

Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

June 23, 2008

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597

RE: **EM-VER-143-080513** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at Burr Mountain Road, Torrington, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated May 12, 2008, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps  
Executive Director

SDP/MP

c: Honorable Ryan J. Bingham, Mayor, City of Torrington  
Martin Connor, City Planner, City of Torrington  
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP



CONNECTICUT SITING COUNCIL

*Alternative Action - Equal Opportunity Employer*

EM-VER-143-080513

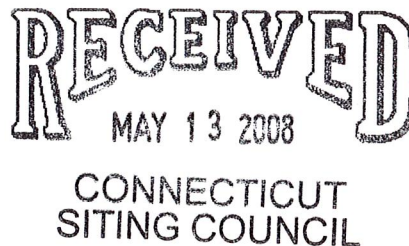
280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

ORIGINAL

May 12, 2008

*Via Hand Delivery*

S. Derek Phelps  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051



Re: **Notice of Exempt Modification – Antenna Swap  
Burr Mountain Road, Torrington, Connecticut**

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains a wireless telecommunications facility at the above-referenced address. The Council approved Cellco’s shared use of the existing 196-foot monopole tower in Docket No. 277. Cellco intends to modify its installation by replacing six (6) LPA-185063/8CF antennas with six (6) LPA-80063/4CF antennas at the 185-foot level on the existing Sprint/Nextel tower. Attached behind Tab 1 are the specifications for the proposed replacement antennas.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Ryan J. Bingham, Mayor of the City of Torrington. Pursuant to a Council directive a copy of this letter is also being sent to O&G Industries, the owner of the property on which the facility is located.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in any increase in the overall height of the existing structures. Cellco’s replacement antennas will be located at the 185-foot level on the existing 196-foot tower.



Law Offices

BOSTON

HARTFORD

NEW LONDON

STAMFORD

WHITE PLAINS

NEW YORK CITY

SARASOTA

www.rc.com

HART1-1465668-1

S. Derek Phelps  
May 12, 2008  
Page 2

2. The proposed modifications will not involve any modifications to ground-mounted equipment and, therefore, will not require the extension of the site boundaries.

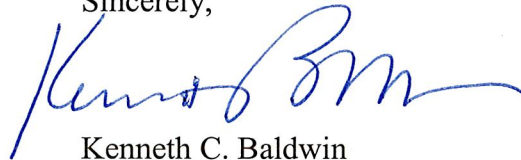
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

4. The operation of the replacement antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for the modified facility is included behind Tab 2.

Also attached is a Structural Analysis Report confirming that the tower can support the proposed modifications. (See Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Ryan J. Bingham, Torrington Mayor  
O&G Industries  
Sandy M. Carter





# LPA-80063/4CF

When ordering replace "\_\_\_" with connector type.

## Mechanical specifications

Length	1205 mm	47.4 in
Width	386 mm	15.2 in
Depth	335 mm	13.2 in
Depth with z-bracket	375 mm	14.8 in
4) Weight	9.1 kg	20.0 lbs
Wind Area		
Fore/Aft	0.47 m <sup>2</sup>	5.0 ft <sup>2</sup>
Side	0.40 m <sup>2</sup>	4.4 ft <sup>2</sup>
Rated Wind Velocity (Safety factor 2.0)	>351 km/hr	>218 mph
Wind Load @ 100 mph (161 km/hr)		
Fore/Aft	665 N	149.5 lbs
Side	577 N	129.6 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

## Mounting and Downtilting

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in). If the lock-down brace is used, the maximum diameter is Ø88.9 mm (3.5 in)

Mounting Bracket and Downtilt Bracket Kit #21699999

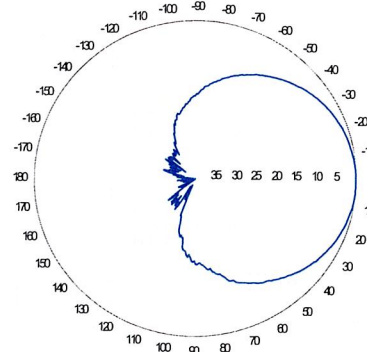
## Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
3) Connector(s)	NE or E-DIN 1 port / center
1) VSWR	≤ 1.4:1
Polarization	Vertical
1) Gain	13 dBd
2) Power Rating	500 W
1) Half Power Angle	
H-Plane	63°
E-Plane	15°
1) Electrical Downtilt	0°
1) Null Fill	10%
Lightning Protection	Direct Ground

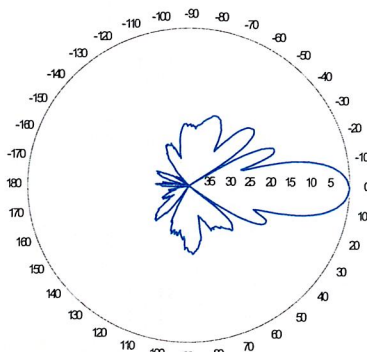
- 1) Typical values.
- 2) Power rating limited by connector only.
- 3) NE indicates an elongated N connector.  
E-DIN indicates an elongated DIN connector.
- 4) The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

## Radiation pattern<sup>1)</sup>



Horizontal

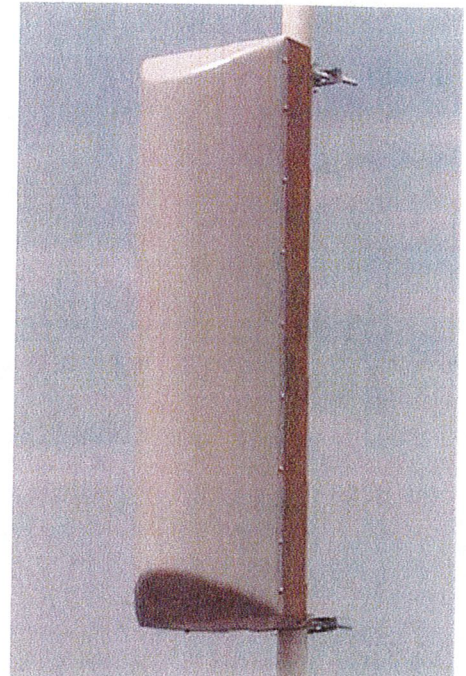


Vertical

## Featuring upper side lobe suppression.

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back ratio.



**Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:**

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

*This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.*

**Antenna available with center-fed connector only.**

**CF Denotes a Center-Fed Connector.**

**806-960 MHz**

	General	Power	Density						
<b>Site Name:</b> Torrington N									
<b>Tower Height:</b> Verizon @ 185Ft.									
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total	
*Sprint	11	306.1	195	0.0318	1962.5	1.0000	3.18%		
*Cingular	2	296	175	0.0070	880	0.5867	1.18%		
*Cingular	2	427	175	0.0100	1930	1.0000	1.00%		
*Nextel	12	100	165	0.0158	851	0.5673	2.79%		
<b>Verizon</b>	<b>9</b>	<b>485</b>	<b>185</b>	<b>0.0459</b>	<b>1970</b>	<b>1.0000</b>	<b>4.59%</b>		
<b>Verizon</b>	<b>9</b>	<b>200</b>	<b>185</b>	<b>0.0189</b>	<b>875</b>	<b>0.5830</b>	<b>3.24%</b>		<b>16.00%</b>
* Source: Siting Council									

1079 N. 204<sup>th</sup> Avenue  
Elkhorn, NE 68022  
Ph: 402-289-1888  
Fax: 402-289-1861

# SEMAAN ENGINEERING SOLUTIONS

## 196 ft Valmont Monopole Structural Analysis

Prepared for:  
Sprint Sites USA  
1 International Blvd.  
Mahwah, NJ 07645

Site: CT33XC079  
For: Verizon  
Torrington, CT

March 17, 2008



3-20-08

Ms. Naomi Rudd  
Sprint Sites USA  
1 International Blvd.  
Mahwah, NJ 07645

**Re: Site Number CT33XC079 – Torrington, CT.**

Dear Ms. Rudd:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the TIA/EIA-222 Rev F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

**Description of Structure:**

The structure is a 196 ft Valmont Monopole.

Refer to Valmont order #17566-64 dated August 17, 2004 for a detailed description of the structure.

**Method of analysis:**

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with TIA/EIA-222 Rev F and local building codes for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed (fastest mile). This wind speed is equivalent to a 100 mph 3-second gust per the IBC 2003. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. Wind is applied to the structure, accessories and antennas.



**Structure loading:**

The following loads were used in the tower analysis:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
195.0	2	VHLP2-18	Low Profile platform	(2) 1/2	Sprint
	3	XP4-65-R			
	3	DTMA-BRS160			
	9	DB848H90E			
175.0	9	DB846H80E-SX	Low Profile Platform	(9) 1 1/4	SNET Springwich, Inc

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
185.0	6	LPA-80063/4CF	Low Profile Platform	(12) 1 5/8	Verizon
	6	LPA 185063/8CF			

**All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.  
All transmission lines are assumed running inside of pole shaft.**

**Results of Analysis:**

Refer to the attached Computer Summary sheets for detailed analysis results.

**Structure:**

The existing monopole is structurally capable of supporting the existing and proposed antennas. However, under the EIA Twist & Sway wind speed requirement, the Sway (rotation in the vertical plane) at the proposed dish elevation is in the order of 2.5 degrees which might be excessive for the dish frequencies used. Sprint to verify if this is acceptable.

The maximum structure usage is: 79.7%.

**Foundation:**

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	5,512.17	4,048.31	73.4
Shear (kips)	40.83	29.56	72.4

The analysis reactions are less than the design reactions therefore no foundation modifications are required.



**Review and Recommendations:**

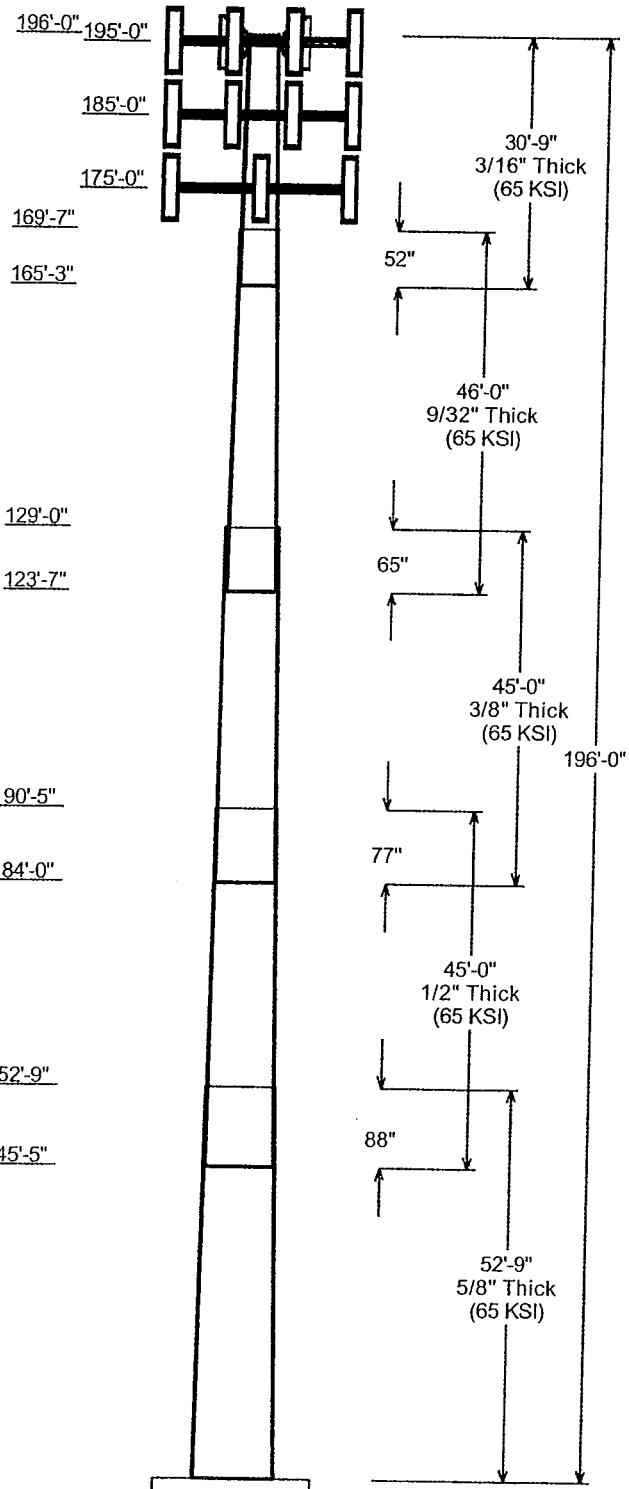
Based on the analysis results, the existing structure meets the requirements per the TIA/EIA-222 Rev F standards for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed.

