STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

www.ct.gov/csc

December 29, 2015

Daniel M. Laub, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

RE: **EM-CING-069-130123; EM-AT&T-060-130321; EM-CING-069-130130**
EM-CING-088-130109; TS-AT&T-004-131223; TS-AT&T-069-131216
EM-CING-128-130828; EM-CING-135-130910; EM-CING-156-130531
EM-CING-086-130712; TS-AT&T-101-131108; EM-CING-158-130703
EM-CING-073-130207; TS-AT&T-143-131227; EM-CING-103-130703
EM-CING-143-130122; EM-CING-104-130819; EM-CING-158-130326
TS-AT&T-164-131114; EM-CING-074-130322; EM-CING-003-130214
EM-CING-015-130531; EM-AT&T-089-131230; EM-AT&T-051-130408
EM-AT&T-118-131030

Dear Attorney Laub:

The Connecticut Siting Council (Council) is in receipt of your letter dated December 24, 2015, submitted on behalf of New Cingular Wireless PCS, LLC (AT&T), requesting an extension of time to submit notices of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications.

The Council previously granted six extension of time to submit notices of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications on June 30, 2014; September 2, 2014; November 4, 2014; November 20, 2014; December 29, 2014; and February 24, 2015.

Therefore, the Council hereby denies an extension of time to submit notices of completion of construction and associated post modification inspection reports for the above-referenced exempt modifications that were approved in 2013.

Any modifications to these facilities will require explicit notice to the Council pursuant to Regulations of Connecticut State Agencies Section 16-50j-73 and a filing fee.

Thank you for your attention to this matter.

Sincerely,

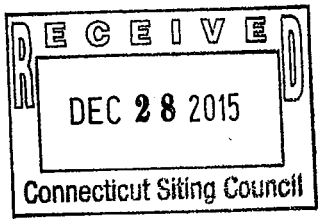
Melanie A. Bachman
Acting Executive Director

MAB/cm

CUDDY & FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
Tel 914.761.1300 Fax 914.761.5372
www.cuddyfeder.com

December 24, 2015



VIA EMAIL & FEDEX
Melanie Bachman, Esq.
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: New Cingular Wireless PCS, LLC (AT&T)
Exempt Modification/Tower Share Conditions
Notifications of Completion & Extension Requests

Dear Executive Director Bachman:

We are writing on behalf of our client, New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced matter and the Siting Council's requests for written notification of completion of construction and/or written notice of compliance with site-specific conditions for various modification filings made by AT&T and its vendors. Specifically, this letter addresses those sites related to the year 2013, listed in the attached correspondence. It is our understanding that these are the only sites remaining from 2013 that need an extension.

Accordingly, on behalf of AT&T and their vendors, we respectfully request an additional extension of time to June 30, 2016 for completion of all remaining 2013 non-tower sites.

Thank you once again for your continued consideration in this matter. Should you have any questions regarding the foregoing please do not hesitate to contact me.

Very truly yours,

Daniel M. Laub

Enclosures

cc: Michele Briggs, AT&T

C&F: 2961501.1

EM/TS #	Address	Town	Council Additional Conditions	Compliance with Council Additional Conditions Received	Notice of Completion Received	Decision Date	CSC Extension Granted
EM-CING-069-130123	1375 North Road	Dayville	Yes	No	No	3/8/2013	12/31/15
EM-AT&T-060-130321	370 Rockland Road	Guilford	Yes	No	No	4/5/2013	12/31/15
EM-CING-069-130130	246 East Franklin Street	Danielson	Yes	No	No	4/15/2013	12/31/15
EM-CING-088-130109	103 Eastside Boulevard	Naugatuck	N/A	N/A	No	4/15/2013	12/31/15
TS-AT&T-004-131223	376 Deercliff Road	Avon	N/A	N/A	No	6/28/2013	12/31/15
TS-AT&T-069-131216	1249 Hartford Pike	East Killingly	N/A	N/A	No	6/28/2013	12/31/15
EM-CING-128-130828	530 Brushy Hill Road	Simsbury	N/A	N/A	No	6/28/2013	12/31/15
EM-CING-135-130910	366 Old Long Ridge Road	Stamford	Yes	No	No	6/28/2013	12/31/15
EM-CING-156-130531	1 Burwell Road	West Haven	N/A	N/A	No	6/28/2013	12/31/15
EM-CING-086-130712	334 Route 85	Montville	Yes	No	No	7/12/2013	12/31/15
TS-AT&T-101-131108	50 Devine Street	North Haven	N/A	N/A	No	7/22/2013	12/31/15
EM-CING-158-130703	515 Post Road East	Westport	N/A	N/A	No	7/22/2013	12/31/15
EM-CING-073-130207	20 Mell Road	Lisbon	Yes	No	No	7/26/2013	12/31/15
TS-AT&T-143-131227	137 Wright Road	Torrington	Yes	No	No	7/26/2013	12/31/15
EM-CING-103-130703	177 West Rocks Road	Norwalk	N/A	N/A	No	8/8/2013	12/31/15
EM-CING-143-130122	1210 Highland Avenue	Torrington	Yes	No	No	8/16/2013	12/31/15
EM-CING-104-130819	39 Maennerchor Avenue	Norwich	Yes	No	No	8/23/2013	12/31/15
EM-CING-158-130326	880 Post Road East	Westport	Yes	No	No	9/13/2013	
TS-AT&T-164-131114	599 Matianuck Avenue	Windsor	N/A	N/A	No	9/27/2013	12/31/15
EM-CING-074-130322	438 BANTAM ROAD	LITCHFIELD	Yes	No	No	11/29/2013	
EM-CING-003-130214	353 Pumpkin Hill Road	Ashford	Yes	No	No	12/13/2013	
EM-CING-015-130531	1320 Chopsey Hill Road	Bridgeport	N/A	N/A	No	12/13/2013	
EM-AT&T-089-131230	One Hartford Square	New Britain	N/A	N/A	No	12/20/2013	
EM-AT&T-051-130408	280 Morehouse Drive	Fairfield	Yes	No	No	12/27/2013	
EM-AT&T-118-131030	845 Ethan Allen Highway	RIDGEFIELD	N/A	N/A	No	12/27/2013	

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www.ct.gov/csc

April 26, 2013

Eric Dahl
Nexlink Global Services
55 Lynn Road
Ivoryton, CT 06442

RE: **EM-AT&T-051-130408** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 280 Morehouse Drive, Fairfield, Connecticut.

Dear Mr. Dahl:

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

- The proposed equipment installation shall be in accordance with the recommendations (that the tower reinforcements identified by Centek Engineering in the Structural Analysis prepared for a T-Mobile exempt modification, EM-T-Mobile-051-130325, are completed) made in the Structural Analysis of Powermount and CL&P Tower prepared by Centek Engineering dated November 20, 2012 and stamped by Carlo Centore;
- Within 45 days following completion of the antenna installation, AT&T shall provide documentation certified by a professional engineer that its installation complied with the recommendation of the structural analysis;
- Any deviation from the proposed modification as specified in this notice and supporting materials filed with the Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated April 5, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require

explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Melanie Bachman
Acting Executive Director

MB/CDM/cm

c: The Honorable Michael C. Tetreau, First Selectman, Town of Fairfield
Joseph E. Devonshuk, Town Planner, Town of Fairfield

EM-AT&T-051-130408

April 5, 2013

ORIGINAL

RECEIVED
APR - 8 2013
CONNECTICUT
SITING COUNCIL

VIA OVERNIGHT DELIVERY

Ms. Linda Roberts, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: AT&T Mobility – Notice of Exempt Modification
CL&P Structure No. 876, 280 Morehouse Drive, Fairfield, CT

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of AT&T Mobility ("AT&T"). AT&T is enhancing the capabilities of its wireless system in Connecticut by implementing LTE technology. In order to do so, AT&T will modify antenna and equipment configurations at a number of existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which 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 First Selectman of the Town of Fairfield.

AT&T plans to modify the existing facility on the CL&P electrical transmission structure #876 located at 280 Morehouse Drive, Fairfield, CT, (coordinates 41°12' 35.90"N, -73°15'41.58"W). Attached are: (1) drawings depicting the planned changes, (2) modification acceptance letter from Northeast Utilities, and (3) documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to AT&T'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. AT&T proposes to remove three (3) existing antennas and replace them with three (3) new multi-band antennas.

2. The proposed changes will not extend the site boundaries. AT&T will install six (6) RRU's and a surge arrestor on a steel post and strut frame and an additional cabinet on AT&T's existing concrete pad within the fenced equipment area. Thus, there will be no effect on the site compound.

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 in the attached power density calculations, AT&T's operations at the site will result in a power density of 3.05%; the combined site operations will result in a total power density of 12.26%.

Please feel free to call me with any questions or concerns regarding this matter. Thank you for your consideration.

Respectfully submitted,
AT&T Mobility

By: _____
Eric Dahl, Consultant
edahl@comcast.net
860-227-1975

cc: Honorable Michael C. Tetreau, First Selectman, Town of Fairfield

Attachments

WIRELESS COMMUNICATIONS FACILITY

CT5145
LOWER SCORT HILL
CL&P STRUCT. NO. 876
280 MOREHOUSE DRIVE
FAIRFIELD, CT 06825

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMENDMENTS, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, LOCATIONS, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

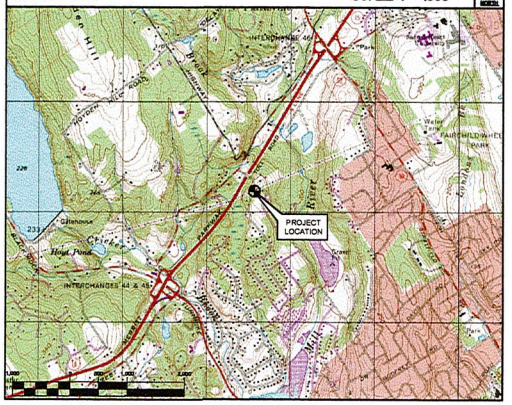
FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

TO: 280 MOREHOUSE DRIVE, FAIRFIELD, CONNECTICUT

1.	Head northeast on Enterprise Dr toward Capital Blvd	0.3 mi
2.	Turn left onto Capital Blvd	0.3 mi
3.	Turn left onto West St	0.3 mi
4.	Turn left to merge onto I-91 S toward New Haven	9.8 mi
5.	Take exit 17 for CT-15 S/W Cross Pkwy	0.4 mi
6.	Merge onto CT-15 S	35.9 mi
7.	Take exit 46 toward Congress St	
8.	Turn left onto Congress St	0.7 mi
9.	Take the 2nd left onto Morehouse Dr	0.2 mi
10.	Arrive at 280 Morehouse Drive, Fairfield, CT 06825	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK GENERALLY CONSISTS OF THE REPLACEMENT OF ONE (1) PANEL. TOTAL NUMBER OF PANEL ANTENNAS TO REMAIN THREE (3). AN LTE BASEBAND EQUIPMENT UNIT (RBS) WILL BE INSTALLED ON THE EXISTING AT&T CONCRETE EQUIPMENT PAD.
2. ADDITIONALLY, (2) REMOTE RADIO UNITS (RRUs) PER SECTOR WILL BE INSTALLED. SURGE ARRESTORS WILL BE INSTALLED AT BOTH AT&T RRU AND EQUIPMENT LOCATIONS. REFER TO THESE ACCOMPANYING DRAWINGS FOR FURTHER INFORMATION.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5145
AT&T SITE NAME:	LOWER SCORT HILL
SITE ADDRESS:	CL&P STRUCT. NO. 876 280 MOREHOUSE DRIVE FAIRFIELD, CT 06825
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT. 06405
PROJECT COORDINATES:	LATITUDE: 41°-12'-35.92"N LONGITUDE: 73°-15'-41.64"W GROUND ELEVATION: ±225' AMSL

