EM-SPRINT-077-130528

HPC Wireless Services
22 Shelter Rock Lane.
Building C
Danbury, CT, 06810
P.: 203.797.1112

May 24, 2013

ORIGINAL

VIA OVERNIGHT COURIER

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Ms. Melanie Bachman, Acting Executive Director

Re: Sprint Spectrum, L.P. – exempt modification
595 Keeney Street, Manchester, Connecticut

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Sprint Spectrum, L.P. ("Sprint"). Sprint is undertaking modifications to certain existing sites in its Connecticut system in order to implement updated technology. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the Mayor of the Town of Manchester.

Sprint plans to modify the existing wireless communications facility owned by The Connecticut Light and Power Company and located at 595 Keeney Street, Manchester (coordinates 41°-44'-35" N, 72°-32'-5.8 W"). Attached are plan and elevation drawings depicting the planned changes, and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration. Also included is a power density report reflecting the modification to Sprint's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. Sprint will remove the existing three (3) CMDA antennas and add three (3) dual-band panel LTE antennas to new pipe masts at a centerline height of approximately 116'. The proposed modifications will not extend the height of the approximately 120' structure.

2. Sprint will remove and replace one (1) of two (2) existing cabinets mounted on the existing concrete pad and will retrofit a second existing cabinet. Sprint will also install an H-frame on the existing concrete pad to which a fiber/power distribution box and six (6) RRHs (remote radio heads) will be attached, all mounted on a new ground frame on the existing concrete pad. The existing GPS antenna will be replaced by another GPS antenna. These changes will have no effect on the site boundaries. .

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached report prepared by EBI Consulting, Sprint's operations at the site will result in a power density of approximately 24.674%; no other carriers are present at this location.

Please feel free to contact me by phone at (860) 798-7454 or by e-mail at jgaudet@hpcwireless.com with questions concerning this matter. Thank you for your consideration.

Respectfully yours,

Jennifer Young Gaudet

Attachments

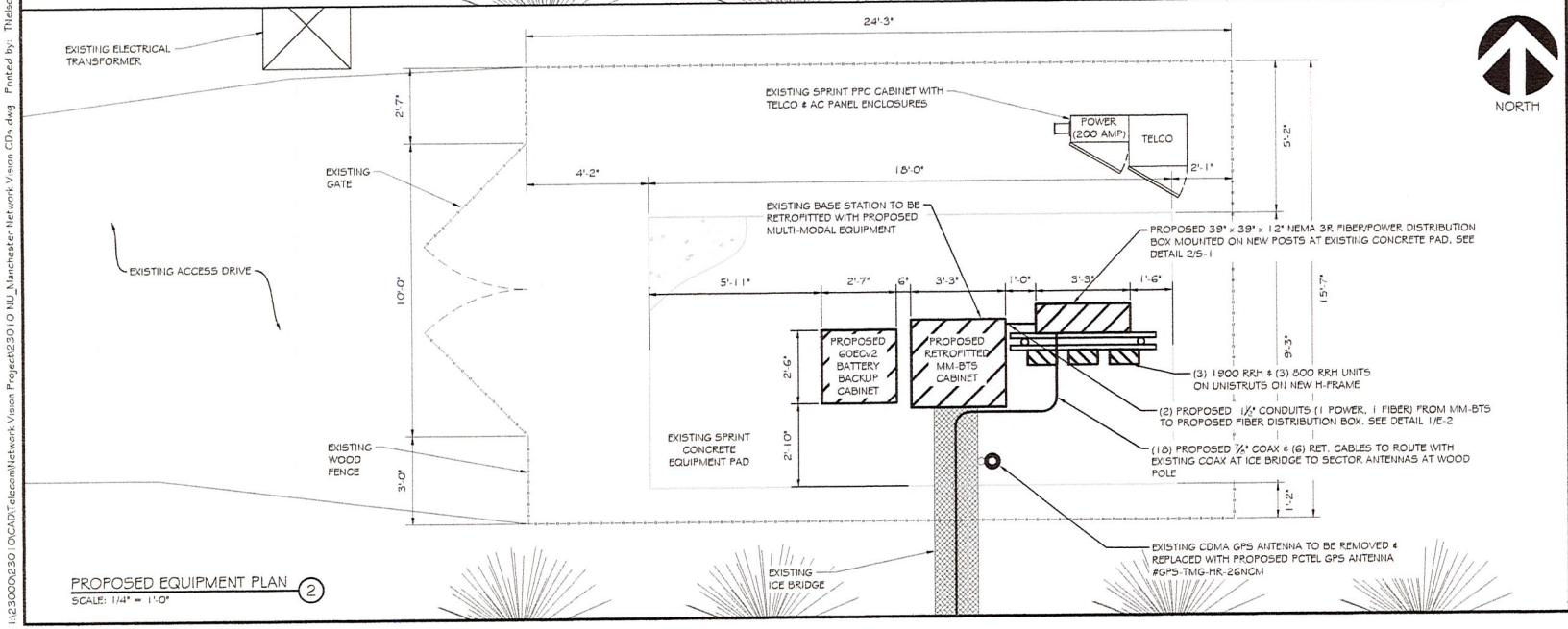
cc: Honorable Leo V. Diana, Mayor, Town of Manchester
The Connecticut Light & Power Company (underlying property owner)

DRAWN BY: TDN CHECKED BY: KAS

I:\23000\230\10\CAD\Telecom\Network Vision Project\23010 NU_Manchester Network Vision CDs.dwg Printed by: Thelson on May 14, 2013 - 2:36pm

EXISTING 4.0 CABINET TO BE RETROFITTED WITH PROPOSED EQUIPMENT

EXISTING EQUIPMENT PLAN (1)
SCALE: 1/4" = 1'-0"



PROPOSED EQUIPMENT PLAN (2)
SCALE: 1/4" = 1'-0"

Sprint
6391 Sprint Parkway
Overland Park, KS 66251

Alcatel·Lucent

RAMAKER & ASSOCIATES, INC.
1120 Dallas Street, Sauk City, WI 53583
Phone: 608-643-4100 Fax: 608-643-7999
www.Ramaker.com

NETWORK VISION MMBTS LAUNCH NORTHERN CT MARKET

Certification # Seal:

MARK	DATE	DESCRIPTION
C	5/14/13	RAD CENTER CHANGE
B	4/15/13	REVISED, 90% CD REVIEW
A	2/07/13	30% CD REVIEW

ISSUE PHASE: PRELIMINARY FINAL — DATE ISSUED: 05/14/2013

PROJECT TITLE:
NU/MANCHESTER
SITE #: CT33XC538

PROJECT INFORMATION:
595 KEENEY ST.
MANCHESTER, CT 06040
HARTFORD COUNTY

SHEET TITLE:
EQUIPMENT PLAN

0 2' 4' 8'
11" x 17" - 1/4" = 1'
22" x 34" - 1/2" = 1'

PROJECT NUMBER: 23010
SHEET NUMBER: A-1

DRAWN BY: TDN
CHECKED BY: KAB

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NOTES:

I. SCOPE

A. THIS SECTION COVERS THE SPECIFICATIONS FOR ANTENNA AND COAXIAL CABLE INSTALLATION OF: ANTENNAS, COAXIAL, CONNECTIONS, AND ICE BRIDGE.

B. REFERENCE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES FOR GENERAL REQUIREMENTS.

II. ANTENNAS:

A. ANTENNAS SHALL BE PLUMB AND INSTALLED SO THAT THE ENTIRE WHIP EXTENDS ABOVE VERTICAL PIPE MOUNT. DIRECTIONAL ANTENNAS SHALL BE ORIENTED TO PROPER AZIMUTH, PROVIDED ON THE RF SPECIFICATION SHEET. NOTE: THE ANTENNA MAY BE ORIENTED USING THE REFLECTOR AS THE REFERENCE, ADJUSTING ITS AZIMUTH 180 DEGREES FROM MAXIMUM ANTENNA RADIATION.

B. MICROWAVE ANTENNAS (DISHES) SHALL BE ASSEMBLED PER MANUFACTURER'S DRAWINGS. STIFF ARMS AND RADOMES SHALL BE INSTALLED WITH POLARIZATION PROVIDED BY RF SPECIFICATION SHEET. IF PATH IS NOT READY TO ALIGN, DISH SHOULD BE POINTED TOWARD CALCULATED AZIMUTH, OR DIRECTION OF FIELD STAKE DENOTING OPPOSITE END. 2 STIFF ARMS SHALL BE PROVIDED FOR MICROWAVE DISHES 6'-0" IN DIAMETER OR GREATER.

C. A TRANSIT SHALL BE USED TO PROPERLY ALIGN CELLULAR AND MICROWAVE ANTENNAS.

III. COAXIAL CABLE:

A. COAXIAL CABLE SHALL BE SUPPORTED WITH SNAP-IN HANGERS. SNAP-IN HANGERS SHOULD BE USED EVERY 3 FEET THE ENTIRE HEIGHT OF THE TOWER. ANGLE ADAPTERS OR ROUND MEMBER ADAPTERS WITH BUTTERFLY CLAMPS SHALL BE USED ELSEWHERE, I.E. SIDEARMS, PLATFORMS, AND MICROWAVE MOUNTS.

B. COAXIAL CABLE SHALL ALSO BE SUPPORTED WITH HOISTING GRIPS, INSTALLED AT MAXIMUM INTERVALS OF 200 FEET. HOISTING GRIPS SHALL BE ATTACHED WITH SHACKLES, BOLTED IN THE 7/8" HOLE OF WAVEGUIDE LADDER.

C. ALL JUMPERS USED BETWEEN COAXIAL CABLE AND ANTENNA SHALL BE SUPPORTED WITHIN 18 INCHES OF ANTENNA, USING BUTTERFLY CLAMPS WITH ANGLE ADAPTERS OR ROUND MEMBER ADAPTERS AROUND PIPES. CELLULAR ANTENNAS TYPICALLY USE 6' JUMPERS; MICROWAVE DISHES USE 3' JUMPERS.

D. COAXIAL CABLE SHALL BE NEATLY BENT WHEN REQUIRED, USING A MINIMUM BENDING RADIUS OF 10 TIMES THE DIAMETER OF THE COAXIAL CABLE. DRIP LOOPS SHOULD BEGIN AT THE ICE BRIDGE. THE END IN THE COAXIAL CABLE SHOULD BE AT A LOWER HEIGHT THAN THE ENTRY PORT.

E. COAXIAL CABLE SHALL BE SUPPORTED WITH SNAP-IN HANGERS ON THE WAVEGUIDE LADDER UNDER ICE BRIDGE. COAXIAL CABLE SHOULD BE NEATLY CUT 16" INSIDE BUILDING AND TERMINATED AT THE QUARTER WAVE SHORTS.

F. CONNECTORS WILL NORMALLY BE PROVIDED FIRST OFF REEL FROM FACTORY. CONNECTORS TERMINATED IN BUILDING SHALL BE NEATLY INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

G. COAXIAL CABLES SHOULD BE LABELED WITH TAGS INSIDE THE BUILDING.

H. USE 2" WIDE COLORED TAPE TO INDICATE SECTORS. CONTRACTOR TO USE SECTOR COLOR CODING AS INDICATED IN THESE DRAWINGS OR AS PROVIDED BY SPRINT.

I. ALL EXCEPTIONS NEED TO BE VERIFIED WITH THE PROJECT MANAGER.

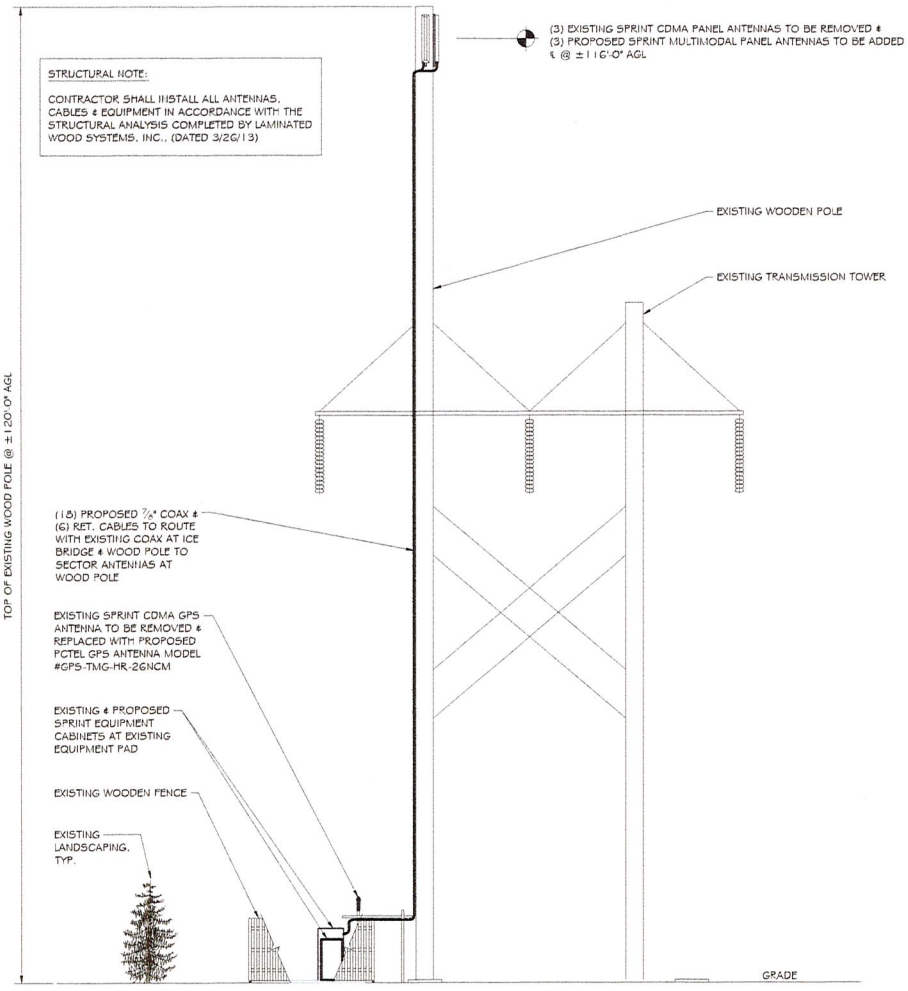
IV. CONNECTORS:

A. ALL CONNECTIONS AND GROUNDING KITS SHALL BE WEATHERPROOFED USING COLD SHRINK OR ANDREW APPROVED WEATHER STRIPPING. (NOTE: NO PORTION OF CONNECTOR SHALL BE EXPOSED TO THE ELEMENTS.

B. COAXIAL CABLE SHALL BE GROUNDED USING GROUNDING KITS AT THE TOP (BELOW THE BEND), BOTTOM (ABOVE THE BEND ON TOWER GROUND BAR), AND ON BUILDING GROUND BAR BEFORE ENTRY INTO WAVEGUIDE PORTS. 4" CABLE BOOTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

C. GROUNDING KITS SHALL BE NEATLY INSTALLED SO THAT THE JUMPER RUNS IN THE SAME DIRECTION AS THE COAXIAL AND GROUND BAR. JUMPER WIRE SHOULD RUN IN A DIRECT PATH TO THE GROUND BAR/ TOWER LADDER, BUT HAVE ADEQUATE SLACK FOR EXPANSION, CONTRACTION, AND REPAIR. NON-OXIDE GREASE SHOULD BE APPLIED BETWEEN LUG AND BAR/TOWER.

D. TOWER GROUND BAR SHALL BE INSTALLED ON THE ANGLE BEHIND THE FIRST DIAGONAL WAVEGUIDE LADDER RUNG, ABOVE 8'-6". GROUND BAR SHALL BE ISOLATED FROM ANGLE USING NEWTON BUSHINGS PROVIDED.



ELEVATION
SCALE: 1"= 15'-0"

Sprint
6391 Sprint Parkway
Overland Park, KS 66251

Alcatel·Lucent

RAMAKER & ASSOCIATES, INC.
1120 Dallas Street, Sauk City, WI 53583
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NETWORK VISION
MMBTS LAUNCH
NORTHERN CT MARKET

Certification & Seal:

MARK	DATE	DESCRIPTION
C	5/14/13	RAD CENTER CHANGE
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ISSUE PHASE: PRELIMINARY FINAL
DATE ISSUED: 05/14/2013

PROJECT TITLE:
NU/MANCHESTER
SITE #: CT33XC538

PROJECT INFORMATION
595 KEENEY ST.
MANCHESTER, CT 06040
HARTFORD COUNTY

SHEET TITLE:
SITE ELEVATION & NOTES

0 7.5' 15' 30'
11" x 17" - 1" = 15'
22" x 34" - 1" = 7.5'

PROJECT NUMBER: 23010
SHEET NUMBER: A-2

Matthew J. Young – Professional Engineer
571 238th Road – Milford, NE 68405
Telephone: 402-643-4708 Fax: 402-643-4374
e-mail: myoung@lwsinc.com

Alcatel - Lucent
ATTN: Jennifer Gaudet – HPC Wireless
Westford, MA

March 26, 2013

RE: Northeast Utilities–Site # CT33XC538 – Str. # 29317

I have reviewed the proposed modification to the laminated wood pole that is shown on drawing # NESC-0032.04A1. I understand that the uppermost flush-mounted antennas are being replaced with the following attachments:
--- (3) APXVSPP-18-C-A20 panel antennas
--- All equipment referenced above to be mounted at a centerline height of approximately 116' AGL
--- In addition, this analysis also includes the proposed AMB-ER44 106' AGL colocation that was proposed in 2007. Based on the photos, it appears that this colocation has yet to be installed.

Most Recent LWS Drawing Revision Date = 2/8/08
Most Recent Point Load Update = 2/7/08
Most Recent LWS Analysis Date = 2/8/08

The laminated wood poles **DO** have adequate capacity to support the additional load caused by the proposed equipment. The proposed antenna modifications will not restrict the attachment of the future antenna array that was included in the 2007 colocation proposal.

This analysis was based on the original conductor loading that was developed by Northeast Utilities in 2003 in conjunction with the proposed antenna loading as described above.

This analysis was based on the following parameters:
Pole groundline dimensions of 28 ¼" x 26 1/8" and 14 ¼" x 27 ½"
Analyzed per: NESC Heavy and NESC Extreme Wind (110 mph)
Maximum Pole Usage (incl.proposed modifications and possible future antenna array) = 55%
Maximum Element Usage = 76% (x-brace)
Foundation Usage = acceptable (based on reported soil conditions)

If you have any questions, please call or e-mail.

Sincerely,

Matthew J. Young, P.E.

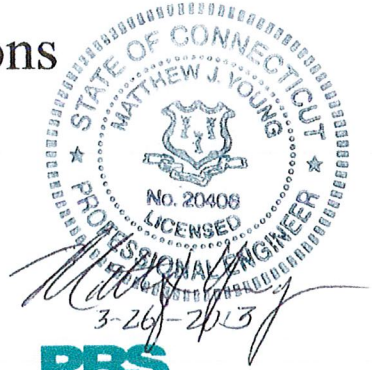
STATE OF CONNECTICUT
MATTHEW J. YOUNG
No. 20406
LICENSED
PROFESSIONAL ENGINEER

3-26-2013

E-Lam®
Laminated Wood
Pole Analysis
for

Northeast Utilities
Manchester Site
Site # CT33XC538
Str. # 29317

Design Drawing and Calculations
(27 Pages + Cover Sheet)

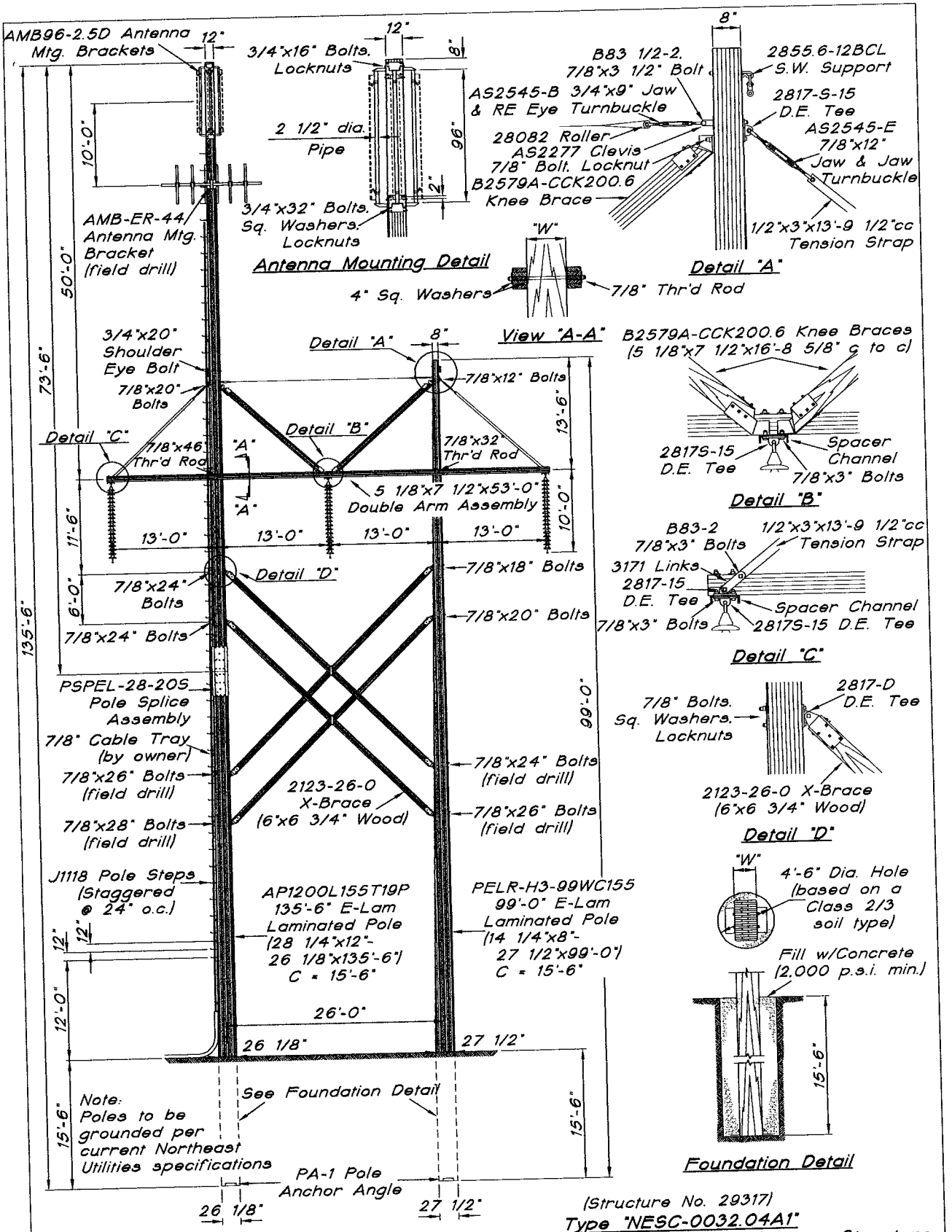


PoleEnforcer® Engineered Groundline Reinforcing Products

E-LAM® Engineered Laminated Wood Products

PHASERAISER® Raising Structures to New Heights

PRS Pole Reclassification System™



(Structure No. 29317)

Type "NESC-0032.04A1"

"Joint Use" H-Frame Tangent & Antenna Structure

Northeast Utilities Service Company
(Manchester, CT Site)

NO.	REVISION	DATE	CK.
6.	added "poles grounded" note	1-8-08	
5.	Changed bottom AMB96-2.5D to AMB-ER-44	12-7-07	
4.	chng. sp. ftgs, outside braces	9-28-05	
3.	Rotated Structure 180 degs.	5-24-05	
2.		8-20-04	
1.	chng. vee brace frm 3 5/8"x7 1/2"	2-18-04	

ACAD DWG. FILE: NESC3204A1

Laminated Wood Systems, Inc.
E-LAM®
P.O. BOX 386, SEWARD, NE 68434
1-800-949-ELAM

DRAWN	DATE	DWG. NO.
J. Baack	10-6-03	NESC-0032.04A1

APXVSPP18-C-A20 Antennas (proposed)

Str. # 29317 - CT33XC538 - Manchester

Wind Load Calculation

Ext. Wind Speed =	110	MPH			
Ext. Wind	Height Above Ground (ft.)			Shape Factor	Wind Pressure (p.s.f.)
O.L.F.		Kz	Grf-Str		
1.00	116.00	1.20	0.86	1.6	51.06
				Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(3) flush-mount panel antennas and brackets				11.3	**577**

NESC Zone	Basic Pressure (p.s.f.)	O.L.F.	Shape Factor	
	4.00	2.50	1.60	16.0
			Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(3) flush-mount panel antennas and brackets 0.00			11.3	**181**

Verizon Antennas (proposed in 2008)

Str. # 29317 - CT33XC538 - Manchester

Wind Load Calculation

Ext. Wind Speed =	110	MPH			
Ext. Wind	Height Above Ground (ft.)			Shape Factor	Wind Pressure (p.s.f.)
O.L.F.		Kz	Grf-Str		
1.00	106.00	1.18	0.87	1.6	50.54
				Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(6) sectorized panel antennas and brackets				30.0	**1,516**

NESC Zone	Basic Pressure (p.s.f.)		Shape Factor	
	4.00	2.50	1.60	16.0
			Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(6) sectorized panel antennas and brackets 0.00			30.0	**480**

Exposed Cables

Str. # 29317 - CT33XC538 - Manchester

Wind Load Calculation

Ext. Wind Speed =	110	MPH			
Ext. Wind	Height Above Ground				Wind Pressure
O.L.F.	(ft.)	Kz	Grf-Str	Shape Factor	(p.s.f.)
1.00	60.00	1.04	0.91	1.6	47.22
				Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(12) 1-5/8" cables				20.0	**944**

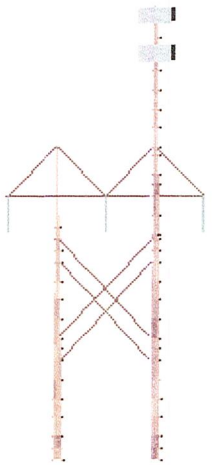
NESC Zone	Basic Pressure (p.s.f.)	O.L.F.	Shape Factor	
	4.00	2.50	1.60	16.0
			Projected Area (sq. ft.)	Equiv. Point Load (lbs.)
(12) 1-5/8" cables 0.00			20.0	**320**

```
**************************************************************************
*                                                                        *
*                              PLS-POLE                                  *
*                 POLE AND FRAME ANALYSIS AND DESIGN                     *
*             Copyright Power Line Systems, Inc. 1999-2011               *
*                                                                        *
**************************************************************************
```

Project Name : E-PRO-ESB Joint Venture - STR. # 29317
Project Notes: Manchester, CT Site
Project File : h:\pls\examples\old_files\pls\pls_pole\projects\nesc\nesc29317.pol
Date run : 2:30:04 PM Tuesday, March 26, 2013
by : PLS-POLE Version 12.30
Licensed to : Laminated Wood Systems

Successfully performed nonlinear analysis

The model has 0 warnings.