**SEMAAN ENGINEERING SOLUTIONS**

1079 N.204<sup>th</sup> Avenue  
 Elkhorn, NE 68022  
 Phone: 402-289-1888  
 Fax: 402-289-1861

Copyright Semaan Engineering Solutions, Inc

Job Information	
Pole : CT33XC079	Code: TIA/EIA-222 Rev F
Description :	
Client : Sprint Sites USA - NJ	
Location : Torrington, CT	
Shape : 16 Sides	Base Elev (ft): 0.00
Height : 196.00 (ft)	Taper: 0.210000(in/ft)



Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Steel Taper (in/ft)	Steel Grade (ksi)
		Top	Bottom					
1	52.750	48.92	60.00	0.625		0.000	0.210000	65
2	45.000	42.01	51.46	0.500	Slip Joint	88.000	0.210000	65
3	45.000	34.66	44.11	0.375	Slip Joint	77.000	0.210000	65
4	46.000	26.70	36.36	0.281	Slip Joint	65.000	0.210000	65
5	30.750	21.52	27.98	0.188	Slip Joint	52.000	0.210000	65

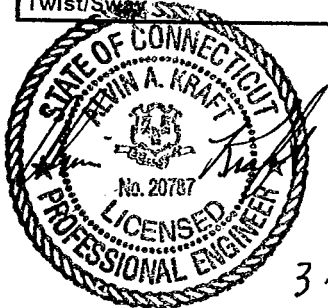
Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
195.000	195.000	2	VHLP2-18
195.000	195.000	3	XP4-65-R
195.000	195.000	3	DTMA-BRS160
195.000	195.000	9	DB848H90E
195.000	195.000	1	13 ft Low Profile platform
185.000	185.000	6	LPA-80063/4CF
185.000	185.000	6	LPA 185063/8CF
185.000	185.000	1	Low Profile Platform
175.000	175.000	9	DB846H80E-SX
175.000	175.000	1	Low Profile Platform

Linear Appurtenance				
Elev (ft)	From	To	Description	Exposed To Wind
0.000	175.0	1 1/4"	Coax	No
0.000	185.0	1 5/8"	Coax	No
0.000	195.0	1 5/8"	Coax	No
0.000	195.0	1/2"	Coax	No

Load Cases	
No Ice	80.00 mph Wind with No Ice
Ice	69.28 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

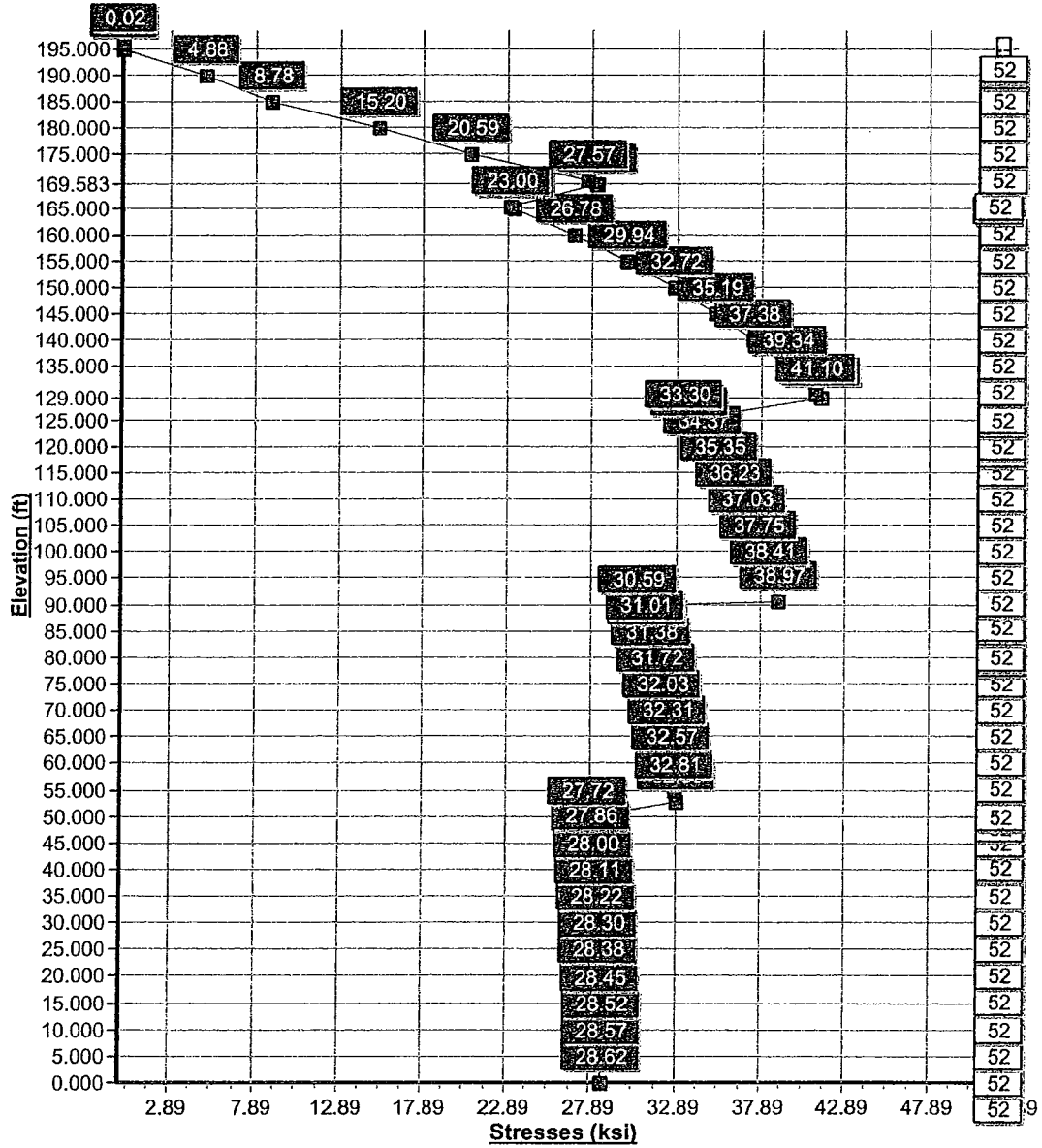
Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	4048.31	29.56	49.58
Ice	3301.26	23.50	57.70
Twist/Sway	1583.18	11.55	49.60

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
Twist/Sway	195.00	47.193	2.475



3-20-08

**Load Case : No Ice**  
**Max Stress 79.7% at 129.0ft**



Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

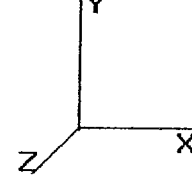
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:28 PM

Page: 1

Base Elev : 0.000 (ft)



**Shaft Section Properties**

Sect Num	Length (ft)	Thick (in)	Fv (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom				Top				Taper (in/ft)				
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)		Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio
1	52.750	0.6250	65		0.00	19,266	60.00	0.000	118.52722.5	17.50	96.00	48.92	52.75	96.29	28376.5	13.98	78.28	0.21000	
2	45.000	0.5000	65	Slip Joint	88.00	11,293	51.46	45.41	81.29	26670.3	18.88	102.9	42.01	90.41	66.21	14414.9	15.12	84.03	0.21000
3	45.000	0.3750	65	Slip Joint	77.00	7,146	44.11	84.00	52.32	12642.2	21.81	117.6	34.66	129.0	41.01	6090.4	16.79	92.43	0.21000
4	46.000	0.2813	65	Slip Joint	65.00	4,388	36.36	123.5	32.37	5322.9	24.12	129.2	26.70	169.5	23.70	2089.9	17.29	94.93	0.21000
5	30.750	0.1875	65	Slip Joint	52.00	1,538	27.98	165.2	16.63	1623.0	28.10	149.2	21.52	196.0	12.76	734.3	21.25	114.81	0.21000
Shaft Weight						43,631													

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	Vert Ecc (ft)
195.0	VHLP2-18	2	90.00	3.960	1.00	128.00	4.300	1.00	0.000	0.000
195.0	XP4-65-R	3	20.00	3.481	1.00	45.69	4.030	1.00	0.000	0.000
195.0	DTMA-BRS160	3	11.00	0.664	1.00	16.29	0.855	1.00	0.000	0.000
195.0	DB848H90E	9	28.00	8.360	1.00	78.00	9.250	1.00	0.000	0.000
195.0	13 ft Low Profile platform	1	1346.00	15.300	1.00	2075.00	17.020	1.00	0.000	0.000
185.0	LPA-80063/4CF	6	20.00	7.010	1.00	72.60	7.630	1.00	0.000	0.000
185.0	LPA 185063/8CF	6	9.00	2.970	1.00	30.93	3.480	1.00	0.000	0.000
185.0	Low Profile Platform	1	1600.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.000
175.0	DB846H80E-SX	9	21.00	5.870	1.00	59.40	6.560	1.00	0.000	0.000
175.0	Low Profile Platform	1	1600.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.000
Totals		41	5434.00			8574.72			Number of Loadings :	10

**Linear Appurtenance Properties**

Elev From (ft)	Elev To (ft)	Description	No Ice Weight (lb/ft)	CaAa (sf/ft)	Ice Weight (lb/ft)	CaAa (sf/ft)	Exposed To Wind
0.00	195.00	(15) 1 5/8 Coax	1.04	0.00	0.00	0.00	N
0.00	195.00	(2) 1/2" Coax	0.16	0.00	0.00	0.00	N
0.00	185.00	(12) 1 5/8 Coax	1.04	0.00	0.00	0.00	N
0.00	175.00	(9) 1 1/4" Coax	0.66	0.00	0.00	0.00	N
Total Weight			541.88 (lb)		0.00 (lb)		

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

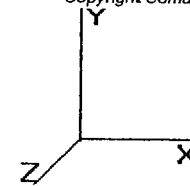
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 2

Base Elev : 0.000 (ft)