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES AND SPECIFICATIONS	0
C-1	PLANS AND ELEVATION	0
C-2	LTE ANTENNA AND EQUIPMENT DETAILS	0
E-1	ELECTRICAL DETAILS AND NOTES	0
E-2	ELECTRICAL DETAILS	0

DESIGNED BY:	CFC
DRAWN BY:	DEB
CHK'D BY:	CFC

REV.	DATE	DRAWN BY	CHK'D BY	
0	12/12/12	DEB	CFC	CONSTRUCTION - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

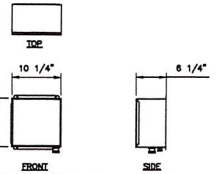
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY LTE UPGRADE
CT5145
LOWER SCORT HILL
CL&P STRUCT. NO. 876
280 MOREHOUSE DRIVE
FAIRFIELD, CT 06825

DATE:	12/10/12
SCALE:	AS NOTED
JOB NO.	12063.C050

TITLE SHEET

T-1

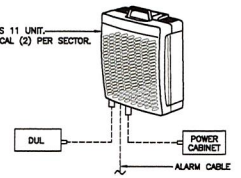
Sheet No. 1 of 8



SURGE ARRESTOR				
SITE TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
TOWER	MAKE: RAYCAP MODEL: DC2-48-60-0-8E	(1) PER SITE	SUPPORT FRAME AT GRADE, ADJACENT TO AT&T RRU'S.	16 LBS.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTION(S) WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.
2. CONTRACTOR TO INSTALL ARRESTOR IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS.

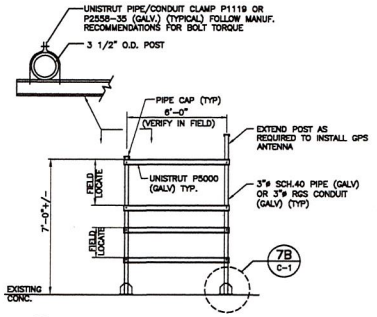
5 C-2 **SURGE ARRESTOR DETAIL**
NOT TO SCALE



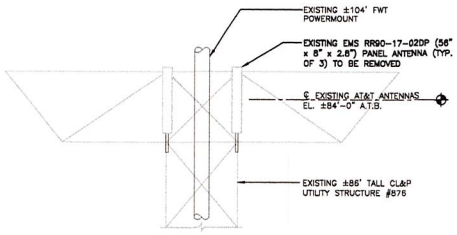
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 11	17.8"L x 17.3"W x 7.2"D	BAND 4: 44 LBS. BAND 12: 50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. SIDE: 0" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

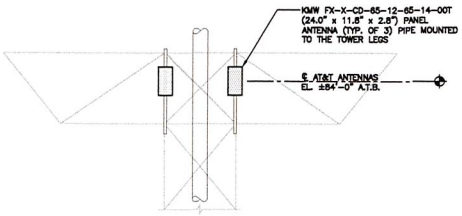
6 C-2 **RRU DETAIL**
NOT TO SCALE



7 C-1 **EQUIPMENT MOUNTING FRAME DETAIL**
NOT TO SCALE

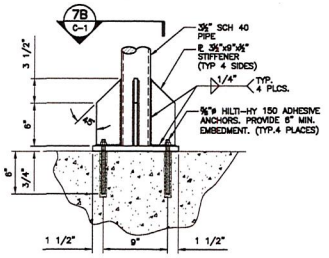


2 C-2 **EXISTING ANTENNA ELEVATION**
SCALE: 1/4" = 1'-0"

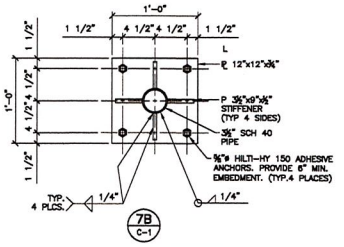


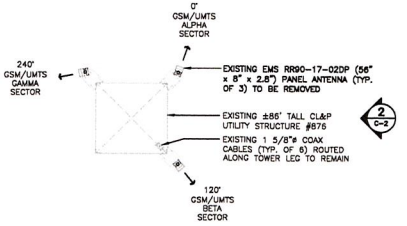
4 C-2 **PROPOSED ANTENNA ELEVATION**
SCALE: 1/4" = 1'-0"

NOTES:
1. PROVIDE MOUNTING PIPES, CROSSOVERS & ASSOCIATED HARDWARE TO COMPLETE THE PROPOSED UPGRADE.
2. REFER TO STRUCTURAL ANALYSIS AND FINAL AT&T RFDS PRIOR TO INSTALLATION OF ANTENNAS AND COAX.



7A C-1 **FRAME TO CONCRETE CONNECTION DETAIL**
NOT TO SCALE

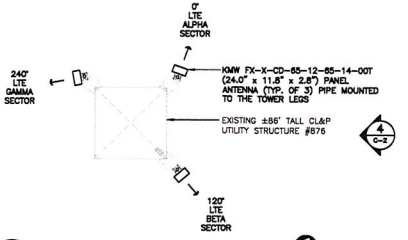




1 C-2 **EXISTING ANTENNA LAYOUT**
SCALE: 1/4" = 1'-0"

APPROX. NORTH

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1 inch = 4 ft.



3 C-2 **PROPOSED ANTENNA LAYOUT**
SCALE: 1/4" = 1'-0"

APPROX. NORTH

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1 inch = 4 ft.

DESIGNED BY:	CPC
DRAWN BY:	DEB
CHK'D BY:	CPC

REV.	DATE	DRAWN BY	CHK'D BY	
0	12/12/12	DEB	CPC	CONSTRUCTION - CLIENT REVIEW

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Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY LTE UPGRADE

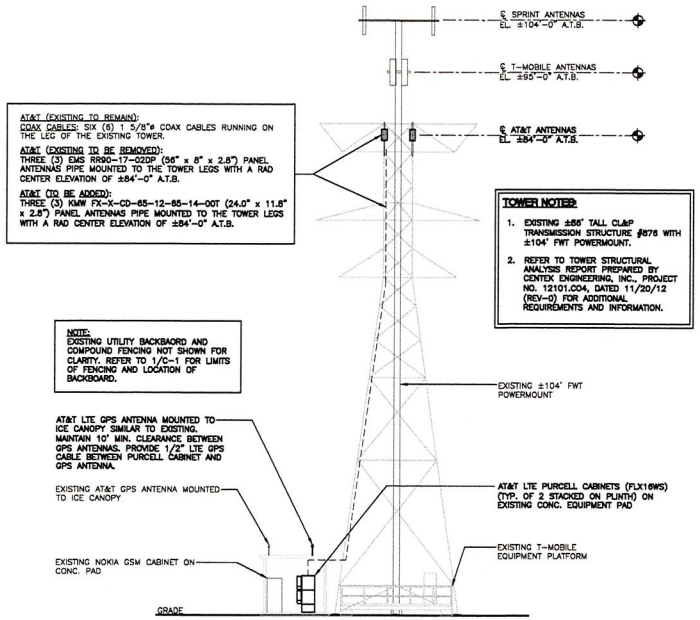
CT5145
LOWER SCORT HILL
CL&P STRUCT. NO. 876
280 MOREHOUSE DRIVE
FAIRFIELD, CT 06825

DATE:	12/10/12
SCALE:	AS NOTED
JOB NO.	12063.C050

LTE ANTENNA AND EQUIPMENT DETAILS

C-2

Sheet No. 4 of 5



2 C-1 **PARTIAL EAST ELEVATION**
SCALE: 1" = 10'-0"

GRAPHIC SCALE
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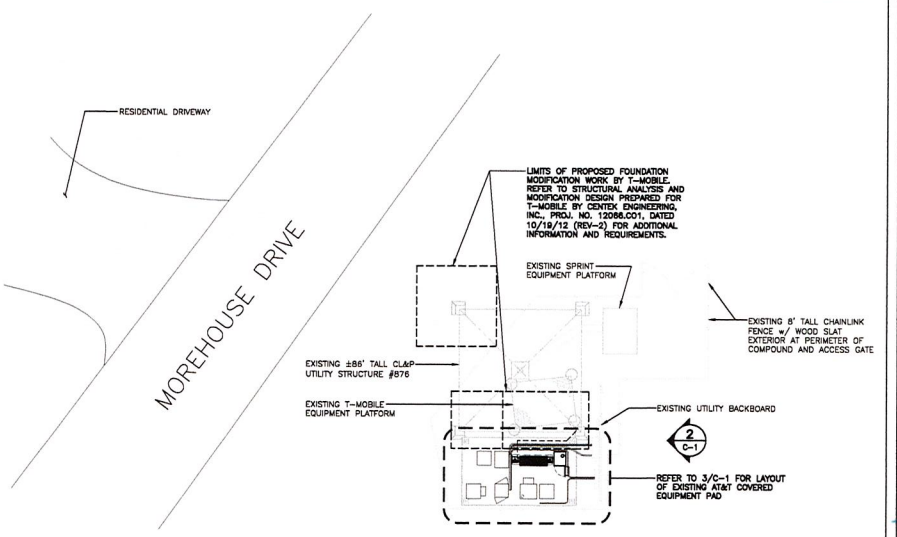
(IN FEET)
1 inch = 10 ft.