Modeling options:
Offset Arms from Pole/Mast: Yes
Offset Braces from Pole/Mast: Yes
Offset Guys from Pole/Mast: Yes
Offset Posts from Pole/Mast: Yes
Offset Strains from Pole/Mast: No
Use Alternate Convergence Process: No

Laminated Wood Pole Properties:

Laminated Pole Property Label	Stock Number	Pole Type	Length (ft)	Default Embedded Length (ft)	Taper Stop From Butt (ft)	Trans. Tip Dim. (in)	Long. Tip Dim. (in)	Trans. Base Dim. (in)	Long. Base Dim. (in)	Default Drag Coef.	Modulus of Elasticity (ksi)	Density (lbs/ft^3)	Trans. MOR (ksi)	Long. MOR (ksi)
AP12001155T19P		SYP	135.50	15.5	15.50	12	28.25	26.13	28.25	1.60	2400	46	7.6	8
PELR-H3-99WC155		SYP	99.00	15.5	15.50	8	14.25	27.5	14.25	1.60	2400	46	7.6	8

Laminated Wood Pole Connectivity:

Pole Label	Tip Joint	Base Joint	X of Base (ft)	Y of Base (ft)	Z of Base (ft)	Inclin. About X (deg)	Inclin. About Y (deg)	Property Set	Attach. Labels	Base Connect	Embed % Override	Embed C. Override (ft)
Left			0	-13	0	0	0	PELR-H3-99WC155	7 labels	Fixed	0.00	0
Right			0	13	0	0	0	AP12001155T19P	11 labels	Fixed	0.00	0

Relative Attachment Labels for Laminated Wood Pole "Left":

Joint Label	Distance From Origin/Top Joint (ft)	Global Z of Attach (ft)
Left:SW	0.75	0.00
Left:V	2.50	0.00
Left:A	13.50	0.00
Left:XT	25.00	0.00

Left:XB	51.00	0.00
Left:X2T	31.00	0.00
Left:X2B	57.00	0.00

Relative Attachment Labels for Laminated Wood Pole "Right":

Joint Label	Distance From Origin/Top Joint (ft)	Global Z of Attach (ft)
Right:ANT1	2.00	0.00
Right:ANT2	12.00	0.00
Right:SW	37.00	0.00
Right:V	39.00	0.00
Right:A	50.00	0.00
Right:XT	61.50	0.00
Right:XB	87.50	0.00
Right:X2T	67.50	0.00
Right:X2B	93.50	0.00
Right:CABLES	60.00	0.00
Right:cable_t	4.00	0.00

Detailed Laminated Wood Properties:

Element Label	Pole Feature	Dist. Above Ground (ft)	Dist. From Tip (ft)	Trans. Dim. (in)	Long. Dim. (in)	Area (in^2)	Trans. Section Modulus (in^3)	Long. Section Modulus (in^3)	Trans. Inertia (in^4)	Long. Inertia (in^4)	Trans. MOR (ksi)	Long. MOR (ksi)	Trans. Moment Capacity (ft-k)	Long. Moment Capacity (ft-k)
Left		83.50	0.00	8.00	14.25	114.00	152.00	270.75	608.00	1929.09	7.600	8.000	96.267	180.500
Left	Left:SW	82.75	0.75	8.18	14.25	116.50	158.73	276.68	648.81	1971.33	7.600	8.000	100.528	184.452
Left	Left:V	81.00	2.50	8.58	14.25	122.32	175.00	290.51	751.06	2069.88	7.600	8.000	110.830	193.672
Left		76.00	7.50	9.75	14.25	138.96	225.84	330.03	1101.15	2351.44	7.600	8.000	143.034	220.018
Left		73.00	10.50	10.45	14.25	148.94	259.46	353.74	1355.95	2520.38	7.600	8.000	164.324	235.825
Left	Left:A	70.00	13.50	11.15	14.25	158.93	295.41	377.45	1647.30	2689.32	7.600	8.000	187.092	251.632
Left		65.00	18.50	12.32	14.25	175.57	360.50	416.97	2220.77	2970.89	7.600	8.000	228.319	277.978
Left		61.75	21.75	13.08	14.25	186.38	406.29	442.65	2657.00	3153.91	7.600	8.000	257.316	295.102
Left	Left:XT	58.50	25.00	13.84	14.25	197.20	454.81	468.34	3146.91	3336.93	7.600	8.000	288.046	312.227
Left		55.50	28.00	14.54	14.25	207.18	502.03	492.05	3649.47	3505.87	7.600	8.000	317.951	328.034
Left	Left:X2T	52.50	31.00	15.24	14.25	217.16	551.58	515.76	4202.89	3674.81	7.600	8.000	349.332	343.841
Left		47.50	36.00	16.41	14.25	233.80	639.34	555.28	5244.88	3956.37	7.581	8.000	403.898	370.187
Left		42.50	41.00	17.57	14.25	250.44	733.58	594.80	6446.27	4237.94	7.529	8.000	460.258	396.532
Left		37.50	46.00	18.74	14.25	267.08	834.29	634.32	7818.39	4519.51	7.481	8.000	520.092	422.877
Left	Left:XB	32.50	51.00	19.91	14.25	283.72	941.49	673.84	9372.58	4801.08	7.436	8.000	583.378	449.223
Left		29.50	54.00	20.61	14.25	293.70	1008.91	697.55	10397.21	4970.02	7.410	8.000	622.998	465.030
Left	Left:X2B	26.50	57.00	21.31	14.25	303.69	1078.67	721.26	11493.92	5138.96	7.385	8.000	663.849	480.837
Left		21.50	62.00	22.48	14.25	320.33	1200.10	760.78	13488.60	5420.52	7.346	8.000	734.658	507.183
Left		16.50	67.00	23.65	14.25	336.97	1328.02	800.29	15701.66	5702.09	7.309	8.000	808.857	533.528
Left		11.50	72.00	24.81	14.25	353.60	1462.41	839.81	18144.43	5983.66	7.274	8.000	886.428	559.873
Left		6.50	77.00	25.98	14.25	370.24	1603.28	879.33	20828.27	6265.22	7.240	8.000	967.356	586.219
Left		3.25	80.25	26.74	14.25	381.06	1698.32	905.02	22707.40	6448.24	7.220	8.000	1021.752	603.343
Left	Left:g	0.00	83.50	27.50	14.25	391.88	1796.09	930.70	24696.29	6631.26	7.199	8.000	1077.555	620.468
Right	Right:t	120.00	0.00	12.00	28.25	339.00	678.00	1596.13	4068.00	22545.27	7.600	8.000	429.399	1064.082
Right	Right:ANT1	118.00	2.00	12.24	28.25	345.65	704.86	1627.44	4312.15	22987.56	7.600	8.000	446.413	1084.957
Right	Right:cable_t	116.00	4.00	12.47	28.25	352.30	732.25	1658.75	4565.87	23429.85	7.600	8.000	463.756	1105.832
Right		112.00	8.00	12.94	28.25	365.60	788.58	1721.38	5102.79	24314.44	7.600	8.000	499.435	1147.583
Right	Right:ANT2	108.00	12.00	13.41	28.25	378.90	847.01	1784.00	5680.24	25199.03	7.600	8.000	536.437	1189.333
Right		103.00	17.00	14.00	28.25	395.53	922.97	1862.28	6461.28	26304.77	7.600	8.000	584.547	1241.521
Right		98.00	22.00	14.59	28.25	412.16	1002.20	1940.57	7310.82	27410.50	7.600	8.000	634.724	1293.709
Right		93.00	27.00	15.18	28.25	428.78	1084.68	2018.85	8231.74	28516.24	7.600	8.000	686.966	1345.897
Right		88.00	32.00	15.77	28.25	445.41	1170.43	2097.13	9226.92	29621.97	7.600	8.000	741.274	1398.085
Right	Right:SW	83.00	37.00	16.36	28.25	462.03	1259.45	2175.41	10299.25	30727.71	7.583	8.000	795.898	1450.273
Right	Right:V	81.00	39.00	16.59	28.25	468.69	1295.96	2206.73	10750.42	31170.00	7.573	8.000	817.806	1471.148
Right		76.00	44.00	17.18	28.25	485.31	1389.54	2285.01	11935.58	32275.74	7.546	8.000	873.806	1523.336
Right		73.00	47.00	17.53	28.25	495.29	1447.25	2331.98	12686.83	32939.18	7.531	8.000	908.248	1554.649
Right	Right:A	70.00	50.00	17.89	28.25	505.26	1506.14	2378.95	13468.97	33602.62	7.516	8.000	943.320	1585.962
Right		65.00	55.00	18.47	28.25	521.89	1606.89	2457.23	14842.84	34708.36	7.492	8.000	1003.171	1638.150
Right	Right:CABLES	60.00	60.00	19.06	28.25	538.52	1710.91	2535.51	16307.10	35814.09	7.468	8.000	1064.762	1690.338
Right	Right:XT	58.50	61.50	19.24	28.25	543.50	1742.75	2559.00	16764.44	36145.81	7.461	8.000	1083.578	1705.994
Right		55.50	64.50	19.59	28.25	553.48	1807.31	2605.97	17704.59	36809.26	7.448	8.000	1121.679	1737.307
Right	Right:X2T	52.50	67.50	19.95	28.25	563.46	1873.05	2652.93	18679.26	37472.70	7.434	8.000	1160.402	1768.620
Right		47.50	72.50	20.53	28.25	580.08	1985.22	2731.22	20382.09	38578.43	7.413	8.000	1226.323	1820.808
Right		42.50	77.50	21.12	28.25	596.71	2100.65	2809.50	22185.37	39684.17	7.392	8.000	1293.966	1872.996
Right		37.50	82.50	21.71	28.25	613.33	2219.34	2887.78	24092.00	40789.90	7.372	8.000	1363.327	1925.184
Right	Right:XB	32.50	87.50	22.30	28.25	629.96	2341.30	2966.06	26104.86	41895.64	7.352	8.000	1434.402	1977.372
Right		29.50	90.50	22.65	28.25	639.94	2416.04	3013.03	27364.76	42559.08	7.340	8.000	1477.867	2008.685
Right	Right:X2B	26.50	93.50	23.01	28.25	649.91	2491.95	3060.00	28664.56	43222.52	7.329	8.000	1521.946	2039.998
Right		21.50	98.50	23.59	28.25	666.54	2621.08	3138.28	30921.24	44328.26	7.310	8.000	1596.774	2092.186
Right		16.50	103.50	24.18	28.25	683.16	2753.47	3216.57	33293.36	45433.99	7.292	8.000	1673.300	2144.374
Right		11.50	108.50	24.77	28.25	699.79	2889.13	3294.85	35783.80	46539.73	7.275	8.000	1751.521	2196.562
Right		6.50	113.50	25.36	28.25	716.42	3028.04	3373.13	38395.44	47645.47	7.258	8.000	1831.433	2248.750
Right		3.25	116.75	25.74	28.25	727.22	3120.09	3424.01	40159.36	48364.19	7.247	8.000	1884.281	2282.672
Right	Right:g	0.00	120.00	26.13	28.25	738.03	3213.51	3474.90	41976.49	49082.92	7.236	8.000	1937.840	2316.594

Equipment Library:

Equipment Property Label	Stock Number	Weight (lbs)	Wind Area (ft^2)	Ice Area (ft^2)	Shape or EIA Antenna Type	Drag Coef.	Diameter (ft)	Height (ft)
AMB-ER44	AMBER44	0.0	0.00	0.00	Square	1.00	9.15	4.00

Equipment Connectivity:

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
ANT1	Right:ANT1	AMB-ER44	0.00
ANT2	Right:ANT2	AMB-ER44	0.00

Brace Properties:

Brace Property Label	Stock Number	Cross Section Area (in^2)	Length (ft)	Depth (in)	Width (in)	Weight (lbs)	Unit Wt. (If Length Unknown) (lbs/ft)	Modulus of Elasticity (ksi)	Drag Coef.	Strength Check Type	Use Steel S.F.	Tension Capacity (lbs)	Compres. Capacity (lbs)	Net Area (in^2)	Design Normal Stress (ksi)	X-Moment Of Inertia (in^4)	Z-Moment Of Inertia (in^4)	Unbraced Length Ratio-X	Unbraced Length Ratio-Z
ten2038	2038E160.5	15.75	18	4.5	3.5	70	0	1600	1.6	Calculated	No	38000	5442	15.75	6.3	16.1	26.6	1	1
X2123	2123-23-0	40.5	36	6.75	6	450	0	1600	1.6	Calculated	No	35000	50457	40.5	6.3	153.8	121.5	0.5	0.5
x2123	2123-26-0	40.5	36	6.75	6	450	0	1600	1.6	Calculated	No	42000	42625	40.5	6.3	153.8	121.5	0.5	0.5
v2579-M	b2579-m	38.4	18	7.5	5.125	210	0	1600	1.6	Calculated	No	30000	33888	38.4	6.3	84.1	180.2	1	1

Brace Connectivity:

Brace Label	Origin Label	End Label	Brace Property Set	Element Type
TENL	Left:SW	TAR53:L1	ten2038	Standard
TENR	Right:SW	TAR53:L3	ten2038	Standard
VEEL	Left:SW	TAR53:L2V	v2579-M	Standard
VEER	Right:SW	TAR53:L2V	v2579-M	Standard
X1L	Left:XT	Right:XB	x2123	Standard
X1R	Right:XT	Left:XB	x2123	Standard
X2L	Left:X2T	Right:X2B	x2123	Standard
X2R	Left:X2B	Right:X2T	X2123	Standard

X-Arm Properties:

Cross Arm Property Label	Stock Number	Cross Section Area (in^2)	X Inertia (in^4)	Z Inertia (in^4)	Weight (lbs)	Depth (in)	Width (in)	Length (ft)	Modulus of Elasticity (ksi)	Drag Coef.	Geometry	Strength Check Type	Use Steel S.F.	Vertical Capacity (lbs)	Trans. Capacity (lbs)	Long. Capacity (lbs)	Design Normal Stress (psi)	X Section Modulus (in^3)	Z Section Modulus (in^3)
TAR53DBL		76.9	168.3	360.4	1500	7.5	10.25	53	2100	1.6	5 points	Calculated	No	0	0	0	8000	65.7	96.1

Joints Relative to the Origin for Cross Arm Property "TAR53DBL":

Joint Label	Offset (ft)
L1	0.5
PL	13.5
L2V	26.5
PR	39.5
L3	52.5

X-Arm Connectivity:

X-Arm Label	X-Arm Property Set	Azimuth (deg)	Slope (deg)	Attach. Labels	Connects
TAR53	TAR53DBL	0	0		7 connections

X-Arm Connections for "TAR53":

Attach Label	Offset (ft)	Connect At	Connection Code Type
TAR53:O	0.000		
TAR53:L1	0.500		
TAR53:PL	13.500	Left:A	Pinned X
TAR53:L2V	26.500		
TAR53:PR	39.500	Right:A	Pinned X
TAR53:L3	52.500		
TAR53:E	53.000		

*** Insulator Data

Suspension Properties:

Label	Stock Number	Length (ft)	Weight (lbs)	Wind Area (ft^2)	Tension Capacity (lbs)	Top Rect Width (ft)	Top Rect Height (ft)	Bot. Rect Width (ft)	Bot. Rect Height (ft)	Vert. Rect Width (ft)	Vert. Rect Height (ft)
SUSSW		0.25	3	0.1	6e+004	0	0	0	0	0	0

SUS345	10	200	5	6e+004	0	0	0	0	0	0

Suspension Insulator Connectivity:

Suspension Label	Structure Attach	Tip Label	Property Set	Cond. 1 Minimum Swing (deg)	Cond. 1 Maximum Swing (deg)	Cond. 2 Minimum Swing (deg)	Cond. 2 Maximum Swing (deg)	Cond. 3 Minimum Swing (deg)	Cond. 3 Maximum Swing (deg)	Cond. 4 Minimum Swing (deg)	Cond. 4 Maximum Swing (deg)	Min. Required Vertical Load (uplift) (lbs)
SUSL	TAR53:L1	L1	SUS345	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
SUSC	TAR53:L2V	L2	SUS345	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
SUSR	TAR53:L3	L3	SUS345	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
SWL	Left:SW	SWL	SUSSW	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
SWR	Right:SW	SWR	SUSSW	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
ANT1	Right:ANT1	ANT1	SUSSW	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
ANT2	Right:ANT2	ANT2	SUSSW	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit
CABLES	Right:CABLES	CABLES	SUSSW	-90.00	90.00	-90.00	90.00	-90.00	90.00	-180.00	180.00	No Limit

*** Loads Data

Loads from file: h:\pls\examples\old_files\pls\pls_pole\projects\nesc\nesc_29317.lca

Insulator dead and wind loads are already included in the point loads printed below.

Loading Method Parameters:

Structure Height Summary (used for calculating wind/ice adjust with height):
Z of ground for wind height adjust 0.00 (ft) and structure Z coordinate that will be put on the centerline ground profile in PLS-CADD.

Ground elevation shift	0.00 (ft)
Z of ground with shift	0.00 (ft)
Z of structure top (highest joint)	120.00 (ft)
Structure height	120.00 (ft)
Structure height above ground	120.00 (ft)

Vector Load Cases:

Load Case Description	Dead Load Factor	Wind Area Factor	SF for Steel Poles Tubular Arms and Towers	SF for Wood Poles	SF for Conc. Ult.	SF for Conc. First Crack	SF for Conc. Zero Tens.	SF for Guys and Cables	SF for Non Tubular Arms	SF for Braces	SF for Insuls.	SF For Found.	Point Loads	Wind/Ice Model	Trans. Wind Pressure (psf)	Longit. Wind Pressure (psf)	Ice Thick. (in)	Ice Density (lbs/ft^3)	Temperature (deg F)	Pole Deflection Check	Pole Deflection Limit % or (ft)
NESC HVY	1.0000	1.0000	1.00000	1.0000	0.6500	0.0000	0.0000	1.0000	1.0000	0.6500	1.0000	1.0000	8 loads	Wind on All	10	0	0.000	56.000	60.0	No Limit	0
Ext. Wind t	1.0000	1.0000	1.00000	1.0000	0.7500	0.0000	0.0000	1.0000	1.0000	0.7500	1.0000	1.0000	8 loads	Wind on All	31.6	0	0.000	56.000	60.0	No Limit	0
Ext. Wind l	1.0000	1.0000	1.00000	1.0000	0.7500	0.0000	0.0000	1.0000	1.0000	0.7500	1.0000	1.0000	8 loads	Wind on All	0	31.6	0.000	56.000	60.0	No Limit	0
Hvy. Ice	1.0000	1.0000	1.00000	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	8 loads	Wind on All	0	0	0.000	56.000	60.0	No Limit	0

Point Loads for Load Case "NESC HVY":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
SWL	771	654	0	
SWR	771	654	0	
L1	1966	1004	0	
L2	1966	1004	0	
L3	1966	1004	0	
ANT1	2000	181	0	
ANT2	2000	480	0	
CABLES	5500	320	0	

Detailed Pole Loading Data for Load Case "NESC HVY":

Notes: Does not include loads from equipment, arms, guys, braces, etc. or user input loads.
Wind load is calculated for the undeformed shape of a pole.

Pole Label	Top Joint	Bottom Joint	Section Top Z (ft)	Section Bottom Z (ft)	Section Average Elevation (ft)	Outer Diameter (in)	Reynolds Number	Drag Coef.	Adjusted Wind Pressure (psf)	Adjusted Ice Thickness (in)	Pole Vert. Load (lbs)	Pole Wind Load (lbs)	Pole Ice Vertical Load (lbs)	Pole Ice Wind Load (lbs)	Tran. Wind Load (lbs)	Long. Wind Load (lbs)
Left	Left:t	Left:SW	83.50	82.75	83.13	8.088	3.83e+005	1.600	10.00	0.00	27.61	14.25	0.00	0.00	14.25	0.08
Left	Left:SW	Left:V	82.75	81.00	81.88	8.379	3.97e+005	1.600	10.00	0.00	66.75	33.25	0.00	0.00	33.25	0.20
Left	Left:V		81.00	76.00	78.50	9.168	4.34e+005	1.600	10.00	0.00	208.66	95.00	0.00	0.00	95.00	0.64
Left			76.00	73.00	74.50	10.102	4.78e+005	1.600	10.00	0.00	137.95	57.00	0.00	0.00	57.00	0.42
Left		Left:A	73.00	70.00	71.50	10.802	5.11e+005	1.600	10.00	0.00	147.52	57.00	0.00	0.00	57.00	0.45
Left	Left:A		70.00	65.00	67.50	11.737	5.56e+005	1.600	10.00	0.00	267.13	95.00	0.00	0.00	95.00	0.82
Left			65.00	61.75	63.38	12.700	6.01e+005	1.600	10.00	0.00	187.89	61.75	0.00	0.00	61.75	0.57
Left		Left:XT	61.75	58.50	60.13	13.459	6.37e+005	1.600	10.00	0.00	199.11	61.75	0.00	0.00	61.75	0.61
Left	Left:XT		58.50	55.50	57.00	14.189	6.72e+005	1.600	10.00	0.00	193.76	57.00	0.00	0.00	57.00	0.59
Left		Left:X2T	55.50	52.50	54.00	14.250	6.75e+005	1.600	10.00	0.00	203.33	57.00	0.00	0.00	57.00	0.62
Left	Left:X2T		52.50	47.50	50.00	14.250	6.75e+005	1.600	10.00	0.00	360.15	95.01	0.00	0.00	95.00	1.10
Left			47.50	42.50	45.00	14.250	6.75e+005	1.600	10.00	0.00	386.72	95.01	0.00	0.00	95.00	1.18
Left			42.50	37.50	40.00	14.250	6.75e+005	1.600	10.00	0.00	413.30	95.01	0.00	0.00	95.00	1.26
Left		Left:XB	37.50	32.50	35.00	14.250	6.75e+005	1.600	10.00	0.00	439.88	95.01	0.00	0.00	95.00	1.35
Left	Left:XB		32.50	29.50	31.00	14.250	6.75e+005	1.600	10.00	0.00	276.68	57.01	0.00	0.00	57.00	0.85
Left		Left:X2B	29.50	26.50	28.00	14.250	6.75e+005	1.600	10.00	0.00	286.25	57.01	0.00	0.00	57.00	0.88
Left	Left:X2B		26.50	21.50	24.00	14.250	6.75e+005	1.600	10.00	0.00	498.34	95.01	0.00	0.00	95.00	1.52
Left			21.50	16.50	19.00	14.250	6.75e+005	1.600	10.00	0.00	524.92	95.01	0.00	0.00	95.00	1.61
Left			16.50	11.50	14.00	14.250	6.75e+005	1.600	10.00	0.00	551.50	95.01	0.00	0.00	95.00	1.69
Left			11.50	6.50	9.00	14.250	6.75e+005	1.600	10.00	0.00	578.07	95.02	0.00	0.00	95.00	1.77
Left			6.50	3.25	4.87	14.250	6.75e+005	1.600	10.00	0.00	390.00	61.76	0.00	0.00	61.75	1.19
Left		Left:g	3.25	0.00	1.62	14.250	6.75e+005	1.600	10.00	0.00	401.23	61.76	0.00	0.00	61.75	1.23
Right	Right:t	Right:ANT1	120.00	118.00	119.00	12.118	5.74e+005	1.600	10.00	0.00	218.71	75.33	0.00	0.00	75.33	0.34
Right	Right:ANT1	Right:cable_t	118.00	116.00	117.00	12.353	5.85e+005	1.600	10.00	0.00	222.96	75.33	0.00	0.00	75.33	0.34
Right	Right:cable_t		116.00	112.00	114.00	12.706	6.02e+005	1.600	10.00	0.00	458.66	150.67	0.00	0.00	150.67	0.71
Right		Right:ANT2	112.00	108.00	110.00	13.177	6.24e+005	1.600	10.00	0.00	475.66	150.67	0.00	0.00	150.67	0.73
Right	Right:ANT2		108.00	103.00	105.50	13.707	6.49e+005	1.600	10.00	0.00	618.47	188.34	0.00	0.00	188.33	0.95
Right			103.00	98.00	100.50	14.295	6.77e+005	1.600	10.00	0.00	645.03	188.34	0.00	0.00	188.33	1.00
Right			98.00	93.00	95.50	14.884	7.05e+005	1.600	10.00	0.00	671.58	188.34	0.00	0.00	188.33	1.04
Right			93.00	88.00	90.50	15.472	7.33e+005	1.600	10.00	0.00	698.14	188.34	0.00	0.00	188.33	1.08
Right		Right:SW	88.00	83.00	85.50	16.061	7.6e+005	1.600	10.00	0.00	724.69	188.34	0.00	0.00	188.33	1.12
Right	Right:SW	Right:V	83.00	81.00	82.00	16.473	7.8e+005	1.600	10.00	0.00	297.31	75.33	0.00	0.00	75.33	0.46
Right	Right:V		81.00	76.00	78.50	16.885	7.99e+005	1.600	10.00	0.00	761.87	188.34	0.00	0.00	188.33	1.18
Right			76.00	73.00	74.50	17.356	8.22e+005	1.600	10.00	0.00	469.87	113.00	0.00	0.00	113.00	0.72
Right		Right:A	73.00	70.00	71.50	17.709	8.38e+005	1.600	10.00	0.00	479.43	113.00	0.00	0.00	113.00	0.74
Right	Right:A		70.00	65.00	67.50	18.180	8.61e+005	1.600	10.00	0.00	820.30	188.34	0.00	0.00	188.33	1.27

Right		Right:CABLES	65.00	60.00	62.50	18.768	8.89e+005	1.600	10.00	0.00	846.85	188.34	0.00	0.00	188.33	1.31
Right	Right:CABLES	Right:XT	60.00	58.50	59.25	19.151	9.07e+005	1.600	10.00	0.00	259.23	56.50	0.00	0.00	56.50	0.40
Right	Right:XT		58.50	55.50	57.00	19.416	9.19e+005	1.600	10.00	0.00	525.64	113.00	0.00	0.00	113.00	0.81
Right		Right:X2T	55.50	52.50	54.00	19.769	9.36e+005	1.600	10.00	0.00	535.20	113.00	0.00	0.00	113.00	0.83
Right	Right:X2T		52.50	47.50	50.00	20.240	9.58e+005	1.600	10.00	0.00	913.24	188.34	0.00	0.00	188.33	1.41
Right			47.50	42.50	45.00	20.828	9.86e+005	1.600	10.00	0.00	939.80	188.34	0.00	0.00	188.33	1.45
Right			42.50	37.50	40.00	21.417	1.01e+006	1.600	10.00	0.00	966.35	188.34	0.00	0.00	188.33	1.49
Right		Right:XB	37.50	32.50	35.00	22.005	1.04e+006	1.600	10.00	0.00	992.91	188.34	0.00	0.00	188.33	1.53
Right	Right:XB		32.50	29.50	31.00	22.476	1.06e+006	1.600	10.00	0.00	608.49	113.00	0.00	0.00	113.00	0.94
Right		Right:X2B	29.50	26.50	28.00	22.829	1.08e+006	1.600	10.00	0.00	618.05	113.00	0.00	0.00	113.00	0.95
Right	Right:X2B		26.50	21.50	24.00	23.300	1.1e+006	1.600	10.00	0.00	1051.33	188.34	0.00	0.00	188.33	1.62
Right			21.50	16.50	19.00	23.889	1.13e+006	1.600	10.00	0.00	1077.89	188.34	0.00	0.00	188.33	1.66
Right			16.50	11.50	14.00	24.477	1.16e+006	1.600	10.00	0.00	1104.44	188.34	0.00	0.00	188.33	1.70
Right			11.50	6.50	9.00	25.066	1.19e+006	1.600	10.00	0.00	1131.00	188.34	0.00	0.00	188.33	1.75
Right			6.50	3.25	4.87	25.551	1.21e+006	1.600	10.00	0.00	749.39	122.42	0.00	0.00	122.42	1.16
Right		Right:g	3.25	0.00	1.62	25.934	1.23e+006	1.600	10.00	0.00	760.61	122.42	0.00	0.00	122.42	1.17

Point Loads for Load Case "Ext. Wind t":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Comment
SWL	215	630	0	
SWR	215	630	0	
L1	1177	2199	0	
L2	1177	2199	0	
L3	1177	2199	0	
ANT1	2000	577	0	
ANT2	2000	1516	0	
CABLES	5500	944	0	

Detailed Pole Loading Data for Load Case "Ext. Wind t":

Notes: Does not include loads from equipment, arms, guys, braces, etc. or user input loads.
Wind load is calculated for the undeformed shape of a pole.