**Segment Properties** (Max Len : 5ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.6250	60.000	118.379	52,722.5	17.50	96.00	65	52	0.0
5.00		0.6250	58.950	116.285	49,974.6	17.17	94.32	65	52	1,996.3
10.00		0.6250	57.900	114.192	47,323.9	16.84	92.64	65	52	1,960.7
15.00		0.6250	56.850	112.099	44,768.6	16.50	90.96	65	52	1,925.0
20.00		0.6250	55.800	110.005	42,307.0	16.17	89.28	65	52	1,889.4
25.00		0.6250	54.750	107.912	39,937.3	15.83	87.60	65	52	1,853.8
30.00		0.6250	53.700	105.818	37,657.8	15.50	85.92	65	52	1,818.2
35.00		0.6250	52.650	103.725	35,466.7	15.17	84.24	65	52	1,782.6
40.00		0.6250	51.600	101.631	33,362.4	14.83	82.56	65	52	1,747.0
45.00		0.6250	50.550	99.538	31,342.9	14.50	80.88	65	52	1,711.3
45.42	Bot - Section 2	0.6250	50.463	99.364	31,178.4	14.47	80.74	65	52	141.0
50.00		0.6250	49.500	97.445	29,406.6	14.16	79.20	65	52	2,790.5
52.75	Top - Section 1	0.5000	49.923	78.829	24,324.8	18.27	99.85	65	52	1,648.4
55.00		0.5000	49.450	78.075	23,633.8	18.08	98.90	65	52	600.6
60.00		0.5000	48.400	76.401	22,145.3	17.66	96.80	65	52	1,314.1
65.00		0.5000	47.350	74.726	20,720.7	17.25	94.70	65	52	1,285.6
70.00		0.5000	46.300	73.051	19,358.5	16.83	92.60	65	52	1,257.1
75.00		0.5000	45.250	71.376	18,057.4	16.41	90.50	65	52	1,228.6
80.00		0.5000	44.200	69.701	16,815.9	15.99	88.40	65	52	1,200.1
84.00	Bot - Section 3	0.5000	43.360	68.362	15,864.7	15.66	86.72	65	52	939.6
85.00		0.5000	43.150	68.027	15,632.6	15.57	86.30	65	52	409.6
90.00		0.5000	42.100	66.352	14,506.2	15.16	84.20	65	52	2,018.3
90.42	Top - Section 2	0.3750	42.763	50.706	11,509.3	21.09	114.03	65	52	165.9
95.00		0.3750	41.800	49.555	10,743.0	20.58	111.47	65	52	781.8
100.0		0.3750	40.750	48.299	9,946.6	20.02	108.67	65	52	832.4
105.0		0.3750	39.700	47.043	9,190.6	19.47	105.87	65	52	811.1
110.0		0.3750	38.650	45.786	8,473.9	18.91	103.07	65	52	789.7
115.0		0.3750	37.600	44.530	7,795.4	18.35	100.27	65	52	768.3
120.0		0.3750	36.550	43.274	7,154.2	17.80	97.47	65	52	747.0
123.5	Bot - Section 4	0.3750	35.798	42.374	6,717.0	17.40	95.46	65	52	522.2
125.0		0.3750	35.500	42.018	6,549.2	17.24	94.67	65	52	358.8
129.0	Top - Section 3	0.2813	35.222	31.349	4,835.2	23.32	125.24	65	52	996.9
130.0		0.2813	35.013	31.160	4,748.5	23.17	124.49	65	52	106.4
135.0		0.2813	33.962	30.218	4,330.7	22.43	120.76	65	52	522.1
140.0		0.2813	32.912	29.276	3,938.2	21.69	117.02	65	52	506.1
145.0		0.2813	31.862	28.334	3,570.1	20.94	113.29	65	52	490.1
150.0		0.2813	30.813	27.392	3,225.8	20.20	109.56	65	52	474.1
155.0		0.2813	29.762	26.450	2,904.3	19.46	105.82	65	52	458.0
160.0		0.2813	28.712	25.508	2,604.9	18.72	102.09	65	52	442.0
165.0		0.2813	27.663	24.566	2,326.8	17.97	98.36	65	52	426.0
165.2	Bot - Section 5	0.2813	27.610	24.519	2,313.4	17.94	98.17	65	52	20.9
169.5	Top - Section 4	0.1875	27.075	16.082	1,468.8	27.13	144.40	65	52	596.7
170.0		0.1875	26.988	16.030	1,454.5	27.04	143.93	65	52	22.8
175.0		0.1875	25.938	15.402	1,290.1	25.92	138.33	65	52	267.4
180.0		0.1875	24.888	14.774	1,138.7	24.81	132.73	65	52	256.7
185.0		0.1875	23.838	14.146	999.5	23.70	127.13	65	52	246.0
190.0		0.1875	22.788	13.518	872.2	22.58	121.53	65	52	235.3
195.0		0.1875	21.738	12.890	756.2	21.47	115.93	65	52	224.6
196.0		0.1875	21.528	12.764	734.3	21.25	114.81	65	52	43.6

43,631.0





Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

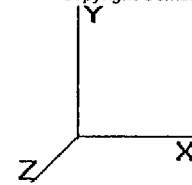
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 4

Base Elev : 0.000 (ft)



**Load Case:** No Ice                      80.00 mph Wind with No Ice                      26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Discrete Appurtenance Segment Forces**

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
175.0	DB846H80E-SX	9	26.389	44.598	1.00	52.83	0.000	0.000	2,356.10	0.00	0.00	189.00
175.0	Low Profile Platform	1	26.389	44.598	1.00	25.55	0.000	0.000	1,139.47	0.00	0.00	1,600.00
185.0	LPA-80063/4CF	6	26.812	45.312	1.00	42.06	0.000	0.000	1,905.80	0.00	0.00	120.00
185.0	LPA 185063/8CF	6	26.812	45.312	1.00	17.82	0.000	0.000	807.45	0.00	0.00	54.00
185.0	Low Profile Platform	1	26.812	45.312	1.00	25.55	0.000	0.000	1,157.71	0.00	0.00	1,600.00
195.0	VHLP2-18	2	27.218	45.998	1.00	7.92	0.000	0.000	364.31	0.00	0.00	180.00
195.0	XP4-65-R	3	27.218	45.998	1.00	10.44	0.000	0.000	480.36	0.00	0.00	60.00
195.0	DTMA-BRS160	3	27.218	45.998	1.00	1.99	0.000	0.000	91.63	0.00	0.00	33.00
195.0	DB848H90E	9	27.218	45.998	1.00	75.24	0.000	0.000	3,460.87	0.00	0.00	252.00
195.0	13 ft Low Profile pl	1	27.218	45.998	1.00	15.30	0.000	0.000	703.77	0.00	0.00	1,346.00
									12,467.47			5,434.00

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

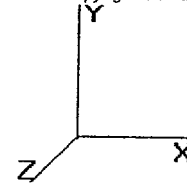
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 5

Base Elev : 0.000 (ft)



**Load Case:** No Ice                      80.00 mph Wind with No Ice                      26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Applied Segment Forces Summary**

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	494.04	2,010.78	0.00	0.00
10.00	485.32	1,975.16	0.00	0.00
15.00	476.60	1,939.54	0.00	0.00
20.00	467.87	1,903.92	0.00	0.00
25.00	459.15	1,868.31	0.00	0.00
30.00	450.43	1,832.69	0.00	0.00
35.00	449.20	1,797.07	0.00	0.00
40.00	457.45	1,761.45	0.00	0.00
45.00	463.58	1,725.84	0.00	0.00
45.42	38.30	142.21	0.00	0.00
50.00	437.13	2,803.77	0.00	0.00
52.75	262.30	1,656.40	0.00	0.00
55.00	214.91	607.17	0.00	0.00
60.00	482.10	1,328.62	0.00	0.00
65.00	482.67	1,300.12	0.00	0.00
70.00	482.19	1,271.63	0.00	0.00
75.00	480.76	1,243.13	0.00	0.00
80.00	478.47	1,214.64	0.00	0.00
84.00	379.95	951.20	0.00	0.00
85.00	95.80	412.55	0.00	0.00
90.00	479.91	2,032.83	0.00	0.00
90.42	39.52	167.15	0.00	0.00
95.00	435.50	795.13	0.00	0.00
100.0	470.63	846.93	0.00	0.00
105.0	465.10	825.56	0.00	0.00
110.0	459.02	804.19	0.00	0.00
115.0	452.43	782.82	0.00	0.00
120.0	445.35	761.45	0.00	0.00
123.5	314.04	532.56	0.00	0.00
125.0	124.69	362.92	0.00	0.00
129.0	349.66	1,008.50	0.00	0.00
130.0	86.32	109.25	0.00	0.00
135.0	428.45	536.65	0.00	0.00
140.0	419.74	520.62	0.00	0.00
145.0	410.66	504.59	0.00	0.00
150.0	401.21	488.56	0.00	0.00
155.0	391.42	472.53	0.00	0.00
160.0	381.29	456.51	0.00	0.00
165.0	370.84	440.48	0.00	0.00
165.2	18.19	21.60	0.00	0.00
169.5	316.37	609.24	0.00	0.00
170.0	29.89	23.97	0.00	0.00
175.0	3,849.63	2,070.89	0.00	0.00
180.0	342.75	267.90	0.00	0.00
185.0	4,202.13	2,031.21	0.00	0.00
190.0	319.32	241.33	0.00	0.00
195.0	5,408.14	2,101.64	0.00	0.00
196.0	59.79	43.65	0.00	0.00

Pole : CT33XC079  
Location : Torrington, CT  
Height : 196.0 (ft)  
Shape : 16 Sides  
Base Dia : 60.00 (in)  
Top Dia : 21.52 (in)  
Taper : 0.210000 (in/ft)

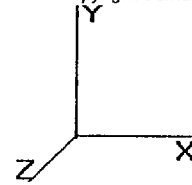
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 6

Base Elev : 0.000 (ft)



**Load Case:** No Ice

80.00 mph Wind with No Ice

26 Iterations

Gust Response Factor : 1.69  
Dead Load Factor : 1.00  
Wind Load Factor : 1.00

Totals:            29,510.19    49,606.85            0.00            0.00

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

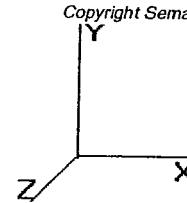
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 7

Base Elev : 0.000 (ft)



**Load Case:** No Ice

80.00 mph Wind with No Ice

26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Calculated Shaft Forces and Deflections**