1 C-1 **COMPOUND PLAN**
SCALE: 1" = 10'-0"

APPROX. NORTH

GRAPHIC SCALE
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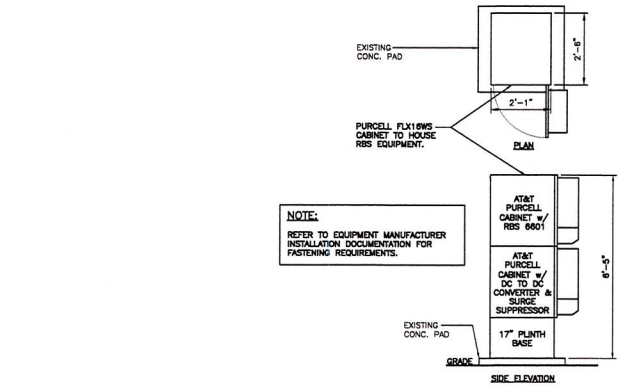
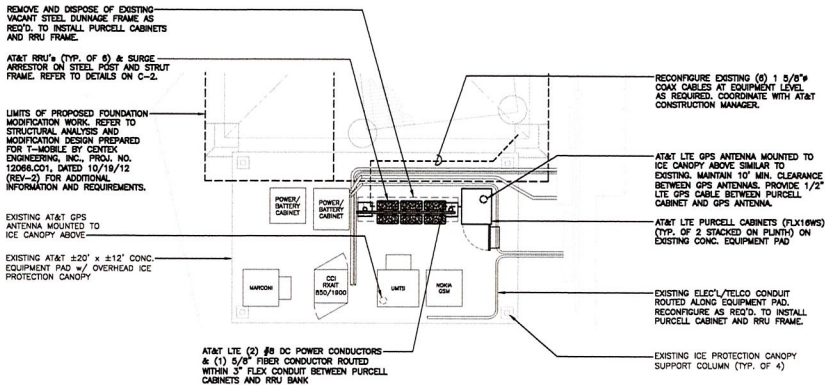
(IN FEET)
1 inch = 10 ft.



4 C-1 **PURCELL CABINET MOUNTING DETAIL**
NOT TO SCALE



3 C-1 **EQUIPMENT PAD LAYOUT PLAN**
SCALE: 1/4" = 1'-0"

APPROX. NORTH

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1 inch = 4 ft.

DESIGNED BY:	CFC
DRAWN BY:	DEB
CHK'D BY:	CFC

REV.	DATE	DRAWN BY	CHK'D BY	
0	12/12/12	DEB	CFC	CONSTRUCTION - CLIENT REVIEW

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AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY LTE UPGRADE
C15145
LOWER SCORT HILL
CL&P STRUCT. NO. 876
ZERO PEQUOT LAKE ROAD
FAIRFIELD, CT 06825

DATE:	12/10/12
SCALE:	AS NOTED
JOB NO.	12063.C050

PLANS AND ELEVATION

C-1

Sheet No. 3 of 8

Northeast Utilities System

107 Selden Street, Berlin, CT 06037

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

April 3, 2013

Mr. Mark Roberts
AT&T Wireless.
500 Enterprise Drive
Rocky Hill, CT 06067

RE: AT&T Antenna Site, CT-5145, Moorehouse Rd., Fairfield CT, structure 876.

Dear Mr. Roberts:

Based on our reviews of the site drawings, the structural analysis provided by Centek Engineering and, and the foundation modification and analyses performed by Centek Engineering, we have reviewed for acceptance this modification

Since there are no outstanding structural issues to resolve at this time please contact Mr. Charamella (860-665-6959) to resolve any lease issues; once the lease amendment is secured you may contact Mr. John Landry directly (860-665-5425) to begin these arrangements.

Sincerely,

Robert Gray
Transmission Line Engineering

ref: 10071017.CT5218.CDREV1.12.03.12.pdf
10071017.CT5218.StructuralAnalysisRev1.11.28.12.pdf

CENTEK engineering

Centered on Solutions℠

Structural Analysis of Powermount and CL&P Tower

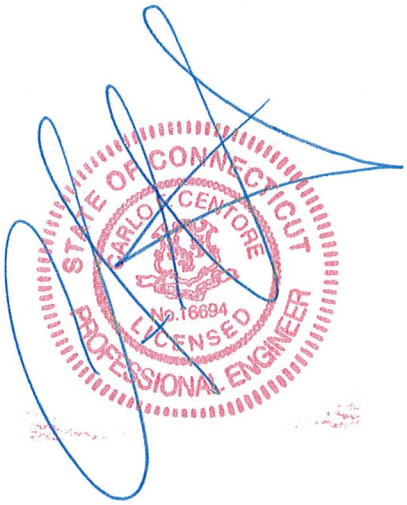
AT&T Site Ref: CT5145

CL&P Structure No. 876
86' Electric Transmission Lattice Tower

280 Morehouse Drive
Fairfield, CT

CENTEK Project No. 12101.CO4

Date: November 20, 2012



Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Table of Contents

Introduction

The purpose of this report is to analyze the existing 86' CL&P tower located at 280 Morehouse Dr., in Fairfield, CT for the proposed antenna and equipment upgrade by AT&T Mobility.

The proposed loads consist of the following:

- SPRINT (Existing to Remain):
  Antennas: Six (6) Decibel DB980H90 panel antennas mounted on a 14-ft low profile platform to the existing powermount with a RAD center elevation of 104-ft above grade.
  Coax Cables: Six (6) 1-5/8" ∅ coax cables running on the inside of the existing FWT Powermount.
- T-MOBILE (Reserved):
  Antennas: Six (6) RFS APX16DWV-16DWVS panel antennas mounted on a Site Pro WiMAX Monopole T-Arm p/n UDS-NP to the existing powermount with a RAD center elevation of 95-ft above grade.
  Coax Cables: Eighteen (18) 1-1/4" ∅ coax cables running on the exterior of the existing FWT Powermount.
- AT&T (Existing to Remain):
  Coax Cables: Six (6) 1-5/8" ∅ coax cables running on a leg of the existing utility tower.
- AT&T (Existing to Remove):
  Antennas: Three (3) EMS RR90-17-02DP panel antennas leg mounted to the existing utility tower with a RAD center elevation of 84-ft above grade.
- **AT&T (Proposed):**
  Antennas: Three (3) KMW FX-X-CD-65-12-65-14-00T panel antennas leg mounted to the existing utility tower with a RAD center elevation of 84-ft above grade.

Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9th edition for design of the Powermount and antenna supporting elements.
- ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", defines allowable steel stresses for evaluation of the CL&P utility tower.
- All utility tower members are adequately protected to prevent corrosion of steel members.
- All proposed antenna mounts are modeled as listed above.
- All coaxial cable will be installed within the powermount unless specified otherwise.
- Powermount will be properly installed and maintained.
- No residual stresses exist due to incorrect tower erection.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds conform to the requirements of AWS D1.1.
- Powermount and utility tower will be in plumb condition.
- Utility tower was properly installed and maintained and all members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
- Any deviation from the analyzed loading will require a new analysis for verification of structural adequacy.

Analysis

Structural analysis of the existing transmission tower was independently completed using the current version of PLS-Tower computer program licensed to CENTEK Engineering, Inc.

The existing 86-ft tall transmission tower with a FWT powermount consisting of a 12" Std. pipe conforming to ASTM A500 Grade C (Fy = 50ksi) connected at five points to the existing tower was analyzed for its ability to resist loads prescribed by the NESC standard. These loads are developed in Section 5 of this report.

The loads per NESC guidelines were applied to the CL&P tower using PLS-Tower. Maximum usage for the tower was calculated considering the additional forces from the powermount and associated appurtenances.

Design Basis

Our analysis was performed in accordance with EIA-222-F-1996, ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", NESC C2-2007 and Northeast Utilities Design Criteria.

The CL&P tower structure, considering existing and future conductor and shield wire loading, with the existing powermount was analyzed under two conditions:

- UTILITY TOWER ANALYSIS

  The purpose of this analysis is to determine the adequacy of the existing utility structure to support the proposed antenna loads. The loading and design requirements were analyzed in accordance with the NU Design Criteria Table, NESC C2-2007 ~ Construction Grade B, and ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures".

  Load cases considered:

  Load Case 1: NESC Heavy

Wind Pressure..	4.0 psf
Radial Ice Thickness .	0.5"
Vertical Overload Capacity Factor	1.50
Wind Overload Capacity Factor	2.50
Wire Tension Overload Capacity Factor	1.65

  Load Case 2: NESC Extreme

Wind Speed..	110 mph (1)
Radial Ice Thickness .	0"

  Note 1: NESC C2-2007, Section25, Rule 250C: Extreme Wind Loading, 1.25 x Gust Response Factor (wind speed: 3-second gust)

Results

- UTILITY TOWER

This analysis finds that the subject utility structure is adequate to support the existing powermount and related appurtenances. The tower stresses meet the requirements set forth by the ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", for the applied NESC Heavy and Hi-Wind load cases. The detailed analysis results are provided in Section 9 of this report. The analysis results are summarized as follows:

A maximum usage of **97.92%** occurs in the utility tower under the **NESC Extreme Wind** loading condition.

TOWER SECTION:

The utility tower was found to be within allowable limits.

Tower Member	Stress Ratio (% of capacity)	Result
Angle g11x	97.92%	**PASS**

- FOUNDATION AND ANCHORS

The existing foundation consists of four (4) 1-ft 8-in square tapering to 2-ft 4-in square x 5.25-ft long reinforced concrete piers and four (4) 5-ft square x 2-ft thick reinforced concrete pads. The base of the tower is connected to the foundation by one (1) anchor stub angle per leg. Foundation information was obtained from Northeast Utilities drawing 01064-60003.

Review of the foundation design consisted of verification of applied loads obtained from the tower design calculations and code checks of allowable stresses:

BASE REACTIONS:

From PLS-Tower analysis of CL&P tower based on NESC/NU prescribed loads.

Foundation	Load Case	Shear	Uplift	Compression
Single Conc. Pad & Pier	NESC Heavy Wind	7.98 kips	18.92 kips	36.23 kips
	NESC Extreme Wind	14.59 kips	50.32 kips	59.73 kips
Conc. Pad & Pier (2) w/ Mat	NESC Heavy Wind	15.52 kips	37.62 kips	71.22 kips
	NESC Extreme Wind	28.26 kips	98.74 kips	117.21 kips

Note 1 – 10% increase to be applied to the above tower base reactions for foundation verification per OTRM 051
Note 2 – Reactions used to analysis the reinforced foundation are the combination of the two adjacent tower legs.

FOUNDATION:

The foundation **with the proposed reinforcements detailed in the previous structural analysis report prepared by this office, for T-Mobile job no. 12066.CO1 Rev. 2 dated October 19, 2012** was found to be within allowable limits.

Foundation	Design Limit	Allowable Limit	Proposed Loading (2)	Result
Single Conc. Pad & Pier	Uplift	1.0 FS (1)	1.16 FS (1)	**PASS**
Conc. Pad & Pier (2) w/ Mat	Uplift	1.0 FS (1)	1.32 FS (1)	**PASS**

Note 1: FS denotes Factor of Safety
Note 2: 10% increase to PLS base reactions used in foundation analysis per OTRM 051.

Conclusions and Recommendations

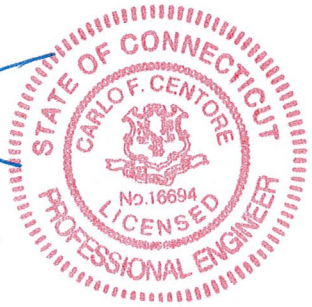
This analysis shows that the subject utility tower **with the proposed reinforcements detailed in the previous structural analysis report prepared by this office, for T-Mobile job no. 12066.CO1 Rev. 2 dated October 19, 2012 is adequate** to support the proposed AT&T equipment upgrade.