Pole Label	Top Joint	Bottom Joint	Section Top Z (ft)	Section Bottom Z (ft)	Section Average Elevation (ft)	Outer Diameter (in)	Reynolds Number	Drag Coef.	Adjusted Wind Pressure (psf)	Adjusted Ice Thickness (in)	Pole Vert. Load (lbs)	Pole Wind Load (lbs)	Pole Ice Vertical Load (lbs)	Pole Ice Wind Load (lbs)	Tran. Wind Load (lbs)	Long. Wind Load (lbs)
Left	Left:t	Left:SW	83.50	82.75	83.13	8.088	6.81e+005	1.600	31.60	0.00	27.61	45.03	0.00	0.00	45.03	0.08
Left	Left:SW	Left:V	82.75	81.00	81.88	8.379	7.05e+005	1.600	31.60	0.00	66.75	105.07	0.00	0.00	105.07	0.20
Left	Left:V		81.00	76.00	78.50	9.168	7.72e+005	1.600	31.60	0.00	208.66	300.20	0.00	0.00	300.20	0.64
Left			76.00	73.00	74.50	10.102	8.5e+005	1.600	31.60	0.00	137.95	180.12	0.00	0.00	180.12	0.42
Left		Left:A	73.00	70.00	71.50	10.802	9.09e+005	1.600	31.60	0.00	147.52	180.12	0.00	0.00	180.12	0.45
Left	Left:A		70.00	65.00	67.50	11.737	9.88e+005	1.600	31.60	0.00	267.13	300.20	0.00	0.00	300.20	0.82
Left			65.00	61.75	63.38	12.700	1.07e+006	1.600	31.60	0.00	187.89	195.13	0.00	0.00	195.13	0.57
Left		Left:XT	61.75	58.50	60.13	13.459	1.13e+006	1.600	31.60	0.00	199.11	195.13	0.00	0.00	195.13	0.61
Left	Left:XT		58.50	55.50	57.00	14.189	1.19e+006	1.600	31.60	0.00	193.76	180.12	0.00	0.00	180.12	0.59
Left		Left:X2T	55.50	52.50	54.00	14.250	1.2e+006	1.600	31.60	0.00	203.33	180.12	0.00	0.00	180.12	0.62
Left	Left:X2T		52.50	47.50	50.00	14.250	1.2e+006	1.600	31.60	0.00	360.15	300.20	0.00	0.00	300.20	1.10
Left			47.50	42.50	45.00	14.250	1.2e+006	1.600	31.60	0.00	386.72	300.20	0.00	0.00	300.20	1.18
Left			42.50	37.50	40.00	14.250	1.2e+006	1.600	31.60	0.00	413.30	300.20	0.00	0.00	300.20	1.26
Left		Left:XB	37.50	32.50	35.00	14.250	1.2e+006	1.600	31.60	0.00	439.88	300.20	0.00	0.00	300.20	1.35
Left	Left:XB		32.50	29.50	31.00	14.250	1.2e+006	1.600	31.60	0.00	276.68	180.12	0.00	0.00	180.12	0.85
Left		Left:X2B	29.50	26.50	28.00	14.250	1.2e+006	1.600	31.60	0.00	286.25	180.12	0.00	0.00	180.12	0.88
Left	Left:X2B		26.50	21.50	24.00	14.250	1.2e+006	1.600	31.60	0.00	498.34	300.20	0.00	0.00	300.20	1.52
Left			21.50	16.50	19.00	14.250	1.2e+006	1.600	31.60	0.00	524.92	300.20	0.00	0.00	300.20	1.61
Left			16.50	11.50	14.00	14.250	1.2e+006	1.600	31.60	0.00	551.50	300.20	0.00	0.00	300.20	1.69
Left			11.50	6.50	9.00	14.250	1.2e+006	1.600	31.60	0.00	578.07	300.20	0.00	0.00	300.20	1.77
Left			6.50	3.25	4.87	14.250	1.2e+006	1.600	31.60	0.00	390.00	195.13	0.00	0.00	195.13	1.19
Left		Left:g	3.25	0.00	1.62	14.250	1.2e+006	1.600	31.60	0.00	401.23	195.13	0.00	0.00	195.13	1.23
Right	Right:t	Right:ANT1	120.00	118.00	119.00	12.118	1.02e+006	1.600	31.60	0.00	218.71	238.05	0.00	0.00	238.05	0.34
Right	Right:ANT1	Right:cable_t	118.00	116.00	117.00	12.353	1.04e+006	1.600	31.60	0.00	222.96	238.05	0.00	0.00	238.05	0.34
Right	Right:cable_t		116.00	112.00	114.00	12.706	1.07e+006	1.600	31.60	0.00	458.66	476.11	0.00	0.00	476.11	0.71
Right		Right:ANT2	112.00	108.00	110.00	13.177	1.11e+006	1.600	31.60	0.00	475.66	476.11	0.00	0.00	476.11	0.73
Right	Right:ANT2		108.00	103.00	105.50	13.707	1.15e+006	1.600	31.60	0.00	618.47	595.13	0.00	0.00	595.13	0.95
Right			103.00	98.00	100.50	14.295	1.2e+006	1.600	31.60	0.00	645.03	595.13	0.00	0.00	595.13	1.00
Right			98.00	93.00	95.50	14.884	1.25e+006	1.600	31.60	0.00	671.58	595.13	0.00	0.00	595.13	1.04
Right			93.00	88.00	90.50	15.472	1.3e+006	1.600	31.60	0.00	698.14	595.13	0.00	0.00	595.13	1.08
Right		Right:SW	88.00	83.00	85.50	16.061	1.35e+006	1.600	31.60	0.00	724.69	595.13	0.00	0.00	595.13	1.12
Right	Right:SW	Right:V	83.00	81.00	82.00	16.473	1.39e+006	1.600	31.60	0.00	297.31	238.05	0.00	0.00	238.05	0.46
Right	Right:V		81.00	76.00	78.50	16.885	1.42e+006	1.600	31.60	0.00	761.87	595.13	0.00	0.00	595.13	1.18
Right			76.00	73.00	74.50	17.356	1.46e+006	1.600	31.60	0.00	469.87	357.08	0.00	0.00	357.08	0.72
Right		Right:A	73.00	70.00	71.50	17.709	1.49e+006	1.600	31.60	0.00	479.43	357.08	0.00	0.00	357.08	0.74
Right	Right:A		70.00	65.00	67.50	18.180	1.53e+006	1.600	31.60	0.00	820.30	595.13	0.00	0.00	595.13	1.27
Right		Right:CABLES	65.00	60.00	62.50	18.768	1.58e+006	1.600	31.60	0.00	846.85	595.13	0.00	0.00	595.13	1.31
Right	Right:CABLES	Right:XT	60.00	58.50	59.25	19.151	1.61e+006	1.600	31.60	0.00	259.23	178.54	0.00	0.00	178.54	0.40
Right	Right:XT		58.50	55.50	57.00	19.416	1.63e+006	1.600	31.60	0.00	525.64	357.08	0.00	0.00	357.08	0.81
Right		Right:X2T	55.50	52.50	54.00	19.769	1.66e+006	1.600	31.60	0.00	535.20	357.08	0.00	0.00	357.08	0.83
Right	Right:X2T		52.50	47.50	50.00	20.240	1.7e+006	1.600	31.60	0.00	913.24	595.13	0.00	0.00	595.13	1.41
Right			47.50	42.50	45.00	20.828	1.75e+006	1.600	31.60	0.00	939.80	595.13	0.00	0.00	595.13	1.45
Right			42.50	37.50	40.00	21.417	1.8e+006	1.600	31.60	0.00	966.35	595.13	0.00	0.00	595.13	1.49
Right		Right:XB	37.50	32.50	35.00	22.005	1.85e+006	1.600	31.60	0.00	992.91	595.13	0.00	0.00	595.13	1.53
Right	Right:XB		32.50	29.50	31.00	22.476	1.89e+006	1.600	31.60	0.00	608.49	357.08	0.00	0.00	357.08	0.94
Right		Right:X2B	29.50	26.50	28.00	22.829	1.92e+006	1.600	31.60	0.00	618.05	357.08	0.00	0.00	357.08	0.95
Right	Right:X2B		26.50	21.50	24.00	23.300	1.96e+006	1.600	31.60	0.00	1051.33	595.13	0.00	0.00	595.13	1.62
Right			21.50	16.50	19.00	23.889	2.01e+006	1.600	31.60	0.00	1077.89	595.13	0.00	0.00	595.13	1.66
Right			16.50	11.50	14.00	24.477	2.06e+006	1.600	31.60	0.00	1104.44	595.13	0.00	0.00	595.13	1.70
Right			11.50	6.50	9.00	25.066	2.11e+006	1.600	31.60	0.00	1131.00	595.13	0.00	0.00	595.13	1.75
Right			6.50	3.25	4.87	25.551	2.15e+006	1.600	31.60	0.00	749.39	386.84	0.00	0.00	386.84	1.16

Right		Right:g	3.25	0.00	1.62	25.934	2.18e+006	1.600	31.60	0.00	760.61	386.84	0.00	0.00	386.84	1.17		

Point Loads for Load Case "Ext. Wind 1":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
SWL	215	0	0	
SWR	215	0	0	
L1	1177	0	0	
L2	1177	0	0	
L3	1177	0	0	
ANT1	2000	0	577	
ANT2	2000	0	1516	
CABLES	5500	0	944	

Detailed Pole Loading Data for Load Case "Ext. Wind 1":

Notes: Does not include loads from equipment, arms, guys, braces, etc. or user input loads.
Wind load is calculated for the undeformed shape of a pole.

Pole Label	Top Joint	Bottom Joint	Section Top Z (ft)	Section Bottom Z (ft)	Section Average Elevation (ft)	Outer Diameter (in)	Reynolds Number	Drag Coef.	Adjusted Wind Pressure (psf)	Adjusted Ice Thickness (in)	Pole Vert. Load (lbs)	Pole Wind Load (lbs)	Pole Ice Vertical Load (lbs)	Pole Ice Wind Load (lbs)	Tran. Wind Load (lbs)	Long. Wind Load (lbs)
Left	Left:t	Left:SW	83.50	82.75	83.13	8.088	6.81e+005	1.600	31.60	0.00	27.61	25.56	0.00	0.00	0.15	25.56
Left	Left:SW	Left:V	82.75	81.00	81.88	8.379	7.05e+005	1.600	31.60	0.00	66.75	61.79	0.00	0.00	0.35	61.78
Left	Left:V		81.00	76.00	78.50	9.168	7.72e+005	1.600	31.60	0.00	208.66	193.13	0.00	0.00	0.99	193.13
Left			76.00	73.00	74.50	10.102	8.5e+005	1.600	31.60	0.00	137.95	127.69	0.00	0.00	0.60	127.69
Left		Left:A	73.00	70.00	71.50	10.802	9.09e+005	1.600	31.60	0.00	147.52	136.54	0.00	0.00	0.60	136.54
Left	Left:A		70.00	65.00	67.50	11.737	9.88e+005	1.600	31.60	0.00	267.13	247.25	0.00	0.00	0.99	247.25
Left			65.00	61.75	63.38	12.700	1.07e+006	1.600	31.60	0.00	187.89	173.90	0.00	0.00	0.64	173.90
Left		Left:XT	61.75	58.50	60.13	13.459	1.13e+006	1.600	31.60	0.00	199.11	184.30	0.00	0.00	0.64	184.30
Left	Left:XT		58.50	55.50	57.00	14.189	1.19e+006	1.600	31.60	0.00	193.76	179.34	0.00	0.00	0.60	179.34
Left		Left:X2T	55.50	52.50	54.00	14.250	1.2e+006	1.600	31.60	0.00	203.33	188.20	0.00	0.00	0.60	188.20
Left	Left:X2T		52.50	47.50	50.00	14.250	1.2e+006	1.600	31.60	0.00	360.15	333.35	0.00	0.00	0.99	333.34
Left			47.50	42.50	45.00	14.250	1.2e+006	1.600	31.60	0.00	386.72	357.94	0.00	0.00	0.99	357.94
Left			42.50	37.50	40.00	14.250	1.2e+006	1.600	31.60	0.00	413.30	382.54	0.00	0.00	0.99	382.54
Left		Left:XB	37.50	32.50	35.00	14.250	1.2e+006	1.600	31.60	0.00	439.88	407.14	0.00	0.00	0.99	407.14
Left	Left:XB		32.50	29.50	31.00	14.250	1.2e+006	1.600	31.60	0.00	276.68	256.09	0.00	0.00	0.60	256.09
Left		Left:X2B	29.50	26.50	28.00	14.250	1.2e+006	1.600	31.60	0.00	286.25	264.95	0.00	0.00	0.60	264.95
Left	Left:X2B		26.50	21.50	24.00	14.250	1.2e+006	1.600	31.60	0.00	498.34	461.26	0.00	0.00	0.99	461.26
Left			21.50	16.50	19.00	14.250	1.2e+006	1.600	31.60	0.00	524.92	485.86	0.00	0.00	0.99	485.86
Left			16.50	11.50	14.00	14.250	1.2e+006	1.600	31.60	0.00	551.50	510.46	0.00	0.00	0.99	510.46
Left			11.50	6.50	9.00	14.250	1.2e+006	1.600	31.60	0.00	578.07	535.06	0.00	0.00	0.99	535.05
Left			6.50	3.25	4.87	14.250	1.2e+006	1.600	31.60	0.00	390.00	360.98	0.00	0.00	0.64	360.98
Left		Left:g	3.25	0.00	1.62	14.250	1.2e+006	1.600	31.60	0.00	401.23	371.37	0.00	0.00	0.64	371.37
Right	Right:t	Right:ANT1	120.00	118.00	119.00	12.118	1.02e+006	1.600	31.60	0.00	218.71	102.11	0.00	0.00	0.79	102.11
Right	Right:ANT1	Right:cable_t	118.00	116.00	117.00	12.353	1.04e+006	1.600	31.60	0.00	222.96	104.10	0.00	0.00	0.79	104.10
Right	Right:cable_t		116.00	112.00	114.00	12.706	1.07e+006	1.600	31.60	0.00	458.66	214.15	0.00	0.00	1.57	214.14
Right		Right:ANT2	112.00	108.00	110.00	13.177	1.11e+006	1.600	31.60	0.00	475.66	222.08	0.00	0.00	1.57	222.08
Right	Right:ANT2		108.00	103.00	105.50	13.707	1.15e+006	1.600	31.60	0.00	618.47	288.76	0.00	0.00	1.97	288.76
Right			103.00	98.00	100.50	14.295	1.2e+006	1.600	31.60	0.00	645.03	301.16	0.00	0.00	1.97	301.15
Right			98.00	93.00	95.50	14.884	1.25e+006	1.600	31.60	0.00	671.58	313.56	0.00	0.00	1.97	313.55
Right			93.00	88.00	90.50	15.472	1.3e+006	1.600	31.60	0.00	698.14	325.96	0.00	0.00	1.97	325.95
Right		Right:SW	88.00	83.00	85.50	16.061	1.35e+006	1.600	31.60	0.00	724.69	338.36	0.00	0.00	1.97	338.35
Right	Right:SW	Right:V	83.00	81.00	82.00	16.473	1.39e+006	1.600	31.60	0.00	297.31	138.81	0.00	0.00	0.79	138.81
Right	Right:V		81.00	76.00	78.50	16.885	1.42e+006	1.600	31.60	0.00	761.87	355.71	0.00	0.00	1.97	355.71
Right			76.00	73.00	74.50	17.356	1.46e+006	1.600	31.60	0.00	469.87	219.38	0.00	0.00	1.18	219.38
Right		Right:A	73.00	70.00	71.50	17.709	1.49e+006	1.600	31.60	0.00	479.43	223.84	0.00	0.00	1.18	223.84
Right	Right:A		70.00	65.00	67.50	18.180	1.53e+006	1.600	31.60	0.00	820.30	382.99	0.00	0.00	1.97	382.98
Right		Right:CABLES	65.00	60.00	62.50	18.768	1.58e+006	1.600	31.60	0.00	846.85	395.39	0.00	0.00	1.97	395.38
Right	Right:CABLES	Right:XT	60.00	58.50	59.25	19.151	1.61e+006	1.600	31.60	0.00	259.23	121.03	0.00	0.00	0.59	121.03
Right	Right:XT		58.50	55.50	57.00	19.416	1.63e+006	1.600	31.60	0.00	525.64	245.42	0.00	0.00	1.18	245.41
Right		Right:X2T	55.50	52.50	54.00	19.769	1.66e+006	1.600	31.60	0.00	535.20	249.88	0.00	0.00	1.18	249.88
Right	Right:X2T		52.50	47.50	50.00	20.240	1.7e+006	1.600	31.60	0.00	913.24	426.38	0.00	0.00	1.97	426.38
Right			47.50	42.50	45.00	20.828	1.75e+006	1.600	31.60	0.00	939.80	438.78	0.00	0.00	1.97	438.78
Right			42.50	37.50	40.00	21.417	1.8e+006	1.600	31.60	0.00	966.35	451.18	0.00	0.00	1.97	451.18
Right		Right:XB	37.50	32.50	35.00	22.005	1.85e+006	1.600	31.60	0.00	992.91	463.58	0.00	0.00	1.97	463.58
Right	Right:XB		32.50	29.50	31.00	22.476	1.89e+006	1.600	31.60	0.00	608.49	284.10	0.00	0.00	1.18	284.10
Right		Right:X2B	29.50	26.50	28.00	22.829	1.92e+006	1.600	31.60	0.00	618.05	288.56	0.00	0.00	1.18	288.56
Right	Right:X2B		26.50	21.50	24.00	23.300	1.96e+006	1.600	31.60	0.00	1051.33	490.86	0.00	0.00	1.97	490.85
Right			21.50	16.50	19.00	23.889	2.01e+006	1.600	31.60	0.00	1077.89	503.26	0.00	0.00	1.97	503.25
Right			16.50	11.50	14.00	24.477	2.06e+006	1.600	31.60	0.00	1104.44	515.65	0.00	0.00	1.97	515.65
Right			11.50	6.50	9.00	25.066	2.11e+006	1.600	31.60	0.00	1131.00	528.05	0.00	0.00	1.97	528.05
Right			6.50	3.25	4.87	25.551	2.15e+006	1.600	31.60	0.00	749.39	349.88	0.00	0.00	1.28	349.88
Right		Right:g	3.25	0.00	1.62	25.934	2.18e+006	1.600	31.60	0.00	760.61	355.12	0.00	0.00	1.28	355.12

Point Loads for Load Case "Hvy. Ice":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
SWL	1876	0	0	
SWR	1876	0	0	
L1	4110	0	0	
L2	4110	0	0	
L3	4110	0	0	
ANT1	2500	0	0	
ANT2	2500	0	0	

CABLES 6875 0 0

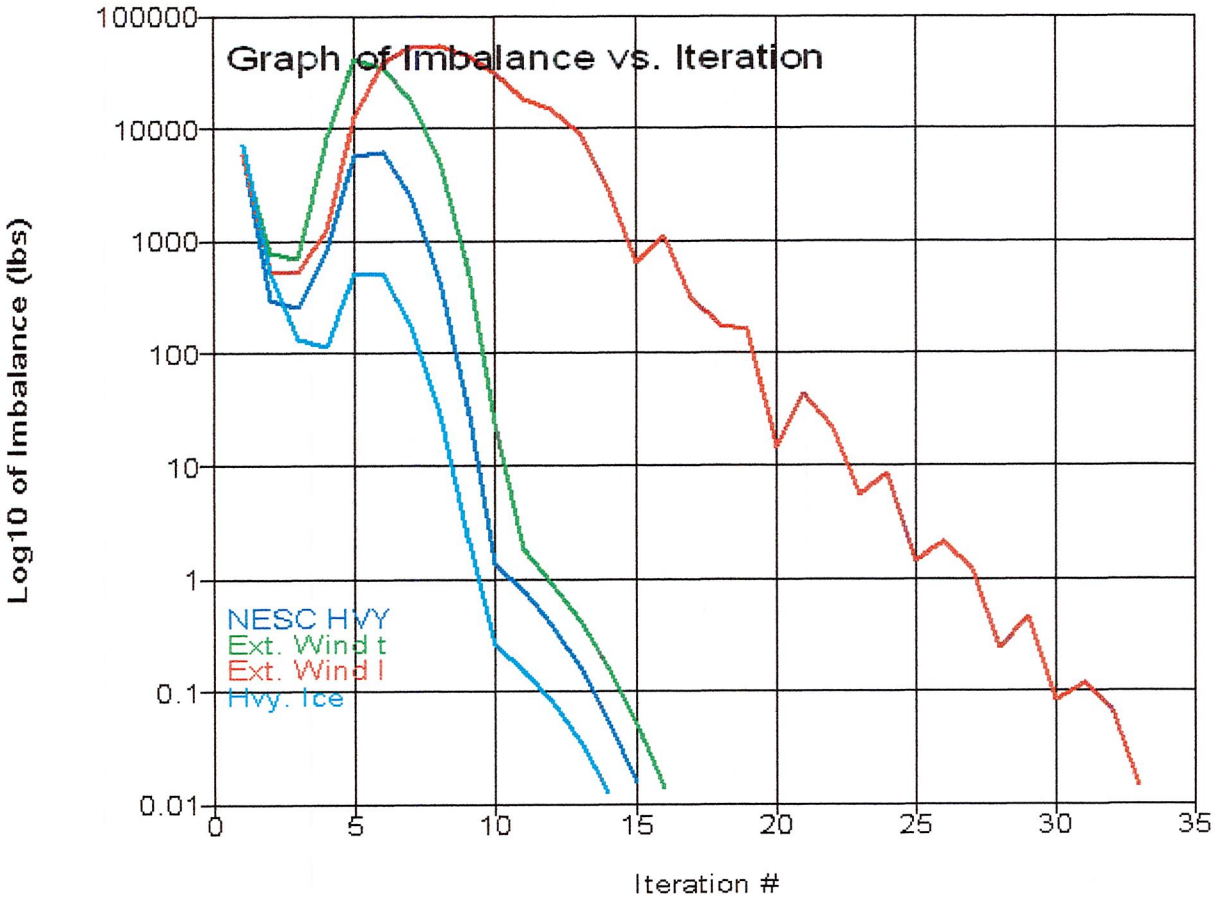
Detailed Pole Loading Data for Load Case "Hvy. Ice":

Notes: Does not include loads from equipment, arms, guys, braces, etc. or user input loads.
Wind load is calculated for the undeformed shape of a pole.