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-29.557	-49.578	0.000	0.000	0.000	-4,048.310	0.000	0.000	0.000	0.000
5.00	-29.151	-47.513	0.000	0.000	0.000	-3,900.526	-0.058	0.000	0.058	-0.107
10.00	-28.747	-45.484	0.000	0.000	0.000	-3,754.774	-0.228	0.000	0.228	-0.216
15.00	-28.346	-43.492	0.000	0.000	0.000	-3,611.040	-0.514	0.000	0.514	-0.327
20.00	-27.948	-41.536	0.000	0.000	0.000	-3,469.311	-0.917	0.000	0.917	-0.439
25.00	-27.552	-39.617	0.000	0.000	0.000	-3,329.574	-1.438	0.000	1.438	-0.554
30.00	-27.159	-37.733	0.000	0.000	0.000	-3,191.815	-2.080	0.000	2.080	-0.670
35.00	-26.762	-35.887	0.000	0.000	0.000	-3,056.020	-2.845	0.000	2.845	-0.788
40.00	-26.350	-34.077	0.000	0.000	0.000	-2,922.213	-3.734	0.000	3.734	-0.908
45.00	-25.895	-32.329	0.000	0.000	0.000	-2,790.463	-4.750	0.000	4.750	-1.030
45.42	-25.889	-32.160	0.000	0.000	0.000	-2,779.674	-4.840	0.000	4.840	-1.040
50.00	-25.445	-29.324	0.000	0.000	0.000	-2,661.018	-5.895	0.000	5.895	-1.154
52.75	-25.179	-27.645	0.000	0.000	0.000	-2,591.045	-6.580	0.000	6.580	-1.224
55.00	-25.000	-26.998	0.000	0.000	0.000	-2,534.392	-7.171	0.000	7.171	-1.281
60.00	-24.554	-25.617	0.000	0.000	0.000	-2,409.394	-8.592	0.000	8.592	-1.430
65.00	-24.101	-24.266	0.000	0.000	0.000	-2,286.626	-10.171	0.000	10.171	-1.581
70.00	-23.644	-22.945	0.000	0.000	0.000	-2,166.121	-11.909	0.000	11.909	-1.734
75.00	-23.183	-21.655	0.000	0.000	0.000	-2,047.900	-13.807	0.000	13.807	-1.889
80.00	-22.714	-20.402	0.000	0.000	0.000	-1,931.985	-15.869	0.000	15.869	-2.046
84.00	-22.327	-19.434	0.000	0.000	0.000	-1,841.129	-17.637	0.000	17.637	-2.173
85.00	-22.247	-18.987	0.000	0.000	0.000	-1,818.803	-18.096	0.000	18.096	-2.206
90.00	-21.712	-16.943	0.000	0.000	0.000	-1,707.567	-20.492	0.000	20.492	-2.366
90.42	-21.690	-16.746	0.000	0.000	0.000	-1,698.521	-20.699	0.000	20.699	-2.380
95.00	-21.270	-15.905	0.000	0.000	0.000	-1,599.110	-23.057	0.000	23.057	-2.530
100.0	-20.815	-15.006	0.000	0.000	0.000	-1,492.760	-25.815	0.000	25.815	-2.734
105.0	-20.361	-14.131	0.000	0.000	0.000	-1,388.686	-28.788	0.000	28.788	-2.940
110.0	-19.908	-13.280	0.000	0.000	0.000	-1,286.884	-31.977	0.000	31.977	-3.147
115.0	-19.457	-12.454	0.000	0.000	0.000	-1,187.346	-35.383	0.000	35.383	-3.355
120.0	-19.003	-11.662	0.000	0.000	0.000	-1,090.062	-39.006	0.000	39.006	-3.563
123.5	-18.676	-11.116	0.000	0.000	0.000	-1,021.970	-41.737	0.000	41.737	-3.713
125.0	-18.549	-10.725	0.000	0.000	0.000	-995.512	-42.847	0.000	42.847	-3.774
129.0	-18.150	-9.709	0.000	0.000	0.000	-921.315	-46.078	0.000	46.078	-3.940
130.0	-18.082	-9.558	0.000	0.000	0.000	-903.165	-46.908	0.000	46.908	-3.983
135.0	-17.656	-8.975	0.000	0.000	0.000	-812.756	-51.214	0.000	51.214	-4.240
140.0	-17.235	-8.413	0.000	0.000	0.000	-724.475	-55.787	0.000	55.787	-4.492
145.0	-16.818	-7.872	0.000	0.000	0.000	-638.301	-60.620	0.000	60.620	-4.739
150.0	-16.407	-7.353	0.000	0.000	0.000	-554.210	-65.706	0.000	65.706	-4.976
155.0	-16.002	-6.856	0.000	0.000	0.000	-472.175	-71.034	0.000	71.034	-5.202
160.0	-15.602	-6.382	0.000	0.000	0.000	-392.167	-76.591	0.000	76.591	-5.414
165.0	-15.201	-5.953	0.000	0.000	0.000	-314.155	-82.359	0.000	82.359	-5.607
165.2	-15.189	-5.912	0.000	0.000	0.000	-310.355	-82.652	0.000	82.652	-5.617
169.5	-14.821	-5.317	0.000	0.000	0.000	-244.535	-87.813	0.000	87.813	-5.764
170.0	-14.800	-5.267	0.000	0.000	0.000	-238.359	-88.316	0.000	88.316	-5.778
175.0	-10.769	-3.569	0.000	0.000	0.000	-164.361	-94.469	0.000	94.469	-5.975
180.0	-10.407	-3.315	0.000	0.000	0.000	-110.518	-100.802	0.000	100.802	-6.127
185.0	-6.013	-1.741	0.000	0.000	0.000	-58.482	-107.269	0.000	107.269	-6.232
190.0	-5.671	-1.531	0.000	0.000	0.000	-28.417	-113.820	0.000	113.820	-6.294
195.0	-0.064	-0.037	0.000	0.000	0.000	-0.064	-120.416	0.000	120.416	-6.317
196.0	-0.060	0.000	0.000	0.000	0.000	0.000	-121.736	0.000	121.736	-6.317



Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

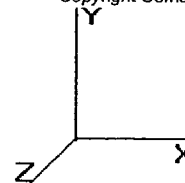
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM

Page: 8

Base Elev : 0.000 (ft)



<b>Load Case:</b> No Ice	80.00 mph Wind with No Ice	26 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Calculated Stresses**

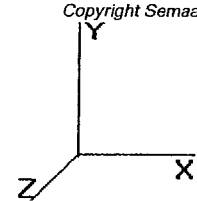
Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.42	0.50	0.00	0.00	0.00	28.18	28.62	52.0	0.0	0.550
5.00	0.41	0.51	0.00	0.00	0.00	28.15	28.57	52.0	0.0	0.549
10.00	0.40	0.51	0.00	0.00	0.00	28.10	28.52	52.0	0.0	0.548
15.00	0.39	0.51	0.00	0.00	0.00	28.05	28.45	52.0	0.0	0.547
20.00	0.38	0.51	0.00	0.00	0.00	27.99	28.38	52.0	0.0	0.546
25.00	0.37	0.52	0.00	0.00	0.00	27.92	28.30	52.0	0.0	0.544
30.00	0.36	0.52	0.00	0.00	0.00	27.84	28.22	52.0	0.0	0.543
35.00	0.35	0.52	0.00	0.00	0.00	27.75	28.11	52.0	0.0	0.541
40.00	0.34	0.52	0.00	0.00	0.00	27.65	28.00	52.0	0.0	0.539
45.00	0.32	0.53	0.00	0.00	0.00	27.53	27.87	52.0	0.0	0.536
45.42	0.32	0.53	0.00	0.00	0.00	27.52	27.86	52.0	0.0	0.536
50.00	0.30	0.53	0.00	0.00	0.00	27.40	27.72	52.0	0.0	0.533
52.75	0.35	0.65	0.00	0.00	0.00	32.53	32.90	52.0	0.0	0.633
55.00	0.35	0.65	0.00	0.00	0.00	32.44	32.81	52.0	0.0	0.631
60.00	0.34	0.65	0.00	0.00	0.00	32.21	32.57	52.0	0.0	0.626
65.00	0.32	0.65	0.00	0.00	0.00	31.97	32.31	52.0	0.0	0.621
70.00	0.31	0.65	0.00	0.00	0.00	31.69	32.03	52.0	0.0	0.616
75.00	0.30	0.66	0.00	0.00	0.00	31.39	31.72	52.0	0.0	0.610
80.00	0.29	0.66	0.00	0.00	0.00	31.07	31.38	52.0	0.0	0.604
84.00	0.28	0.66	0.00	0.00	0.00	30.78	31.09	52.0	0.0	0.598
85.00	0.28	0.66	0.00	0.00	0.00	30.71	31.01	52.0	0.0	0.596
90.00	0.26	0.66	0.00	0.00	0.00	30.32	30.59	52.0	0.0	0.588
90.42	0.33	0.87	0.00	0.00	0.00	38.61	38.97	52.0	0.0	0.749
95.00	0.32	0.87	0.00	0.00	0.00	38.06	38.41	52.0	0.0	0.739
100.00	0.31	0.87	0.00	0.00	0.00	37.41	37.75	52.0	0.0	0.726
105.00	0.30	0.88	0.00	0.00	0.00	36.70	37.03	52.0	0.0	0.712
110.00	0.29	0.88	0.00	0.00	0.00	35.91	36.23	52.0	0.0	0.697
115.00	0.28	0.88	0.00	0.00	0.00	35.03	35.35	52.0	0.0	0.680
120.00	0.27	0.89	0.00	0.00	0.00	34.07	34.37	52.0	0.0	0.661
123.58	0.26	0.89	0.00	0.00	0.00	33.32	33.62	52.0	0.0	0.647
125.00	0.26	0.89	0.00	0.00	0.00	33.01	33.30	52.0	0.0	0.641
129.00	0.31	1.17	0.00	0.00	0.00	41.06	41.42	52.0	0.0	0.797
130.00	0.31	1.17	0.00	0.00	0.00	40.74	41.10	52.0	0.0	0.790
135.00	0.30	1.18	0.00	0.00	0.00	38.99	39.34	52.0	0.0	0.757
140.00	0.29	1.19	0.00	0.00	0.00	37.04	37.38	52.0	0.0	0.719
145.00	0.28	1.20	0.00	0.00	0.00	34.85	35.19	52.0	0.0	0.677
150.00	0.27	1.21	0.00	0.00	0.00	32.39	32.72	52.0	0.0	0.629
155.00	0.26	1.22	0.00	0.00	0.00	29.60	29.94	52.0	0.0	0.576
160.00	0.25	1.24	0.00	0.00	0.00	26.44	26.78	52.0	0.0	0.515
165.00	0.24	1.25	0.00	0.00	0.00	22.85	23.19	52.0	0.0	0.446
165.25	0.24	1.25	0.00	0.00	0.00	22.66	23.00	52.0	0.0	0.442
169.58	0.33	1.86	0.00	0.00	0.00	27.58	28.09	51.7	0.0	0.543
170.00	0.33	1.87	0.00	0.00	0.00	27.06	27.57	51.8	0.0	0.533
175.00	0.23	1.41	0.00	0.00	0.00	20.21	20.59	52.0	0.0	0.396
180.00	0.22	1.42	0.00	0.00	0.00	14.78	15.20	52.0	0.0	0.292
185.00	0.12	0.86	0.00	0.00	0.00	8.53	8.78	52.0	0.0	0.169
190.00	0.11	0.85	0.00	0.00	0.00	4.54	4.88	52.0	0.0	0.094
195.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.0	0.000
196.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	52.0	0.0	0.000

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:29 PM  
 Page: 9



Base Elev : 0.000 (ft)

<b>Load Case: Ice</b>	<b>69.28 mph Wind with Ice</b>	<b>26 Iterations</b>
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Shaft Segment Forces**