The analysis is based, in part on the information provided to this office by Northeast Utilities and AT&T Mobility. If the existing conditions are different than the information in this report, CENTEK Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

Carlo F. Centore, PE
Principal ~ Structural Engineer



Prepared by:

Timothy J. Lynn, EIT
Structural Engineer

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

at&t

CT5145

(Lower Short Hill)

280 Morehouse Drive, Fairfield, CT 06825

February 27, 2013

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the electrical utility tower located at 280 Morehouse Drive in Fairfield, CT. The coordinates of the tower are 41° 12' 35.90" N, 73° 15' 41.58" W.

AT&T is proposing the following modifications:

1) Remove three 1900 MHz antennas currently in use for their UMTS/GSM network (one per sector);
2) Install three multi-band (700/850/1900/2100 MHz) antennas for their UMTS/GSM/LTE network (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
AT&T	*86*	*1945*	*4*	*275*	*0.0535*	*1.0000*	*5.35%*
VoiceStream	95	1930	4	281.96	0.0449	1.0000	4.49%
Sprint	101	1900	11	122	0.0473	1.0000	4.73%
AT&T UMTS	84	880	2	429	0.0044	0.5867	0.75%
AT&T UMTS	84	1900	2	620	0.0063	1.0000	0.63%
AT&T LTE	84	734	1	689	0.0035	0.4893	0.72%
AT&T GSM	84	880	1	214	0.0011	0.5867	0.19%
AT&T GSM	84	1900	4	372	0.0076	1.0000	0.76%
						Total	**12.26%**

Table 1: Carrier Information[1] [2] [3]

[1] The existing CSC filing for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. UMTS and GSM channels at 850 MHz may not be deployed initially by AT&T, but have been included based on AT&T's FCC license to operate on this frequency at this location in the future. The power density information for carriers other than AT&T was taken directly from the CSC database dated 1/14/2013. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

[3] Antenna height listed for AT&T is in reference to the Centek Engineering Structural Analysis dated November 20, 2012.

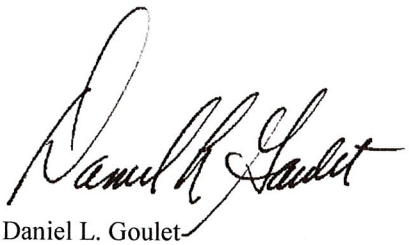
5. Conclusion

The above analysis verifies that emissions from the site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **12.26% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

February 27, 2013
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[5]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

[5] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

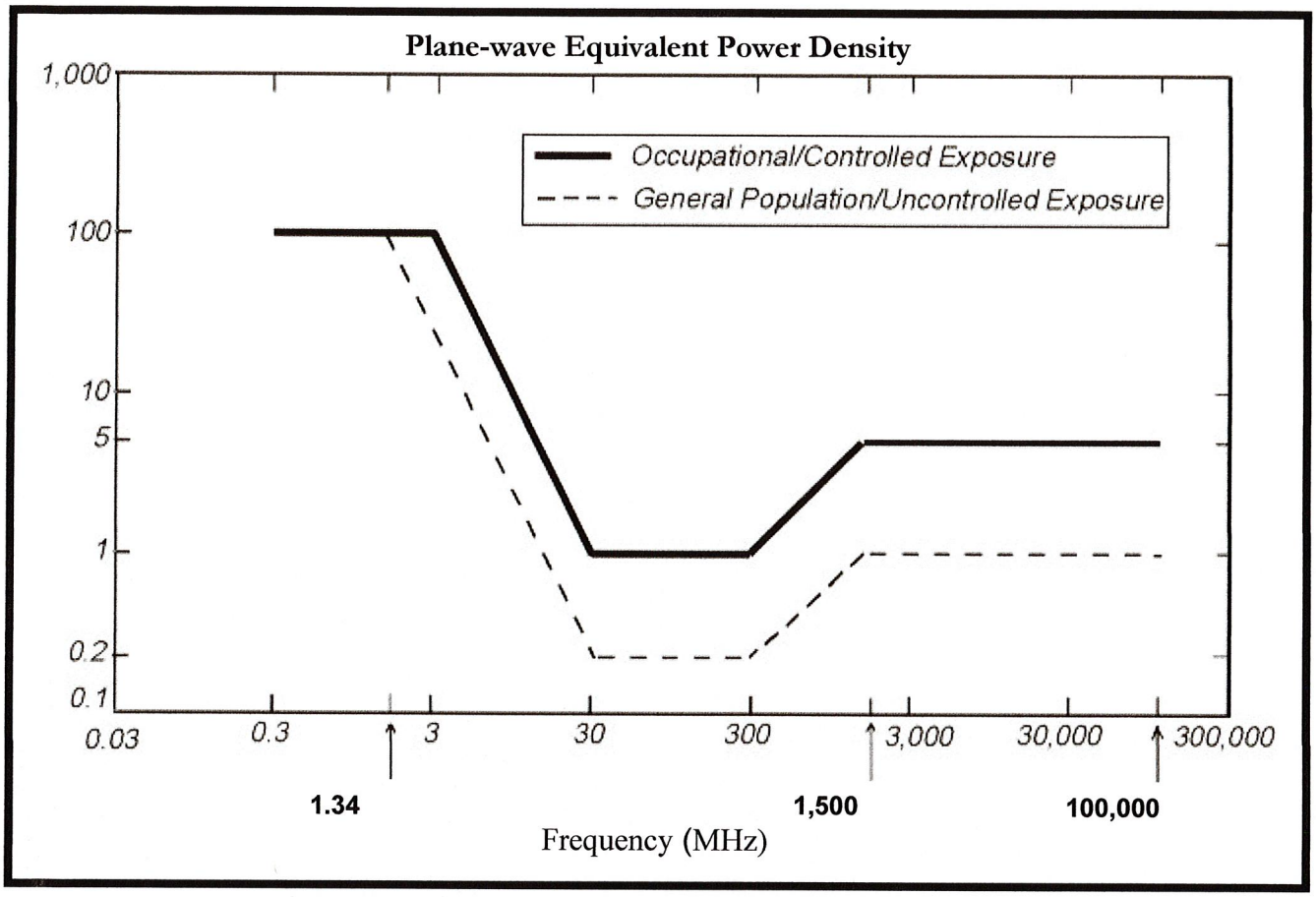
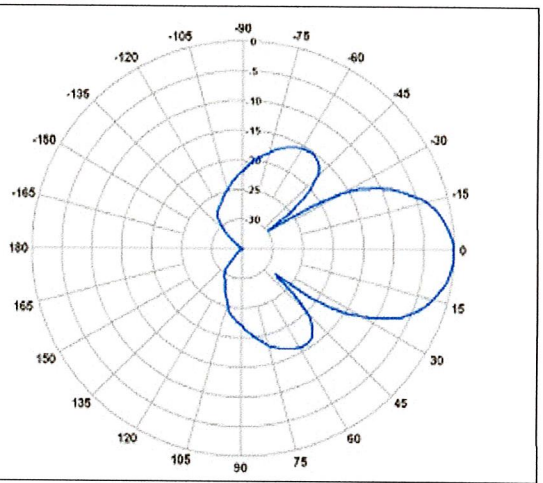


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

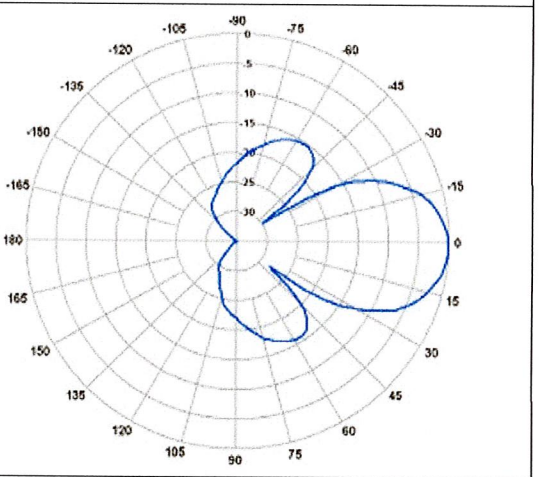
700 MHz

Manufacturer:	KMW
Model #:	FX-X-CD-65-12-65-14-00T-ST
Frequency Band:	698-824 MHz
Gain:	10.6 dBd
Vertical Beamwidth:	35°
Horizontal Beamwidth:	65°
Polarization:	Dual Slant ± 45°
Size L x W x D:	24.0" x 11.8" x 6.0"



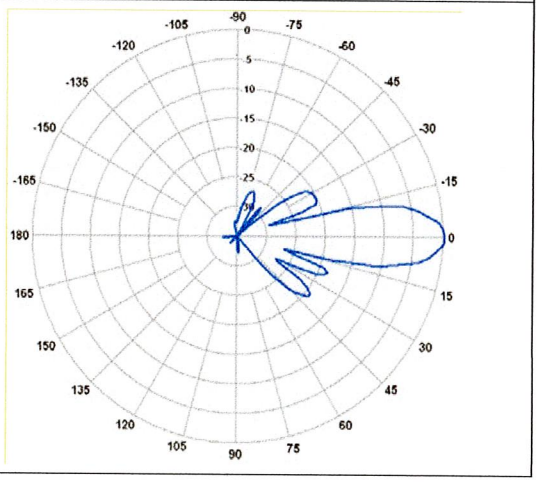
850 MHz

Manufacturer:	KMW
Model #:	FX-X-CD-65-12-65-14-00T-ST
Frequency Band:	824-894 MHz
Gain:	10.3 dBd
Vertical Beamwidth:	32°
Horizontal Beamwidth:	62°
Polarization:	Dual Slant ± 45°
Size L x W x D:	24.0" x 11.8" x 6.0"



1900 MHz

Manufacturer:	KMW
Model #:	FX-X-CD-65-12-65-14-00T-ST
Frequency Band:	1710-1990 MHz
Gain:	11.9 dBd
Vertical Beamwidth:	19°
Horizontal Beamwidth:	55°
Polarization:	Dual Slant ± 45°
Size L x W x D:	24.0" x 11.8" x 6.0"



STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.

- Information from the field and/or drawings in the possession of CENTEK engineering, Inc. or generated by field inspections or measurements of the structure.

- It is the responsibility of the client to ensure that the information provided to CENTEK engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.

- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222.

- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. CENTEK engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ RISA-3D

RISA-3D Structural Analysis Program is an integrated structural analysis and design software package for buildings, bridges, tower structures, etc.