Pole Label	Top Joint	Bottom Joint	Section Top Z (ft)	Section Bottom Z (ft)	Section Average Elevation (ft)	Outer Diameter (in)	Reynolds Number	Drag Coef.	Adjusted Wind Pressure (psf)	Adjusted Ice Thickness (in)	Pole Vert. Load (lbs)	Pole Wind Load (lbs)	Pole Vertical Load (lbs)	Pole Ice Wind Load (lbs)	Pole Ice Tran. Wind Load (lbs)	Pole Ice Long. Wind Load (lbs)
Left	Left:t	Left:SW	83.50	82.75	83.13	8.088	4.65e+004	1.600	0.15	0.00	27.61	0.17	0.00	0.00	0.15	0.08
Left	Left:SW	Left:V	82.75	81.00	81.88	8.379	4.82e+004	1.600	0.15	0.00	66.75	0.40	0.00	0.00	0.35	0.20
Left	Left:V		81.00	76.00	78.50	9.168	5.27e+004	1.600	0.15	0.00	208.66	1.18	0.00	0.00	0.99	0.64
Left			76.00	73.00	74.50	10.102	5.81e+004	1.600	0.15	0.00	137.95	0.73	0.00	0.00	0.60	0.42
Left		Left:A	73.00	70.00	71.50	10.802	6.22e+004	1.600	0.15	0.00	147.52	0.75	0.00	0.00	0.60	0.45
Left	Left:A		70.00	65.00	67.50	11.737	6.75e+004	1.600	0.15	0.00	267.13	1.29	0.00	0.00	0.99	0.82
Left			65.00	61.75	63.38	12.700	7.31e+004	1.600	0.15	0.00	187.89	0.86	0.00	0.00	0.64	0.57
Left		Left:XT	61.75	58.50	60.13	13.459	7.74e+004	1.600	0.15	0.00	199.11	0.89	0.00	0.00	0.64	0.61
Left	Left:XT		58.50	55.50	57.00	14.189	8.16e+004	1.600	0.15	0.00	193.76	0.84	0.00	0.00	0.60	0.59
Left		Left:X2T	55.50	52.50	54.00	14.250	8.2e+004	1.600	0.15	0.00	203.33	0.86	0.00	0.00	0.60	0.62
Left	Left:X2T		52.50	47.50	50.00	14.250	8.2e+004	1.600	0.15	0.00	360.15	1.48	0.00	0.00	0.99	1.10
Left			47.50	42.50	45.00	14.250	8.2e+004	1.600	0.15	0.00	386.72	1.54	0.00	0.00	0.99	1.18
Left			42.50	37.50	40.00	14.250	8.2e+004	1.600	0.15	0.00	413.30	1.61	0.00	0.00	0.99	1.26
Left		Left:XB	37.50	32.50	35.00	14.250	8.2e+004	1.600	0.15	0.00	439.88	1.67	0.00	0.00	0.99	1.35
Left	Left:XB		32.50	29.50	31.00	14.250	8.2e+004	1.600	0.15	0.00	276.68	1.03	0.00	0.00	0.60	0.85
Left		Left:X2B	29.50	26.50	28.00	14.250	8.2e+004	1.600	0.15	0.00	286.25	1.06	0.00	0.00	0.60	0.88
Left	Left:X2B		26.50	21.50	24.00	14.250	8.2e+004	1.600	0.15	0.00	498.34	1.82	0.00	0.00	0.99	1.52
Left			21.50	16.50	19.00	14.250	8.2e+004	1.600	0.15	0.00	524.92	1.89	0.00	0.00	0.99	1.61
Left			16.50	11.50	14.00	14.250	8.2e+004	1.600	0.15	0.00	551.50	1.96	0.00	0.00	0.99	1.69
Left			11.50	6.50	9.00	14.250	8.2e+004	1.600	0.15	0.00	578.07	2.03	0.00	0.00	0.99	1.77
Left			6.50	3.25	4.87	14.250	8.2e+004	1.600	0.15	0.00	390.00	1.36	0.00	0.00	0.64	1.19
Left		Left:g	3.25	0.00	1.62	14.250	8.2e+004	1.600	0.15	0.00	401.23	1.39	0.00	0.00	0.64	1.23
Right	Right:t	Right:ANT1	120.00	118.00	119.00	12.118	6.97e+004	1.600	0.15	0.00	218.71	0.86	0.00	0.00	0.79	0.34
Right	Right:ANT1	Right:cable_t	118.00	116.00	117.00	12.353	7.11e+004	1.600	0.15	0.00	222.96	0.86	0.00	0.00	0.79	0.34
Right	Right:cable_t		116.00	112.00	114.00	12.706	7.31e+004	1.600	0.15	0.00	458.66	1.73	0.00	0.00	1.57	0.71
Right		Right:ANT2	112.00	108.00	110.00	13.177	7.58e+004	1.600	0.15	0.00	475.66	1.74	0.00	0.00	1.57	0.73
Right	Right:ANT2		108.00	103.00	105.50	13.707	7.89e+004	1.600	0.15	0.00	618.47	2.19	0.00	0.00	1.97	0.95
Right			103.00	98.00	100.50	14.295	8.22e+004	1.600	0.15	0.00	645.03	2.20	0.00	0.00	1.97	1.00
Right			98.00	93.00	95.50	14.884	8.56e+004	1.600	0.15	0.00	671.58	2.22	0.00	0.00	1.97	1.04
Right			93.00	88.00	90.50	15.472	8.9e+004	1.600	0.15	0.00	698.14	2.24	0.00	0.00	1.97	1.08
Right		Right:SW	88.00	83.00	85.50	16.061	9.24e+004	1.600	0.15	0.00	724.69	2.26	0.00	0.00	1.97	1.12
Right	Right:SW	Right:V	83.00	81.00	82.00	16.473	9.48e+004	1.600	0.15	0.00	297.31	0.91	0.00	0.00	0.79	0.46
Right	Right:V		81.00	76.00	78.50	16.885	9.71e+004	1.600	0.15	0.00	761.87	2.29	0.00	0.00	1.97	1.18
Right			76.00	73.00	74.50	17.356	9.99e+004	1.600	0.15	0.00	469.87	1.38	0.00	0.00	1.18	0.72
Right		Right:A	73.00	70.00	71.50	17.709	1.02e+005	1.600	0.15	0.00	479.43	1.39	0.00	0.00	1.18	0.74
Right	Right:A		70.00	65.00	67.50	18.180	1.05e+005	1.600	0.15	0.00	820.30	2.34	0.00	0.00	1.97	1.27
Right		Right:CABLES	65.00	60.00	62.50	18.768	1.08e+005	1.600	0.15	0.00	846.85	2.36	0.00	0.00	1.97	1.31
Right	Right:CABLES	Right:XT	60.00	58.50	59.25	19.151	1.1e+005	1.600	0.15	0.00	259.23	0.71	0.00	0.00	0.59	0.40
Right	Right:XT		58.50	55.50	57.00	19.416	1.12e+005	1.600	0.15	0.00	525.64	1.43	0.00	0.00	1.18	0.81
Right		Right:X2T	55.50	52.50	54.00	19.769	1.14e+005	1.600	0.15	0.00	535.20	1.44	0.00	0.00	1.18	0.83
Right	Right:X2T		52.50	47.50	50.00	20.240	1.16e+005	1.600	0.15	0.00	913.24	2.42	0.00	0.00	1.97	1.41
Right			47.50	42.50	45.00	20.828	1.2e+005	1.600	0.15	0.00	939.80	2.44	0.00	0.00	1.97	1.45
Right			42.50	37.50	40.00	21.417	1.23e+005	1.600	0.15	0.00	966.35	2.47	0.00	0.00	1.97	1.49
Right		Right:XB	37.50	32.50	35.00	22.005	1.27e+005	1.600	0.15	0.00	992.91	2.49	0.00	0.00	1.97	1.53
Right	Right:XB		32.50	29.50	31.00	22.476	1.29e+005	1.600	0.15	0.00	608.49	1.51	0.00	0.00	1.18	0.94
Right		Right:X2B	29.50	26.50	28.00	22.829	1.31e+005	1.600	0.15	0.00	618.05	1.52	0.00	0.00	1.18	0.95
Right	Right:X2B		26.50	21.50	24.00	23.300	1.34e+005	1.600	0.15	0.00	1051.33	2.55	0.00	0.00	1.97	1.62
Right			21.50	16.50	19.00	23.889	1.37e+005	1.600	0.15	0.00	1077.89	2.58	0.00	0.00	1.97	1.66
Right			16.50	11.50	14.00	24.477	1.41e+005	1.600	0.15	0.00	1104.44	2.60	0.00	0.00	1.97	1.70
Right			11.50	6.50	9.00	25.066	1.44e+005	1.600	0.15	0.00	1131.00	2.63	0.00	0.00	1.97	1.75
Right			6.50	3.25	4.87	25.551	1.47e+005	1.600	0.15	0.00	749.39	1.72	0.00	0.00	1.28	1.16
Right		Right:g	3.25	0.00	1.62	25.934	1.49e+005	1.600	0.15	0.00	760.61	1.74	0.00	0.00	1.28	1.17

*** Analysis Results:

Maximum element usage is 76.18% for Brace "X1L" in load case "Ext. Wind t"
Maximum insulator usage is 11.46% for Suspen "CABLES" in load case "Hvy. Ice"



*** Analysis Results for Load Case No. 1 "NESC HVY" - Number of iterations in SAPS 15

Equilibrium Joint Positions and Rotations for Load Case "NESC HVY":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
Left:g	0	0	0	0.0000	0.0000	0.0000	0	-13	0
Left:t	0.011	0.017	2.231e-005	0.6259	0.0101	0.0041	0.011	-12.98	83.5
Left:SW	0.01087	0.0252	6.71e-005	0.6259	0.0101	0.0041	0.01087	-12.97	82.75
Left:V	0.01056	0.04397	0.0001785	0.5928	0.0101	0.0041	0.01056	-12.96	81
Left:A	0.008639	0.1002	0.0004544	-0.1025	0.0098	0.0042	0.008639	-12.9	70
Left:XT	0.006706	0.04997	0.0006338	-0.1841	0.0095	0.0028	0.006706	-12.95	58.5
Left:X2T	0.005716	0.04019	0.0005976	-0.0097	0.0094	0.0022	0.005716	-12.96	52.5
Left:XB	0.002645	0.05462	0.0003877	-0.0263	0.0079	0.0010	0.002645	-12.95	32.5
Left:X2B	0.001859	0.04763	0.0003099	-0.1022	0.0071	0.0007	0.001859	-12.95	26.5
Right:g	0	0	0	0.0000	0.0000	0.0000	0	13	0
Right:t	0.0127	0.6001	-0.005077	-0.7207	0.0081	0.0009	0.0127	13.6	120
Right:ANT1	0.01241	0.5749	-0.004918	-0.7207	0.0081	0.0009	0.01241	13.57	118
Right:cable_t	0.01213	0.5498	-0.004754	-0.7201	0.0081	0.0009	0.01213	13.55	116
Right:ANT2	0.011	0.45	-0.004105	-0.7061	0.0081	0.0009	0.011	13.45	108

Right:SW	0.0075	0.1837	-0.002496	-0.4611	0.0079	0.0009	0.0075	13.18	83	
Right:V	0.007226	0.1681	-0.002405	-0.4317	0.0079	0.0009	0.007226	13.17	81	
Right:A	0.005744	0.1	-0.002024	-0.2787	0.0076	0.0009	0.005744	13.1	70	
Right:CABLES	0.004457	0.0632	-0.0018	-0.1409	0.0072	0.0007	0.004457	13.06	60	
Right:XT	0.004271	0.05978	-0.001766	-0.1196	0.0071	0.0007	0.004271	13.06	58.5	
Right:X2T	0.003549	0.05107	-0.001617	-0.0508	0.0067	0.0006	0.003549	13.05	52.5	
Right:XB	0.001499	0.04312	-0.00109	-0.0473	0.0049	0.0003	0.001499	13.04	32.5	
Right:X2B	0.001025	0.03606	-0.0009004	-0.0850	0.0042	0.0003	0.001025	13.04	26.5	
TAR53:O	0.009752	0.1008	-0.08388	0.2842	0.0098	0.0051	0.009752	-26.4	69.92	
TAR53:L1	0.009709	0.1008	-0.0814	0.2842	0.0098	0.0051	0.009709	-25.9	69.92	
TAR53:PL	0.008639	0.1002	0.0004544	0.4618	0.0098	0.0042	0.008639	-12.9	70	
TAR53:L2V	0.007051	0.1004	0.07979	0.0005	0.0087	0.0083	0.007051	0.1004	70.08	
TAR53:PR	0.005744	0.1	-0.002024	-0.4825	0.0076	0.0009	0.005744	13.1	70	
TAR53:L3	0.005633	0.09963	-0.09008	-0.3130	0.0076	0.0002	0.005633	26.1	69.91	
TAR53:E	0.005631	0.09962	-0.09281	-0.3130	0.0076	0.0002	0.005631	26.6	69.91	
TENL:O	0.0109	0.02522	-0.003654	0.6259	0.0101	0.0041	0.0109	-13.32	82.75	
TENR:O	0.007489	0.1837	-0.00798	-0.4611	0.0079	0.0009	0.007489	13.87	82.99	
VEEL:O	0.01085	0.02518	0.003788	0.6259	0.0101	0.0041	0.01085	-12.63	82.75	
VEER:O	0.007512	0.1837	0.002988	-0.4611	0.0079	0.0009	0.007512	12.5	83	
X1L:O	0.006678	0.04997	-0.001219	-0.1841	0.0095	0.0028	0.006678	-12.37	58.5	
X1L:E	0.001505	0.04312	-0.0003224	-0.0473	0.0049	0.0003	0.001505	12.11	32.5	
X1R:O	0.004281	0.05978	-9.196e-005	-0.1196	0.0071	0.0007	0.004281	12.26	58.5	
X1R:E	0.002631	0.05462	7.55e-006	-0.0263	0.0079	0.0010	0.002631	-12.12	32.5	
X2L:O	0.005691	0.04019	0.0004904	-0.0097	0.0094	0.0022	0.005691	-12.32	52.5	
X2L:E	0.001029	0.03606	0.0005213	-0.0850	0.0042	0.0003	0.001029	12.08	26.5	
X2R:O	0.001848	0.04763	-0.001274	-0.1022	0.0071	0.0007	0.001848	-12.06	26.5	
X2R:E	0.003557	0.05107	-0.0008807	-0.0508	0.0067	0.0006	0.003557	12.22	52.5	

Joint Support Reactions for Load Case "NESC HVY":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Horz. Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
Left:g	-0.02	0.0	-5.18	0.0	0.0	9.65	0.0	0.0	10.95	0.0	92.89	0.0	-0.7	0.0	-0.07	0.0	0.0
Right:g	-0.04	0.0	-6.94	0.0	0.0	-57.82	0.0	0.0	58.23	0.0	125.85	0.0	-2.7	0.0	-0.09	0.0	0.0

Detailed Laminated Wood Pole Usages for Load Case "NESC HVY":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (ft-k)	Long. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	Usage %
Left	Left:t	Origin	0.00	0.20	0.13	0.00	0.00	-0.00	-0.0	-0.01	0.01	-0.00	0.0
Left	Left:SW	End	0.75	0.30	0.13	0.00	0.01	-0.00	-0.0	-0.01	0.01	-0.00	0.0
Left	Left:SW	Origin	0.75	0.30	0.13	0.00	-1.25	-0.00	-0.0	-1.76	-2.97	-0.00	1.4
Left	Left:V	End	2.50	0.53	0.13	0.00	-6.44	-0.00	-0.0	-1.76	-2.97	-0.00	6.0
Left	Left:V	Origin	2.50	0.53	0.13	0.00	-6.44	-0.00	-0.0	-1.90	-2.90	-0.00	6.0
Left	#Left:0	End	7.50	1.04	0.12	0.00	-20.93	-0.01	-0.0	-1.90	-2.90	-0.00	14.8
Left	#Left:0	Origin	7.50	1.04	0.12	0.00	-20.93	-0.01	-0.0	-2.09	-2.81	-0.00	14.8
Left	#Left:1	End	10.50	1.19	0.11	0.01	-29.38	-0.02	-0.0	-2.09	-2.81	-0.00	18.1
Left	#Left:1	Origin	10.50	1.19	0.11	0.01	-29.38	-0.02	-0.0	-2.24	-2.75	-0.00	18.1
Left	Left:A	End	13.50	1.20	0.10	0.01	-37.63	-0.03	-0.0	-2.24	-2.75	-0.00	20.3
Left	Left:A	Origin	13.50	1.20	0.10	0.01	-37.63	-0.02	0.1	-2.34	6.26	0.00	20.3
Left	#Left:2	End	18.50	0.97	0.09	0.01	-6.31	-0.02	0.1	-2.34	6.26	0.00	2.9
Left	#Left:2	Origin	18.50	0.97	0.09	0.01	-6.31	-0.02	0.1	-2.56	6.35	0.00	3.0
Left	#Left:3	End	21.75	0.76	0.09	0.01	14.32	-0.02	0.1	-2.56	6.35	0.00	5.7
Left	#Left:3	Origin	21.75	0.76	0.09	0.01	14.32	-0.02	0.1	-2.76	6.41	-0.00	5.8
Left	Left:XT	End	25.00	0.60	0.08	0.01	35.14	-0.02	0.1	-2.76	6.41	-0.00	12.4
Left	Left:XT	Origin	25.00	0.60	0.08	0.01	31.18	-0.02	0.1	3.91	-0.14	-0.00	11.1
Left	#Left:4	End	28.00	0.51	0.07	0.01	30.76	-0.03	0.1	3.91	-0.14	-0.00	9.9
Left	#Left:4	Origin	28.00	0.51	0.07	0.01	30.76	-0.03	0.1	3.71	-0.08	-0.00	9.9
Left	Left:X2T	End	31.00	0.48	0.07	0.01	30.52	-0.03	0.1	3.71	-0.08	-0.00	9.0
Left	Left:X2T	Origin	31.00	0.48	0.07	0.01	28.23	-0.03	0.1	7.04	-3.47	-0.00	8.5
Left	#Left:5	End	36.00	0.52	0.06	0.01	10.87	-0.06	0.1	7.04	-3.47	-0.00	3.1
Left	#Left:5	Origin	36.00	0.52	0.06	0.01	10.87	-0.06	0.1	6.67	-3.37	-0.01	3.1
Left	#Left:6	End	41.00	0.59	0.05	0.01	-5.99	-0.09	0.1	6.67	-3.37	-0.01	1.7
Left	#Left:6	Origin	41.00	0.59	0.05	0.01	-5.99	-0.09	0.1	6.27	-3.28	-0.01	1.6
Left	#Left:7	End	46.00	0.65	0.04	0.01	-22.39	-0.13	0.1	6.27	-3.28	-0.01	4.6
Left	#Left:7	Origin	46.00	0.65	0.04	0.01	-22.39	-0.13	0.1	5.84	-3.19	-0.01	4.6
Left	Left:XB	End	51.00	0.66	0.03	0.00	-38.34	-0.17	0.1	5.84	-3.19	-0.01	6.9
Left	Left:XB	Origin	51.00	0.66	0.03	0.00	-41.92	-0.17	0.1	9.79	1.24	-0.01	7.7
Left	#Left:8	End	54.00	0.63	0.03	0.00	-38.18	-0.20	0.1	9.79	1.24	-0.01	6.6
Left	#Left:8	Origin	54.00	0.63	0.03	0.00	-38.18	-0.20	0.1	9.51	1.30	-0.01	6.6
Left	Left:X2B	End	57.00	0.57	0.02	0.00	-34.30	-0.24	0.1	9.51	1.30	-0.01	5.6
Left	Left:X2B	Origin	57.00	0.57	0.02	0.00	-37.17	-0.24	0.1	12.35	4.70	-0.01	6.2
Left	#Left:9	End	62.00	0.44	0.02	0.00	-13.68	-0.31	0.1	12.35	4.70	-0.01	2.4
Left	#Left:9	Origin	62.00	0.44	0.02	0.00	-13.68	-0.31	0.1	11.84	4.79	-0.02	2.4
Left	#Left:10	End	67.00	0.29	0.01	0.00	10.27	-0.39	0.1	11.84	4.79	-0.02	1.8
Left	#Left:10	Origin	67.00	0.29	0.01	0.00	10.27	-0.39	0.1	11.31	4.89	-0.02	1.8
Left	#Left:11	End	72.00	0.16	0.00	0.00	34.71	-0.48	0.1	11.31	4.89	-0.02	4.4
Left	#Left:11	Origin	72.00	0.16	0.00	0.00	34.71	-0.48	0.1	10.74	4.99	-0.02	4.4
Left	#Left:12	End	77.00	0.05	0.00	0.00	59.67	-0.59	0.1	10.74	4.99	-0.02	6.6
Left	#Left:12	Origin	77.00	0.05	0.00	0.00	59.67	-0.59	0.1	10.25	5.08	-0.02	6.6
Left	#Left:13	End	80.25	0.01	0.00	0.00	76.17	-0.66	0.1	10.25	5.08	-0.02	7.9
Left	#Left:13	Origin	80.25	0.01	0.00	0.00	76.17	-0.66	0.1	9.85	5.15	-0.02	7.9
Left	Left:g	End	83.50	0.00	0.00	0.00	92.89	-0.73	0.1	9.85	5.15	-0.02	9.1
Right	Right:t	Origin	0.00	7.20	0.15	-0.06	0.00	-0.00	-0.0	-0.11	0.04	-0.00	0.0
Right	Right:ANT1	End	2.00	6.90	0.15	-0.06	0.08	-0.00	-0.0	-0.11	0.04	-0.00	0.0
Right	Right:ANT1	Origin	2.00	6.90	0.15	-0.06	0.08	-0.00	-0.0	-2.33	0.32	-0.00	0.1
Right	Right:cable_t	End	4.00	6.60	0.15	-0.06	0.72	-0.00	-0.0	-2.33	0.32	-0.00	0.2

Right	Right:cable_t	Origin	4.00	6.60	0.15	-0.06	0.72	-0.00	-0.0	-2.67	0.44	-0.00	0.3
Right	#Right:14	End	8.00	6.00	0.14	-0.05	2.49	-0.01	-0.0	-2.67	0.44	-0.00	0.6
Right	#Right:14	Origin	8.00	6.00	0.14	-0.05	2.49	-0.01	-0.0	-3.13	0.60	-0.00	0.6
Right	Right:ANT2	End	12.00	5.40	0.13	-0.05	4.87	-0.02	-0.0	-3.13	0.60	-0.00	1.0
Right	Right:ANT2	Origin	12.00	5.40	0.13	-0.05	4.87	-0.02	-0.0	-5.67	1.28	-0.00	1.1
Right	#Right:15	End	17.00	4.67	0.12	-0.04	11.25	-0.03	-0.0	-5.67	1.28	-0.00	2.1
Right	#Right:15	Origin	17.00	4.67	0.12	-0.04	11.25	-0.03	-0.0	-6.30	1.47	-0.00	2.1
Right	#Right:16	End	22.00	3.97	0.12	-0.04	18.60	-0.06	-0.0	-6.30	1.47	-0.00	3.1
Right	#Right:16	Origin	22.00	3.97	0.12	-0.04	18.60	-0.06	-0.0	-6.96	1.66	-0.01	3.2
Right	#Right:17	End	27.00	3.32	0.11	-0.04	26.90	-0.08	-0.0	-6.96	1.66	-0.01	4.1
Right	#Right:17	Origin	27.00	3.32	0.11	-0.04	26.90	-0.08	-0.0	-7.64	1.85	-0.01	4.1
Right	#Right:18	End	32.00	2.73	0.10	-0.03	36.13	-0.12	-0.0	-7.64	1.85	-0.01	5.1
Right	#Right:18	Origin	32.00	2.73	0.10	-0.03	36.13	-0.12	-0.0	-8.35	2.03	-0.01	5.1
Right	Right:SW	End	37.00	2.20	0.09	-0.03	46.30	-0.16	-0.0	-8.35	2.03	-0.01	6.1
Right	Right:SW	Origin	37.00	2.20	0.09	-0.03	44.46	-0.16	0.0	-16.76	0.46	-0.01	6.1
Right	Right:V	End	39.00	2.02	0.09	-0.03	45.38	-0.18	0.0	-16.76	0.46	-0.01	6.0
Right	Right:V	Origin	39.00	2.02	0.09	-0.03	45.38	-0.18	0.0	-17.29	0.58	-0.01	6.0
Right	#Right:19	End	44.00	1.60	0.08	-0.03	48.28	-0.23	0.0	-17.29	0.58	-0.01	6.0
Right	#Right:19	Origin	44.00	1.60	0.08	-0.03	48.28	-0.23	-0.0	-17.90	0.72	-0.01	6.0
Right	#Right:20	End	47.00	1.39	0.07	-0.03	50.43	-0.27	-0.0	-17.90	0.72	-0.01	6.0
Right	#Right:20	Origin	47.00	1.39	0.07	-0.03	50.43	-0.27	-0.0	-18.38	0.82	-0.01	6.0
Right	Right:A	End	50.00	1.20	0.07	-0.02	52.89	-0.31	-0.0	-18.38	0.82	-0.01	6.1
Right	Right:A	Origin	50.00	1.20	0.07	-0.02	52.89	-0.32	0.1	-19.00	1.30	-0.02	6.1
Right	#Right:21	End	55.00	0.94	0.06	-0.02	59.40	-0.43	0.1	-19.00	1.30	-0.02	6.4
Right	#Right:21	Origin	55.00	0.94	0.06	-0.02	59.40	-0.43	0.1	-19.84	1.47	-0.02	6.4
Right	Right:CABLES	End	60.00	0.76	0.05	-0.02	66.74	-0.54	0.1	-19.84	1.47	-0.02	6.8
Right	Right:CABLES	Origin	60.00	0.76	0.05	-0.02	66.74	-0.54	0.1	-25.89	1.91	-0.02	6.9
Right	Right:XT	End	61.50	0.72	0.05	-0.02	69.60	-0.58	0.1	-25.89	1.91	-0.02	7.1
Right	Right:XT	Origin	61.50	0.72	0.05	-0.02	65.69	-0.58	0.1	-31.17	-2.25	-0.03	6.8
Right	#Right:22	End	64.50	0.65	0.05	-0.02	58.93	-0.66	0.1	-31.17	-2.25	-0.03	6.0
Right	#Right:22	Origin	64.50	0.65	0.05	-0.02	58.93	-0.66	0.1	-31.69	-2.16	-0.03	6.0
Right	Right:X2T	End	67.50	0.61	0.04	-0.02	52.45	-0.74	0.1	-31.69	-2.16	-0.03	5.3
Right	Right:X2T	Origin	67.50	0.61	0.04	-0.02	49.30	-0.74	0.1	-36.21	-5.24	-0.03	5.1
Right	#Right:23	End	72.50	0.58	0.04	-0.02	23.12	-0.89	0.1	-36.21	-5.24	-0.03	2.7
Right	#Right:23	Origin	72.50	0.58	0.04	-0.02	23.12	-0.89	0.1	-37.13	-5.06	-0.03	2.8
Right	#Right:24	End	77.50	0.57	0.03	-0.02	-2.19	-1.05	0.1	-37.13	-5.06	-0.03	1.0
Right	#Right:24	Origin	77.50	0.57	0.03	-0.02	-2.19	-1.05	0.1	-38.09	-4.87	-0.03	1.1
Right	#Right:25	End	82.50	0.55	0.02	-0.01	-26.55	-1.21	0.1	-38.09	-4.87	-0.03	2.8
Right	#Right:25	Origin	82.50	0.55	0.02	-0.01	-26.55	-1.21	0.1	-39.07	-4.67	-0.03	2.8
Right	Right:XB	End	87.50	0.52	0.02	-0.01	-49.91	-1.38	0.1	-39.07	-4.67	-0.03	4.4
Right	Right:XB	Origin	87.50	0.52	0.02	-0.01	-56.61	-1.38	0.1	-47.09	2.22	-0.04	5.0
Right	#Right:26	End	90.50	0.48	0.02	-0.01	-49.97	-1.49	0.1	-47.09	2.22	-0.04	4.4
Right	#Right:26	Origin	90.50	0.48	0.02	-0.01	-49.97	-1.49	0.1	-47.70	2.34	-0.04	4.4
Right	Right:X2B	End	93.50	0.43	0.01	-0.01	-42.93	-1.60	0.1	-47.70	2.34	-0.04	3.9
Right	Right:X2B	Origin	93.50	0.43	0.01	-0.01	-46.70	-1.60	0.1	-52.46	6.12	-0.04	4.2
Right	#Right:27	End	98.50	0.33	0.01	-0.01	-16.10	-1.79	0.1	-52.46	6.12	-0.04	2.1
Right	#Right:27	Origin	98.50	0.33	0.01	-0.01	-16.10	-1.79	0.1	-53.52	6.32	-0.04	2.1
Right	#Right:28	End	103.50	0.22	0.00	-0.01	15.50	-1.98	0.1	-53.52	6.32	-0.04	2.0
Right	#Right:28	Origin	103.50	0.22	0.00	-0.01	15.50	-1.98	0.1	-54.62	6.50	-0.04	2.1
Right	#Right:29	End	108.50	0.12	0.00	-0.00	48.01	-2.18	0.1	-54.62	6.50	-0.04	3.9
Right	#Right:29	Origin	108.50	0.12	0.00	-0.00	48.01	-2.18	0.1	-55.74	6.67	-0.04	3.9
Right	#Right:30	End	113.50	0.04	0.00	-0.00	81.36	-2.38	0.1	-55.74	6.67	-0.04	5.6
Right	#Right:30	Origin	113.50	0.04	0.00	-0.00	81.36	-2.38	0.1	-56.68	6.80	-0.04	5.6
Right	#Right:31	End	116.75	0.01	0.00	-0.00	103.45	-2.52	0.1	-56.68	6.80	-0.04	6.6
Right	#Right:31	Origin	116.75	0.01	0.00	-0.00	103.45	-2.52	0.1	-57.44	6.89	-0.04	6.6
Right	Right:g	End	120.00	0.00	0.00	0.00	125.85	-2.66	0.1	-57.44	6.89	-0.04	7.6