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	12.287	20.76	346.40	0.720	0.50	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	12.287	20.76	340.33	0.720	0.50	5.00	25.198	18.14	376.7	184.4	2,180.7
10.00		0.00	1.00	12.287	20.76	334.27	0.720	0.50	5.00	24.760	17.83	370.2	181.1	2,141.8
15.00		0.00	1.00	12.287	20.76	328.21	0.720	0.50	5.00	24.323	17.51	363.7	177.9	2,102.9
20.00		0.00	1.00	12.287	20.76	322.15	0.720	0.50	5.00	23.885	17.20	357.1	174.6	2,064.0
25.00		0.00	1.00	12.287	20.76	316.09	0.720	0.50	5.00	23.448	16.88	350.6	171.4	2,025.2
30.00		0.00	1.00	12.287	20.76	310.02	0.720	0.50	5.00	23.010	16.57	344.0	168.1	1,986.3
35.00		0.00	1.01	12.496	21.11	306.53	0.720	0.50	5.00	22.573	16.25	343.2	164.8	1,947.4
40.00		0.00	1.05	12.982	21.93	306.20	0.720	0.50	5.00	22.135	15.94	349.6	161.6	1,908.5
45.00		0.00	1.09	13.426	22.69	305.06	0.720	0.50	5.00	21.698	15.62	354.5	158.3	1,869.7
45.42	Bot - Section 2	0.00	1.09	13.461	22.74	304.93	0.720	0.50	0.42	1.788	1.29	29.3	13.2	154.2
50.00		0.00	1.12	13.836	23.38	303.25	0.720	0.50	4.58	19.854	14.29	334.3	145.0	2,935.5
52.75	Top - Section 1	0.00	1.14	14.049	23.74	302.02	0.720	0.50	2.75	11.736	8.45	200.6	86.0	1,734.4
55.00		0.00	1.15	14.218	24.02	307.10	0.720	0.50	2.25	9.504	6.84	164.4	69.7	670.4
60.00		0.00	1.18	14.576	24.63	304.34	0.720	0.50	5.00	20.802	14.98	368.9	151.7	1,465.8
65.00		0.00	1.21	14.913	25.20	301.16	0.720	0.50	5.00	20.365	14.66	369.5	148.4	1,434.0
70.00		0.00	1.24	15.232	25.74	297.62	0.720	0.50	5.00	19.927	14.35	369.3	145.1	1,402.3
75.00		0.00	1.26	15.536	26.25	293.75	0.720	0.50	5.00	19.490	14.03	368.4	141.9	1,370.5
80.00		0.00	1.28	15.825	26.74	289.59	0.720	0.50	5.00	19.052	13.72	366.9	138.6	1,338.8
84.00	Bot - Section 3	0.00	1.30	16.047	27.11	286.07	0.720	0.50	4.00	14.927	10.75	291.5	108.8	1,048.4
85.00		0.00	1.31	16.101	27.21	285.17	0.720	0.50	1.00	3.750	2.70	73.5	27.5	437.2
90.00		0.00	1.33	16.366	27.65	280.51	0.720	0.50	5.00	18.490	13.31	368.2	134.4	2,152.8
90.42	Top - Section 2	0.00	1.33	16.388	27.69	280.11	0.720	0.50	0.42	1.521	1.10	30.3	11.2	177.1
95.00		0.00	1.35	16.621	28.09	280.67	0.720	0.50	4.58	16.531	11.90	334.3	120.3	902.1
100.0		0.00	1.37	16.866	28.50	275.63	0.720	0.50	5.00	17.615	12.68	361.5	127.9	960.4
105.0		0.00	1.39	17.103	28.90	270.41	0.720	0.50	5.00	17.177	12.37	357.5	124.7	935.7
110.0		0.00	1.41	17.332	29.29	265.01	0.720	0.50	5.00	16.740	12.05	353.0	121.4	911.1
115.0		0.00	1.42	17.554	29.66	259.45	0.720	0.50	5.00	16.302	11.74	348.2	118.2	886.5
120.0		0.00	1.44	17.768	30.02	253.75	0.720	0.50	5.00	15.865	11.42	343.0	114.9	861.9
123.5	Bot - Section 4	0.00	1.45	17.918	30.28	249.57	0.720	0.50	3.58	11.100	7.99	242.0	80.7	602.8
125.0		0.00	1.46	17.977	30.38	247.90	0.720	0.50	1.42	4.393	3.16	96.1	32.1	390.9
129.0	Top - Section 3	0.00	1.47	18.139	30.65	243.12	0.720	0.50	4.00	12.214	8.79	269.6	88.6	1,085.5
130.0		0.00	1.48	18.179	30.72	245.87	0.720	0.50	1.00	3.010	2.17	66.6	22.0	128.4
135.0		0.00	1.49	18.376	31.05	239.78	0.720	0.50	5.00	14.786	10.65	330.6	106.9	629.0
140.0		0.00	1.51	18.568	31.38	233.58	0.720	0.50	5.00	14.349	10.33	324.2	103.6	609.7
145.0		0.00	1.52	18.755	31.69	227.27	0.720	0.50	5.00	13.911	10.02	317.5	100.4	590.5
150.0		0.00	1.54	18.938	32.00	220.84	0.720	0.50	5.00	13.474	9.70	310.5	97.1	571.2
155.0		0.00	1.55	19.116	32.30	214.32	0.720	0.50	5.00	13.036	9.39	303.2	93.9	551.9
160.0		0.00	1.57	19.290	32.60	207.70	0.720	0.50	5.00	12.599	9.07	295.7	90.6	532.6
165.0		0.00	1.58	19.461	32.88	200.98	0.720	0.50	5.00	12.161	8.76	288.0	87.3	513.3
165.2	Bot - Section 5	0.00	1.58	19.469	32.90	200.65	0.720	0.50	0.25	0.597	0.43	14.1	4.4	25.2
169.5	Top - Section 4	0.00	1.59	19.614	33.14	194.75	0.720	0.50	4.33	10.302	7.42	245.9	74.1	670.8
170.0		0.00	1.59	19.628	33.17	196.92	0.720	0.50	0.42	0.973	0.70	23.2	7.1	29.9
175.0	Appertunance(s)	0.00	1.61	19.791	33.44	190.04	0.720	0.50	5.00	11.443	8.24	275.6	82.0	349.4
180.0		0.00	1.62	19.951	33.71	183.08	0.720	0.50	5.00	11.005	7.92	267.2	78.7	335.4
185.0	Appertunance(s)	0.00	1.63	20.107	33.98	176.05	0.720	0.50	5.00	10.568	7.61	258.6	75.5	321.5
190.0		0.00	1.64	20.261	34.24	168.93	0.720	0.50	5.00	10.130	7.29	249.7	72.2	307.6
195.0	Appertunance(s)	0.00	1.66	20.412	34.49	161.75	0.720	0.50	5.00	9.693	6.98	240.7	69.0	293.6
196.0		0.00	1.66	20.442	34.54	160.30	0.720	0.50	1.00	1.886	1.36	46.9	13.7	57.3
<b>Totals:</b>								<b>196.00</b>				<b>13,108.4</b>	<b>4,971.0</b>	<b>48,602.0</b>

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

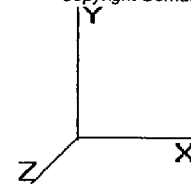
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 10

Base Elev : 0.000 (ft)



**Load Case:** Ice

69.28 mph Wind with Ice

26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Discrete Appurtenance Segment Forces**

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
175.0	DB846H80E-SX	9	19.791	33.446	1.00	59.04	0.000	0.000	1,974.68	0.00	0.00	534.60
175.0	Low Profile Platform	1	19.791	33.446	1.00	27.32	0.000	0.000	913.76	0.00	0.00	2,100.00
185.0	LPA-80063/4CF	6	20.107	33.982	1.00	45.78	0.000	0.000	1,555.68	0.00	0.00	435.60
185.0	LPA 185063/8CF	6	20.107	33.982	1.00	20.88	0.000	0.000	709.54	0.00	0.00	185.58
185.0	Low Profile Platform	1	20.107	33.982	1.00	27.32	0.000	0.000	928.38	0.00	0.00	2,100.00
195.0	VHLP2-18	2	20.412	34.497	1.00	8.60	0.000	0.000	296.67	0.00	0.00	256.00
195.0	XP4-65-R	3	20.412	34.497	1.00	12.09	0.000	0.000	417.06	0.00	0.00	137.07
195.0	DTMA-BRS160	3	20.412	34.497	1.00	2.57	0.000	0.000	88.48	0.00	0.00	48.87
195.0	DB848H90E	9	20.412	34.497	1.00	83.25	0.000	0.000	2,871.85	0.00	0.00	702.00
195.0	13 ft Low Profile pl	1	20.412	34.497	1.00	17.02	0.000	0.000	587.13	0.00	0.00	2,075.00
									10,343.22			8,574.72

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

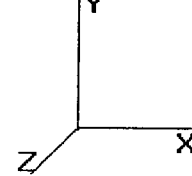
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 11

Base Elev : 0.000 (ft)



**Load Case: Ice**

69.28 mph Wind with Ice

26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Applied Segment Forces Summary**

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	376.74	2,195.15	0.00	0.00
10.00	370.20	2,156.28	0.00	0.00
15.00	363.66	2,117.41	0.00	0.00
20.00	357.11	2,078.53	0.00	0.00
25.00	350.57	2,039.66	0.00	0.00
30.00	344.03	2,000.78	0.00	0.00
35.00	343.21	1,961.91	0.00	0.00
40.00	349.65	1,923.04	0.00	0.00
45.00	354.47	1,884.16	0.00	0.00
45.42	29.29	155.38	0.00	0.00
50.00	334.26	2,948.76	0.00	0.00
52.75	200.63	1,742.41	0.00	0.00
55.00	164.42	676.89	0.00	0.00
60.00	368.95	1,480.27	0.00	0.00
65.00	369.54	1,448.52	0.00	0.00
70.00	369.34	1,416.77	0.00	0.00
75.00	368.42	1,385.02	0.00	0.00
80.00	366.86	1,353.27	0.00	0.00
84.00	291.45	1,060.02	0.00	0.00
85.00	73.48	440.09	0.00	0.00
90.00	368.21	2,167.27	0.00	0.00
90.42	30.33	178.33	0.00	0.00
95.00	334.33	915.38	0.00	0.00
100.0	361.51	974.86	0.00	0.00
105.0	357.48	950.24	0.00	0.00
110.0	353.03	925.61	0.00	0.00
115.0	348.20	900.98	0.00	0.00
120.0	343.00	876.36	0.00	0.00
123.5	242.02	613.24	0.00	0.00
125.0	96.09	395.05	0.00	0.00
129.0	269.59	1,097.13	0.00	0.00
130.0	66.58	131.28	0.00	0.00
135.0	330.63	643.53	0.00	0.00
140.0	324.20	624.24	0.00	0.00
145.0	317.48	604.96	0.00	0.00
150.0	310.49	585.67	0.00	0.00
155.0	303.24	566.39	0.00	0.00
160.0	295.73	547.11	0.00	0.00
165.0	287.98	527.82	0.00	0.00
165.2	14.13	25.96	0.00	0.00
169.5	245.88	683.36	0.00	0.00
170.0	23.25	31.08	0.00	0.00
175.0	3,163.99	2,998.48	0.00	0.00
180.0	267.16	346.64	0.00	0.00
185.0	3,452.15	3,053.87	0.00	0.00
190.0	249.75	313.55	0.00	0.00
195.0	4,501.94	3,518.55	0.00	0.00
196.0	46.91	57.31	0.00	0.00

Pole : CT33XC079  
Location : Torrington, CT  
Height : 196.0 (ft)  
Shape : 16 Sides  
Base Dia : 60.00 (in)  
Top Dia : 21.52 (in)  
Taper : 0.210000 (in/ft)

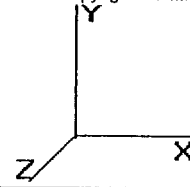
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 12

Base Elev : 0.000 (ft)



**Load Case:** Ice

69.28 mph Wind with Ice

26 Iterations

Gust Response Factor : 1.69  
Dead Load Factor : 1.00  
Wind Load Factor : 1.00

Totals:            23,451.58    57,718.57            0.00            0.00



Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

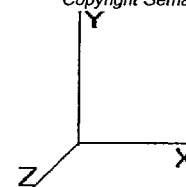
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 13

Base Elev : 0.000 (ft)



**Load Case: Ice**

69.28 mph Wind with Ice

26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Calculated Shaft Forces and Deflections**