Modeling Features:

- Comprehensive CAD-like graphic drawing/editing capabilities that let you draw, modify and load elements as well as snap, move, rotate, copy, mirror, scale, split, merge, mesh, delete, apply, etc.
- Versatile drawing grids (orthogonal, radial, skewed)
- Universal snaps and object snaps allow drawing without grids
- Versatile general truss generator
- Powerful graphic select/unselect tools including box, line, polygon, invert, criteria, spreadsheet selection, with locking
- Saved selections to quickly recall desired selections
- Modification tools that modify single items or entire selections
- Real spreadsheets with cut, paste, fill, math, sort, find, etc.
- Dynamic synchronization between spreadsheets and views so you can edit or view any data in the plotted views or in the spreadsheets
- Simultaneous view of multiple spreadsheets
- Constant in-stream error checking and data validation
- Unlimited undo/redo capability
- Generation templates for grids, disks, cylinders, cones, arcs, trusses, tanks, hydrostatic loads, etc.
- Support for all units systems & conversions at any time
- Automatic interaction with RISASection libraries
- Import DXF, RISA-2D, STAAD and ProSteel 3D files
- Export DXF, SDNF and ProSteel 3D files

Analysis Features:

- Static analysis and P-Delta effects
- Multiple simultaneous dynamic and response spectra analysis using Gupta, CQC or SRSS mode combinations
- Automatic inclusion of mass offset (5% or user defined) for dynamic analysis
- Physical member modeling that does not require members to be broken up at intermediate joints
- State of the art 3 or 4 node plate/shell elements
- High-end automatic mesh generation — draw a polygon with any number of sides to create a mesh of well-formed quadrilateral (NOT triangular) elements.
- Accurate analysis of tapered wide flanges - web, top and bottom flanges may all taper independently
- Automatic rigid diaphragm modeling
- Area loads with one-way or two-way distributions
- Multiple simultaneous moving loads with standard AASHTO loads and custom moving loads for bridges, cranes, etc.
- Torsional warping calculations for stiffness, stress and design
- Automatic Top of Member offset modeling
- Member end releases & rigid end offsets
- Joint master-slave assignments
- Joints detachable from diaphragms
- Enforced joint displacements
- 1-Way members, for tension only bracing, slipping, etc.

- 1-Way springs, for modeling soils and other effects
- Euler members that take compression up to their buckling load, then turn off.
- Stress calculations on any arbitrary shape
- Inactive members, plates, and diaphragms allows you to quickly remove parts of structures from consideration
- Story drift calculations provide relative drift and ratio to height
- Automatic self-weight calculations for members and plates
- Automatic subgrade soil spring generator

Graphics Features:

- Unlimited simultaneous model view windows
- Extraordinary "true to scale" rendering, even when drawing
- High-speed redraw algorithm for instant refreshing
- Dynamic scrolling stops right where you want
- Plot & print virtually everything with color coding & labeling
- Rotate, zoom, pan, scroll and snap views
- Saved views to quickly restore frequent or desired views
- Full render or wire-frame animations of deflected model and dynamic mode shapes with frame and speed control
- Animation of moving loads with speed control
- High quality customizable graphics printing

Design Features:

- Designs concrete, hot rolled steel, cold formed steel and wood
- ACI 1999/2002, BS 8110-97, CSA A23.3-94, IS456:2000,EC 2-1992 with consistent bar sizes through adjacent spans
- Exact integration of concrete stress distributions using parabolic or rectangular stress blocks
- Concrete beam detailing (Rectangular, T and L)
- Concrete column interaction diagrams
- Steel Design Codes: AISC ASD 9th, LRFD 2nd & 3rd, HSS Specification, CAN/CSA-S16.1-1994 & 2004, BS 5950-1-2000, IS 800-1984, Euro 3-1993 including local shape databases
- AISI 1999 cold formed steel design
- NDS 1991/1997/2001 wood design, including Structural Composite Lumber, multi-ply, full sawn
- Automatic spectra generation for UBC 1997, IBC 2000/2003
- Generation of load combinations: ASCE, UBC, IBC, BOCA, SBC, ACI
- Unbraced lengths for physical members that recognize connecting elements and full lengths of members
- Automatic approximation of K factors
- Tapered wide flange design with either ASD or LRFD codes
- Optimization of member sizes for all materials and all design codes, controlled by standard or user-defined lists of available sizes and criteria such as maximum depths
- Automatic calculation of custom shape properties
- Steel Shapes: AISC, HSS, CAN, ARBED, British, Euro, Indian, Chilean
- Light Gage Shapes: AISI, SSMA, Dale / Incor, Dietrich, Marino\WARE
- Wood Shapes: Complete NDS species/grade database
- Full seamless integration with RISAFoot (Ver 2 or better) for advanced footing design and detailing
- Plate force summation tool

Results Features:

- Graphic presentation of color-coded results and plotted designs
- Color contours of plate stresses and forces with quadratic smoothing, the contours may also be animated
- Spreadsheet results with sorting and filtering of: reactions, member & joint deflections, beam & plate forces/stresses, optimized sizes, code designs, concrete reinforcing, material takeoffs, frequencies and mode shapes
- Standard and user-defined reports
- Graphic member detail reports with force/stress/deflection diagrams and detailed design calculations and expanded diagrams that display magnitudes at any dialed location
- Saved solutions quickly restore analysis and design results.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ PLS-TOWER

PLS-TOWER is a Microsoft Windows program for the analysis and design of steel latticed towers used in electric power lines or communication facilities. Both self-supporting and guyed towers can be modeled. The program performs design checks of structures under user specified loads. For electric power structures it can also calculate maximum allowable wind and weight spans and interaction diagrams between different ratios of allowable wind and weight spans.

Modeling Features:

- Powerful graphics module (stress usages shown in different colors)
- Graphical selection of joints and members allows graphical editing and checking
- Towers can be shown as lines, wire frames or can be rendered as 3-d polygon surfaces
- Can extract geometry and connectivity information from a DXF CAD drawing
- CAD design drawings, title blocks, drawing borders or photos can be tied to structure model
- XML based post processor interface
- Steel Detailing Neutral File (SDNF) export to link with detailing packages
- Can link directly to line design program PLS-CADD
- Automatic generation of structure files for PLS-CADD
- Databases of steel angles, rounds, bolts, guys, etc.
- Automatic generation of joints and members by symmetries and interpolations
- Automated mast generation (quickly builds model for towers that have regular repeating sections) via graphical copy/paste
- Steel angles and rounds modeled either as truss, beam or tension-only elements
- Guys are easily handled (can be modeled as exact cable elements)

Analysis Features:

- Automatic handling of tension-only members
- Automatic distribution of loads in 2-part suspension insulators (v-strings, horizontal vees, etc.)
- Automatic calculation of tower dead, ice, and wind loads as well as drag coefficients according to:
  - ASCE 74-1991
  - NESC 2002
  - NESC 2007
  - IEC 60826:2003
  - EN50341-1:2001 (CENELEC)
  - EN50341-3-9:2001 (UK NNA)
  - EN50341-3-17:2001 (Portugal NNA)
  - ESAA C(b)1-2003 (Australia)
  - TPNZ (New Zealand)
  - REE (Spain)
  - EIA/TIA 222-F
  - ANSI/TIA 222-G
  - CSA S37-01
- Automated microwave antenna loading as per EIA/TIA 222-F and ANSI/TIA 222-G
- Minimization of problems caused by unstable joints and mechanisms
- Automatic bandwidth minimization and ability to solve large problems
- Design checks according to (other standards can be added easily):
  - ASCE Standard 10-90

- AS 3995 (Australian Standard 3995)
- BS 8100 (British Standard 8100)
- EN50341-1 (CENELEC, both empirical and analytical methods are available)
- ECCS 1985
- NGT-ECCS
- PN-90/B-03200
- EIA/TIA 222-F
- ANSI/TIA 222-G
- CSA S37-01
- EDF/RTE Resal
- IS 802 (India Standard 802)

Results Features:

- Design summaries printed for each group of members
- Easy to interpret text, spreadsheet and graphics design summaries
- Automatic determination of allowable wind and weight spans
- Automatic determination of interaction diagrams between allowable wind and weight spans
- Capability to batch run multiple tower configurations and consolidate the results
- Automated optimum angle member size selection and bolt quantity determination

Tool for interactive angle member sizing and bolt quantity determination.

Criteria for Design of PCS Facilities On or Extending Above Metal Electric Transmission Towers & Analysis of Transmission Towers Supporting PCS Masts [1]

Introduction

This criteria is the result from an evaluation of the methods and loadings specified by the separate standards, which are used in designing telecommunications towers and electric transmission towers. That evaluation is detailed elsewhere, but in summary; the methods and loadings are significantly different. This criteria specifies the manner in which the appropriate standard is used to design PCS facilities including masts and brackets (hereafter referred to as "masts"), and to evaluate the electric transmission towers to support PCS masts. The intent is to achieve an equivalent level of safety and security under the extreme design conditions expected in Connecticut and Massachusetts.

ANSI Standard TIA/EIA-222 (Rev. F) covering the design of telecommunications structures specifies a working strength/allowable stress design approach. This approach applies the loads from extreme weather loading conditions, and designs the structure so that it does not exceed some defined percentage of failure strength (allowable stress).

ANSI Standard C2-2007 (National Electrical Safety Code) covering the design of electric transmission metal structures is based upon an ultimate strength/yield stress design approach. This approach applies a multiplier (overload capacity factor) to the loads possible from extreme weather loading conditions, and designs the structure so that it does not exceed its ultimate strength (yield stress).

Each standard defines the details of how loads are to be calculated differently. Most of the NU effort in "unifying" both codes was to establish what level of strength each approach would provide, and then increasing the appropriate elements of each to achieve a similar level of security under extreme weather loadings.

Two extreme weather conditions are considered. The first is an extreme wind condition (hurricane) based upon a 50-year recurrence (2% annual probability). The second is a winter condition combining wind and ice loadings.

The following sections describe the design criteria for any PCS mast extending above the top of an electric transmission tower, and the analysis criteria for evaluating the loads on the transmission tower from such a mast from the lower portions of such a mast, and loads on the pre-existing electric lower portions of such a mast, and loads on the pre-existing electric transmission tower and the conductors it supports.

Note 1: Prepared from documentation provide from Northeast Utilities.

PCS Mast

The PCS facility (mast, external cable/trays, including the initial and any planned future support platforms, antennas, etc. extending the full height above the top level of the electric transmission structure) shall be designed in accordance with the provisions of TIA/EIA-222 (Rev. F) with two exceptions:

1. An 85 mph extreme wind speed shall be used for locations in all counties throughout the NU system.
2. The allowable stress increase of TIA Section 3.1.1.1 is allowed for the mast section, but is disallowed for the mast to structure connection design.

   The combined wind and ice condition shall consider ½" radial ice in combination with the wind load (0.75 Wi) as specified in TIA section 2.3.16.

ELECTRIC TRANSMISSION TOWER

The electric transmission tower shall be analyzed using yield stress theory in accordance with the attached table titled "NU Design Criteria". This specifies uniform loadings (different from the TIA loadings) on the each of the following components of the installed facility:

- PCS mast for its total height above ground level, including the initial and planned future support platforms, antennas, etc. above the top of an electric transmission structure.
- Conductors are related devices and hardware.
- Electric transmission structure. The loads from the PCS facility and from the electric conductors shall be applied to the structure at conductor and PCS mast attachment points, where those load transfer to the tower.