Summary of Brace Forces and Usages for Load Case "NESC HVY":

Brace Label	Forces (kips)	Allowable Compression (kips)	Allowable Tension (kips)	Usage %
TENL	3.18	5.45	99.22	4.94
TENR	3.04	5.45	99.22	4.71
VEEL	-2.05	28.46	241.92	11.07
VEER	6.57	28.46	241.92	4.18
X1L	-9.70	41.12	255.15	36.27
X1R	6.29	41.12	255.15	3.80
X2L	-5.17	41.12	255.15	19.35
X2R	4.80	41.12	255.15	2.89

Detailed X-Arm Usages for Load Case "NESC HVY":

X-Arm Label	Joint Label	Joint Position	Rel. Dist. (ft)	Tran. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	X Mom. (ft-k)	Z Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	X Shear (kips)	Z Shear (kips)	P/A (psi)	Mx/Sx (psi)	Mz/Sz (psi)	Max. Usage %
TAR53	TAR53:O	Origin	0.00	1.21	0.12	-1.01	0.00	0.00	0.0	0.00	-0.01	-0.00	0.00046	8.63e-005	1.69e-005	0.0
TAR53	TAR53:L1	End	0.50	1.21	0.12	-0.98	-0.00	0.00	0.0	0.00	-0.01	-0.00	0.00046	0.646	6.72e-005	0.0
TAR53	TAR53:L1	Origin	0.50	1.21	0.12	-0.98	0.00	-0.00	0.0	-3.25	0.15	-0.00	42	0.646	4.24e-005	0.5
TAR53	#gTAR53:0	End	5.50	1.21	0.11	-0.66	0.75	0.00	0.0	-3.25	0.15	-0.00	42	138	0.543	2.3
TAR53	#gTAR53:0	Origin	5.50	1.21	0.11	-0.66	-0.75	-0.00	-0.0	-3.25	0.02	-0.00	42	138	0.543	2.3
TAR53	#gTAR53:1	End	9.50	1.21	0.11	-0.36	0.83	0.01	-0.0	-3.25	0.02	-0.00	42	152	0.984	2.4
TAR53	#gTAR53:1	Origin	9.50	1.21	0.11	-0.36	-0.83	-0.01	-0.0	-3.25	-0.10	-0.00	42	152	0.984	2.4
TAR53	TAR53:PL	End	13.50	1.20	0.10	0.01	0.45	0.01	-0.0	-3.25	-0.10	-0.00	42	81.4	1.43	1.6
TAR53	TAR53:PL	Origin	13.50	1.20	0.10	0.01	-0.45	0.06	-0.0	5.68	-0.24	-0.01	74	81.4	7.87	2.0
TAR53	#gTAR53:2	End	18.50	1.20	0.10	0.49	-0.75	-0.04	-0.0	5.68	-0.24	-0.01	74	136	4.48	2.7
TAR53	#gTAR53:2	Origin	18.50	1.20	0.10	0.49	0.75	0.04	-0.0	5.68	-0.37	-0.01	74	136	4.48	2.7
TAR53	#gTAR53:3	End	22.50	1.20	0.09	0.82	-2.24	-0.01	-0.0	5.68	-0.37	-0.01	74	409	1.85	6.1
TAR53	#gTAR53:3	Origin	22.50	1.20	0.09	0.82	2.24	0.01	-0.0	5.68	-0.51	-0.01	74	409	1.84	6.1
TAR53	TAR53:L2V	End	26.50	1.21	0.08	0.96	-4.27	0.01	-0.0	5.68	-0.51	-0.01	74	781	0.763	10.7

TAR53	TAR53:L2V	Origin	26.50	1.21	0.08	0.96	4.27	-0.01	-0.0	-1.39	0.47	-0.01	18	781	0.767	10.0
TAR53	#gTAR53:4	End	31.50	1.20	0.08	0.74	-1.93	0.04	-0.0	-1.39	0.47	-0.01	18	352	5.24	4.7
TAR53	#gTAR53:4	Origin	31.50	1.20	0.08	0.74	1.93	-0.04	-0.0	-1.39	0.35	-0.01	18	352	5.24	4.7
TAR53	#gTAR53:5	End	35.50	1.20	0.07	0.38	-0.54	0.07	-0.0	-1.39	0.35	-0.01	18	97.9	8.81	1.6
TAR53	#gTAR53:5	Origin	35.50	1.20	0.07	0.38	0.54	-0.07	-0.0	-1.39	0.24	-0.01	18	97.9	8.81	1.6
TAR53	TAR53:PR	End	39.50	1.20	0.07	-0.02	0.41	0.10	-0.0	-1.39	0.24	-0.01	18	74.5	12.4	1.3
TAR53	TAR53:PR	Origin	39.50	1.20	0.07	-0.02	-0.41	-0.01	0.0	-1.05	0.08	0.00	14	74.5	1.17	1.1
TAR53	#gTAR53:6	End	44.50	1.20	0.07	-0.50	0.82	0.01	0.0	-1.05	0.08	0.00	14	150	0.712	2.1
TAR53	#gTAR53:6	Origin	44.50	1.20	0.07	-0.50	-0.82	-0.01	0.0	-1.05	-0.05	0.00	14	150	0.712	2.1
TAR53	#gTAR53:7	End	48.50	1.20	0.07	-0.81	0.64	0.00	0.0	-1.05	-0.05	0.00	14	116	0.352	1.6
TAR53	#gTAR53:7	Origin	48.50	1.20	0.07	-0.81	-0.64	-0.00	-0.0	-1.05	-0.16	0.00	14	116	0.352	1.6
TAR53	TAR53:L3	End	52.50	1.20	0.07	-1.08	-0.00	0.00	-0.0	-1.05	-0.16	0.00	14	0.646	5.7e-005	0.2
TAR53	TAR53:L3	Origin	52.50	1.20	0.07	-1.08	0.00	-0.00	-0.0	0.00	0.01	0.00	0.0005	0.646	7.4e-005	0.0
TAR53	TAR53:E	End	53.00	1.20	0.07	-1.11	-0.00	-0.00	-0.0	0.00	0.01	0.00	0.0005	1.3e-006	8.05e-006	0.0

Summary of Suspension Capacities and Usages for Load Case "NESC HVY":

Suspension Label	Tension (kips)	Input Tension Capacity (kips)	Factored Tension Capacity (kips)	Usage %
SUSL	2.208	60.00	60.00	3.68
SUSC	2.208	60.00	60.00	3.68
SUSR	2.208	60.00	60.00	3.68
SWL	1.011	60.00	60.00	1.69
SWR	1.011	60.00	60.00	1.69
ANT1	2.008	60.00	60.00	3.35
ANT2	2.057	60.00	60.00	3.43
CABLES	5.509	60.00	60.00	9.18

*** Analysis Results for Load Case No. 2 "Ext. Wind t" - Number of iterations in SAPS 16

Equilibrium Joint Positions and Rotations for Load Case "Ext. Wind t":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
Left:g	0	0	0	0.0000	0.0000	0.0000	0	-13	0
Left:t	0.01091	0.04558	0.0001322	1.5482	0.0100	0.0038	0.01091	-12.95	83.5
Left:SW	0.01078	0.06584	0.000406	1.5483	0.0100	0.0038	0.01078	-12.93	82.75
Left:V	0.01047	0.1123	0.0009942	1.4685	0.0100	0.0038	0.01047	-12.89	81
Left:A	0.008564	0.2529	0.002145	-0.2417	0.0096	0.0041	0.008564	-12.75	70
Left:XT	0.00668	0.1304	0.002675	-0.4520	0.0093	0.0027	0.00668	-12.87	58.5
Left:X2T	0.00571	0.1065	0.002476	-0.0205	0.0092	0.0021	0.00571	-12.89	52.5
Left:XB	0.002673	0.1422	0.001498	-0.0704	0.0079	0.0009	0.002673	-12.86	32.5
Left:X2B	0.001888	0.1241	0.001188	-0.2640	0.0071	0.0007	0.001888	-12.88	26.5
Right:g	0	0	0	0.0000	0.0000	0.0000	0	13	0
Right:t	0.01271	1.599	-0.02359	-2.0036	0.0082	0.0011	0.01271	14.6	120
Right:ANT1	0.01243	1.529	-0.02237	-2.0034	0.0082	0.0011	0.01215	14.46	116
Right:cable_t	0.01215	1.459	-0.02114	-2.0014	0.0082	0.0011	0.01101	14.18	108
Right:ANT2	0.01101	1.182	-0.01632	-1.9576	0.0081	0.0010	0.007507	13.46	82.99
Right:SW	0.007507	0.4594	-0.005515	-1.1879	0.0079	0.0009	0.007232	13.42	80.99
Right:V	0.007232	0.4196	-0.005079	-1.0978	0.0079	0.0009	0.005744	13.25	70
Right:A	0.005744	0.2507	-0.003552	-0.6772	0.0076	0.0009	0.004451	13.16	60
Right:CABLES	0.004451	0.1618	-0.00296	-0.3381	0.0072	0.0007	0.004264	13.15	58.5
Right:XT	0.004264	0.1536	-0.002904	-0.2866	0.0071	0.0007	0.003539	13.13	52.5
Right:X2T	0.003539	0.1329	-0.002678	-0.1182	0.0067	0.0006	0.001486	13.11	32.5
Right:XB	0.001486	0.1136	-0.001908	-0.1246	0.0049	0.0003	0.001014	13.1	26.5
Right:X2B	0.001014	0.09508	-0.00159	-0.2231	0.0041	0.0002	0.009631	-26.25	69.8
TAR53:O	0.009631	0.2548	-0.2021	0.7204	0.0096	0.0049	0.009589	-25.75	69.8
TAR53:L1	0.009589	0.2547	-0.1958	0.7203	0.0096	0.0049	0.008564	-12.75	70
TAR53:PL	0.008564	0.2529	0.002145	1.1227	0.0096	0.0041	0.007044	0.2526	70.2
TAR53:L2V	0.007044	0.2526	0.2019	0.0156	0.0086	0.0081	0.005744	13.25	70
TAR53:PR	0.005744	0.2507	-0.003552	-1.1915	0.0076	0.0009	0.005609	26.25	69.78
TAR53:L3	0.005609	0.249	-0.2177	-0.7930	0.0076	0.0003	0.005606	26.75	69.78
TAR53:E	0.005606	0.2489	-0.2246	-0.7930	0.0076	0.0003	0.0108	-13.27	82.74
TENL:O	0.0108	0.06597	-0.008797	1.5483	0.0100	0.0038	0.007494	14.14	82.98
TENR:O	0.007494	0.4593	-0.01964	-1.1879	0.0079	0.0009	0.01076	-12.59	82.76
VEEL:O	0.01076	0.06572	0.00961	1.5483	0.0100	0.0038	0.00752	12.78	83.01
VEER:O	0.00752	0.4596	0.008613	-1.1879	0.0079	0.0009	0.006651	-12.29	58.5
X1L:O	0.006651	0.1304	-0.001874	-0.4520	0.0093	0.0027	0.001491	12.18	32.5
X1L:E	0.001491	0.1136	0.0001122	-0.1246	0.0049	0.0003	0.004274	12.35	58.5
X1R:O	0.004274	0.1536	0.001105	-0.2866	0.0071	0.0007	0.00266	-12.03	32.5
X1R:E	0.00266	0.1422	0.0004782	-0.0704	0.0079	0.0009	0.005686	-12.26	52.5
X2L:O	0.005686	0.1065	0.002249	-0.0205	0.0092	0.0021	0.001018	12.14	26.5
X2L:E	0.001018	0.09509	0.002142	-0.2231	0.0041	0.0002	0.001877	-11.99	26.5
X2R:O	0.001877	0.1241	-0.002903	-0.2640	0.0071	0.0007	0.003547	12.3	52.5
X2R:E	0.003547	0.1329	-0.0009642	-0.1182	0.0067	0.0006			

Joint Support Reactions for Load Case "Ext. Wind t":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Horz. Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
Left:g	-0.03	0.0	-13.92	0.0	0.0	46.02	0.0	0.0	48.08	0.0	244.30	0.0	-0.8	0.0	-0.08	0.0	0.0
Right:g	-0.04	0.0	-18.51	0.0	0.0	-90.71	0.0	0.0	92.58	0.0	333.33	0.0	-2.6	0.0	-0.09	0.0	0.0

Detailed Laminated Wood Pole Usages for Load Case "Ext. Wind t":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (ft-k)	Long. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	Usage %
Left	Left:t	Origin	0.00	0.55	0.13	0.00	0.00	-0.00	-0.0	-0.01	0.02	-0.00	0.0
Left	Left:SW	End	0.75	0.79	0.13	0.00	0.02	-0.00	-0.0	-0.01	0.02	-0.00	0.0
Left	Left:SW	Origin	0.75	0.79	0.13	0.00	-2.87	-0.00	-0.0	4.71	-7.33	-0.00	3.4
Left	Left:V	End	2.50	1.35	0.13	0.01	-15.69	-0.00	-0.0	4.71	-7.33	-0.00	14.7
Left	Left:V	Origin	2.50	1.35	0.13	0.01	-15.69	-0.00	-0.0	4.53	-7.15	-0.00	14.6
Left	#Left:0	End	7.50	2.62	0.12	0.02	-51.47	-0.01	-0.0	4.53	-7.15	-0.00	36.4
Left	#Left:0	Origin	7.50	2.62	0.12	0.02	-51.47	-0.01	-0.0	4.28	-6.96	-0.00	36.4
Left	#Left:1	End	10.50	3.00	0.11	0.03	-72.36	-0.02	-0.0	4.28	-6.96	-0.00	44.4
Left	#Left:1	Origin	10.50	3.00	0.11	0.03	-72.36	-0.02	-0.0	4.07	-6.82	-0.00	44.4
Left	Left:A	End	13.50	3.03	0.10	0.03	-92.83	-0.03	-0.0	4.07	-6.82	-0.00	50.0
Left	Left:A	Origin	13.50	3.03	0.10	0.03	-92.83	-0.03	0.1	5.08	15.34	0.00	50.0
Left	#Left:2	End	18.50	2.46	0.09	0.03	-16.11	-0.02	0.1	5.08	15.34	0.00	7.4
Left	#Left:2	Origin	18.50	2.46	0.09	0.03	-16.11	-0.02	0.1	4.90	15.58	0.00	7.4
Left	#Left:3	End	21.75	1.97	0.09	0.03	34.52	-0.02	0.1	4.90	15.58	0.00	13.8
Left	#Left:3	Origin	21.75	1.97	0.09	0.03	34.52	-0.02	0.1	4.67	15.79	0.00	13.7
Left	Left:XT	End	25.00	1.57	0.08	0.03	85.83	-0.02	0.1	4.67	15.79	0.00	30.1
Left	Left:XT	Origin	25.00	1.57	0.08	0.03	76.06	-0.02	0.1	21.38	-0.01	-0.00	27.8
Left	#Left:4	End	28.00	1.35	0.07	0.03	76.02	-0.02	0.1	21.38	-0.01	-0.00	25.2
Left	#Left:4	Origin	28.00	1.35	0.07	0.03	76.02	-0.02	0.1	21.18	0.25	-0.00	25.2
Left	Left:X2T	End	31.00	1.28	0.07	0.03	76.77	-0.03	0.1	21.18	0.25	-0.00	23.2
Left	Left:X2T	Origin	31.00	1.28	0.07	0.03	70.32	-0.03	0.1	31.08	-8.80	-0.00	22.0
Left	#Left:5	End	36.00	1.36	0.06	0.03	26.31	-0.05	0.1	31.08	-8.80	-0.00	8.2
Left	#Left:5	Origin	36.00	1.36	0.06	0.03	26.31	-0.05	0.1	30.72	-8.45	-0.01	8.2
Left	#Left:6	End	41.00	1.55	0.05	0.02	-15.95	-0.08	0.1	30.72	-8.45	-0.01	5.1
Left	#Left:6	Origin	41.00	1.55	0.05	0.02	-15.95	-0.08	0.1	30.31	-8.17	-0.01	5.0
Left	#Left:7	End	46.00	1.69	0.04	0.02	-56.81	-0.12	0.1	30.31	-8.17	-0.01	12.4

Left	#Left:7	Origin	46.00	1.69	0.04	0.02	-56.81	-0.11	0.1	29.87	-7.94	-0.01	12.4
Left	Left:XB	End	51.00	1.71	0.03	0.02	-96.50	-0.16	0.1	29.87	-7.94	-0.01	17.9
Left	Left:XB	Origin	51.00	1.71	0.03	0.02	-105.20	-0.16	0.1	39.98	2.61	-0.01	19.9
Left	#Left:8	End	54.00	1.63	0.03	0.02	-97.38	-0.19	0.1	39.98	2.61	-0.01	17.4
Left	#Left:8	Origin	54.00	1.63	0.03	0.02	-97.38	-0.19	0.1	39.71	2.72	-0.01	17.4
Left	Left:X2B	End	57.00	1.49	0.02	0.01	-89.22	-0.23	0.1	39.71	2.72	-0.01	15.2
Left	Left:X2B	Origin	57.00	1.49	0.02	0.01	-97.61	-0.23	0.1	48.78	12.21	-0.01	16.8
Left	#Left:9	End	62.00	1.15	0.02	0.01	-36.56	-0.30	0.1	48.78	12.21	-0.01	7.0
Left	#Left:9	Origin	62.00	1.15	0.02	0.01	-36.56	-0.30	0.1	48.28	12.47	-0.02	7.0
Left	#Left:10	End	67.00	0.77	0.01	0.01	25.79	-0.39	0.1	48.28	12.47	-0.02	5.1
Left	#Left:10	Origin	67.00	0.77	0.01	0.01	25.79	-0.39	0.1	47.74	12.80	-0.02	5.1
Left	#Left:11	End	72.00	0.41	0.00	0.01	89.78	-0.48	0.1	47.74	12.80	-0.02	12.0
Left	#Left:11	Origin	72.00	0.41	0.00	0.01	89.78	-0.48	0.1	47.16	13.17	-0.02	12.0
Left	#Left:12	End	77.00	0.14	0.00	0.00	155.63	-0.60	0.1	47.16	13.17	-0.02	17.9
Left	#Left:12	Origin	77.00	0.14	0.00	0.00	155.63	-0.60	0.1	46.65	13.50	-0.03	17.8
Left	#Left:13	End	80.25	0.04	0.00	0.00	199.52	-0.68	0.1	46.65	13.50	-0.03	21.2
Left	#Left:13	Origin	80.25	0.04	0.00	0.00	199.52	-0.68	0.1	46.23	13.78	-0.03	21.2
Left	Left:g	End	83.50	0.00	0.00	0.00	244.30	-0.77	0.1	46.23	13.78	-0.03	24.3
Right	Right:t	Origin	0.00	19.19	0.15	-0.28	0.00	-0.00	-0.0	-0.11	0.12	-0.00	0.0
Right	Right:ANT1	End	2.00	18.35	0.15	-0.27	0.25	-0.00	-0.0	-0.11	0.12	-0.00	0.1
Right	Right:ANT1	Origin	2.00	18.35	0.15	-0.27	0.25	-0.00	-0.0	-2.30	1.01	-0.00	0.1
Right	Right:cable_t	End	4.00	17.51	0.15	-0.25	2.28	-0.00	-0.0	-2.30	1.01	-0.00	0.6
Right	Right:cable_t	Origin	4.00	17.51	0.15	-0.25	2.28	-0.00	-0.0	-2.62	1.38	-0.00	0.6
Right	#Right:14	End	8.00	15.84	0.14	-0.22	7.81	-0.01	-0.0	-2.62	1.38	-0.00	1.7
Right	#Right:14	Origin	8.00	15.84	0.14	-0.22	7.81	-0.01	-0.0	-3.08	1.87	-0.00	1.7
Right	Right:ANT2	End	12.00	14.18	0.13	-0.20	15.31	-0.02	-0.0	-3.08	1.87	-0.00	3.0
Right	Right:ANT2	Origin	12.00	14.18	0.13	-0.20	15.31	-0.02	-0.0	-5.55	4.01	-0.00	3.0
Right	#Right:15	End	17.00	12.17	0.12	-0.16	35.35	-0.03	-0.0	-5.55	4.01	-0.00	6.2
Right	#Right:15	Origin	17.00	12.17	0.12	-0.16	35.35	-0.03	-0.0	-6.17	4.61	-0.00	6.2
Right	#Right:16	End	22.00	10.25	0.12	-0.13	58.41	-0.06	-0.0	-6.17	4.61	-0.00	9.4
Right	#Right:16	Origin	22.00	10.25	0.12	-0.13	58.41	-0.06	-0.0	-6.82	5.21	-0.01	9.4
Right	#Right:17	End	27.00	8.47	0.11	-0.10	84.48	-0.09	-0.0	-6.82	5.21	-0.01	12.5
Right	#Right:17	Origin	27.00	8.47	0.11	-0.10	84.48	-0.09	-0.0	-7.51	5.81	-0.01	12.5
Right	#Right:18	End	32.00	6.88	0.10	-0.08	113.51	-0.12	-0.0	-7.51	5.81	-0.01	15.5
Right	#Right:18	Origin	32.00	6.88	0.10	-0.08	113.51	-0.12	-0.0	-8.23	6.39	-0.01	15.6
Right	Right:SW	End	37.00	5.51	0.09	-0.07	145.45	-0.16	-0.0	-8.23	6.39	-0.01	18.5
Right	Right:SW	Origin	37.00	5.51	0.09	-0.07	138.98	-0.16	-0.0	-21.29	-1.07	-0.01	18.1
Right	Right:V	End	39.00	5.03	0.09	-0.06	136.84	-0.18	-0.0	-21.29	-1.07	-0.01	17.3
Right	Right:V	Origin	39.00	5.03	0.09	-0.06	136.84	-0.18	-0.0	-21.81	-0.70	-0.01	17.3
Right	#Right:19	End	44.00	3.99	0.08	-0.05	133.34	-0.24	-0.0	-21.81	-0.70	-0.01	15.9
Right	#Right:19	Origin	44.00	3.99	0.08	-0.05	133.34	-0.24	-0.0	-22.41	-0.28	-0.01	15.9
Right	#Right:20	End	47.00	3.47	0.07	-0.05	132.51	-0.28	-0.0	-22.41	-0.28	-0.01	15.2
Right	#Right:20	Origin	47.00	3.47	0.07	-0.05	132.51	-0.28	-0.0	-22.88	0.05	-0.01	15.2
Right	Right:A	End	50.00	3.01	0.07	-0.04	132.64	-0.32	-0.0	-22.88	0.05	-0.01	14.7
Right	Right:A	Origin	50.00	3.01	0.07	-0.04	132.64	-0.32	0.1	-22.80	2.67	-0.02	14.7
Right	#Right:21	End	55.00	2.39	0.06	-0.04	145.98	-0.43	0.1	-22.80	2.67	-0.02	15.1
Right	#Right:21	Origin	55.00	2.39	0.06	-0.04	145.98	-0.43	0.1	-23.63	3.20	-0.02	15.2
Right	Right:CABLES	End	60.00	1.94	0.05	-0.04	161.99	-0.55	0.1	-23.63	3.20	-0.02	15.8
Right	Right:CABLES	Origin	60.00	1.94	0.05	-0.04	161.99	-0.55	0.1	-29.69	4.52	-0.03	16.0
Right	Right:XT	End	61.50	1.84	0.05	-0.03	168.77	-0.59	0.1	-29.69	4.52	-0.03	16.3
Right	Right:XT	Origin	61.50	1.84	0.05	-0.03	159.69	-0.59	0.1	-41.41	-5.21	-0.03	15.8
Right	#Right:22	End	64.50	1.69	0.05	-0.03	144.07	-0.67	0.1	-41.41	-5.21	-0.03	13.9
Right	#Right:22	Origin	64.50	1.69	0.05	-0.03	144.07	-0.67	0.1	-41.93	-4.91	-0.03	13.9
Right	Right:X2T	End	67.50	1.59	0.04	-0.03	129.34	-0.76	0.1	-41.93	-4.91	-0.03	12.2
Right	Right:X2T	Origin	67.50	1.59	0.04	-0.03	120.83	-0.76	0.1	-52.88	-13.45	-0.03	11.7
Right	#Right:23	End	72.50	1.52	0.04	-0.03	53.59	-0.91	0.1	-52.88	-13.45	-0.03	5.6
Right	#Right:23	Origin	72.50	1.52	0.04	-0.03	53.59	-0.91	0.1	-53.80	-12.90	-0.03	5.6
Right	#Right:24	End	77.50	1.49	0.03	-0.03	-10.90	-1.07	0.1	-53.80	-12.90	-0.03	2.1
Right	#Right:24	Origin	77.50	1.49	0.03	-0.03	-10.90	-1.07	0.1	-54.75	-12.29	-0.03	2.1
Right	#Right:25	End	82.50	1.45	0.02	-0.03	-72.36	-1.24	0.1	-54.75	-12.29	-0.03	6.5
Right	#Right:25	Origin	82.50	1.45	0.02	-0.03	-72.36	-1.24	0.1	-55.74	-11.65	-0.03	6.6
Right	Right:XB	End	87.50	1.36	0.02	-0.02	-130.61	-1.41	0.1	-55.74	-11.65	-0.03	10.3
Right	Right:XB	Origin	87.50	1.36	0.02	-0.02	-146.50	-1.41	0.1	-73.66	5.24	-0.03	11.8
Right	#Right:26	End	90.50	1.27	0.01	-0.02	-130.78	-1.51	0.1	-73.66	5.24	-0.03	10.4
Right	#Right:26	Origin	90.50	1.27	0.01	-0.02	-130.78	-1.51	0.1	-74.27	5.66	-0.04	10.4
Right	Right:X2B	End	93.50	1.14	0.01	-0.02	-113.79	-1.62	0.1	-74.27	5.66	-0.04	9.0
Right	Right:X2B	Origin	93.50	1.14	0.01	-0.02	-123.57	-1.62	0.1	-85.29	16.03	-0.04	9.9
Right	#Right:27	End	98.50	0.88	0.01	-0.02	-43.45	-1.80	0.1	-85.29	16.03	-0.04	4.5
Right	#Right:27	Origin	98.50	0.88	0.01	-0.02	-43.45	-1.80	0.1	-86.35	16.66	-0.04	4.5
Right	#Right:28	End	103.50	0.59	0.00	-0.01	39.87	-1.98	0.1	-86.35	16.66	-0.04	4.1
Right	#Right:28	Origin	103.50	0.59	0.00	-0.01	39.87	-1.98	0.1	-87.44	17.23	-0.04	4.1
Right	#Right:29	End	108.50	0.32	0.00	-0.01	126.02	-2.17	0.1	-87.44	17.23	-0.04	8.9
Right	#Right:29	Origin	108.50	0.32	0.00	-0.01	126.02	-2.17	0.1	-88.58	17.74	-0.04	9.0
Right	#Right:30	End	113.50	0.11	0.00	-0.00	214.72	-2.35	0.1	-88.58	17.74	-0.04	13.4
Right	#Right:30	Origin	113.50	0.11	0.00	-0.00	214.72	-2.35	0.1	-89.54	18.11	-0.04	13.5
Right	#Right:31	End	116.75	0.03	0.00	-0.00	273.58	-2.48	0.1	-89.54	18.11	-0.04	16.2
Right	#Right:31	Origin	116.75	0.03	0.00	-0.00	273.58	-2.48	0.1	-90.32	18.38	-0.04	16.3
Right	Right:g	End	120.00	0.00	0.00	0.00	333.33	-2.60	0.1	-90.32	18.38	-0.04	18.9

