2 HAWK, Ruling span (ft) 400
Sagging data: Catenary (ft) 4023.2, Horiz. Tension (lbs) 5278.44 Condition I Temperature (deg F) 60
Weather case for final after creep 60,BARE, Equivalent to 25.5 (deg F) temperature increase
Weather case for final after load 0,NESC HEAVY,W/K, Equivalent to 18.8 (deg F) temperature increase

Ruling Span Sag Tension Report

----------Weather Case----------	--Cable Load--			-----R.S. Initial Cond.----					------R.S. Final Cond.-----					------R.S. Final Cond.-----				
									--------After Creep--------					---------After Load--------				
# Description	Hor.	Vert	Res.	Max. Tens. (lbs)	Hori. Tens. (lbs)	Max Ten %UL	C (ft)	R.S. Sag (ft)	Max. Tens. (lbs)	Hori. Tens. (lbs)	Max Ten %UL	C (ft)	R.S. Sag (ft)	Max. Tens. (lbs)	Hori. Tens. (lbs)	Max Ten %UL	C (ft)	R.S. Sag (ft)
	-----Load-----																	
	---(lbs/ft)---																	
1 0,NESC HEAVY,W/K	0.80	2.50	2.92	10448	10398	27	3558	5.62	10123	10071	26	3447	5.80	10448	10398	27	3558	5.62
2 0,NESC HEAVY,W/O K	0.80	2.50	2.62	10006	9962	26	3799	5.27	9579	9534	25	3636	5.50	9919	9875	25	3766	5.31
3 32,ICE(1),CLEARANCE	0.00	4.30	4.30	11387	11296	29	2625	7.62	11175	11084	29	2576	7.77	11387	11296	29	2625	7.62
4 32,ICE(1),WIND(50),ASCE	1.81	4.30	4.67	11898	11801	31	2527	7.92	11770	11672	30	2499	8.01	11898	11801	31	2527	7.92
5 32,ICE(.5),GALLOP SAG	0.00	2.50	2.50	8577	8532	22	3417	5.85	7950	7903	20	3166	6.32	8209	8163	21	3270	6.12
6 32,ICE(.5),WIND(2 PSF),GALLOP ANG.	0.40	2.50	2.53	8634	8588	22	3397	5.89	8009	7962	21	3149	6.35	8269	8222	21	3252	6.15
7 60,WIND(90),SWING NESC	2.43	1.31	2.76	8104	8061	21	2922	6.85	7504	7458	19	2704	7.40	7707	7663	20	2778	7.20
8 60,WIND(90),HEIGHT ADJ.	2.17	1.31	2.53	7707	7668	20	3028	6.61	7069	7027	18	2775	7.21	7269	7228	19	2854	7.01
9 60,WIND(6 PSF),H-CLEAR.	0.70	1.31	1.49	5679	5655	15	3799	5.27	4858	4832	12	3247	6.16	5058	5033	13	3382	5.92
10 -20,WIND(4 PSF),SWING	0.47	1.31	1.39	9181	9162	24	6577	3.04	8478	8459	22	6072	3.29	8959	8940	23	6417	3.12
11 -20,BARE,UPLIFT WINTER AMB.	0.00	1.31	1.31	9082	9064	23	6908	2.90	8345	8326	21	6346	3.15	8826	8807	23	6713	2.98
12 0,BARE,COND. TENSION LIMIT	0.00	1.31	1.31	7992	7973	20	6077	3.29	7018	6999	18	5334	3.75	7433	7413	19	5650	3.54
13 32,BARE,ICE OFF	0.00	1.31	1.31	6416	6395	16	4875	4.10	5397	5375	14	4097	4.88	5686	5665	15	4318	4.63
14 40,BARE,NORMAL CAMBER	0.00	1.31	1.31	6067	6046	16	4608	4.34	5090	5067	13	3862	5.18	5342	5320	14	4055	4.93
15 60,BARE	0.00	1.31	1.31	5300	5278	14	4023	4.97	4443	4419	11	3368	5.94	4636	4612	12	3516	5.69
16 90,BARE,SUMMER AMB.	0.00	1.31	1.31	4405	4381	11	3339	5.99	3750	3724	10	2838	7.05	3880	3854	10	2938	6.81
17 120,BARE,NEUTRAL	0.00	1.31	1.31	3764	3738	10	2849	7.02	3286	3258	8	2483	8.06	3364	3336	9	2543	7.87
18 212,BARE,100 deg.C.	0.00	1.31	1.31	2795	2764	7	2107	9.50	2778	2746	7	2093	9.56	2794	2763	7	2106	9.51
19 257,BARE,125 deg.C.	0.00	1.31	1.31	2605	2572	7	1960	10.21	2589	2556	7	1948	10.27	2604	2571	7	1959	10.22
20 302,BARE,150 deg.C.	0.00	1.31	1.31	2444	2410	6	1837	10.90	2431	2396	6	1826	10.96	2443	2408	6	1836	10.91
21 DEFL. 60DEG, 25PSF	2.93	1.31	3.21	8859	8808	23	2746	7.29	8336	8283	21	2582	7.75	8541	8489	22	2646	7.56