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-23.496	-57.700	0.000	0.000	0.000	-3,301.260	0.000	0.000	0.000	0.000
5.00	-23.203	-55.470	0.000	0.000	0.000	-3,183.782	-0.047	0.000	0.047	-0.087
10.00	-22.911	-53.278	0.000	0.000	0.000	-3,067.768	-0.186	0.000	0.186	-0.176
15.00	-22.621	-51.126	0.000	0.000	0.000	-2,953.213	-0.420	0.000	0.420	-0.267
20.00	-22.332	-49.014	0.000	0.000	0.000	-2,840.110	-0.748	0.000	0.748	-0.359
25.00	-22.044	-46.940	0.000	0.000	0.000	-2,728.452	-1.175	0.000	1.175	-0.453
30.00	-21.758	-44.906	0.000	0.000	0.000	-2,618.232	-1.700	0.000	1.700	-0.548
35.00	-21.468	-42.912	0.000	0.000	0.000	-2,509.443	-2.325	0.000	2.325	-0.645
40.00	-21.166	-40.956	0.000	0.000	0.000	-2,402.106	-3.053	0.000	3.053	-0.743
45.00	-20.822	-39.058	0.000	0.000	0.000	-2,296.279	-3.885	0.000	3.885	-0.843
45.42	-20.825	-38.884	0.000	0.000	0.000	-2,287.603	-3.959	0.000	3.959	-0.852
50.00	-20.492	-35.914	0.000	0.000	0.000	-2,192.154	-4.823	0.000	4.823	-0.946
52.75	-20.293	-34.156	0.000	0.000	0.000	-2,135.802	-5.385	0.000	5.385	-1.003
55.00	-20.167	-33.452	0.000	0.000	0.000	-2,090.142	-5.869	0.000	5.869	-1.051
60.00	-19.838	-31.937	0.000	0.000	0.000	-1,989.310	-7.035	0.000	7.035	-1.174
65.00	-19.504	-30.454	0.000	0.000	0.000	-1,890.120	-8.331	0.000	8.331	-1.298
70.00	-19.166	-29.004	0.000	0.000	0.000	-1,792.600	-9.759	0.000	9.759	-1.425
75.00	-18.824	-27.587	0.000	0.000	0.000	-1,696.772	-11.319	0.000	11.319	-1.553
80.00	-18.473	-26.206	0.000	0.000	0.000	-1,602.655	-13.015	0.000	13.015	-1.683
84.00	-18.178	-25.135	0.000	0.000	0.000	-1,528.765	-14.470	0.000	14.470	-1.789
85.00	-18.126	-24.672	0.000	0.000	0.000	-1,510.587	-14.848	0.000	14.848	-1.816
90.00	-17.715	-22.495	0.000	0.000	0.000	-1,419.958	-16.821	0.000	16.821	-1.949
90.42	-17.705	-22.297	0.000	0.000	0.000	-1,412.577	-16.991	0.000	16.991	-1.961
95.00	-17.394	-21.349	0.000	0.000	0.000	-1,331.430	-18.935	0.000	18.935	-2.085
100.0	-17.056	-20.338	0.000	0.000	0.000	-1,244.462	-21.209	0.000	21.209	-2.256
105.0	-16.719	-19.353	0.000	0.000	0.000	-1,159.181	-23.663	0.000	23.663	-2.428
110.0	-16.381	-18.394	0.000	0.000	0.000	-1,075.588	-26.298	0.000	26.298	-2.600
115.0	-16.044	-17.462	0.000	0.000	0.000	-993.684	-29.113	0.000	29.113	-2.774
120.0	-15.701	-16.563	0.000	0.000	0.000	-913.464	-32.111	0.000	32.111	-2.948
123.5	-15.452	-15.939	0.000	0.000	0.000	-857.202	-34.372	0.000	34.372	-3.074
125.0	-15.360	-15.524	0.000	0.000	0.000	-835.312	-35.291	0.000	35.291	-3.125
129.0	-15.052	-14.421	0.000	0.000	0.000	-773.871	-37.968	0.000	37.968	-3.265
130.0	-15.010	-14.260	0.000	0.000	0.000	-758.820	-38.656	0.000	38.656	-3.301
135.0	-14.693	-13.583	0.000	0.000	0.000	-683.771	-42.227	0.000	42.227	-3.517
140.0	-14.377	-12.928	0.000	0.000	0.000	-610.309	-46.023	0.000	46.023	-3.729
145.0	-14.064	-12.295	0.000	0.000	0.000	-538.425	-50.038	0.000	50.038	-3.937
150.0	-13.753	-11.686	0.000	0.000	0.000	-468.107	-54.267	0.000	54.267	-4.137
155.0	-13.445	-11.100	0.000	0.000	0.000	-399.344	-58.700	0.000	58.700	-4.329
160.0	-13.139	-10.538	0.000	0.000	0.000	-332.122	-63.327	0.000	63.327	-4.508
165.0	-12.824	-10.016	0.000	0.000	0.000	-266.427	-68.133	0.000	68.133	-4.671
165.2	-12.820	-9.976	0.000	0.000	0.000	-263.221	-68.378	0.000	68.378	-4.679
169.5	-12.529	-9.301	0.000	0.000	0.000	-207.667	-72.681	0.000	72.681	-4.805
170.0	-12.519	-9.251	0.000	0.000	0.000	-202.447	-73.100	0.000	73.100	-4.816
175.0	-9.127	-6.511	0.000	0.000	0.000	-139.852	-78.234	0.000	78.234	-4.984
180.0	-8.842	-6.172	0.000	0.000	0.000	-94.218	-83.520	0.000	83.520	-5.113
185.0	-5.133	-3.435	0.000	0.000	0.000	-50.008	-88.921	0.000	88.921	-5.203
190.0	-4.858	-3.143	0.000	0.000	0.000	-24.342	-94.394	0.000	94.394	-5.256
195.0	-0.052	-0.053	0.000	0.000	0.000	-0.052	-99.906	0.000	99.906	-5.276
196.0	-0.047	0.000	0.000	0.000	0.000	0.000	-101.009	0.000	101.009	-5.276

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

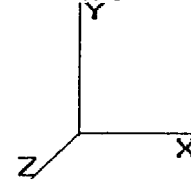
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 14

Base Elev : 0.000 (ft)



**Load Case:** Ice

69.28 mph Wind with Ice

26 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Calculated Stresses**

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.49	0.40	0.00	0.00	0.00	22.98	23.48	52.0	0.0	0.452
5.00	0.48	0.40	0.00	0.00	0.00	22.97	23.46	52.0	0.0	0.451
10.00	0.47	0.41	0.00	0.00	0.00	22.96	23.44	52.0	0.0	0.451
15.00	0.46	0.41	0.00	0.00	0.00	22.94	23.41	52.0	0.0	0.450
20.00	0.45	0.41	0.00	0.00	0.00	22.92	23.37	52.0	0.0	0.450
25.00	0.43	0.41	0.00	0.00	0.00	22.88	23.33	52.0	0.0	0.449
30.00	0.42	0.42	0.00	0.00	0.00	22.84	23.28	52.0	0.0	0.448
35.00	0.41	0.42	0.00	0.00	0.00	22.79	23.21	52.0	0.0	0.446
40.00	0.40	0.42	0.00	0.00	0.00	22.73	23.14	52.0	0.0	0.445
45.00	0.39	0.42	0.00	0.00	0.00	22.66	23.06	52.0	0.0	0.444
45.42	0.39	0.42	0.00	0.00	0.00	22.65	23.05	52.0	0.0	0.443
50.00	0.37	0.43	0.00	0.00	0.00	22.57	22.95	52.0	0.0	0.441
52.75	0.43	0.52	0.00	0.00	0.00	26.82	27.26	52.0	0.0	0.524
55.00	0.43	0.52	0.00	0.00	0.00	26.75	27.20	52.0	0.0	0.523
60.00	0.42	0.53	0.00	0.00	0.00	26.60	27.03	52.0	0.0	0.520
65.00	0.41	0.53	0.00	0.00	0.00	26.42	26.85	52.0	0.0	0.516
70.00	0.40	0.53	0.00	0.00	0.00	26.23	26.64	52.0	0.0	0.512
75.00	0.39	0.53	0.00	0.00	0.00	26.01	26.41	52.0	0.0	0.508
80.00	0.38	0.54	0.00	0.00	0.00	25.77	26.16	52.0	0.0	0.503
84.00	0.37	0.54	0.00	0.00	0.00	25.56	25.95	52.0	0.0	0.499
85.00	0.36	0.54	0.00	0.00	0.00	25.51	25.89	52.0	0.0	0.498
90.00	0.34	0.54	0.00	0.00	0.00	25.21	25.57	52.0	0.0	0.492
90.42	0.44	0.71	0.00	0.00	0.00	32.11	32.57	52.0	0.0	0.626
95.00	0.43	0.71	0.00	0.00	0.00	31.69	32.15	52.0	0.0	0.618
100.00	0.42	0.71	0.00	0.00	0.00	31.19	31.64	52.0	0.0	0.608
105.00	0.41	0.72	0.00	0.00	0.00	30.63	31.07	52.0	0.0	0.598
110.00	0.40	0.72	0.00	0.00	0.00	30.01	30.44	52.0	0.0	0.585
115.00	0.39	0.73	0.00	0.00	0.00	29.32	29.74	52.0	0.0	0.572
120.00	0.38	0.73	0.00	0.00	0.00	28.55	28.96	52.0	0.0	0.557
123.58	0.38	0.74	0.00	0.00	0.00	27.95	28.35	52.0	0.0	0.545
125.00	0.37	0.74	0.00	0.00	0.00	27.70	28.10	52.0	0.0	0.540
129.00	0.46	0.97	0.00	0.00	0.00	34.49	34.99	52.0	0.0	0.673
130.00	0.46	0.97	0.00	0.00	0.00	34.23	34.73	52.0	0.0	0.668
135.00	0.45	0.98	0.00	0.00	0.00	32.80	33.30	52.0	0.0	0.640
140.00	0.44	0.99	0.00	0.00	0.00	31.20	31.69	52.0	0.0	0.609
145.00	0.43	1.00	0.00	0.00	0.00	29.40	29.88	52.0	0.0	0.575
150.00	0.43	1.02	0.00	0.00	0.00	27.35	27.84	52.0	0.0	0.535
155.00	0.42	1.03	0.00	0.00	0.00	25.04	25.52	52.0	0.0	0.491
160.00	0.41	1.04	0.00	0.00	0.00	22.40	22.88	52.0	0.0	0.440
165.00	0.41	1.06	0.00	0.00	0.00	19.38	19.87	52.0	0.0	0.382
165.25	0.41	1.06	0.00	0.00	0.00	19.22	19.71	52.0	0.0	0.379
169.58	0.58	1.58	0.00	0.00	0.00	23.42	24.15	51.7	0.0	0.467
170.00	0.58	1.58	0.00	0.00	0.00	22.98	23.71	51.8	0.0	0.458
175.00	0.42	1.20	0.00	0.00	0.00	17.20	17.74	52.0	0.0	0.341
180.00	0.42	1.21	0.00	0.00	0.00	12.60	13.18	52.0	0.0	0.254
185.00	0.24	0.73	0.00	0.00	0.00	7.30	7.65	52.0	0.0	0.147
190.00	0.23	0.73	0.00	0.00	0.00	3.89	4.31	52.0	0.0	0.083
195.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.0	0.000
196.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	52.0	0.0	0.000

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

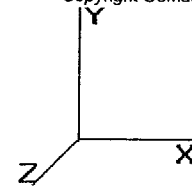
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 15

Base Elev : 0.000 (ft)