Summary of Brace Forces and Usages for Load Case "Ext. Wind t":

Brace Label	Forces (kips)	Allowable Compression (kips)	Allowable Tension (kips)	Usage %
TENL	2.33	5.45	99.22	3.13
TENR	2.01	5.45	99.22	2.70
VEEL	-9.40	28.46	241.92	44.04
VEER	14.69	28.46	241.92	8.10
X1L	-23.49	41.12	255.15	76.18
X1R	14.91	41.12	255.15	7.79

X2L	-13.99	41.12	255.15	45.37
X2R	13.43	41.12	255.15	7.02

Detailed X-Arm Usages for Load Case "Ext. Wind t":

X-Arm Label	Joint Label	Joint Position	Rel. Dist. (ft)	Tran. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	X Mom. (ft-k)	Z Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	X Shear (kips)	Z Shear (kips)	P/A (psi)	Mx/Sx (psi)	Mz/Sz (psi)	Max. Usage %
TAR53	TAR53:O	Origin	0.00	3.06	0.12	-2.43	0.00	0.00	0.0	0.00	-0.01	-0.00	0.0012	1.95e-005	1.52e-006	0.0
TAR53	TAR53:L1	End	0.50	3.06	0.12	-2.35	-0.00	0.00	0.0	0.00	-0.01	-0.00	0.0012	0.646	8.91e-005	0.0
TAR53	TAR53:L1	Origin	0.50	3.06	0.12	-2.35	0.00	-0.00	-0.0	-3.88	0.27	-0.00	50	0.646	9.02e-005	0.6
TAR53	#gTAR53:0	End	5.50	3.05	0.11	-1.57	1.33	0.00	-0.0	-3.88	0.27	-0.00	50	244	0.524	3.7
TAR53	#gTAR53:0	Origin	5.50	3.05	0.11	-1.57	-1.33	-0.00	-0.0	-3.88	0.13	-0.00	50	244	0.524	3.7
TAR53	#gTAR53:1	End	9.50	3.04	0.11	-0.84	1.86	0.01	-0.0	-3.88	0.13	-0.00	50	340	0.95	4.9
TAR53	#gTAR53:1	Origin	9.50	3.04	0.11	-0.84	-1.86	-0.01	-0.0	-3.88	0.01	-0.00	50	340	0.95	4.9
TAR53	TAR53:PL	End	13.50	3.03	0.10	0.03	1.89	0.01	-0.0	-3.88	0.01	-0.00	50	346	1.38	5.0
TAR53	TAR53:PL	Origin	13.50	3.03	0.10	0.03	-1.89	0.06	-0.0	18.12	-0.75	-0.01	2.4e+002	346	7.72	7.4
TAR53	#gTAR53:2	End	18.50	3.03	0.10	1.24	-1.88	-0.03	-0.0	18.12	-0.75	-0.01	2.4e+002	344	4.2	7.3
TAR53	#gTAR53:2	Origin	18.50	3.03	0.10	1.24	1.88	0.03	-0.0	18.12	-0.94	-0.01	2.4e+002	344	4.2	7.3
TAR53	#gTAR53:3	End	22.50	3.03	0.09	2.06	-5.64	-0.01	-0.0	18.12	-0.94	-0.01	2.4e+002	1.03e+003	1.66	15.9
TAR53	#gTAR53:3	Origin	22.50	3.03	0.09	2.06	5.64	0.01	-0.0	18.11	-1.23	-0.00	2.4e+002	1.03e+003	1.66	15.9
TAR53	TAR53:L2V	End	26.50	3.03	0.08	2.42	-10.55	0.01	-0.0	18.11	-1.23	-0.00	2.4e+002	1.93e+003	0.775	27.0
TAR53	TAR53:L2V	Origin	26.50	3.03	0.08	2.42	10.55	-0.01	-0.0	-1.29	1.06	-0.01	17	1.93e+003	0.779	24.3
TAR53	#gTAR53:4	End	31.50	3.03	0.08	1.90	-5.22	0.04	-0.0	-1.29	1.06	-0.01	17	954	5.16	12.2
TAR53	#gTAR53:4	Origin	31.50	3.03	0.08	1.90	5.22	-0.04	-0.0	-1.28	0.95	-0.01	17	954	5.16	12.2
TAR53	#gTAR53:5	End	35.50	3.02	0.07	0.99	-1.42	0.07	-0.0	-1.28	0.95	-0.01	17	260	8.66	3.6
TAR53	#gTAR53:5	Origin	35.50	3.02	0.07	0.99	1.42	-0.07	-0.0	-1.28	0.84	-0.01	17	260	8.67	3.6
TAR53	TAR53:PR	End	39.50	3.01	0.07	-0.04	1.94	0.10	-0.0	-1.28	0.84	-0.01	17	354	12.1	4.8
TAR53	TAR53:PR	Origin	39.50	3.01	0.07	-0.04	-1.94	-0.01	0.0	0.91	-0.04	0.00	12	354	1.03	4.6
TAR53	#gTAR53:6	End	44.50	3.00	0.07	-1.18	1.75	0.00	0.0	0.91	-0.04	0.00	12	319	0.618	4.1
TAR53	#gTAR53:6	Origin	44.50	3.00	0.07	-1.18	-1.75	-0.00	0.0	0.90	-0.16	0.00	12	319	0.618	4.1
TAR53	#gTAR53:7	End	48.50	2.99	0.07	-1.93	1.09	0.00	0.0	0.90	-0.16	0.00	12	200	0.303	2.6
TAR53	#gTAR53:7	Origin	48.50	2.99	0.07	-1.93	-1.09	-0.00	-0.0	0.90	-0.27	0.00	12	200	0.303	2.6
TAR53	TAR53:L3	End	52.50	2.99	0.07	-2.61	-0.00	0.00	-0.0	0.90	-0.27	0.00	12	0.646	7.47e-005	0.2
TAR53	TAR53:L3	Origin	52.50	2.99	0.07	-2.61	0.00	-0.00	-0.0	0.00	0.01	0.00	0.0013	0.646	8.46e-005	0.0
TAR53	TAR53:E	End	53.00	2.99	0.07	-2.70	0.00	-0.00	-0.0	0.00	0.01	0.00	0.0013	3.23e-008	4.68e-006	0.0

Summary of Suspension Capacities and Usages for Load Case "Ext. Wind t":

Suspension Label	Tension (kips)	Input Tension Capacity (kips)	Factored Tension Capacity (kips)	Usage %
SUSL	2.494	60.00	60.00	4.16
SUSC	2.494	60.00	60.00	4.16
SUSR	2.494	60.00	60.00	4.16
SWL	0.666	60.00	60.00	1.11
SWR	0.666	60.00	60.00	1.11
ANT1	2.082	60.00	60.00	3.47
ANT2	2.510	60.00	60.00	4.18
CABLES	5.580	60.00	60.00	9.30

*** Analysis Results for Load Case No. 3 "Ext. Wind 1" - Number of iterations in SAPS 33

Equilibrium Joint Positions and Rotations for Load Case "Ext. Wind 1":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
Left:g	0	0	0	0.0000	0.0000	0.0000	0	-13	0
Left:t	4.933	0.05046	-0.1688	0.1319	4.6453	1.5397	4.933	-12.95	83.33
Left:SW	4.872	0.05055	-0.1664	0.1319	4.6453	1.5397	4.872	-12.95	82.58
Left:V	4.73	0.05077	-0.1606	0.1308	4.6439	1.5399	4.73	-12.95	80.84
Left:A	3.845	0.04974	-0.1248	0.1023	4.5670	1.5431	3.845	-12.95	69.88
Left:XT	2.944	0.01899	-0.0893	0.1025	4.4215	1.0101	2.944	-12.98	58.41
Left:X2T	2.487	0.01231	-0.07184	0.0906	4.3031	0.8072	2.487	-12.99	52.43
Left:XB	1.113	0.004682	-0.02423	0.0241	3.4408	0.3573	1.113	-13	32.48
Left:X2B	0.7742	0.002896	-0.01458	0.0085	3.0205	0.2667	0.7742	-13	26.49
Right:g	0	0	0	0.0000	0.0000	0.0000	0	13	0
Right:t	6.315	0.1205	-0.1945	-0.0881	4.1459	0.3143	6.315	13.12	119.8
Right:ANT1	6.171	0.1167	-0.1893	-0.0881	4.1459	0.3143	6.171	13.12	117.8
Right:cable_t	6.026	0.1128	-0.184	-0.0881	4.1456	0.3143	6.026	13.11	115.8
Right:ANT2	5.448	0.09733	-0.1631	-0.0880	4.1383	0.3143	5.448	13.1	107.8
Right:SW	3.672	0.04937	-0.09967	-0.0868	3.9650	0.3145	3.672	13.05	82.9
Right:V	3.534	0.04559	-0.09489	-0.0858	3.9391	0.3145	3.534	13.05	80.91
Right:A	2.795	0.02664	-0.06987	-0.0651	3.7593	0.3132	2.795	13.03	69.93
Right:CABLES	2.158	0.01256	-0.04948	-0.0319	3.5205	0.2546	2.158	13.01	59.95
Right:XT	2.067	0.01109	-0.04666	-0.0270	3.4769	0.2464	2.067	13.01	58.45
Right:X2T	1.713	0.006593	-0.0361	-0.0137	3.2795	0.2144	1.713	13.01	52.46
Right:XB	0.7174	0.0005158	-0.01078	0.0020	2.3535	0.1211	0.7174	13	32.49
Right:X2B	0.4891	4.88e-005	-0.006321	0.0023	1.9977	0.0962	0.4891	13	26.49
TAR53:O	4.273	0.05673	-0.1606	-0.0272	4.5640	1.9549	4.273	-26.44	69.84
TAR53:L1	4.256	0.05644	-0.1595	-0.0272	4.5640	1.9549	4.256	-25.94	69.84
TAR53:PL	3.845	0.04974	-0.1248	0.0310	4.5670	1.5431	3.845	-12.95	69.88
TAR53:L2V	3.271	0.03654	-0.08045	-0.2015	4.1535	3.0250	3.271	0.03654	69.92
TAR53:PR	2.795	0.02664	-0.06987	-0.1121	3.7593	0.3132	2.795	13.03	69.93
TAR53:L3	2.783	0.02649	-0.09408	-0.0822	3.7585	-0.0788	2.783	26.03	69.91
TAR53:E	2.784	0.02649	-0.09484	-0.0822	3.7585	-0.0788	2.784	26.53	69.91
TENL:O	4.881	0.05068	-0.1672	0.1319	4.6453	1.5397	4.881	-13.29	82.58
TENR:O	3.668	0.04935	-0.1007	-0.0868	3.9650	0.3145	3.668	13.73	82.9
VEEL:O	4.863	0.05043	-0.1656	0.1319	4.6453	1.5397	4.863	-12.61	82.58
VEER:O	3.676	0.04938	-0.09864	-0.0868	3.9650	0.3145	3.676	12.37	82.9
X1L:O	2.934	0.0189	-0.08827	0.1025	4.4215	1.0101	2.934	-12.4	58.41
X1L:E	0.7194	0.0005179	-0.01081	0.0020	2.3535	0.1211	0.7194	12.07	32.49
X1R:O	2.07	0.0111	-0.04628	-0.0270	3.4769	0.2464	2.07	12.21	58.45
X1R:E	1.108	0.004666	-0.02388	0.0241	3.4408	0.3573	1.108	-12.17	32.48
X2L:O	2.478	0.01225	-0.07083	0.0906	4.3031	0.8072	2.478	-12.35	52.43
X2L:E	0.4908	5.015e-005	-0.006361	0.0023	1.9977	0.0962	0.4908	12.04	26.49
X2R:O	0.7701	0.002887	-0.01445	0.0085	3.0205	0.2667	0.7701	-12.11	26.49
X2R:E	1.716	0.006598	-0.0359	-0.0137	3.2795	0.2144	1.716	12.18	52.46

Joint Support Reactions for Load Case "Ext. Wind 1":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Horz. Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
Left:g	-7.77	0.0	-0.26	0.0	0.0	-10.20	0.0	0.0	12.82	0.0	0.81	0.0	-290.0	0.0	-25.56	0.0	0.0
Right:g	-18.67	0.0	0.07	0.0	0.0	-34.68	0.0	0.0	39.39	0.0	-2.30	0.0	-1255.7	0.0	-32.81	0.0	0.0

Detailed Laminated Wood Pole Usages for Load Case "Ext. Wind 1":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (ft-k)	Long. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	Usage %
Left	Left:t	Origin	0.00	0.61	59.19	-2.03	0.00	0.00	-0.0	-0.01	-0.00	-0.01	0.0
Left	Left:SW	End	0.75	0.61	58.46	-2.00	-0.00	-0.01	-0.0	-0.01	-0.00	-0.01	0.0
Left	Left:SW	Origin	0.75	0.61	58.46	-2.00	-0.02	-0.01	-0.0	-3.02	-0.13	-0.53	0.4
Left	Left:V	End	2.50	0.61	56.76	-1.93	-0.25	-0.93	-0.0	-3.02	-0.13	-0.53	1.0
Left	Left:V	Origin	2.50	0.61	56.76	-1.93	-0.25	-0.93	-0.0	-3.14	-0.13	-0.66	1.0
Left	#Left:0	End	7.50	0.61	51.91	-1.73	-0.91	-4.26	-0.0	-3.14	-0.13	-0.66	2.9
Left	#Left:0	Origin	7.50	0.61	51.91	-1.73	-0.91	-4.26	-0.0	-3.30	-0.14	-0.84	2.9
Left	#Left:1	End	10.50	0.61	49.02	-1.61	-1.32	-6.77	-0.0	-3.30	-0.14	-0.84	4.0
Left	#Left:1	Origin	10.50	0.61	49.02	-1.61	-1.32	-6.77	-0.0	-3.44	-0.14	-0.98	4.0
Left	Left:A	End	13.50	0.60	46.14	-1.50	-1.74	-9.70	-0.0	-3.44	-0.14	-0.98	5.1
Left	Left:A	Origin	13.50	0.60	46.14	-1.50	0.48	-7.98	27.4	-4.09	-0.13	-0.44	3.8
Left	#Left:2	End	18.50	0.39	41.40	-1.31	-0.11	-10.19	27.4	-4.09	-0.13	-0.44	4.0
Left	#Left:2	Origin	18.50	0.39	41.40	-1.31	-0.14	-10.22	27.4	-4.30	-0.13	-0.67	4.1
Left	#Left:3	End	21.75	0.30	38.35	-1.19	-0.54	-12.39	27.4	-4.30	-0.13	-0.67	4.7
Left	#Left:3	Origin	21.75	0.30	38.35	-1.19	-0.56	-12.41	27.4	-4.48	-0.14	-0.86	4.7
Left	Left:XT	End	25.00	0.23	35.32	-1.07	-0.98	-15.20	27.4	-4.48	-0.14	-0.86	5.5
Left	Left:XT	Origin	25.00	0.23	35.32	-1.07	-1.09	-15.21	27.1	-4.51	-0.47	-1.57	5.5
Left	#Left:4	End	28.00	0.18	32.56	-0.97	-2.46	-19.93	27.1	-4.51	-0.47	-1.57	7.1
Left	#Left:4	Origin	28.00	0.18	32.56	-0.97	-2.49	-19.94	27.1	-4.69	-0.47	-1.76	7.2
Left	Left:X2T	End	31.00	0.15	29.84	-0.86	-3.86	-25.24	27.1	-4.69	-0.47	-1.76	8.7
Left	Left:X2T	Origin	31.00	0.15	29.84	-0.86	-3.71	-25.25	26.8	-5.27	-0.36	-2.56	8.7
Left	#Left:5	End	36.00	0.11	25.41	-0.70	-5.43	-38.07	26.8	-5.27	-0.36	-2.56	11.9
Left	#Left:5	Origin	36.00	0.11	25.41	-0.70	-5.50	-38.07	26.7	-5.62	-0.36	-2.92	12.0
Left	#Left:6	End	41.00	0.09	21.15	-0.55	-7.19	-52.68	26.7	-5.62	-0.36	-2.92	15.1
Left	#Left:6	Origin	41.00	0.09	21.15	-0.55	-7.29	-52.68	26.7	-6.01	-0.36	-3.29	15.2
Left	#Left:7	End	46.00	0.07	17.12	-0.41	-8.95	-69.17	26.7	-6.01	-0.36	-3.29	18.4

Left	#Left:7	Origin	46.00	0.07	17.12	-0.41	-9.07	-69.16	26.7	-6.42	-0.35	-3.69	18.4
Left	Left:XB	End	51.00	0.06	13.36	-0.29	-10.70	-87.62	26.7	-6.42	-0.35	-3.69	21.6
Left	Left:XB	Origin	51.00	0.06	13.36	-0.29	-11.80	-87.62	26.2	-5.59	0.94	-4.51	21.8
Left	#Left:8	End	54.00	0.05	11.26	-0.23	-8.89	-101.15	26.2	-5.59	0.94	-4.51	23.4
Left	#Left:8	Origin	54.00	0.05	11.26	-0.23	-8.98	-101.15	26.2	-5.88	0.95	-4.76	23.5
Left	Left:X2B	End	57.00	0.03	9.29	-0.18	-6.06	-115.45	26.2	-5.88	0.95	-4.76	25.2
Left	Left:X2B	Origin	57.00	0.03	9.29	-0.18	-5.35	-115.45	25.7	-7.24	0.23	-5.64	25.1
Left	#Left:9	End	62.00	0.02	6.34	-0.10	-4.02	-143.63	25.7	-7.24	0.23	-5.64	29.2
Left	#Left:9	Origin	62.00	0.02	6.34	-0.10	-4.23	-143.63	25.6	-7.77	0.24	-6.07	29.2
Left	#Left:10	End	67.00	0.01	3.87	-0.05	-2.87	-173.99	25.6	-7.77	0.24	-6.07	33.3
Left	#Left:10	Origin	67.00	0.01	3.87	-0.05	-3.10	-173.99	25.6	-8.35	0.24	-6.51	33.3
Left	#Left:11	End	72.00	0.00	1.94	-0.02	-1.71	-206.57	25.6	-8.35	0.24	-6.51	37.4
Left	#Left:11	Origin	72.00	0.00	1.94	-0.02	-1.97	-206.57	25.6	-8.97	0.25	-6.96	37.5
Left	#Left:12	End	77.00	0.00	0.64	-0.00	-0.54	-241.38	25.6	-8.97	0.25	-6.96	41.6
Left	#Left:12	Origin	77.00	0.00	0.64	-0.00	-0.78	-241.38	25.6	-9.52	0.25	-7.33	41.6
Left	#Left:13	End	80.25	0.00	0.16	-0.00	0.16	-265.21	25.6	-9.52	0.25	-7.33	44.3
Left	#Left:13	Origin	80.25	0.00	0.16	-0.00	-0.04	-265.21	25.6	-9.97	0.26	-7.62	44.3
Left	Left:g	End	83.50	0.00	0.00	0.00	0.92	-289.98	25.6	-9.97	0.26	-7.62	47.2
Right	Right:t	Origin	0.00	1.45	75.78	-2.33	0.00	-0.00	-0.0	-0.11	0.00	-0.06	0.0
Right	Right:ANT1	End	2.00	1.40	74.05	-2.27	0.00	-0.12	-0.0	-0.11	0.00	-0.06	0.0
Right	Right:ANT1	Origin	2.00	1.40	74.05	-2.27	0.00	-0.12	-0.0	-2.27	0.00	-0.90	0.1
Right	Right:cable_t	End	4.00	1.35	72.31	-2.21	0.00	-1.91	-0.0	-2.27	0.00	-0.90	0.3
Right	Right:cable_t	Origin	4.00	1.35	72.31	-2.21	0.00	-1.91	-0.0	-2.60	0.00	-1.08	0.3
Right	#Right:14	End	8.00	1.26	68.84	-2.08	0.01	-6.24	-0.0	-2.60	0.00	-1.08	0.6
Right	#Right:14	Origin	8.00	1.26	68.84	-2.08	0.01	-6.24	-0.0	-3.05	0.00	-1.33	0.7
Right	Right:ANT2	End	12.00	1.17	65.38	-1.96	0.02	-11.57	-0.0	-3.05	0.00	-1.33	1.1
Right	Right:ANT2	Origin	12.00	1.17	65.38	-1.96	0.02	-11.57	-0.0	-5.46	-0.00	-3.28	1.2
Right	#Right:15	End	17.00	1.05	61.05	-1.80	0.01	-27.98	-0.0	-5.46	-0.00	-3.28	2.4
Right	#Right:15	Origin	17.00	1.05	61.05	-1.80	0.01	-27.98	-0.0	-6.07	-0.00	-3.62	2.5
Right	#Right:16	End	22.00	0.94	56.75	-1.65	0.01	-46.07	-0.0	-6.07	-0.00	-3.62	3.8
Right	#Right:16	Origin	22.00	0.94	56.75	-1.65	0.01	-46.07	-0.0	-6.71	0.00	-3.97	3.8
Right	#Right:17	End	27.00	0.82	52.48	-1.49	0.01	-65.93	-0.0	-6.71	0.00	-3.97	5.1
Right	#Right:17	Origin	27.00	0.82	52.48	-1.49	0.01	-65.93	-0.0	-7.37	0.00	-4.33	5.1
Right	#Right:18	End	32.00	0.71	48.24	-1.34	0.02	-87.59	-0.0	-7.37	0.00	-4.33	6.5
Right	#Right:18	Origin	32.00	0.71	48.24	-1.34	0.02	-87.59	-0.0	-8.06	0.00	-4.71	6.5
Right	Right:SW	End	37.00	0.59	44.06	-1.20	0.03	-111.13	-0.0	-8.06	0.00	-4.71	7.9
Right	Right:SW	Origin	37.00	0.59	44.06	-1.20	0.55	-111.13	0.1	-10.80	0.78	-5.48	8.0
Right	Right:V	End	39.00	0.55	42.41	-1.14	2.12	-122.08	0.1	-10.80	0.78	-5.48	8.9
Right	Right:V	Origin	39.00	0.55	42.41	-1.14	2.12	-122.08	0.1	-11.32	0.78	-5.75	8.9
Right	#Right:19	End	44.00	0.44	38.32	-1.00	6.05	-150.83	0.1	-11.32	0.78	-5.75	10.9
Right	#Right:19	Origin	44.00	0.44	38.32	-1.00	6.05	-150.83	0.1	-11.92	0.78	-6.07	10.9
Right	#Right:20	End	47.00	0.38	35.91	-0.92	8.40	-169.03	0.1	-11.92	0.78	-6.07	12.1
Right	#Right:20	Origin	47.00	0.38	35.91	-0.92	8.40	-169.03	0.1	-12.38	0.78	-6.31	12.1
Right	Right:A	End	50.00	0.32	33.53	-0.84	10.75	-187.95	0.1	-12.38	0.78	-6.31	13.3
Right	Right:A	Origin	50.00	0.32	33.53	-0.84	12.78	-189.47	31.5	-13.20	0.20	-10.33	13.6
Right	#Right:21	End	55.00	0.22	29.65	-0.71	13.89	-241.14	31.5	-13.20	0.20	-10.33	16.4
Right	#Right:21	Origin	55.00	0.22	29.65	-0.71	13.83	-241.15	31.4	-14.03	0.20	-10.75	16.4
Right	Right:CABLES	End	60.00	0.15	25.90	-0.59	14.97	-294.88	31.4	-14.03	0.20	-10.75	19.2
Right	Right:CABLES	Origin	60.00	0.15	25.90	-0.59	14.93	-294.88	31.3	-20.02	0.20	-12.29	19.3
Right	Right:XT	End	61.50	0.13	24.80	-0.56	15.27	-313.32	31.3	-20.02	0.20	-12.29	20.3
Right	Right:XT	Origin	61.50	0.13	24.80	-0.56	13.96	-313.33	31.8	-22.01	-1.11	-13.02	20.2
Right	#Right:22	End	64.50	0.10	22.64	-0.49	10.73	-352.39	31.8	-22.01	-1.11	-13.02	21.8
Right	#Right:22	Origin	64.50	0.10	22.64	-0.49	10.68	-352.40	31.7	-22.54	-1.11	-13.26	21.8
Right	Right:X2T	End	67.50	0.08	20.55	-0.43	7.45	-392.18	31.7	-22.54	-1.11	-13.26	23.3
Right	Right:X2T	Origin	67.50	0.08	20.55	-0.43	7.83	-392.19	32.1	-22.73	-0.41	-14.09	23.4
Right	#Right:23	End	72.50	0.05	17.22	-0.34	5.96	-462.63	32.1	-22.73	-0.41	-14.09	26.4
Right	#Right:23	Origin	72.50	0.05	17.22	-0.34	5.85	-462.63	32.1	-23.68	-0.41	-14.49	26.4
Right	#Right:24	End	77.50	0.03	14.10	-0.26	4.02	-535.07	32.1	-23.68	-0.41	-14.49	29.4
Right	#Right:24	Origin	77.50	0.03	14.10	-0.26	3.89	-535.07	32.0	-24.67	-0.41	-14.88	29.4
Right	#Right:25	End	82.50	0.01	11.22	-0.19	2.10	-609.48	32.0	-24.67	-0.41	-14.88	32.3
Right	#Right:25	Origin	82.50	0.01	11.22	-0.19	1.96	-609.48	32.0	-25.70	-0.40	-15.27	32.3
Right	Right:XB	End	87.50	0.01	8.61	-0.13	0.21	-685.84	32.0	-25.70	-0.40	-15.27	35.2
Right	Right:XB	Origin	87.50	0.01	8.61	-0.13	-0.46	-685.84	32.4	-27.13	-0.03	-16.07	35.3
Right	#Right:26	End	90.50	0.00	7.18	-0.10	-0.39	-734.06	32.4	-27.13	-0.03	-16.07	37.1
Right	#Right:26	Origin	90.50	0.00	7.18	-0.10	-0.49	-734.06	32.4	-27.78	-0.03	-16.30	37.1
Right	Right:X2B	End	93.50	0.00	5.87	-0.08	-0.41	-782.96	32.4	-27.78	-0.03	-16.30	39.0
Right	Right:X2B	Origin	93.50	0.00	5.87	-0.08	-0.67	-782.96	32.9	-28.80	-0.10	-17.11	39.0
Right	#Right:27	End	98.50	-0.00	3.94	-0.04	-0.89	-868.51	32.9	-28.80	-0.10	-17.11	42.1
Right	#Right:27	Origin	98.50	-0.00	3.94	-0.04	-1.08	-868.51	32.8	-29.95	-0.10	-17.47	42.2
Right	#Right:28	End	103.50	-0.00	2.37	-0.02	-1.24	-955.84	32.8	-29.95	-0.10	-17.47	45.2
Right	#Right:28	Origin	103.50	-0.00	2.37	-0.02	-1.45	-955.84	32.8	-31.14	-0.09	-17.81	45.3
Right	#Right:29	End	108.50	-0.00	1.17	-0.01	-1.57	-1044.87	32.8	-31.14	-0.09	-17.81	48.2
Right	#Right:29	Origin	108.50	-0.00	1.17	-0.01	-1.79	-1044.87	32.8	-32.37	-0.08	-18.13	48.3
Right	#Right:30	End	113.50	-0.00	0.38	-0.00	-1.85	-1135.54	32.8	-32.37	-0.08	-18.13	51.2
Right	#Right:30	Origin	113.50	-0.00	0.38	-0.00	-2.05	-1135.54	32.8	-33.41	-0.08	-18.39	51.2
Right	#Right:31	End	116.75	-0.00	0.10	-0.00	-2.06	-1195.31	32.8	-33.41	-0.08	-18.39	53.1
Right	#Right:31	Origin	116.75	-0.00	0.10	-0.00	-2.22	-1195.31	32.8	-34.25	-0.07	-18.58	53.1
Right	Right:g	End	120.00	0.00	0.00	0.00	-2.22	-1255.70	32.8	-34.25	-0.07	-18.58	54.9