Tension Distribution in Inner and Outer Materials

----------Weather Case----------	--Initial Condition-			--Final After Creep-			--Final After Load--		
	Horiz. Tension (lbs)			Horiz. Tension (lbs)			Horiz. Tension (lbs)		
# Description	Total	Core	Outer	Total	Core	Outer	Total	Core	Outer
1 0,NESC HEAVY,W/K	10398	4077	6321	10071	4118	5953	10398	4077	6321
2 0,NESC HEAVY,W/O K	9962	3862	6101	9534	3921	5612	9875	3885	5989
3 32,ICE(1),CLEARANCE	11296	4871	6426	11084	4936	6148	11296	4871	6426
4 32,ICE(1),WIND(50),ASCE	11801	5121	6679	11672	5151	6521	11801	5121	6679
5 32,ICE(.5),GALLOP SAG	8532	3532	4999	7903	3771	4132	8163	3706	4457
6 32,ICE(.5),WIND(2 PSF),GALLOP ANG.	8588	3559	5029	7962	3793	4169	8222	3727	4494
7 60,WIND(90),SWING NESC	8061	3636	4424	7458	3999	3459	7663	3913	3749
8 60,WIND(90),HEIGHT ADJ.	7668	3455	4213	7027	3842	3186	7228	3754	3474
9 60,WIND(6 PSF),H-CLEAR.	5655	2540	3114	4832	3038	1794	5033	2951	2082
10 -20,WIND(4 PSF),SWING	9162	3246	5917	8459	3248	5210	8940	3264	5676
11 -20,BARE,UPLIFT WINTER AMB.	9064	3198	5866	8326	3200	5126	8807	3215	5592
12 0,BARE,COND. TENSION LIMIT	7973	2898	5075	6999	2993	4005	7413	2984	4429
13 32,BARE,ICE OFF	6395	2537	3858	5375	2846	2529	5665	2791	2873
14 40,BARE,NORMAL CAMBER	6046	2474	3572	5067	2845	2222	5320	2777	2543
15 60,BARE	5278	2372	2906	4419	2887	1532	4612	2797	1815
16 90,BARE,SUMMER AMB.	4381	2350	2031	3724	3051	673	3854	2938	916
17 120,BARE,NEUTRAL	3738	2453	1285	3258	3258	0	3336	3167	169
18 212,BARE,100 deg.C.	2764	2764	0	2746	2746	0	2763	2763	0
19 257,BARE,125 deg.C.	2572	2572	0	2556	2556	0	2571	2571	0
20 302,BARE,150 deg.C.	2410	2410	0	2396	2396	0	2408	2408	0
21 DEFL. 60DEG, 25PSF	8808	3985	4823	8283	4301	3982	8489	4214	4274

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)

T2 PENGUIN, Ruling span (ft) 400
Sagging data: Catenary (ft) 3803.6, Horiz. Tension (lbs) 2213.7 Condition I Temperature (deg F) 60
Weather case for final after creep 60,BARE, Equivalent to 23.0 (deg F) temperature increase
Weather case for final after load 0,NESC HEAVY,W/K, Equivalent to 26.5 (deg F) temperature increase