**Load Case:** Twist/Sway

50.00 mph Wind with No Ice

25 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Shaft Segment Forces**

Seg Top Elev (ft)	Description	Kz	az (psf)	azGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	6.400	10.81	250.00	0.720	0.00	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	6.400	10.81	245.62	0.720	0.00	5.00	24.781	17.84	193.0	0.0	1,996.3
10.00		0.00	1.00	6.400	10.81	241.25	0.720	0.00	5.00	24.344	17.53	189.6	0.0	1,960.7
15.00		0.00	1.00	6.400	10.81	236.87	0.720	0.00	5.00	23.906	17.21	186.2	0.0	1,925.0
20.00		0.00	1.00	6.400	10.81	232.50	0.720	0.00	5.00	23.469	16.90	182.8	0.0	1,889.4
25.00		0.00	1.00	6.400	10.81	228.12	0.720	0.00	5.00	23.031	16.58	179.4	0.0	1,853.8
30.00		0.00	1.00	6.400	10.81	223.75	0.720	0.00	5.00	22.594	16.27	175.9	0.0	1,818.2
35.00		0.00	1.01	6.509	10.99	221.22	0.720	0.00	5.00	22.156	15.95	175.5	0.0	1,782.6
40.00		0.00	1.05	6.762	11.42	220.99	0.720	0.00	5.00	21.719	15.64	178.7	0.0	1,747.0
45.00		0.00	1.09	6.993	11.81	220.16	0.720	0.00	5.00	21.281	15.32	181.1	0.0	1,711.3
45.42	Bot - Section 2	0.00	1.09	7.011	11.84	220.07	0.720	0.00	0.42	1.754	1.26	15.0	0.0	141.0
50.00		0.00	1.12	7.207	12.17	218.86	0.720	0.00	4.58	19.472	14.02	170.8	0.0	2,790.5
52.75	Top - Section 1	0.00	1.14	7.318	12.36	217.97	0.720	0.00	2.75	11.507	8.28	102.5	0.0	1,648.4
55.00		0.00	1.15	7.406	12.51	221.64	0.720	0.00	2.25	9.316	6.71	84.0	0.0	600.6
60.00		0.00	1.18	7.592	12.83	219.64	0.720	0.00	5.00	20.385	14.68	188.3	0.0	1,314.1
65.00		0.00	1.21	7.768	13.12	217.35	0.720	0.00	5.00	19.948	14.36	188.5	0.0	1,285.6
70.00		0.00	1.24	7.934	13.40	214.79	0.720	0.00	5.00	19.510	14.05	188.4	0.0	1,257.1
75.00		0.00	1.26	8.092	13.67	212.00	0.720	0.00	5.00	19.073	13.73	187.8	0.0	1,228.6
80.00		0.00	1.28	8.242	13.93	209.00	0.720	0.00	5.00	18.635	13.42	186.9	0.0	1,200.1
84.00	Bot - Section 3	0.00	1.30	8.358	14.12	206.46	0.720	0.00	4.00	14.593	10.51	148.4	0.0	939.6
85.00		0.00	1.31	8.387	14.17	205.81	0.720	0.00	1.00	3.667	2.64	37.4	0.0	409.6
90.00		0.00	1.33	8.525	14.40	202.45	0.720	0.00	5.00	18.073	13.01	187.5	0.0	2,018.3
90.42	Top - Section 2	0.00	1.33	8.536	14.42	202.16	0.720	0.00	0.42	1.486	1.07	15.4	0.0	165.9
95.00		0.00	1.35	8.657	14.63	202.56	0.720	0.00	4.58	16.149	11.63	170.1	0.0	781.8
100.0		0.00	1.37	8.785	14.84	198.93	0.720	0.00	5.00	17.198	12.38	183.8	0.0	832.4
105.0		0.00	1.39	8.908	15.05	195.16	0.720	0.00	5.00	16.760	12.07	181.7	0.0	811.1
110.0		0.00	1.41	9.028	15.25	191.26	0.720	0.00	5.00	16.323	11.75	179.3	0.0	789.7
115.0		0.00	1.42	9.143	15.45	187.25	0.720	0.00	5.00	15.885	11.44	176.7	0.0	768.3
120.0		0.00	1.44	9.255	15.64	183.13	0.720	0.00	5.00	15.448	11.12	174.0	0.0	747.0
123.5	Bot - Section 4	0.00	1.45	9.333	15.77	180.12	0.720	0.00	3.58	10.802	7.78	122.7	0.0	522.2
125.0		0.00	1.46	9.363	15.82	178.91	0.720	0.00	1.42	4.275	3.08	48.7	0.0	358.8
129.0	Top - Section 3	0.00	1.47	9.448	15.96	175.46	0.720	0.00	4.00	11.881	8.55	136.6	0.0	996.9
130.0		0.00	1.48	9.469	16.00	177.44	0.720	0.00	1.00	2.926	2.11	33.7	0.0	106.4
135.0		0.00	1.49	9.572	16.17	173.05	0.720	0.00	5.00	14.370	10.35	167.4	0.0	522.1
140.0		0.00	1.51	9.672	16.34	168.58	0.720	0.00	5.00	13.932	10.03	164.0	0.0	506.1
145.0		0.00	1.52	9.769	16.51	164.02	0.720	0.00	5.00	13.495	9.72	160.4	0.0	490.1
150.0		0.00	1.54	9.864	16.67	159.38	0.720	0.00	5.00	13.057	9.40	156.7	0.0	474.1
155.0		0.00	1.55	9.957	16.82	154.67	0.720	0.00	5.00	12.620	9.09	152.9	0.0	458.0
160.0		0.00	1.57	10.048	16.98	149.90	0.720	0.00	5.00	12.182	8.77	148.9	0.0	442.0
165.0		0.00	1.58	10.136	17.13	145.05	0.720	0.00	5.00	11.745	8.46	144.9	0.0	426.0
165.2	Bot - Section 5	0.00	1.58	10.141	17.13	144.81	0.720	0.00	0.25	0.576	0.41	7.1	0.0	20.9
169.5	Top - Section 4	0.00	1.59	10.216	17.26	140.55	0.720	0.00	4.33	9.941	7.16	123.6	0.0	596.7
170.0		0.00	1.59	10.223	17.27	142.12	0.720	0.00	0.42	0.939	0.68	11.7	0.0	22.8
175.0	Appertunance(s)	0.00	1.61	10.308	17.42	137.15	0.720	0.00	5.00	11.026	7.94	138.3	0.0	267.4
180.0		0.00	1.62	10.392	17.56	132.13	0.720	0.00	5.00	10.589	7.62	133.9	0.0	256.7
185.0	Appertunance(s)	0.00	1.63	10.473	17.70	127.05	0.720	0.00	5.00	10.151	7.31	129.4	0.0	246.0
190.0		0.00	1.64	10.553	17.83	121.92	0.720	0.00	5.00	9.714	6.99	124.7	0.0	235.3
195.0	Appertunance(s)	0.00	1.66	10.632	17.96	116.73	0.720	0.00	5.00	9.276	6.68	120.0	0.0	224.6
196.0		0.00	1.66	10.648	17.99	115.69	0.720	0.00	1.00	1.803	1.30	23.4	0.0	43.6
Totals:								196.00			6,657.3	0.0	43,631.0	

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

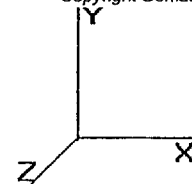
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 16

Base Elev : 0.000 (ft)



**Load Case:** Twist/Sway      50.00 mph Wind with No Ice      25 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Discrete Appurtenance Segment Forces**

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
175.0	DB846H80E-SX	9	10.308	17.421	1.00	52.83	0.000	0.000	920.35	0.00	0.00	189.00
175.0	Low Profile Platform	1	10.308	17.421	1.00	25.55	0.000	0.000	445.11	0.00	0.00	1,600.00
185.0	LPA-80063/4CF	6	10.473	17.700	1.00	42.06	0.000	0.000	744.45	0.00	0.00	120.00
185.0	LPA 185063/8CF	6	10.473	17.700	1.00	17.82	0.000	0.000	315.41	0.00	0.00	54.00
185.0	Low Profile Platform	1	10.473	17.700	1.00	25.55	0.000	0.000	452.23	0.00	0.00	1,600.00
195.0	VHLP2-18	2	10.632	17.968	1.00	7.92	0.000	0.000	142.31	0.00	0.00	180.00
195.0	XP4-65-R	3	10.632	17.968	1.00	10.44	0.000	0.000	187.64	0.00	0.00	60.00
195.0	DTMA-BRS160	3	10.632	17.968	1.00	1.99	0.000	0.000	35.79	0.00	0.00	33.00
195.0	DB848H90E	9	10.632	17.968	1.00	75.24	0.000	0.000	1,351.90	0.00	0.00	252.00
195.0	13 ft Low Profile pl	1	10.632	17.968	1.00	15.30	0.000	0.000	274.91	0.00	0.00	1,346.00
									4,870.11			5,434.00

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

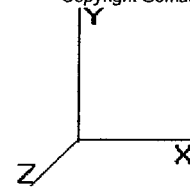
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 17

Base Elev : 0.000 (ft)



<b>Load Case:</b> Twist/Sway	50.00 mph Wind with No Ice	25 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Applied Segment Forces Summary**

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	192.98	2,010.78	0.00	0.00
10.00	189.58	1,975.16	0.00	0.00
15.00	186.17	1,939.54	0.00	0.00
20.00	182.76	1,903.92	0.00	0.00
25.00	179.36	1,868.31	0.00	0.00
30.00	175.95	1,832.69	0.00	0.00
35.00	175.47	1,797.07	0.00	0.00
40.00	178.69	1,761.45	0.00	0.00
45.00	181.08	1,725.84	0.00	0.00
45.42	14.96	142.21	0.00	0.00
50.00	170.75	2,803.77	0.00	0.00
52.75	102.46	1,656.40	0.00	0.00
55.00	83.95	607.17	0.00	0.00
60.00	188.32	1,328.62	0.00	0.00
65.00	188.54	1,300.12	0.00	0.00
70.00	188.35	1,271.63	0.00	0.00
75.00	187.80	1,243.13	0.00	0.00
80.00	186.90	1,214.64	0.00	0.00
84.00	148.42	951.20	0.00	0.00
85.00	37.42	412.55	0.00	0.00
90.00	187.47	2,032.83	0.00	0.00
90.42	15.44	167.15	0.00	0.00
95.00	170.12	795.13	0.00	0.00
100.0	183.84	846.93	0.00	0.00
105.0	181.68	825.56	0.00	0.00
110.0	179.30	804.19	0.00	0.00
115.0	176.73	782.82	0.00	0.00
120.0	173.96	761.45	0.00	0.00
123.5	122.67	532.56	0.00	0.00
125.0	48.71	362.92	0.00	0.00
129.0	136.59	1,008.50	0.00	0.00
130.0	33.72	109.25	0.00	0.00
135.0	167.36	536.65	0.00	0.00
140.0	163.96	520.62	0.00	0.00
145.0	160.41	504.59	0.00	0.00
150.0	156.72	488.56	0.00	0.00
155.0	152.90	472.53	0.00	0.00
160.0	148.94	456.51	0.00	0.00
165.0	144.86	440.48	0.00	0.00
165.2	7.10	21.60	0.00	0.00
169.5	123.58	609.24	0.00	0.00
170.0	11.68	23.97	0.00	0.00
175.0	1,503.76	2,070.89	0.00	0.00
180.0	133.89	267.90	0.00	0.00
185.0	1,641.46	2,031.21	0.00	0.00
190.0	124.73	241.33	0.00	0.00
195.0	2,112.56	2,101.64	0.00	0.00
196.0	23.36	43.65	0.00	0.00



Pole : CT33XC079  
Location : Torrington, CT  
Height : 196.0 (ft)  
Shape : 16 Sides  
Base Dia : 60.00 (in)  
Top Dia : 21.52 (in)  
Taper : 0.210000 (in/ft)

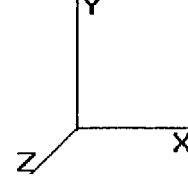
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 18

Base Elev : 0.000 (ft)



<b>Load Case:</b> Twist/Sway	50.00 mph Wind with No Ice	25 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Totals: 11,527.42 49,606.85 0.00 0.00

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

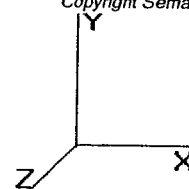
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 19

Base Elev : 0.000 (ft)



**Load Case: Twist/Sway**

50.00 mph Wind with No Ice

25 Iterations

Gust Response Factor : 1.69  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Calculated Shaft Forces and Deflections**