The uniform loadings and factors specified for the above components in the table are based upon the National Electrical Safety Code 2007 Edition Extreme Wind (Rule 250C) and Combined Ice and Wind (Rule 250B-Heavy) Loadings. These provide equivalent loadings compared to TIA and its loads and factors with the exceptions noted above. (Note that the NESC does not require the projected wind surfaces of structures and equipment to be increased by the ice covering.)

In the event that the electric transmission tower is not sufficient to support the additional loadings of the PCS mast, reinforcement will be necessary to upgrade the strength of the overstressed members.

Attachment A

NU Design Criteria

			Basic Wind Speed	Pressure	Height Factor	Gust Factor	Load or Stress Factor	Force Coef - Shape Factor
			V (MPH)	Q (PSF)	Kz	Gh		
Ice Condition	TIA/EIA	Antenna Mount	TIA	TIA (.75Wi)	TIA	TIA	TIA, Section 3.1.1.1 disallowed for connection design	TIA
	NESC Heavy	Tower/Pole Analysis with antennas extending above top of Tower/Pole (Yield Stress)	---	4	1.00	1.00	2.50	1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole (on two faces)	---	4	1.00	1.00	2.50	1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
High Wind Condtion	TIA/EIA	Antenna Mount	85	TIA	TIA	TIA	TIA, Section 3.1.1.1 disallowed for connection design	TIA
	NESC Extreme Wind	Tower/Pole Analysis with antennas extending above top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading 1.25 x Gust Response Factor Height above ground level based on top of Mast/Antenna					1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading Height above ground level based on top of Tower/Pole					1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
NESC Extreme Ice with Wind Conditon*		Tower/Pole Analysis with antennas extending above top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250D: Extreme Ice with Wind Loading 4PSF Wind Load 1.25 x Gust Response Factor Height above ground level based on top of Mast/Antenna					1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250D: Extreme Ice with Wind Loading 4PSF Wind Load Height above ground level based on top of Tower/Pole					1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
		* Only for Structures Installed after 2007						

Shape Factor Criteria shall be per TIA Shape Factors.

2) STEP 2 - The electric transmission structure analysis and evaluation shall be performed in accordance with NESC requirements and shall include the mast and antenna loads determined from NESC applied loading conditions (not TIA/EIA Loads) on the structure and mount as specified below, and shall include the wireless communication mast and antenna loads per NESC criteria)

The structure shall be analyzed using yield stress theory in accordance with Attachment A, "NU Design Criteria." This specifies uniform loadings (different from the TIA loadings) on each of the following components of the installed facility:

a) Wireless communication mast for its total height above ground level, including the initial and any planned future equipment (Support Platforms, Antennas, TMA's etc.) above the top of an electric transmission structure.

b) Conductors and related devices and hardware (wire loads will be provided by NU).

c) Electric Transmission Structure

i) The loads from the wireless communication equipment components based on NESC and NU Criteria in Attachment A, and from the electric conductors shall be applied to the structure at conductor and wireless communication mast attachment points, where those loads transfer to the tower.

ii) Shape Factor Multiplier:

NESC Structure Shape	Cd
Polyround (for polygonal steel poles)	1.3
Flat	1.6
Open Lattice	3.2

iii) When Coaxial Cables are mounted along side the pole structure, the shape multiplier shall be:

Mount Type	Cable Cd	Pole Cd
Coaxial Cables on outside periphery (One layer)	1.45	1.45
Coaxial Cables mounted on stand offs	1.6	1.3

d) The uniform loadings and factors specified for the above components in Attachment A, "NU Design Criteria" are based upon the National Electric Safety Code 2007 Edition Extreme Wind (Rule 250C) and Combined Ice and Wind (Rule 250B-Heavy) Loadings. These provide equivalent loadings compared to the TIA and its loads and factors with the exceptions noted above.

Note: The NESC does not require ice load be included in the supporting structure. (Ice on conductors and shield wire only, and NU will provide these loads).

e) Mast reaction loads shall be evaluated for local effects on the transmission structure members at the attachment points.

FOCAS 96 FIBER

10/29/97

FOC PARAMETERS

F-7389EC-535-096

DIAM = 0.738 in.
WEIGHT = 0.518 lb/ft

LOADING PARAMETERS

1000 RS

	NESC	1" ICE	HI WIND
WIND (PSF)	4	0	20
ICE (IN)	0.5	1	0
OLF ANG	1.65	1.15	1.15
OLF WIND	2.5	1.15	1.15
OLF WT	1.5	1.15	1.15
TENS (#) **	6500	9000	5000

STR	ANGLE	WIND SPAN	WGT SPAN	NESC H	NESC V	1" ICE H	1" ICE V	HI WIND H	HI WIND V
876	0	736.5	1190	1067	2299	0	3667	1042	709

876 tower Shield Wire

1720/1730

10/10/97

	AHEAD SW	BACK SW
	7#9 cw	7#9 cw
DIAM =	0.343	0.343
WEIGHT =	0.257	0.257

LOADING PARAMETERS

bk
ah

	AHEAD NESC	BACK	AHEAD 1" ICE	BACK	AHEAD HIGH WIND	BACK
WIND (PSF)	4		0		20	
ICE (IN)	0.5		1		0	
OLF ANG	1.65		1.15		1.15	
OLF WIND	2.5		1.15		1.15	
OLF WT	1.5		1.15		1.15	
TENS (#) **	3600	3600	5263	5263	1976	1976

STR	ANGLE	WIND SPAN	WGT SPAN	NESC H	NESC L	NESC V	1" ICE H	1" ICE L	1" ICE V	HIGH WIND H	HIGH WIND L	HIGH WIND V
BACK	0	367	581	411	-5940	681	0	-6052	1288	241	-2272	172
AHEAD	0	367	581	411	5940	681	0	6052	1288	241	2272	172
	0	734	1162	821	0	1362	0	0	2575	483	0	343

876 tower

1720/1730 CONDUCTOR

10/10/97

	AHEAD COND	BACK COND
	556 ACSR	556 ACSR
DIAM =	0.927	0.927
WEIGHT =	0.766	0.766

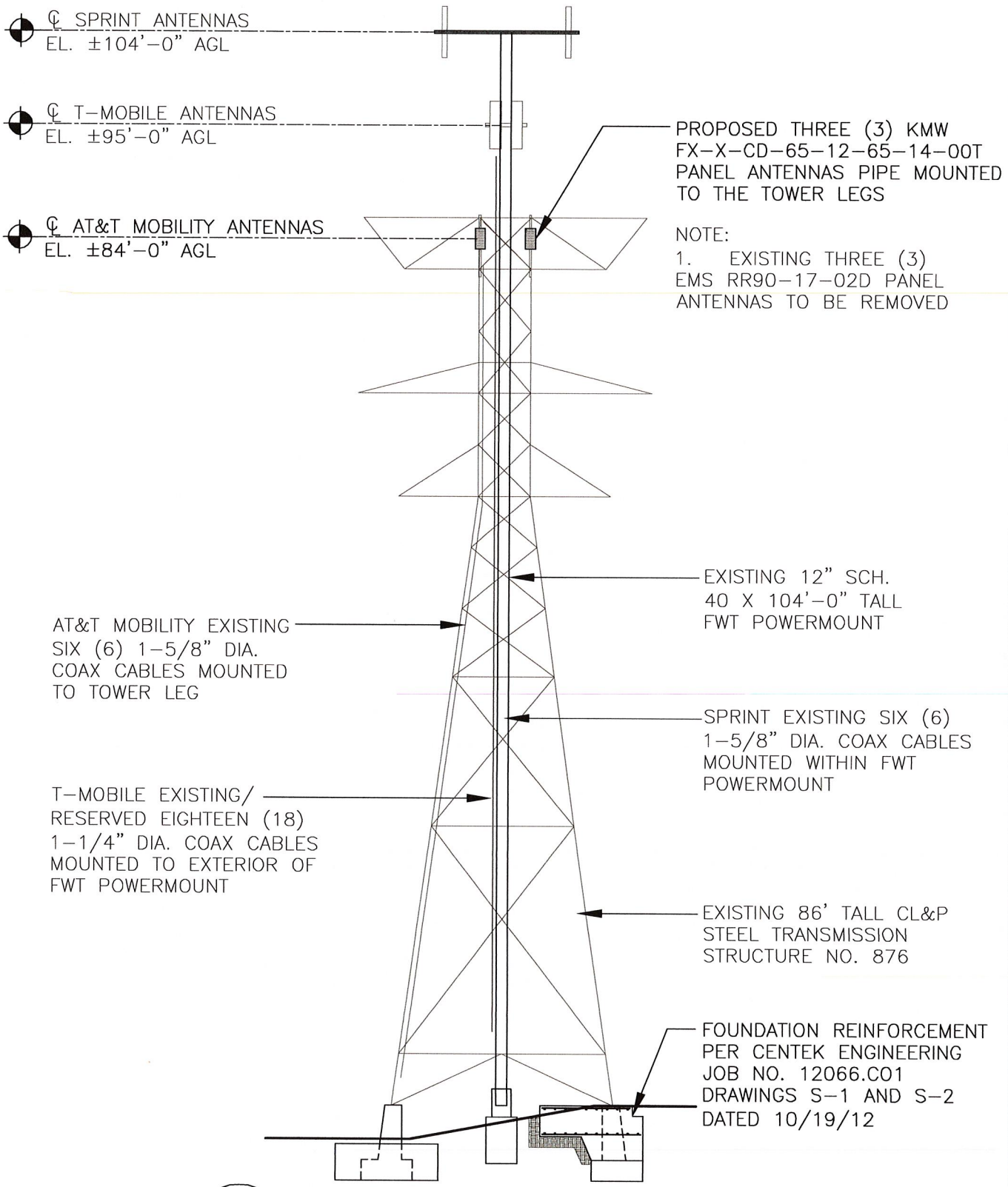
LOADING PARAMETERS

bk
ah

	AHEAD NESC	BACK	AHEAD 1" ICE	BACK	AHEAD High Wind	BACK
WIND (PSF)	4		0		20	
ICE (IN)	0.5		1		0	
OLF ANG	1.65		1.15		1.15	
OLF WIND	2.5		1.15		1.15	
OLF WT	1.5		1.15		1.15	
TENS (#) **	7000	7000	9838	9838	5606	5606

STR	ANGLE	WIND SPAN	WGT SPAN	NESC H	NESC L	NESC V	1" ICE H	1" ICE L	1" ICE V	High Wind H	High Wind L	High Wind V
BACK	0	367	581	589	-11550	1441	0	-11314	2113	652	-6447	512
AHEAD	0	367	581	589	11550	1441	0	11314	2113	652	6447	512
	0	734	1162	1179	0	2882	0	0	4226	1304	0	1024