Summary of Brace Forces and Usages for Load Case "Ext. Wind 1":

Brace Label	Forces (kips)	Allowable Compression (kips)	Allowable Tension (kips)	Usage %
TENL	1.94	5.45	99.22	2.61
TENR	1.88	5.45	99.22	2.53
VEEL	1.76	28.46	241.92	0.97
VEER	0.75	28.46	241.92	0.41
X1L	-0.50	41.12	255.15	1.62
X1R	1.90	41.12	255.15	0.99

X2L	0.14	41.12	255.15	0.07
X2R	-1.03	41.12	255.15	3.35

Detailed X-Arm Usages for Load Case "Ext. Wind 1":

X-Arm Label	Joint Label	Joint Position	Rel. Dist. (ft)	Tran. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	X Mom. (ft-k)	Z Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	X Shear (kips)	Z Shear (kips)	P/A (psi)	Mx/Sx (psi)	Mz/Sz (psi)	Max. Usage %
TAR53	TAR53:O	Origin	0.00	0.68	51.28	-1.93	0.00	-0.00	0.0	0.00	-0.01	-0.01	0.00021	0.000568	0.000134	0.0
TAR53	TAR53:L1	End	0.50	0.68	51.08	-1.91	-0.00	0.00	0.0	0.00	-0.01	-0.01	0.00021	0.586	0.526	0.0
TAR53	TAR53:L1	Origin	0.50	0.68	51.08	-1.91	0.00	-0.00	-0.0	-1.35	0.10	-0.37	18	0.587	0.526	0.2
TAR53	#gTAR53:0	End	5.50	0.64	49.06	-1.77	0.50	1.86	-0.0	-1.35	0.10	-0.37	18	91.1	232	4.3
TAR53	#gTAR53:0	Origin	5.50	0.64	49.06	-1.77	-0.50	-1.86	-0.0	-1.35	-0.02	-0.52	18	91.1	232	4.3
TAR53	#gTAR53:1	End	9.50	0.62	47.52	-1.64	0.43	3.94	-0.0	-1.35	-0.02	-0.52	18	79.4	492	7.4
TAR53	#gTAR53:1	Origin	9.50	0.62	47.52	-1.64	-0.43	-3.94	-0.0	-1.35	-0.12	-0.65	18	79.4	492	7.4
TAR53	TAR53:PL	End	13.50	0.60	46.14	-1.50	-0.04	6.55	-0.0	-1.35	-0.12	-0.65	18	7.73	817	10.5
TAR53	TAR53:PL	Origin	13.50	0.60	46.14	-1.50	2.30	20.90	-1.6	-1.34	0.23	-1.55	17	419	2.61e+003	38.1
TAR53	#gTAR53:2	End	18.50	0.56	44.01	-1.25	-1.12	-13.13	-1.6	-1.34	0.23	-1.55	17	204	1.64e+003	23.3
TAR53	#gTAR53:2	Origin	18.50	0.56	44.01	-1.25	1.13	13.13	-1.6	-1.32	0.11	-1.72	17	207	1.64e+003	23.3
TAR53	#gTAR53:3	End	22.50	0.50	41.75	-1.09	-0.68	-6.25	-1.6	-1.32	0.11	-1.72	17	124	781	11.5
TAR53	#gTAR53:3	Origin	22.50	0.50	41.75	-1.09	0.69	6.25	-1.6	-1.31	0.01	-1.86	17	125	781	11.5
TAR53	TAR53:L2V	End	26.50	0.44	39.25	-0.97	-0.67	1.19	-1.6	-1.31	0.01	-1.86	17	122	149	3.6
TAR53	TAR53:L2V	Origin	26.50	0.44	39.25	-0.97	0.67	-1.19	-1.6	-0.57	0.31	-2.68	7.5	121	149	3.5
TAR53	#gTAR53:4	End	31.50	0.36	36.25	-0.88	0.83	14.59	-1.6	-0.57	0.31	-2.68	7.5	151	1.82e+003	24.8
TAR53	#gTAR53:4	Origin	31.50	0.36	36.25	-0.88	-0.84	-14.59	-1.6	-0.61	0.18	-2.82	7.9	154	1.82e+003	24.8
TAR53	#gTAR53:5	End	35.50	0.33	34.42	-0.85	1.52	25.89	-1.6	-0.61	0.18	-2.82	7.9	277	3.23e+003	44.0
TAR53	#gTAR53:5	Origin	35.50	0.33	34.42	-0.85	-1.55	-25.89	-1.6	-0.66	0.07	-2.95	8.6	282	3.23e+003	44.1
TAR53	TAR53:PR	End	39.50	0.32	33.53	-0.84	1.75	37.68	-1.6	-0.66	0.07	-2.95	8.6	319	4.7e+003	62.9
TAR53	TAR53:PR	Origin	39.50	0.32	33.53	-0.84	0.29	-6.31	-0.0	-1.29	0.13	0.62	17	52.1	787	10.7
TAR53	#gTAR53:6	End	44.50	0.32	33.35	-0.96	0.35	3.23	-0.0	-1.29	0.13	0.62	17	63.6	403	6.0
TAR53	#gTAR53:6	Origin	44.50	0.32	33.35	-0.96	-0.35	-3.23	0.0	-1.29	0.01	0.47	17	63.6	403	6.0
TAR53	#gTAR53:7	End	48.50	0.32	33.35	-1.05	0.38	1.35	0.0	-1.29	0.01	0.47	17	70	169	3.2
TAR53	#gTAR53:7	Origin	48.50	0.32	33.35	-1.05	-0.38	-1.35	0.0	-1.29	-0.10	0.34	17	70	169	3.2
TAR53	TAR53:L3	End	52.50	0.32	33.40	-1.13	-0.00	0.00	0.0	-1.29	-0.10	0.34	17	0.597	0.521	0.2
TAR53	TAR53:L3	Origin	52.50	0.32	33.40	-1.13	0.00	-0.00	-0.0	0.00	0.01	0.01	0.00014	0.598	0.521	0.0
TAR53	TAR53:E	End	53.00	0.32	33.41	-1.14	0.00	-0.00	-0.0	0.00	0.01	0.01	0.00014	0.000116	3.34e-005	0.0

Summary of Suspension Capacities and Usages for Load Case "Ext. Wind 1":

Suspension Label	Tension (kips)	Input Tension Capacity (kips)	Factored Tension Capacity (kips)	Usage %
SUSL	1.177	60.00	60.00	1.96
SUSC	1.177	60.00	60.00	1.96
SUSR	1.177	60.00	60.00	1.96
SWL	0.215	60.00	60.00	0.36
SWR	0.215	60.00	60.00	0.36
ANT1	2.082	60.00	60.00	3.47
ANT2	2.510	60.00	60.00	4.18
CABLES	5.580	60.00	60.00	9.30

*** Analysis Results for Load Case No. 4 "Hvy. Ice" - Number of iterations in SAPS 14

Equilibrium Joint Positions and Rotations for Load Case "Hvy. Ice":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
Left:g	0	0	0	0.0000	0.0000	0.0000	0	-13	0
Left:t	0.01364	-0.02802	-0.001827	0.2358	0.0128	0.0058	0.01364	-13.03	83.5
Left:SW	0.01347	-0.02494	-0.001821	0.2358	0.0128	0.0058	0.01347	-13.02	82.75
Left:V	0.01308	-0.01782	-0.001746	0.2270	0.0128	0.0058	0.01308	-13.02	81
Left:A	0.01065	0.009117	-0.001375	0.0243	0.0125	0.0059	0.01065	-12.99	70
Left:XT	0.008177	0.00259	-0.001077	-0.0358	0.0121	0.0039	0.008177	-13	58.5
Left:X2T	0.006924	-4.019e-005	-0.0009601	-0.0185	0.0118	0.0031	0.006924	-13	52.5
Left:XB	0.003123	-0.002858	-0.0005813	-0.0008	0.0096	0.0014	0.003123	-13	32.5
Left:X2B	0.002177	-0.002759	-0.0004762	0.0033	0.0084	0.0010	0.002177	-13	26.5
Right:g	0	0	0	0.0000	0.0000	0.0000	0	13	0
Right:t	0.01484	0.1585	-0.002224	-0.1816	0.0094	0.0012	0.01484	13.16	120
Right:ANT1	0.01452	0.1521	-0.002214	-0.1816	0.0094	0.0012	0.01452	13.15	118
Right:cable_t	0.01419	0.1458	-0.002197	-0.1816	0.0094	0.0012	0.01419	13.15	116
Right:ANT2	0.01287	0.1205	-0.002126	-0.1812	0.0094	0.0012	0.01287	13.12	108
Right:SW	0.008797	0.04237	-0.001806	-0.1757	0.0092	0.0012	0.008797	13.04	83
Right:V	0.008478	0.03628	-0.001765	-0.1720	0.0091	0.0012	0.008478	13.04	81
Right:A	0.006749	0.008869	-0.001554	-0.0994	0.0088	0.0011	0.006749	13.01	70
Right:CABLES	0.005241	-0.00138	-0.001383	-0.0256	0.0084	0.0009	0.005241	13	60
Right:XT	0.005023	-0.001948	-0.00135	-0.0182	0.0083	0.0009	0.005023	13	58.5
Right:X2T	0.004175	-0.002688	-0.001216	0.0014	0.0079	0.0008	0.004175	13	52.5
Right:XB	0.001767	0.0008045	-0.0007741	0.0070	0.0057	0.0004	0.001767	13	32.5
Right:X2B	0.001208	0.001136	-0.0006313	0.0003	0.0049	0.0004	0.001208	13	26.5
TAR53:O	0.01229	0.009533	-0.04473	0.1462	0.0125	0.0076	0.01229	-26.49	69.96
TAR53:L1	0.01223	0.009531	-0.04345	0.1462	0.0125	0.0076	0.01223	-25.99	69.96
TAR53:PL	0.01065	0.009117	-0.001375	0.2122	0.0125	0.0059	0.01065	-12.99	70
TAR53:L2V	0.008501	0.00891	0.03126	-0.0012	0.0107	0.0111	0.008501	0.00891	70.03
TAR53:PR	0.006749	0.008869	-0.001554	-0.2065	0.0088	0.0011	0.006749	13.01	70
TAR53:L3	0.006705	0.008477	-0.04175	-0.1343	0.0088	-0.0003	0.006705	26.01	69.96
TAR53:E	0.006707	0.008475	-0.04292	-0.1343	0.0088	-0.0003	0.006707	26.51	69.96
TENL:O	0.01351	-0.02493	-0.003223	0.2358	0.0128	0.0058	0.01351	-13.37	82.75
TENR:O	0.008783	0.04237	-0.003896	-0.1757	0.0092	0.0012	0.008783	13.72	83
VEEL:O	0.01344	-0.02494	-0.0004185	0.2358	0.0128	0.0058	0.01344	-12.68	82.75
VEER:O	0.008811	0.04237	0.0002843	-0.1757	0.0092	0.0012	0.008811	12.36	83
X1L:O	0.008138	0.00259	-0.001437	-0.0358	0.0121	0.0039	0.008138	-12.42	58.5
X1L:E	0.001774	0.0008045	-0.0008874	0.0070	0.0057	0.0004	0.001774	12.07	32.5
X1R:O	0.005035	-0.001948	-0.001095	-0.0182	0.0083	0.0009	0.005035	12.2	58.5
X1R:E	0.003103	-0.002858	-0.000593	-0.0008	0.0096	0.0014	0.003103	-12.17	32.5
X2L:O	0.006889	-4.023e-005	-0.001165	-0.0185	0.0118	0.0031	0.006889	-12.37	52.5
X2L:E	0.001214	0.001136	-0.0006366	0.0003	0.0049	0.0004	0.001214	12.04	26.5
X2R:O	0.002161	-0.002759	-0.000425	0.0033	0.0084	0.0010	0.002161	-12.11	26.5
X2R:E	0.004187	-0.002688	-0.001236	0.0014	0.0079	0.0008	0.004187	12.17	52.5

Joint Support Reactions for Load Case "Hvy. Ice":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Horz. Shear Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
Left:g	-0.02	0.0	0.38	0.0	0.0	-16.51	0.0	0.0	16.51	0.0	-6.24	0.0	-0.8	0.0	-0.10	0.0	0.0
Right:g	-0.05	0.0	-0.45	0.0	0.0	-42.68	0.0	0.0	42.68	0.0	6.16	0.0	-3.1	0.0	-0.12	0.0	0.0

Detailed Laminated Wood Pole Usages for Load Case "Hvy. Ice":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (ft-k)	Long. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	Usage %
Left	Left:t	Origin	0.00	-0.34	0.16	-0.02	0.00	0.00	-0.0	-0.01	0.00	-0.00	0.0
Left	Left:SW	End	0.75	-0.30	0.16	-0.02	0.00	-0.00	-0.0	-0.01	0.00	-0.00	0.0
Left	Left:SW	Origin	0.75	-0.30	0.16	-0.02	-0.26	-0.00	-0.0	-9.87	-0.87	-0.00	1.3
Left	Left:V	End	2.50	-0.21	0.16	-0.02	-1.78	-0.00	-0.0	-9.87	-0.87	-0.00	2.6
Left	Left:V	Origin	2.50	-0.21	0.16	-0.02	-1.78	-0.00	0.0	-10.01	-0.86	-0.00	2.7
Left	#Left:0	End	7.50	-0.01	0.14	-0.02	-6.09	-0.01	0.0	-10.01	-0.86	-0.00	5.2
Left	#Left:0	Origin	7.50	-0.01	0.14	-0.02	-6.09	-0.01	0.0	-10.18	-0.85	-0.00	5.2
Left	#Left:1	End	10.50	0.07	0.14	-0.02	-8.63	-0.02	0.0	-10.18	-0.85	-0.00	6.1
Left	#Left:1	Origin	10.50	0.07	0.14	-0.02	-8.63	-0.02	0.0	-10.32	-0.84	-0.00	6.2
Left	Left:A	End	13.50	0.11	0.13	-0.02	-11.14	-0.03	0.0	-10.32	-0.84	-0.00	6.8
Left	Left:A	Origin	13.50	0.11	0.13	-0.02	-11.14	-0.03	0.1	-10.79	1.47	-0.00	6.8
Left	#Left:2	End	18.50	0.09	0.11	-0.01	-3.82	-0.03	0.1	-10.79	1.47	-0.00	2.5
Left	#Left:2	Origin	18.50	0.09	0.11	-0.01	-3.82	-0.03	0.1	-11.02	1.47	-0.00	2.5
Left	#Left:3	End	21.75	0.06	0.11	-0.01	0.97	-0.03	0.1	-11.02	1.47	-0.00	1.1
Left	#Left:3	Origin	21.75	0.06	0.11	-0.01	0.97	-0.03	0.1	-11.21	1.47	-0.00	1.2
Left	Left:XT	End	25.00	0.03	0.10	-0.01	5.75	-0.04	0.1	-11.21	1.47	-0.00	2.7
Left	Left:XT	Origin	25.00	0.03	0.10	-0.01	4.65	-0.04	0.1	-9.49	-0.55	-0.00	2.2
Left	#Left:4	End	28.00	0.01	0.09	-0.01	3.00	-0.05	0.1	-9.49	-0.55	-0.00	1.5
Left	#Left:4	Origin	28.00	0.01	0.09	-0.01	3.00	-0.05	0.1	-9.69	-0.55	-0.00	1.6
Left	Left:X2T	End	31.00	-0.00	0.08	-0.01	1.35	-0.06	0.1	-9.69	-0.55	-0.00	1.0
Left	Left:X2T	Origin	31.00	-0.00	0.08	-0.01	1.84	-0.06	0.1	-10.75	-0.03	-0.01	1.2
Left	#Left:5	End	36.00	-0.02	0.07	-0.01	1.71	-0.10	0.1	-10.75	-0.03	-0.01	1.0
Left	#Left:5	Origin	36.00	-0.02	0.07	-0.01	1.71	-0.10	0.1	-11.12	-0.03	-0.01	1.1
Left	#Left:6	End	41.00	-0.03	0.06	-0.01	1.57	-0.14	0.1	-11.12	-0.03	-0.01	0.9
Left	#Left:6	Origin	41.00	-0.03	0.06	-0.01	1.57	-0.14	0.1	-11.52	-0.03	-0.01	1.0
Left	#Left:7	End	46.00	-0.03	0.05	-0.01	1.44	-0.18	0.1	-11.52	-0.03	-0.01	0.9

Left	#Left:7	Origin	46.00	-0.03	0.05	-0.01	1.44	-0.18	0.1	-11.95	-0.03	-0.01	0.9
Left	Left:XB	End	51.00	-0.03	0.04	-0.01	1.31	-0.23	0.1	-11.95	-0.03	-0.01	0.8
Left	Left:XB	Origin	51.00	-0.03	0.04	-0.01	1.21	-0.23	0.1	-12.19	0.29	-0.01	0.8
Left	#Left:8	End	54.00	-0.03	0.03	-0.01	2.10	-0.27	0.1	-12.19	0.29	-0.01	0.9
Left	#Left:8	Origin	54.00	-0.03	0.03	-0.01	2.10	-0.27	0.1	-12.47	0.29	-0.01	0.9
Left	Left:X2B	End	57.00	-0.03	0.03	-0.01	2.98	-0.31	0.1	-12.47	0.29	-0.01	1.0
Left	Left:X2B	Origin	57.00	-0.03	0.03	-0.01	3.82	-0.31	0.1	-13.81	-0.38	-0.02	1.2
Left	#Left:9	End	62.00	-0.03	0.02	-0.00	1.91	-0.40	0.1	-13.81	-0.38	-0.02	0.9
Left	#Left:9	Origin	62.00	-0.03	0.02	-0.00	1.91	-0.40	0.1	-14.32	-0.38	-0.02	0.9
Left	#Left:10	End	67.00	-0.02	0.01	-0.00	0.01	-0.48	0.1	-14.32	-0.38	-0.02	0.6
Left	#Left:10	Origin	67.00	-0.02	0.01	-0.00	0.01	-0.48	0.1	-14.86	-0.38	-0.02	0.7
Left	#Left:11	End	72.00	-0.01	0.01	-0.00	-1.90	-0.58	0.1	-14.86	-0.38	-0.02	0.9
Left	#Left:11	Origin	72.00	-0.01	0.01	-0.00	-1.90	-0.58	0.1	-15.43	-0.38	-0.02	0.9
Left	#Left:12	End	77.00	-0.00	0.00	-0.00	-3.79	-0.68	0.1	-15.43	-0.38	-0.02	1.1
Left	#Left:12	Origin	77.00	-0.00	0.00	-0.00	-3.79	-0.68	0.1	-15.91	-0.38	-0.02	1.1
Left	#Left:13	End	80.25	-0.00	0.00	-0.00	-5.02	-0.75	0.1	-15.91	-0.38	-0.02	1.2
Left	#Left:13	Origin	80.25	-0.00	0.00	-0.00	-5.02	-0.75	0.1	-16.31	-0.38	-0.02	1.2
Left	Left:g	End	83.50	0.00	0.00	0.00	-6.24	-0.82	0.1	-16.31	-0.38	-0.02	1.3
Right	Right:t	Origin	0.00	1.90	0.18	-0.03	0.00	-0.00	-0.0	-0.11	0.00	-0.00	0.0
Right	Right:ANT1	End	2.00	1.83	0.17	-0.03	0.00	-0.00	-0.0	-0.11	0.00	-0.00	0.0
Right	Right:ANT1	Origin	2.00	1.83	0.17	-0.03	0.00	-0.00	-0.0	-2.83	0.01	-0.00	0.1
Right	Right:cable_t	End	4.00	1.75	0.17	-0.03	0.02	-0.00	-0.0	-2.83	0.01	-0.00	0.1
Right	Right:cable_t	Origin	4.00	1.75	0.17	-0.03	0.02	-0.00	-0.0	-3.17	0.01	-0.00	0.1
Right	#Right:14	End	8.00	1.60	0.16	-0.03	0.07	-0.01	-0.0	-3.17	0.01	-0.00	0.1
Right	#Right:14	Origin	8.00	1.60	0.16	-0.03	0.07	-0.01	-0.0	-3.64	0.02	-0.00	0.1
Right	Right:ANT2	End	12.00	1.45	0.15	-0.03	0.13	-0.02	-0.0	-3.64	0.02	-0.00	0.1
Right	Right:ANT2	Origin	12.00	1.45	0.15	-0.03	0.13	-0.02	-0.0	-6.69	0.03	-0.00	0.3
Right	#Right:15	End	17.00	1.26	0.14	-0.02	0.27	-0.04	-0.0	-6.69	0.03	-0.00	0.3
Right	#Right:15	Origin	17.00	1.26	0.14	-0.02	0.27	-0.04	-0.0	-7.32	0.03	-0.00	0.3
Right	#Right:16	End	22.00	1.07	0.13	-0.02	0.42	-0.06	-0.0	-7.32	0.03	-0.00	0.3
Right	#Right:16	Origin	22.00	1.07	0.13	-0.02	0.42	-0.06	-0.0	-7.98	0.03	-0.01	0.3
Right	#Right:17	End	27.00	0.88	0.12	-0.02	0.59	-0.09	-0.0	-7.98	0.03	-0.01	0.3
Right	#Right:17	Origin	27.00	0.88	0.12	-0.02	0.59	-0.09	-0.0	-8.66	0.04	-0.01	0.4
Right	#Right:18	End	32.00	0.69	0.12	-0.02	0.79	-0.12	-0.0	-8.66	0.04	-0.01	0.4
Right	#Right:18	Origin	32.00	0.69	0.12	-0.02	0.79	-0.12	-0.0	-9.37	0.04	-0.01	0.4
Right	Right:SW	End	37.00	0.51	0.11	-0.02	1.00	-0.17	-0.0	-9.37	0.04	-0.01	0.4
Right	Right:SW	Origin	37.00	0.51	0.11	-0.02	2.90	-0.17	0.0	-17.69	2.76	-0.01	0.9
Right	Right:V	End	39.00	0.44	0.10	-0.02	8.42	-0.19	0.0	-17.69	2.76	-0.01	1.5
Right	Right:V	Origin	39.00	0.44	0.10	-0.02	8.42	-0.19	0.0	-18.22	2.76	-0.01	1.5
Right	#Right:19	End	44.00	0.27	0.09	-0.02	22.23	-0.25	0.0	-18.22	2.76	-0.01	3.0
Right	#Right:19	Origin	44.00	0.27	0.09	-0.02	22.23	-0.25	0.0	-18.84	2.76	-0.01	3.1
Right	#Right:20	End	47.00	0.18	0.09	-0.02	30.49	-0.29	0.0	-18.84	2.76	-0.01	3.9
Right	#Right:20	Origin	47.00	0.18	0.09	-0.02	30.49	-0.29	0.0	-19.31	2.75	-0.01	3.9
Right	Right:A	End	50.00	0.11	0.08	-0.02	38.75	-0.33	0.0	-19.31	2.75	-0.01	4.6
Right	Right:A	Origin	50.00	0.11	0.08	-0.02	38.75	-0.33	0.1	-20.22	-1.41	-0.03	4.6
Right	#Right:21	End	55.00	0.03	0.07	-0.02	31.70	-0.47	0.1	-20.22	-1.41	-0.03	3.7
Right	#Right:21	Origin	55.00	0.03	0.07	-0.02	31.70	-0.47	0.1	-21.06	-1.42	-0.03	3.7
Right	Right:CABLES	End	60.00	-0.02	0.06	-0.02	24.61	-0.61	0.1	-21.06	-1.42	-0.03	2.9
Right	Right:CABLES	Origin	60.00	-0.02	0.06	-0.02	24.61	-0.61	0.1	-28.48	-1.42	-0.03	3.0
Right	Right:XT	End	61.50	-0.02	0.06	-0.02	22.47	-0.66	0.1	-28.48	-1.42	-0.03	2.8
Right	Right:XT	Origin	61.50	-0.02	0.06	-0.02	22.02	-0.66	0.1	-29.44	-1.74	-0.03	2.8
Right	#Right:22	End	64.50	-0.03	0.06	-0.02	16.79	-0.76	0.1	-29.44	-1.74	-0.03	2.2
Right	#Right:22	Origin	64.50	-0.03	0.06	-0.02	16.79	-0.76	0.1	-29.97	-1.75	-0.03	2.2
Right	Right:X2T	End	67.50	-0.03	0.05	-0.01	11.55	-0.86	0.1	-29.97	-1.75	-0.03	1.7
Right	Right:X2T	Origin	67.50	-0.03	0.05	-0.01	11.96	-0.86	0.1	-30.19	-1.07	-0.04	1.8
Right	#Right:23	End	72.50	-0.03	0.04	-0.01	6.60	-1.04	0.1	-30.19	-1.07	-0.04	1.3
Right	#Right:23	Origin	72.50	-0.03	0.04	-0.01	6.60	-1.04	0.1	-31.12	-1.07	-0.04	1.3
Right	#Right:24	End	77.50	-0.01	0.03	-0.01	1.23	-1.22	0.1	-31.12	-1.07	-0.04	0.8
Right	#Right:24	Origin	77.50	-0.01	0.03	-0.01	1.23	-1.22	0.1	-32.07	-1.07	-0.04	0.9
Right	#Right:25	End	82.50	-0.00	0.03	-0.01	-4.14	-1.42	0.1	-32.07	-1.07	-0.04	1.1
Right	#Right:25	Origin	82.50	-0.00	0.03	-0.01	-4.14	-1.42	0.1	-33.05	-1.07	-0.04	1.1
Right	Right:XB	End	87.50	0.01	0.02	-0.01	-9.49	-1.62	0.1	-33.05	-1.07	-0.04	1.4
Right	Right:XB	Origin	87.50	0.01	0.02	-0.01	-11.69	-1.62	0.1	-36.22	0.95	-0.04	1.6
Right	#Right:26	End	90.50	0.01	0.02	-0.01	-8.82	-1.74	0.1	-36.22	0.95	-0.04	1.4
Right	#Right:26	Origin	90.50	0.01	0.02	-0.01	-8.82	-1.74	0.1	-36.83	0.96	-0.04	1.4
Right	Right:X2B	End	93.50	0.01	0.01	-0.01	-5.95	-1.87	0.1	-36.83	0.96	-0.04	1.2
Right	Right:X2B	Origin	93.50	0.01	0.01	-0.01	-5.63	-1.87	0.1	-37.33	0.44	-0.05	1.2
Right	#Right:27	End	98.50	0.01	0.01	-0.01	-3.43	-2.10	0.1	-37.33	0.44	-0.05	1.0
Right	#Right:27	Origin	98.50	0.01	0.01	-0.01	-3.43	-2.10	0.1	-38.40	0.44	-0.05	1.1
Right	#Right:28	End	103.50	0.01	0.01	-0.00	-1.22	-2.33	0.1	-38.40	0.44	-0.05	0.9
Right	#Right:28	Origin	103.50	0.01	0.01	-0.00	-1.22	-2.33	0.1	-39.49	0.45	-0.05	0.9
Right	#Right:29	End	108.50	0.01	0.00	-0.00	1.01	-2.57	0.1	-39.49	0.45	-0.05	0.9
Right	#Right:29	Origin	108.50	0.01	0.00	-0.00	1.01	-2.57	0.1	-40.61	0.45	-0.05	0.9
Right	#Right:30	End	113.50	0.00	0.00	-0.00	3.24	-2.81	0.1	-40.61	0.45	-0.05	1.0
Right	#Right:30	Origin	113.50	0.00	0.00	-0.00	3.24	-2.81	0.1	-41.55	0.45	-0.05	1.1
Right	#Right:31	End	116.75	0.00	0.00	-0.00	4.70	-2.97	0.1	-41.55	0.45	-0.05	1.1
Right	#Right:31	Origin	116.75	0.00	0.00	-0.00	4.70	-2.97	0.1	-42.30	0.45	-0.05	1.1
Right	Right:g	End	120.00	0.00	0.00	0.00	6.16	-3.14	0.1	-42.30	0.45	-0.05	1.2