Ruling Span Sag Tension Report

#	Weather Case Description	Cable Load Hor. (lbs/ft)	Cable Load Vert (lbs/ft)	Cable Load Res. (lbs/ft)	R.S. Initial Cond. Max. Tens. (lbs)	R.S. Initial Cond. Hori. Tens. (lbs)	R.S. Initial Cond. Max Ten %UL	R.S. Initial Cond. C (ft)	R.S. Initial Cond. R.S. Sag (ft)	R.S. Final Cond. After Creep Max. Tens. (lbs)	R.S. Final Cond. After Creep Hori. Tens. (lbs)	R.S. Final Cond. After Creep Max Ten %UL	R.S. Final Cond. After Creep C (ft)	R.S. Final Cond. After Creep R.S. Sag (ft)	R.S. Final Cond. After Load Max. Tens. (lbs)	R.S. Final Cond. After Load Hori. Tens. (lbs)	R.S. Final Cond. After Load Max Ten %UL	R.S. Final Cond. After Load C (ft)	R.S. Final Cond. After Load R.S. Sag (ft)
1	0,NESC HEAVY,W/K	0.64	1.47	1.90	5398	5382	32	2832	7.06	5398	5382	32	2832	7.06	5398	5382	32	2832	7.06
2	0,NESC HEAVY,W/O K	0.64	1.47	1.60	4977	4964	30	3102	6.45	4951	4938	30	3086	6.48	4893	4879	29	3050	6.56
3	32,ICE(1),CLEARANCE	0.00	2.97	2.97	6371	6337	38	2132	9.39	6371	6337	38	2132	9.39	6371	6337	38	2132	9.39
4	32,ICE(1),WIND(50),ASCE	1.56	2.97	3.36	6832	6792	41	2024	9.89	6832	6792	41	2024	9.89	6832	6792	41	2024	9.89
5	32,ICE(.5),GALLOP SAG	0.00	1.47	1.47	4283	4270	26	2912	6.87	4126	4113	25	2805	7.13	4076	4063	24	2771	7.22
6	32,ICE(.5),WIND(2 PSF),GALLOP ANG.	0.32	1.47	1.50	4336	4323	26	2881	6.95	4187	4173	25	2781	7.20	4138	4125	25	2748	7.28
7	60,WIND(90),SWING NESC	1.59	0.58	1.70	4269	4253	26	2509	7.98	4114	4097	25	2417	8.28	4076	4059	24	2394	8.36
8	60,WIND(90),HEIGHT ADJ.	1.40	0.58	1.52	3984	3971	24	2618	7.64	3801	3787	23	2496	8.02	3762	3748	23	2471	8.10
9	60,WIND(6 PSF),H-CLEAR.	0.46	0.58	0.74	2569	2564	15	3453	5.79	2271	2265	14	3050	6.56	2229	2223	13	2994	6.68
10	-20,WIND(4 PSF),SWING	0.31	0.58	0.66	3982	3979	24	6046	3.31	3738	3735	22	5675	3.52	3629	3626	22	5509	3.63
11	-20,BARE,UPLIFT WINTER AMB.	0.00	0.58	0.58	3881	3879	23	6664	3.00	3595	3593	22	6173	3.24	3484	3481	21	5981	3.34
12	0,BARE,COND. TENSION LIMIT	0.00	0.58	0.58	3388	3386	20	5817	3.44	3007	3004	18	5162	3.88	2909	2906	17	4993	4.01
13	32,BARE,ICE OFF	0.00	0.58	0.58	2693	2689	16	4621	4.33	2302	2298	14	3948	5.07	2241	2237	13	3844	5.20
14	40,BARE,NORMAL CAMBER	0.00	0.58	0.58	2544	2540	15	4364	4.58	2169	2165	13	3720	5.38	2114	2110	13	3625	5.52
15	60,BARE	0.00	0.58	0.58	2218	2214	13	3804	5.26	1898	1894	11	3254	6.15	1855	1851	11	3180	6.29
16	90,BARE,SUMMER AMB.	0.00	0.58	0.58	1850	1845	11	3170	6.31	1607	1602	10	2752	7.27	1578	1573	9	2703	7.40
17	120,BARE,NEUTRAL	0.00	0.58	0.58	1589	1584	10	2721	7.35	1405	1399	8	2404	8.32	1386	1380	8	2371	8.44
18	212,BARE,100 deg.C.	0.00	0.58	0.58	1185	1178	7	2024	9.89	1185	1178	7	2024	9.89	1177	1170	7	2010	9.96

Tension Distribution in Inner and Outer Materials

#	Weather Case Description	Initial Condition Horiz. Tension (lbs) Total	Initial Condition Core	Initial Condition Outer	Final After Creep Horiz. Tension (lbs) Total	Final After Creep Core	Final After Creep Outer	Final After Load Horiz. Tension (lbs) Total	Final After Load Core	Final After Load Outer
1	0,NESC HEAVY,W/K	5382	2010	3372	5382	2010	3372	5382	2010	3372
2	0,NESC HEAVY,W/O K	4964	1808	3156	4938	1817	3121	4879	1832	3048
3	32,ICE(1),CLEARANCE	6337	2632	3704	6337	2632	3704	6337	2632	3704
4	32,ICE(1),WIND(50),ASCE	6792	2862	3930	6792	2862	3930	6792	2862	3930
5	32,ICE(.5),GALLOP SAG	4270	1643	2627	4113	1733	2379	4063	1748	2315
6	32,ICE(.5),WIND(2 PSF),GALLOP ANG.	4323	1667	2656	4173	1754	2419	4125	1770	2355
7	60,WIND(90),SWING NESC	4253	1779	2474	4097	1901	2196	4059	1927	2133
8	60,WIND(90),HEIGHT ADJ.	3971	1652	2319	3787	1795	1992	3748	1816	1932
9	60,WIND(6 PSF),H-CLEAR.	2564	1040	1524	2265	1274	991	2223	1275	948
10	-20,WIND(4 PSF),SWING	3979	1243	2737	3735	1280	2455	3626	1258	2368
11	-20,BARE,UPLIFT WINTER AMB.	3879	1196	2683	3593	1231	2362	3481	1206	2275
12	0,BARE,COND. TENSION LIMIT	3386	1075	2311	3004	1153	1851	2906	1131	1775
13	32,BARE,ICE OFF	2689	940	1749	2298	1109	1189	2237	1100	1138
14	40,BARE,NORMAL CAMBER	2540	920	1620	2165	1113	1052	2110	1106	1004
15	60,BARE	2214	892	1321	1894	1146	748	1851	1143	708
16	90,BARE,SUMMER AMB.	1845	909	936	1602	1233	369	1573	1237	336
17	120,BARE,NEUTRAL	1584	975	609	1399	1350	50	1380	1362	18
18	212,BARE,100 deg.C.	1178	1178	0	1178	1178	0	1170	1170	0

RECEIVED
August 30, 2012

E-20994
(Amendment No. 10)