10 PSF = 62.5 MPH



1 / EL-1 **TOWER & MAST ELEVATION**

SCALE: NOT TO SCALE

REVISIONS		
0	11/20/12	ISSUED FOR NU REVIEW

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FAIRFIELD, CT 06825

PROJECT NO:	12101.C04
DRAWN BY:	TJL
CHECKED BY:	CFC
SCALE:	AS NOTED
DATE:	11/20/12

TOWER AND MAST ELEVATION

EL-1

DWG. 1 OF 1

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Subject:	Load Analysis of Powermount on CL&P Structure #876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Basic Components

Heavy Wind Pressure =	p := 4.00	psf	(User Input NESC 2007 Figure 250-1 & Table 250-1)
Basic Windspeed =	V := 110	mph	(User Input NESC 2007 Figure 250-2(e))
Radial Ice Thickness =	Ir := 0.50	in	(User Input)
Radial Ice Density =	Id := 56.0	pcf	(User Input)

Factors for Extreme Wind Calculation

Elevation of Top of PCS Mast Above Grade =	TME := 106	ft	(User Input)
Multiplier Gust Response Factor =	m := 1.25		(User Input - Only for NESC Extreme wind case)
NESC Factor =	kv := 1.43		(User Input from NESC 2007 Table 250-3 equation)
Importance Factor =	I := 1.0		(User Input from NESC 2007 Section 250.C.2)

Velocity Pressure Coefficient = $Kz := 2.01 \cdot \left(\frac{TME}{900}\right)^{\frac{2}{9.5}} = 1.281$ (NESC 2007 Table 250-2)

Exposure Factor = $Es := 0.346 \left[\frac{33}{(0.67 \cdot TME)}\right]^{\frac{1}{7}} = 0.31$ (NESC 2007 Table 250-3)

Response Term = $Bs := \frac{1}{\left(1 + 0.375 \cdot \frac{TME}{220}\right)} = 0.847$ (NESC 2007 Table 250-3)

Gust Response Factor = $Grf := \frac{\left[1 + \left(2.7 \cdot Es \cdot Bs^{\frac{1}{2}}\right)\right]}{kv^2} = 0.866$ (NESC 2007 Table 250-3)

Wind Pressure = $qz := 0.00256 \cdot Kz \cdot V^2 \cdot Grf \cdot I = 34.4$ psf (NESC 2007 Section 250.C.2)

Shape Factors

NUS Design Criteria Issued April 12, 2007

Shape Factor for Round Members =	$Cd_R := 1.3$	(User Input)
Shape Factor for Flat Members =	$Cd_F := 1.6$	(User Input)
Shape Factor for Coax Cables Attached to Outside of Pole =	$Cd_{coax} := 1.45$	(User Input)

Overload Factors

NU Design Criteria Table

Overload Factors for Wind Loads:

NESC Heavy Loading =	**2.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

Overload Factors for Vertical Loads:

NESC Heavy Loading =	**1.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

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Development of Wind & Ice Load on Antennas

Antenna Data: (Sprint)

Antenna Model =	Decibel DB980H90		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 60.0$	in	(User Input)
Antenna Width =	$W_{ant} := 6.1$	in	(User Input)
Antenna Thickness =	$T_{ant} := 2.8$	in	(User Input)
Antenna Weight =	$WT_{ant} := 8.5$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 6$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 2.5$	sf	
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 15.3$	sf	
Total Antenna Wind Force =	$F_{ant1} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 1048$	lbs	BLC 5

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice =	$SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 3$	sf	
Antenna Projected Surface Area w/ Ice =	$A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 18$	sf	
Total Antenna Wind Force w/ Ice =	$Fi_{ant1} := p \cdot Cd_F \cdot A_{ICEant} = 115$	lbs	BLC 4

Gravity Load (without ice)

Weight of All Antennas =	$Wt_{ant1} := WT_{ant} \cdot N_{ant} = 51$	lbs	BLC 2

Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 1025$	cu in	
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 621$	cu in	
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 20$	lbs	
Weight of Ice on All Antennas =	$Wt_{ice.ant1} := W_{ICEant} \cdot N_{ant} = 121$	lbs	BLC 3

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Subject:	Load Analysis of Powermount on CL&P Structure #876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Development of Wind & Ice Load on Platform

Platform Data: (Sprint)

Platform Model =	FWT 14' Low Profile Platform		(User Input)
Platform Shape =	Flat		(User Input)
Platform Area =	$A_{plt} := 14.2$	sq ft	(User Input from FWT design calcs)
Platform Area w/ Ice =	$A_{ICEplt} := 15.8$	sq ft	(User Input from FWT design calcs)
Platform Weight =	$WT_{plt} := 3020$	lbs	(User Input from FWT design calcs)
Platform Weight w/ Ice =	$WT_{ICEplt} := 4300$	lbs	(User Input from FWT design calcs)

Wind Load (NESC Extreme)

Total Platform Wind Force = $F_{mnt1} := qz \cdot Cd_F \cdot A_{plt} \cdot m = 976$ lbs **BLC 5**

Wind Load (NESC Heavy)

Total Platform Wind Force w/ Ice = $Fi_{mnt1} := p \cdot Cd_F \cdot A_{ICEplt} = 101$ lbs **BLC 4**

Gravity Load (without ice)

Weight of Platform = $Wt_{mnt1} := WT_{plt} = 3020$ lbs **BLC 2**

Gravity Load (ice only)

Weight of Ice on Platform = $Wt_{ice.mnt1} := WT_{ICEplt} - WT_{plt} = 1280$ lbs **BLC 3**

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Development of Wind & Ice Load on Antennas

Antenna Data: (T-Mobile)

Antenna Model =	RFS APX 16DWV-16DWVS		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 55.9$	in	(User Input)
Antenna Width =	$W_{ant} := 13$	in	(User Input)
Antenna Thickness =	$T_{ant} := 3.15$	in	(User Input)
Antenna Weight =	$WT_{ant} := 19$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 6$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 5$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 30.3$ sf

Total Antenna Wind Force = $F_{ant2} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 2081$ lbs **BLC 5**

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 5.5$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 33.2$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant2} := p \cdot Cd_F \cdot A_{ICEant} = 212$ lbs **BLC 4**

Gravity Load (without ice)

Weight of All Antennas = $Wt_{ant2} := WT_{ant} \cdot N_{ant} = 114$ lbs **BLC 2**

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 2289$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1017$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 33$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant2} := W_{ICEant} \cdot N_{ant} = 198$ lbs **BLC 3**

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Development of Wind & Ice Load on Antenna Mounts

Mount Data: (T-Mobile)

Mount Type: Site Pro WiMAX Monopole T-Arm p/n UDS-NP

Mount Shape = Flat

Mount Projected Surface Area = $CdAa := 6.3$ sf (User Input)

Mount Projected Surface Area w/ Ice = $CdAa_{ice} := 7.88$ sf (User Input)

Mount Weight = $WT_{mnt} := 550$ lbs (User Input)

Mount Weight w/ Ice = $WT_{mnt.ice} := 700$ lbs (User Input)

Gravity Loads (without ice)

Weight of All Mounts = $Wt_{mnt2} := WT_{mnt} = 550$ lbs **BLC 2**

Gravity Load (ice only)

Weight of Ice on All Mounts = $Wt_{ice.mnt2} := WT_{mnt.ice} - WT_{mnt} = 150$ lbs **BLC 3**

Wind Load (NESC Heavy)

Total Mount Wind Force w/ Ice = $Fi_{mnt2} := p \cdot CdAa_{ice} = 32$ lbs **BLC 4**

Wind Load (NESC Extreme)

Total Mount Wind Force = $F_{mnt2} := qz \cdot CdAa \cdot m = 271$ lbs **BLC 5**

Total Equipment Loads:

Sprint @ 104-ft AGL

NESC Heavy Wind Vertical = $\left(Wt_{ant1} + Wt_{ice.ant1} + Wt_{mnt1} + Wt_{ice.mnt1}\right) \cdot 1.5 = 6708$

NESC Heavy Wind Trasnsverse = $\left(Fi_{ant1} + Fi_{mnt1}\right) \cdot 2.5 = 542$

NESC Extreme Wind Vertical = $\left(Wt_{ant1} + Wt_{mnt1}\right) = 3071$

NESC Extreme Wind Trasnsverse = $\left(F_{ant1} + F_{mnt1}\right) = 2024$

T-Mobile @ 95-ft AGL

NESC Heavy Wind Vertical = $\left(Wt_{ant2} + Wt_{ice.ant2} + Wt_{mnt2} + Wt_{ice.mnt2}\right) \cdot 1.5 = 1518$

NESC Heavy Wind Trasnsverse = $\left(Fi_{ant2} + Fi_{mnt2}\right) \cdot 2.5 = 610$

NESC Extreme Wind Vertical = $\left(Wt_{ant2} + Wt_{mnt2}\right) = 664$

NESC Extreme Wind Trasnsverse = $\left(F_{ant2} + F_{mnt2}\right) = 2352$

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Subject:	Coax Cable on CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Coax Cable on CL&P Tower

(Sprint)

Distance Between Coax Cable Attach Points =

Coax Cable Span = $Coax_{Span} := \begin{pmatrix} 5 \\ 7 \\ 8.5 \\ 11 \\ 21 \\ 43 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable = $D_{coax} := 1.98 \cdot in$ *(User Input)*

Weight of Coax Cable = $W_{coax} := 1.04 \cdot plf$ *(User Input)*

Number of Coax Cables = $N_{coax} := 6$ *(User Input)*

Number of Projected Coax Cables = $NP_{coax} := 0$ *(User Input)*

Extreme Wind Pressure = $qz := 34.4 \cdot psf$ *(User Input)*

Heavy Wind Pressure = $p := 4 \cdot psf$ *(User Input)*

Radial Ice Thickness = $Ir := 0.5 \cdot in$ *(User Input)*

Radial Ice Density = $Id := 56 \cdot pcf$ *(User Input)*

Shape Factor = $Cd_{coax} := 1.6$ *(User Input)*

Overload Factor for NESC Heavy Wind Load = $OF_{HW} := 2.5$ *(User Input)*

Overload Factor for NESC Extreme Wind Load = $OF_{EW} := 1.0$ *(User Input)*

Overload Factor for NESC Heavy Vertical Load = $OF_{HV} := 1.5$ *(User Input)*

Overload Factor for NESC Extreme Vertical Load = $OF_{EV} := 1.0$ *(User Input)*

Wind Area with Ice = $A_{ice} := 0$

Wind Area without Ice = $A := \left(NP_{coax} \cdot D_{coax}\right) = 0 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^2\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := 0$

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{ice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 47 \\ 66 \\ 80 \\ 103 \\ 197 \\ 402 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 31 \\ 44 \\ 53 \\ 69 \\ 131 \\ 268 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}$$

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Subject:	Coax Cable on CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Coax Cable on CL&P Tower

(T-Mobile)