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-11.545	-49.602	0.000	0.000	0.000	-1,583.182	0.000	0.000	0.000	0.000
5.00	-11.387	-47.583	0.000	0.000	0.000	-1,525.457	-0.022	0.000	0.022	-0.042
10.00	-11.229	-45.600	0.000	0.000	0.000	-1,468.525	-0.089	0.000	0.089	-0.085
15.00	-11.073	-43.652	0.000	0.000	0.000	-1,412.381	-0.201	0.000	0.201	-0.128
20.00	-10.917	-41.741	0.000	0.000	0.000	-1,357.019	-0.359	0.000	0.359	-0.172
25.00	-10.763	-39.864	0.000	0.000	0.000	-1,302.434	-0.562	0.000	0.562	-0.217
30.00	-10.610	-38.024	0.000	0.000	0.000	-1,248.621	-0.814	0.000	0.814	-0.262
35.00	-10.455	-36.219	0.000	0.000	0.000	-1,195.575	-1.113	0.000	1.113	-0.308
40.00	-10.294	-34.450	0.000	0.000	0.000	-1,143.303	-1.461	0.000	1.461	-0.355
45.00	-10.116	-32.721	0.000	0.000	0.000	-1,091.833	-1.858	0.000	1.858	-0.403
45.42	-10.114	-32.575	0.000	0.000	0.000	-1,087.618	-1.893	0.000	1.893	-0.407
50.00	-9.941	-29.766	0.000	0.000	0.000	-1,041.262	-2.306	0.000	2.306	-0.451
52.75	-9.837	-28.107	0.000	0.000	0.000	-1,013.924	-2.574	0.000	2.574	-0.479
55.00	-9.768	-27.493	0.000	0.000	0.000	-991.790	-2.805	0.000	2.805	-0.501
60.00	-9.594	-26.157	0.000	0.000	0.000	-942.952	-3.361	0.000	3.361	-0.560
65.00	-9.418	-24.849	0.000	0.000	0.000	-894.983	-3.979	0.000	3.979	-0.619
70.00	-9.240	-23.570	0.000	0.000	0.000	-847.895	-4.659	0.000	4.659	-0.678
75.00	-9.060	-22.319	0.000	0.000	0.000	-801.696	-5.402	0.000	5.402	-0.739
80.00	-8.878	-21.099	0.000	0.000	0.000	-756.394	-6.208	0.000	6.208	-0.800
84.00	-8.727	-20.145	0.000	0.000	0.000	-720.884	-6.900	0.000	6.900	-0.850
85.00	-8.696	-19.727	0.000	0.000	0.000	-712.158	-7.080	0.000	7.080	-0.863
90.00	-8.487	-17.693	0.000	0.000	0.000	-668.677	-8.018	0.000	8.018	-0.926
90.42	-8.479	-17.521	0.000	0.000	0.000	-665.141	-8.099	0.000	8.099	-0.931
95.00	-8.316	-16.719	0.000	0.000	0.000	-626.279	-9.022	0.000	9.022	-0.990
100.00	-8.139	-15.864	0.000	0.000	0.000	-584.700	-10.101	0.000	10.101	-1.070
105.00	-7.963	-15.031	0.000	0.000	0.000	-544.004	-11.265	0.000	11.265	-1.151
110.00	-7.787	-14.219	0.000	0.000	0.000	-504.190	-12.514	0.000	12.514	-1.232
115.00	-7.612	-13.430	0.000	0.000	0.000	-465.256	-13.848	0.000	13.848	-1.313
120.00	-7.436	-12.664	0.000	0.000	0.000	-427.196	-15.267	0.000	15.267	-1.395
123.50	-7.308	-12.129	0.000	0.000	0.000	-400.552	-16.336	0.000	16.336	-1.454
125.00	-7.260	-11.762	0.000	0.000	0.000	-390.199	-16.771	0.000	16.771	-1.477
129.00	-7.104	-10.752	0.000	0.000	0.000	-361.160	-18.037	0.000	18.037	-1.543
130.00	-7.079	-10.637	0.000	0.000	0.000	-354.056	-18.362	0.000	18.362	-1.559
135.00	-6.914	-10.093	0.000	0.000	0.000	-318.664	-20.049	0.000	20.049	-1.660
140.00	-6.751	-9.566	0.000	0.000	0.000	-284.095	-21.841	0.000	21.841	-1.759
145.00	-6.590	-9.056	0.000	0.000	0.000	-250.341	-23.736	0.000	23.736	-1.856
150.00	-6.430	-8.562	0.000	0.000	0.000	-217.393	-25.730	0.000	25.730	-1.949
155.00	-6.273	-8.086	0.000	0.000	0.000	-185.242	-27.819	0.000	27.819	-2.038
160.00	-6.118	-7.627	0.000	0.000	0.000	-153.876	-29.998	0.000	29.998	-2.121
165.00	-5.962	-7.188	0.000	0.000	0.000	-123.283	-32.260	0.000	32.260	-2.196
165.20	-5.958	-7.163	0.000	0.000	0.000	-121.793	-32.375	0.000	32.375	-2.200
169.50	-5.814	-6.556	0.000	0.000	0.000	-95.975	-34.400	0.000	34.400	-2.258
170.00	-5.807	-6.528	0.000	0.000	0.000	-93.552	-34.597	0.000	34.597	-2.264
175.00	-4.226	-4.515	0.000	0.000	0.000	-64.518	-37.011	0.000	37.011	-2.341
180.00	-4.085	-4.249	0.000	0.000	0.000	-43.387	-39.496	0.000	39.496	-2.400
185.00	-2.361	-2.288	0.000	0.000	0.000	-22.960	-42.034	0.000	42.034	-2.442
190.00	-2.226	-2.051	0.000	0.000	0.000	-11.157	-44.605	0.000	44.605	-2.466
195.00	-0.025	-0.043	0.000	0.000	0.000	-0.025	-47.193	0.000	47.193	-2.475
196.00	-0.023	0.000	0.000	0.000	0.000	0.000	-47.712	0.000	47.712	-2.475

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

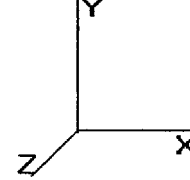
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:30 PM

Page: 20

Base Elev : 0.000 (ft)



<b>Load Case:</b> Twist/Sway	50.00 mph Wind with No Ice	25 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

**Calculated Stresses**

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.42	0.20	0.00	0.00	0.00	11.02	11.45	52.0	0.0	0.220
5.00	0.41	0.20	0.00	0.00	0.00	11.01	11.42	52.0	0.0	0.220
10.00	0.40	0.20	0.00	0.00	0.00	10.99	11.40	52.0	0.0	0.219
15.00	0.39	0.20	0.00	0.00	0.00	10.97	11.37	52.0	0.0	0.219
20.00	0.38	0.20	0.00	0.00	0.00	10.95	11.33	52.0	0.0	0.218
25.00	0.37	0.20	0.00	0.00	0.00	10.92	11.30	52.0	0.0	0.217
30.00	0.36	0.20	0.00	0.00	0.00	10.89	11.26	52.0	0.0	0.217
35.00	0.35	0.20	0.00	0.00	0.00	10.86	11.21	52.0	0.0	0.216
40.00	0.34	0.20	0.00	0.00	0.00	10.82	11.16	52.0	0.0	0.215
45.00	0.33	0.21	0.00	0.00	0.00	10.77	11.11	52.0	0.0	0.214
45.42	0.33	0.21	0.00	0.00	0.00	10.77	11.10	52.0	0.0	0.214
50.00	0.31	0.21	0.00	0.00	0.00	10.72	11.03	52.0	0.0	0.212
52.75	0.36	0.25	0.00	0.00	0.00	12.73	13.09	52.0	0.0	0.252
55.00	0.35	0.25	0.00	0.00	0.00	12.69	13.05	52.0	0.0	0.251
60.00	0.34	0.25	0.00	0.00	0.00	12.61	12.96	52.0	0.0	0.249
65.00	0.33	0.25	0.00	0.00	0.00	12.51	12.85	52.0	0.0	0.247
70.00	0.32	0.26	0.00	0.00	0.00	12.41	12.74	52.0	0.0	0.245
75.00	0.31	0.26	0.00	0.00	0.00	12.29	12.61	52.0	0.0	0.243
80.00	0.30	0.26	0.00	0.00	0.00	12.16	12.47	52.0	0.0	0.240
84.00	0.29	0.26	0.00	0.00	0.00	12.05	12.36	52.0	0.0	0.238
85.00	0.29	0.26	0.00	0.00	0.00	12.03	12.32	52.0	0.0	0.237
90.00	0.27	0.26	0.00	0.00	0.00	11.87	12.15	52.0	0.0	0.234
90.42	0.35	0.34	0.00	0.00	0.00	15.12	15.47	52.0	0.0	0.298
95.00	0.34	0.34	0.00	0.00	0.00	14.91	15.26	52.0	0.0	0.293
100.00	0.33	0.34	0.00	0.00	0.00	14.65	14.99	52.0	0.0	0.288
105.00	0.32	0.34	0.00	0.00	0.00	14.38	14.71	52.0	0.0	0.283
110.00	0.31	0.34	0.00	0.00	0.00	14.07	14.39	52.0	0.0	0.277
115.00	0.30	0.35	0.00	0.00	0.00	13.73	14.04	52.0	0.0	0.270
120.00	0.29	0.35	0.00	0.00	0.00	13.35	13.66	52.0	0.0	0.263
123.58	0.29	0.35	0.00	0.00	0.00	13.06	13.36	52.0	0.0	0.257
125.00	0.28	0.35	0.00	0.00	0.00	12.94	13.23	52.0	0.0	0.255
129.00	0.34	0.46	0.00	0.00	0.00	16.09	16.46	52.0	0.0	0.317
130.00	0.34	0.46	0.00	0.00	0.00	15.97	16.33	52.0	0.0	0.314
135.00	0.33	0.46	0.00	0.00	0.00	15.29	15.64	52.0	0.0	0.301
140.00	0.33	0.47	0.00	0.00	0.00	14.52	14.87	52.0	0.0	0.286
145.00	0.32	0.47	0.00	0.00	0.00	13.67	14.01	52.0	0.0	0.269
150.00	0.31	0.47	0.00	0.00	0.00	12.70	13.04	52.0	0.0	0.251
155.00	0.31	0.48	0.00	0.00	0.00	11.61	11.95	52.0	0.0	0.230
160.00	0.30	0.49	0.00	0.00	0.00	10.38	10.71	52.0	0.0	0.206
165.00	0.29	0.49	0.00	0.00	0.00	8.97	9.30	52.0	0.0	0.179
165.25	0.29	0.49	0.00	0.00	0.00	8.89	9.22	52.0	0.0	0.177
169.58	0.41	0.73	0.00	0.00	0.00	10.82	11.30	51.7	0.0	0.219
170.00	0.41	0.73	0.00	0.00	0.00	10.62	11.10	51.8	0.0	0.214
175.00	0.29	0.55	0.00	0.00	0.00	7.94	8.28	52.0	0.0	0.159
180.00	0.29	0.56	0.00	0.00	0.00	5.80	6.17	52.0	0.0	0.119
185.00	0.16	0.34	0.00	0.00	0.00	3.35	3.56	52.0	0.0	0.068
190.00	0.15	0.33	0.00	0.00	0.00	1.78	2.02	52.0	0.0	0.039
195.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	52.0	0.0	0.000
196.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	52.0	0.0	0.000

Pole : CT33XC079  
 Location : Torrington, CT  
 Height : 196.0 (ft)  
 Shape : 16 Sides  
 Base Dia : 60.00 (in)  
 Top Dia : 21.52 (in)  
 Taper : 0.210000 (in/ft)

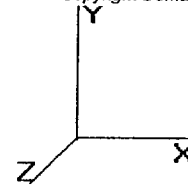
Code: TIA/EIA-222 Rev F

Copyright Semaan Engineering Solutions, Inc

3/17/2008 3:51:31 PM

Page: 21

Base Elev : 0.000 (ft)



### Analysis Summary

Load Case	Reactions						Max Stresses			
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	29.6	0.00	49.58	0.00	0.00	4048.31	41.42	52.0	129.00	0.797
Ice	23.5	0.00	57.70	0.00	0.00	3301.26	34.99	52.0	129.00	0.673
Twist/Sway	11.5	0.00	49.60	0.00	0.00	1583.18	16.46	52.0	129.00	0.317