Summary of Brace Forces and Usages for Load Case "Hvy. Ice":

Brace Label	Forces (kips)	Allowable Compression (kips)	Allowable Tension (kips)	Usage %
TENL	6.09	5.45	99.22	6.14
TENR	5.96	5.45	99.22	6.01
VEEL	4.89	28.46	241.92	2.02
VEER	2.02	28.46	241.92	0.84
X1L	-2.95	41.12	255.15	7.16
X1R	0.47	41.12	255.15	0.18

X2L	0.76	41.12	255.15	0.30
X2R	-0.99	41.12	255.15	2.41

Detailed X-Arm Usages for Load Case "Hvy. Ice":

X-Arm Label	Joint Label	Joint Position	Rel. Dist. (ft)	Tran. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	X Mom. (ft-k)	Z Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	X Shear (kips)	Z Shear (kips)	P/A (psi)	Mx/Sx (psi)	Mz/Sz (psi)	Max. Usage %
TAR53	TAR53:O	Origin	0.00	0.11	0.15	-0.54	0.00	0.00	0.0	0.00	-0.01	-0.00	0.00024	0.000539	8.04e-005	0.0
TAR53	TAR53:L1	End	0.50	0.11	0.15	-0.52	-0.00	0.00	0.0	0.00	-0.01	-0.00	0.00024	0.646	0.00106	0.0
TAR53	TAR53:L1	Origin	0.50	0.11	0.15	-0.52	0.00	-0.00	0.0	-4.28	0.09	-0.00	56	0.646	0.000934	0.7
TAR53	#gTAR53:0	End	5.50	0.11	0.14	-0.36	0.47	0.01	0.0	-4.28	0.09	-0.00	56	85.4	1.05	1.8
TAR53	#gTAR53:0	Origin	5.50	0.11	0.14	-0.36	-0.47	-0.01	-0.0	-4.28	-0.04	-0.00	56	85.4	1.05	1.8
TAR53	#gTAR53:1	End	9.50	0.11	0.13	-0.20	0.32	0.02	-0.0	-4.28	-0.04	-0.00	56	59.1	2.05	1.5
TAR53	#gTAR53:1	Origin	9.50	0.11	0.13	-0.20	-0.32	-0.02	-0.0	-4.28	-0.15	-0.00	56	59.1	2.05	1.5
TAR53	TAR53:PL	End	13.50	0.11	0.13	-0.02	-0.28	0.03	-0.0	-4.28	-0.15	-0.00	56	51.2	3.18	1.4
TAR53	TAR53:PL	Origin	13.50	0.11	0.13	-0.02	0.28	0.08	-0.0	-1.99	-0.01	-0.01	26	51.2	9.7	1.1
TAR53	#gTAR53:2	End	18.50	0.11	0.12	0.19	-0.31	-0.05	-0.0	-1.99	-0.01	-0.01	26	57.5	5.9	1.1
TAR53	#gTAR53:2	Origin	18.50	0.11	0.12	0.19	0.31	0.05	-0.0	-1.99	-0.13	-0.01	26	57.5	5.9	1.1
TAR53	#gTAR53:3	End	22.50	0.11	0.11	0.32	-0.85	-0.02	-0.0	-1.99	-0.13	-0.01	26	155	2.64	2.3
TAR53	#gTAR53:3	Origin	22.50	0.11	0.11	0.32	0.85	0.02	-0.0	-1.99	-0.24	-0.01	26	155	2.64	2.3
TAR53	TAR53:L2V	End	26.50	0.11	0.10	0.38	-1.82	0.01	-0.0	-1.99	-0.24	-0.01	26	332	0.793	4.5
TAR53	TAR53:L2V	Origin	26.50	0.11	0.10	0.38	1.82	-0.01	-0.0	0.06	0.23	-0.01	0.83	332	0.797	4.2
TAR53	#gTAR53:4	End	31.50	0.11	0.09	0.29	-0.65	0.06	-0.0	0.06	0.23	-0.01	0.83	118	6.87	1.6
TAR53	#gTAR53:4	Origin	31.50	0.11	0.09	0.29	0.65	-0.06	-0.0	0.06	0.11	-0.01	0.82	118	6.87	1.6
TAR53	#gTAR53:5	End	35.50	0.11	0.08	0.15	-0.22	0.10	-0.0	0.06	0.11	-0.01	0.82	39.4	11.9	0.7
TAR53	#gTAR53:5	Origin	35.50	0.11	0.08	0.15	0.22	-0.10	-0.0	0.06	-0.01	-0.01	0.82	39.4	11.9	0.7
TAR53	TAR53:PR	End	39.50	0.11	0.08	-0.02	-0.24	0.14	-0.0	0.06	-0.01	-0.01	0.82	43.8	17.1	0.8
TAR53	TAR53:PR	Origin	39.50	0.11	0.08	-0.02	0.24	-0.02	0.0	-4.09	0.13	0.00	53	43.8	2.74	1.2
TAR53	#gTAR53:6	End	44.50	0.10	0.08	-0.24	0.43	0.01	0.0	-4.09	0.13	0.00	53	78.2	1.51	1.7
TAR53	#gTAR53:6	Origin	44.50	0.10	0.08	-0.24	-0.43	-0.01	0.0	-4.09	0.00	0.00	53	78.2	1.51	1.7
TAR53	#gTAR53:7	End	48.50	0.10	0.08	-0.38	0.44	0.01	0.0	-4.09	0.00	0.00	53	81	0.682	1.7
TAR53	#gTAR53:7	Origin	48.50	0.10	0.08	-0.38	-0.44	-0.01	-0.0	-4.09	-0.11	0.00	53	81	0.682	1.7
TAR53	TAR53:L3	End	52.50	0.10	0.08	-0.50	-0.00	0.00	-0.0	-4.09	-0.11	0.00	53	0.646	0.00113	0.7
TAR53	TAR53:L3	Origin	52.50	0.10	0.08	-0.50	0.00	-0.00	-0.0	0.00	0.01	0.00	0.00022	0.646	0.00117	0.0
TAR53	TAR53:E	End	53.00	0.10	0.08	-0.52	-0.00	-0.00	-0.0	0.00	0.01	0.00	0.00022	1.78e-005	1.91e-005	0.0

Summary of Suspension Capacities and Usages for Load Case "Hvy. Ice":

Suspension Label	Tension (kips)	Input Tension Capacity (kips)	Factored Tension Capacity (kips)	Usage %
SUSL	4.110	60.00	60.00	6.85
SUSC	4.110	60.00	60.00	6.85
SUSR	4.110	60.00	60.00	6.85
SWL	1.876	60.00	60.00	3.13
SWR	1.876	60.00	60.00	3.13
ANT1	2.500	60.00	60.00	4.17
ANT2	2.500	60.00	60.00	4.17
CABLES	6.875	60.00	60.00	11.46

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress

Summary of Laminated Wood Pole Usages:

Laminated Wood Pole Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
Left	50.04	Ext. Wind t	6	8687.1
Right	54.93	Ext. Wind l	30	24297.4

Summary of X-Arm Usages:

X-Arm Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
TAR53	62.91	Ext. Wind l	10	1500.0

Summary of Brace Usages:

Brace Label	Maximum Usage %	Load Case	Weight (lbs)
TENL	6.14	Hvy. Ice	70.0
TENR	6.01	Hvy. Ice	70.0
VEEL	44.04	Ext. Wind t	210.0
VEER	8.10	Ext. Wind t	210.0
X1L	76.18	Ext. Wind t	450.0
X1R	7.79	Ext. Wind t	450.0
X2L	45.37	Ext. Wind t	450.0
X2R	7.02	Ext. Wind t	450.0

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC HVY	36.27	X1L	Brace
Ext. Wind t	76.18	X1L	Brace
Ext. Wind l	62.91	TAR53	X-Arm
Hvy. Ice	7.16	X1L	Brace

Summary of Laminated Wood Pole Usages by Load Case:

Load Case	Maximum Usage %	Laminated Wood Pole Segment Label	Number
NESC HVY	20.31	Left	6
Ext. Wind t	50.04	Left	6
Ext. Wind l	54.93	Right	30
Hvy. Ice	6.84	Left	6

Summary of X-Arm Usages by Load Case:

Load Case	Maximum Usage %	X-Arm Label	Segment Number
NESC HVY	10.69	TAR53	7
Ext. Wind t	27.03	TAR53	7
Ext. Wind l	62.91	TAR53	10
Hvy. Ice	4.49	TAR53	7

Summary of Brace Usages by Load Case:

Load Case	Maximum Usage %	Brace Label
NESC HVY	36.27	X1L
Ext. Wind t	76.18	X1L
Ext. Wind l	3.35	X2R
Hvy. Ice	7.16	X1L

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
SUSL	Suspension	6.85	Hvy. Ice	200.0
SUSC	Suspension	6.85	Hvy. Ice	200.0
SUSR	Suspension	6.85	Hvy. Ice	200.0
SWL	Suspension	3.13	Hvy. Ice	3.0
SWR	Suspension	3.13	Hvy. Ice	3.0
ANT1	Suspension	4.17	Hvy. Ice	3.0
ANT2	Suspension	4.18	Ext. Wind t	3.0
CABLES	Suspension	11.46	Hvy. Ice	3.0

Loads At Insulator Attachments For All Load Cases:

Load Case	Insulator Label	Insulator Type	Structure Attach Label	Structure Attach Load X (kips)	Structure Attach Load Y (kips)	Structure Attach Load Z (kips)	Structure Attach Load Res. (kips)
NESC HVY	SUSL	Suspension	TAR53:L1	0.000	1.004	1.966	2.208
NESC HVY	SUSC	Suspension	TAR53:L2V	0.000	1.004	1.966	2.208
NESC HVY	SUSR	Suspension	TAR53:L3	0.000	1.004	1.966	2.208
NESC HVY	SWL	Suspension	Left:SW	0.000	0.654	0.771	1.011
NESC HVY	SWR	Suspension	Right:SW	0.000	0.654	0.771	1.011
NESC HVY	ANT1	Suspension	Right:ANT1	0.000	0.181	2.000	2.008
NESC HVY	ANT2	Suspension	Right:ANT2	0.000	0.480	2.000	2.057
NESC HVY	CABLES	Suspension	Right:CABLES	0.000	0.320	5.500	5.509
Ext. Wind t	SUSL	Suspension	TAR53:L1	0.000	2.199	1.177	2.494
Ext. Wind t	SUSC	Suspension	TAR53:L2V	0.000	2.199	1.177	2.494
Ext. Wind t	SUSR	Suspension	TAR53:L3	0.000	2.199	1.177	2.494
Ext. Wind t	SWL	Suspension	Left:SW	0.000	0.630	0.215	0.666
Ext. Wind t	SWR	Suspension	Right:SW	0.000	0.630	0.215	0.666
Ext. Wind t	ANT1	Suspension	Right:ANT1	0.000	0.577	2.000	2.082
Ext. Wind t	ANT2	Suspension	Right:ANT2	0.000	1.516	2.000	2.510
Ext. Wind t	CABLES	Suspension	Right:CABLES	0.000	0.944	5.500	5.580
Ext. Wind l	SUSL	Suspension	TAR53:L1	0.000	0.000	1.177	1.177
Ext. Wind l	SUSC	Suspension	TAR53:L2V	0.000	0.000	1.177	1.177
Ext. Wind l	SUSR	Suspension	TAR53:L3	0.000	0.000	1.177	1.177
Ext. Wind l	SWL	Suspension	Left:SW	0.000	0.000	0.215	0.215
Ext. Wind l	SWR	Suspension	Right:SW	0.000	0.000	0.215	0.215
Ext. Wind l	ANT1	Suspension	Right:ANT1	0.577	0.000	2.000	2.082
Ext. Wind l	ANT2	Suspension	Right:ANT2	1.516	0.000	2.000	2.510
Ext. Wind l	CABLES	Suspension	Right:CABLES	0.944	0.000	5.500	5.580
Hvy. Ice	SUSL	Suspension	TAR53:L1	0.000	0.000	4.110	4.110
Hvy. Ice	SUSC	Suspension	TAR53:L2V	0.000	0.000	4.110	4.110
Hvy. Ice	SUSR	Suspension	TAR53:L3	0.000	0.000	4.110	4.110
Hvy. Ice	SWL	Suspension	Left:SW	0.000	0.000	1.876	1.876
Hvy. Ice	SWR	Suspension	Right:SW	0.000	0.000	1.876	1.876
Hvy. Ice	ANT1	Suspension	Right:ANT1	0.000	0.000	2.500	2.500
Hvy. Ice	ANT2	Suspension	Right:ANT2	0.000	0.000	2.500	2.500
Hvy. Ice	CABLES	Suspension	Right:CABLES	0.000	0.000	6.875	6.875

Overturning Moments For User Input Concentrated Loads:

Moments are static equivalents based on central axis of 0,0 (i.e. a single pole).

Load Case	Total Tran. Load (kips)	Total Long. Load (kips)	Total Vert. Load (kips)	Transverse Overturning Moment (ft-k)	Longitudinal Overturning Moment (ft-k)	Torsional Moment (ft-k)
NESC HVY	5.301	0.000	16.940	535.138	0.000	0.000
Ext. Wind t	10.894	0.000	13.461	978.166	0.000	0.000
Ext. Wind l	0.000	3.037	13.461	123.500	288.454	-39.481
Hvy. Ice	0.000	0.000	27.957	154.375	0.000	0.000

*** Weight of structure (lbs):

Weight of Braces:	2360.0
Weight of X-Arms:	1500.0
Weight of Laminated Wood Poles:	32984.5
Weight of Suspensions:	615.0
Total:	37459.5

*** End of Report

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Sprint Existing Facility

Site ID: CT33XC538

NU Manchester
595 Keeney Street
Manchester, CT 06040

May 21, 2013

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting

environmental | engineering | due diligence

May 21, 2013

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Emissions Values for Site: **CT33XC538 – NU Manchester**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 595 Keeney Street, Manchester, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of μW/cm2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the cellular band is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the PCS band is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 595 Keeney Street, Manchester, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all emissions were calculated using the following assumptions:

1) 3 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **116 feet** above ground level (AGL)
7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT33XC538 - NU Manchester
Site Addresss	595 Keeney Street, Manchester, CT, 06040
Site Type	Utility Transmission Pole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	116	110	1/2 "	0.5	0	2080.4211	61.81187	6.18119%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	116	110	1/2 "	0.5	0	389.96892	11.58646	2.04347%
														Sector total Power Density Value:		8.225%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	116	110	1/2 "	0.5	0	2080.4211	61.81187	6.18119%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	116	110	1/2 "	0.5	0	389.96892	11.58646	2.04347%
														Sector total Power Density Value:		8.225%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	116	110	1/2 "	0.5	0	2080.4211	61.81187	6.18119%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	116	110	1/2 "	0.5	0	389.96892	11.58646	2.04347%
														Sector total Power Density Value:		8.225%	

Site Composite MPE %	
Carrier	MPE %
Sprint	24.674%
Total Site MPE %	24.674%

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Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public exposure to RF Emissions.

The anticipated Maximum Composite contributions from the Sprint facility are **24.674% (8.225% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **24.674%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

Northeast Utilities System

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(203) 665-5000

May 1, 2013

Ms. Jennifer Gaudet
HPC Development

Sprint,
1 International Blvd.
Suite 300
Mahwah NJ
07495

RE: Sprint Antenna Site, CT-33XC538, 595 Keeney St, Manchester CT, structure 29317.

Dear Ms. Gaudet:

Based on our reviews of the site drawings, the structural analysis and base reactions reviewed by Laminated Wood Systems, we have reviewed for acceptance this modification.

Since there are no outstanding structural issues to resolve at this time please contact Mr. O'Brien (860-665-6987) to resolve any lease issues; once the lease amendment is secured you may then contact Mr. John Landry directly (860-665-5425) to begin the construction arrangements.

Sincerely,

Robert Gray
Transmission Line Engineering

REF: NV_CT33XC538_04.15.13_Prelim Final CD's_r0_5645820134168105893 3.15.13_Prelim Final CD's_r0.pdf

EM-SPRINT-077-130528

595 Keeney Street

Manchester

Alcatel·Lucent

1 Robbins Road
Westford, MA 01886

July 9, 2014

State of Connecticut
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notification of Construction Completion on telecommunication facilities

To whom it may concern:

Alcatel Lucent hereby acknowledges that the list of attached sites have completed construction per the approval granted on the specified date. Please advise if further information is needed..

Very truly yours,

Martha Powers

Martha Powers
Lead Development Manager
Alcatel-Lucent
Sprint Vision Project
1 Robbins Road
Westford, MA 01886

Cc: FST, Siterra

EM/TS #	Address	Town	Sprint ID	Decision Date
EM-SPRINT-062-130912	1065 Wintergreen Avenue	Hamden	CT03XC003	10/15/2013
EM-SPRINT-NEXTEL-060-130118	10 Tanner Marsh Road	Guilford	CT03XC022	2/14/2013
EM-SPRINT-004-130822	181 Montevideo Road	Avon	CT03XC053	9/6/2013
EM-SPRINT-NEXTEL-155-130214A	1358 New Britain Ave.	West Hartford	CT03XC057	3/1/2013
EM-SPRINT-NEXTEL-164-130201	440 Hayden Station Road	Windsor	CT03XC065	3/8/2013
EM-SPRINT-NEXTEL-132-130201	59 McGuire Road	South Windsor	CT03XC066	3/1/2013
EM-SPRINT-NEXTEL-054-130201	299 Paxton Way	Glastonbury	CT03XC081	3/1/2013
EM-SPRINT-NEXTEL-094-130214B	36 Prospect Street	Newington	CT03XC084	3/1/2013
EM-SPRINT-110-130725	10 Sparks Street	Plainville	CT03XC086	8/8/2013
EM-SPRINT-007-130314	260 Beckley Road	Kensington	CT03XC088	4/5/2013
EM-SPRINT-NEXTEL-155-130201	570 New Park Avenue	West Hartford	CT03XC091	3/1/2013
EM-SPRINT-NEXTEL-106-130201	430 Middlesex Turnpike	Old Saybrook	CT03XC102	3/1/2013
EM-SPRINT-NEXTEL-105-130201	30 Short Hills Road	Old Lyme	CT03XC104	3/1/2013
EM-SPRINT-NEXTEL-152-130201	41 Manitock Hill Road	Waterford	CT03XC105	3/1/2013
EM-SPRINT-NEXTEL-045-130201	93 Roxbury Road	East Lyme	CT03XC110	3/1/2013
EM-SPRINT-152-130114	45R Fargo Road	Waterford	CT03XC112	2/14/2013
EM-SPRINT-NEXTEL-027-130201	48 Cow Hill Road	Clinton	CT03XC156	3/1/2013
EM-SPRINT-NEXTEL-082-130201	238 Meridan Road	Middlefield	CT03XC160	3/8/2013
EM-SPRINT-047-130109	160 Plantation Road	East Windsor	CT03XC202	2/7/2013
EM-SPRINT-NEXTEL-077-130214	53 Slater Street	Manchester	CT03XC211	3/1/2013
EM-SPRINT-142-130109	497 Old Post Road	Tolland	CT03XC212	2/7/2013
EM-SPRINT-NEXTEL-042-130222	94 East High Street	East Hampton	CT03XC335	3/8/2013
EM-SPRINT-057-121226	Butternut Hollow Road	Greenwich	CT03XC343	1/11/2013
EM-SPRINT-158-130213	515 Boston Post Road	Westport	CT03XC355	3/1/2013
EM-SPRINT-046-130402	206 Everett Road	Easton	CT03XC362	4/19/2013
EM-SPRINT-085-130322	474 MAIN STREET	MONROE	CT03XC365	4/5/2013
EM-SPRINT-086-131011	57 Cook Drive	Montville	CT03XC365	10/25/2013
EM-SPRINT-118-130322	76 EAST RIDGE	RIDGEFIELD	CT03XC370	4/5/2013
EM-SPRINT-097-131230	20 Barnabas Road	Newtown	CT03XC383	1/21/2014
EM-SPRINT-051-130207	3965 Congress Street	Fairfield	CT03XC385	3/1/2013
EM-SPRINT-NEXTEL-094-130214A	123 Costello Road	Newington	CT23XC555	3/1/2013
EM-SPRINT-119-131008	699 Old Main Street	Rocky Hill	CT23XC556	10/25/2013
EM-SPRINT-077-131008	60 Adams Street	Manchester	CT23XC557	10/25/2013
EM-SPRINT-NEXTEL-080-130123	462 West Main Street	Meriden	CT25XC840	2/14/2013
EM-SPRINT-096-130920	18 Hilltop View Lane	New Milford	CT33XC095	10/4/2013
EM-SPRINT-157-130213	237 Godfrey Road	Weston	CT33XC522	3/1/2013
EM-SPRINT-018-131008	20 Vale Road	Brookfield	CT33XC525	10/25/2013
EM-SPRINT-077-130528	595 Keeney Street	Manchester	CT33XC538	6/14/2013
EM-SPRINT-NEXTEL-129-130214	400 Main Street	Somers	CT33XC554	3/1/2013
EM-SPRINT-047-130322	15 CHAMBERLAIN	BROADBROOK	CT33XC565	4/5/2013
EM-SPRINT-004-130502	277 Huckleberry Road	Avon	CT33XC589	5/17/2013

EM-SPRINT-143-130604	218 Wheeler Road	Torrington	CT33XC592	6/28/2013
EM-SPRINT-140-130724	583 Chapel Street	Thomaston	CT33XC603	8/8/2013
EM-SPRINT-103-130920	Charles Marshall Drive	Norwalk	CT33XC802	10/4/2013
EM-SPRINT-NEXTEL-064-130214	439-455 Homestead Ave.	Hartford	CT43XC805	3/1/2013
EM-SPRINT-064-130311	99 Meadow Street	Hartford	CT43XC806	4/5/2013
EM-SPRINT-083-131127	290 Preston Ave.	Middletown	CT43XC816	12/16/2013
EM-SPRINT-128-130920	530 Bushy Hill Road	Simsbury	CT43XC825	10/4/2013
EM-SPRINT-164-130405A	340 Bloomfield Avenue	Windsor	CT43XC826	4/19/2013
EM-SPRINT-077-130109	239 Middle Turnpike	Manchester	CT43XC827	2/13/2013
EM-SPRINT-165-130118	2-4 Volunteer Drive	Windsor Locks	CT43XC828	2/14/2013
EM-SPRINT-NEXTEL-139-130214	44 Fyler Place	Suffield	CT43XC829	3/8/2013
EM-SPRINT-111-130712	171 Town Hill Road	Plymouth	CT54XC712	7/26/2013
EM-SPRINT-009-130322	38 Spring Hill Road	Bethel	CT54XC749	4/5/2013
EM-SPRINT-154-131011	315 Spencer Plains Road	Westbrook	CT54XC758	10/25/2013
EM-SPRINT-023-130405	14 Canton Springs Road	Canton	CT54XC760	4/19/2013
EM-SPRINT-104-130606	153 Old Salem Road	Norwich	CT54XC775	6/28/2013
EM-SPRINT-164-130405B	99 Day Hill Road	Windsor	CT54XC787	4/19/2013
EM-SPRINT-132-130920	300 Governor's Highway	South Windsor	CT60XC014	10/4/2013
EM-SPRINT-094-130108	605 Willard Avenue	Newington	CT60XC018	1/25/2013
EM-SPRINT-146-130506	197 South Street	Vernon	CT60XC935	5/24/2013
EM-SPRINT-146-130311	777 Talcottville Road	Vernon	CT70XC147	4/5/2013
EM-SPRINT-126-130531	62 Birdseye Road	Shelton	CT73XC004	6/21/2013