Distance Between Coax Cable Attach Points =

Coax Cable Span = $Coax_{Span} := \begin{pmatrix} 5 \\ 7 \\ 8.5 \\ 11 \\ 21 \\ 43 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable = $D_{coax} := 1.55 \cdot in$ *(User Input)*

Weight of Coax Cable = $W_{coax} := 0.66 \cdot plf$ *(User Input)*

Number of Coax Cables = $N_{coax} := 18$ *(User Input)*

Number of Projected Coax Cables = $NP_{coax} := 2$ *(User Input)*

Extreme Wind Pressure = $qz := 34.4 \cdot psf$ *(User Input)*

Heavy Wind Pressure = $p := 4 \cdot psf$ *(User Input)*

Radial Ice Thickness = $Ir := 0.5 \cdot in$ *(User Input)*

Radial Ice Density = $Id := 56 \cdot pcf$ *(User Input)*

Shape Factor = $Cd_{coax} := 1.6$ *(User Input)*

Overload Factor for NESC Heavy Wind Load = $OF_{HW} := 2.5$ *(User Input)*

Overload Factor for NESC Extreme Wind Load = $OF_{EW} := 1.0$ *(User Input)*

Overload Factor for NESC Heavy Vertical Load = $OF_{HV} := 1.5$ *(User Input)*

Overload Factor for NESC Extreme Vertical Load = $OF_{EV} := 1.0$ *(User Input)*

Wind Area with Ice = $A_{ice} := \left(NP_{coax} \cdot D_{coax} + 2 \cdot Ir\right) = 4.1 \cdot in$

Wind Area without Ice = $A := \left(NP_{coax} \cdot D_{coax}\right) = 3.1 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{1}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.022\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 22.541 \cdot plf$

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{ice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 258 \\ 361 \\ 439 \\ 568 \\ 1084 \\ 2220 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 27 \\ 38 \\ 46 \\ 60 \\ 115 \\ 235 \end{pmatrix} lb$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 59 \\ 83 \\ 101 \\ 131 \\ 249 \\ 511 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 71 \\ 100 \\ 121 \\ 156 \\ 299 \\ 611 \end{pmatrix} lb$$

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Subject: Load Analysis of AT&T Equipment on CL&P Structure #876

Location: Fairfield, CT

Rev. 0: 11/20/12

Prepared by: T.J.L Checked by: C.F.C.
Job No. 12101.CO4

Basic Components

Heavy Wind Pressure =	p := 4.00	psf	(User Input NESC 2007 Figure 250-1 & Table 250-1)
Basic Windspeed =	V := 110	mph	(User Input NESC 2007 Figure 250-2(e))
Radial Ice Thickness =	Ir := 0.50	in	(User Input)
Radial Ice Density =	Id := 56.0	pcf	(User Input)

Factors for Extreme Wind Calculation

Elevation of Top of PCS Mast Above Grade =	TME := 106	ft	(User Input)
Multiplier Gust Response Factor =	m := 1.25		(User Input - Only for NESC Extreme wind case)
NESC Factor =	kv := 1.43		(User Input from NESC 2007 Table 250-3 equation)
Importance Factor =	I := 1.0		(User Input from NESC 2007 Section 250.C.2)

Velocity Pressure Coefficient = $Kz := 2.01 \cdot \left(\frac{TME}{900}\right)^{\frac{2}{9.5}} = 1.281$ (NESC 2007 Table 250-2)

Exposure Factor = $Es := 0.346 \left[\frac{33}{(0.67 \cdot TME)}\right]^{\frac{1}{7}} = 0.31$ (NESC 2007 Table 250-3)

Response Term = $Bs := \frac{1}{\left(1 + 0.375 \cdot \frac{TME}{220}\right)} = 0.847$ (NESC 2007 Table 250-3)

Gust Response Factor = $Grf := \frac{\left[1 + \left(2.7 \cdot Es \cdot Bs^{\frac{1}{2}}\right)\right]}{kv^2} = 0.866$ (NESC 2007 Table 250-3)

Wind Pressure = $qz := 0.00256 \cdot Kz \cdot V^2 \cdot Grf \cdot I = 34.4$ psf (NESC 2007 Section 250.C.2)

Shape Factors

NUS Design Criteria Issued April 12, 2007

Shape Factor for Round Members =	$Cd_R := 1.3$	(User Input)
Shape Factor for Flat Members =	$Cd_F := 1.6$	(User Input)
Shape Factor for Coax Cables Attached to Outside of Pole =	$Cd_{coax} := 1.45$	(User Input)

Overload Factors

NU Design Criteria Table

Overload Factors for Wind Loads:

NESC Heavy Loading =	**2.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

Overload Factors for Vertical Loads:

NESC Heavy Loading =	**1.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

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Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	KMW FX-X-CD-65-12-65-14-00T		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 24$	in	(User Input)
Antenna Width =	$W_{ant} := 11.8$	in	(User Input)
Antenna Thickness =	$T_{ant} := 6.0$	in	(User Input)
Antenna Weight =	$WT_{ant} := 16$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 2$	sf	
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 5.9$	sf	
Total Antenna Wind Force =	$F_{ant1} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 405$	lbs	BLC 5

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice =	$SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 2.2$	sf	
Antenna Projected Surface Area w/ Ice =	$A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 6.7$	sf	
Total Antenna Wind Force w/ Ice =	$Fi_{ant1} := p \cdot Cd_F \cdot A_{ICEant} = 43$	lbs	BLC 4

Gravity Load (without ice)

Weight of All Antennas =	$Wt_{ant1} := WT_{ant} \cdot N_{ant} = 48$	lbs	BLC 2

Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 1699$	cu in	
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 541$	cu in	
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 18$	lbs	
Weight of Ice on All Antennas =	$Wt_{ice.ant1} := W_{ICEant} \cdot N_{ant} = 53$	lbs	BLC 3

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Development of Wind & Ice Load on Antenna Mounts

Mount Data:

Mount Type:	Pipe Mount		
Mount Shape =	Round		(User Input)
Pipe Mount Length =	$L_{mnt} := 72$	in	(User Input)
Pipe Mount Linear Weight =	$W_{mnt} := 7.58$	plf	(User Input)
Pipe Mount Outside Diameter =	$D_{mnt} := 3.5$	in	(User Input)
Number of Mounting Pipes =	$N_{mnt} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area =	$A_{mnt} := 0.0$	sf	
Total Mount Wind Force =	$F_{mnt1} := qz \cdot Cd_F \cdot A_{mnt} \cdot m = 0$	lbs	BLC 5

Wind Load (NESC Heavy)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area w/ Ice =	$A_{ICEmnt} := 0.0$	sf	
Total Mount Wind Force =	$Fi_{mnt1} := p \cdot Cd_F \cdot A_{ICEmnt} = 0$	lbs	BLC 4

Gravity Loads (without ice)

(per TIA/EIA-222-F-1996)

Weight Each Pipe Mount =	$WT_{mnt} := W_{mnt} \cdot \frac{L_{mnt}}{12} = 45$	lbs	
Weight of All Mounts =	$Wt_{mnt1} := WT_{mnt} \cdot N_{mnt} = 136$	lbs	BLC 2

Gravity Load (ice only)

(per TIA/EIA-222-F-1996)

Volume of Each Pipe =	$V_{mnt} := \frac{\pi}{4} \cdot D_{mnt}^2 \cdot L_{mnt} = 693$	cu in	
Volume of Ice on Each Pipe =	$V_{ice} := \left[\frac{\pi}{4} \cdot \left[(D_{mnt} + 1)^2\right] \cdot (L_{mnt} + 1)\right] - V_{mnt} = 468$	cu in	
Weight of Ice each mount (incl, hardware) =	$W_{ICEmnt} := \frac{V_{ice}}{1728} \cdot Id = 15$	lbs	
Weight of Ice on All Mounts =	$Wt_{ice.mnt1} := (W_{ICEmnt} \cdot N_{mnt} + 5) = 51$	lbs	BLC 3

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Equipment Loads (per Leg):

At&T @ 84-ft AGL

NESC Heavy Wind Vertical =

$$\frac{\left[\left(Wt_{ant1} + Wt_{ice.ant1} + Wt_{mnt1} + Wt_{ice.mnt1}\right)\cdot 1.5\right]}{3} = 144$$

NESC Heavy Wind Trasnsverse =

$$\frac{\left[\left(Fi_{ant1} + Fi_{mnt1}\right)\cdot 2.5\right]}{3} = 36$$

NESC Extreme Wind Vertical =

$$\frac{\left(Wt_{ant1} + Wt_{mnt1}\right)}{3} = 61$$

NESC Extreme Wind Trasnsverse =

$$\frac{\left(F_{ant1} + F_{mnt1}\right)}{3} = 135$$

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Subject:	AT&T Coax Cable on CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Coax Cable on CL&P Tower

(AT&T)

Distance Between Coax Cable Attach Points =

Coax Cable Span = $Coax_{Span} := \begin{pmatrix} 6 \\ 11 \\ 13.5 \\ 16 \\ 18.5 \\ 16 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable = $D_{coax} := 1.98 \cdot in$ *(User Input)*

Weight of Coax Cable = $W_{coax} := 1.04 \cdot plf$ *(User Input)*

Number of Coax Cables = $N_{coax} := 6$ *(User Input)*

Number of Projected Coax Cables = $NP_{coax} := 3$ *(User Input)*

Extreme Wind Pressure = $qz := 34.4 \cdot psf$ *(User Input)*

Heavy Wind Pressure = $p := 4 \cdot psf$ *(User Input)*

Radial Ice Thickness = $Ir := 0.5 \cdot in$ *(User Input)*

Radial Ice Density = $Id := 56 \cdot pcf$ *(User Input)*

Shape Factor = $Cd_{coax} := 1.6$ *(User Input)*

Overload Factor for NESC Heavy Wind Load = $OF_{HW} := 2.5$ *(User Input)*

Overload Factor for NESC Extreme Wind Load = $OF_{EW} := 1.0$ *(User Input)*

Overload Factor for NESC Heavy Vertical Load = $OF_{HV} := 1.5$ *(User Input)*

Overload Factor for NESC Extreme Vertical Load = $OF_{EV} := 1.0$ *(User Input)*

Wind Area with Ice = $A_{ice} := \left(NP_{coax} \cdot D_{coax} + 2 \cdot Ir\right) = 6.94 \cdot in$

Wind Area without Ice = $A := \left(NP_{coax} \cdot D_{coax}\right) = 5.94 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 9.09 \cdot plf$

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Subject:	AT&T Coax Cable on CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L Checked by: C.F.C. Job No. 12101.CO4

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{ice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 138 \\ 253 \\ 310 \\ 368 \\ 425 \\ 368 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 56 \\ 102 \\ 125 \\ 148 \\ 171 \\ 148 \end{pmatrix} lb$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 37 \\ 69 \\ 84 \\ 100 \\ 115 \\ 100 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 163 \\ 300 \\ 368 \\ 436 \\ 504 \\ 436 \end{pmatrix} lb$$

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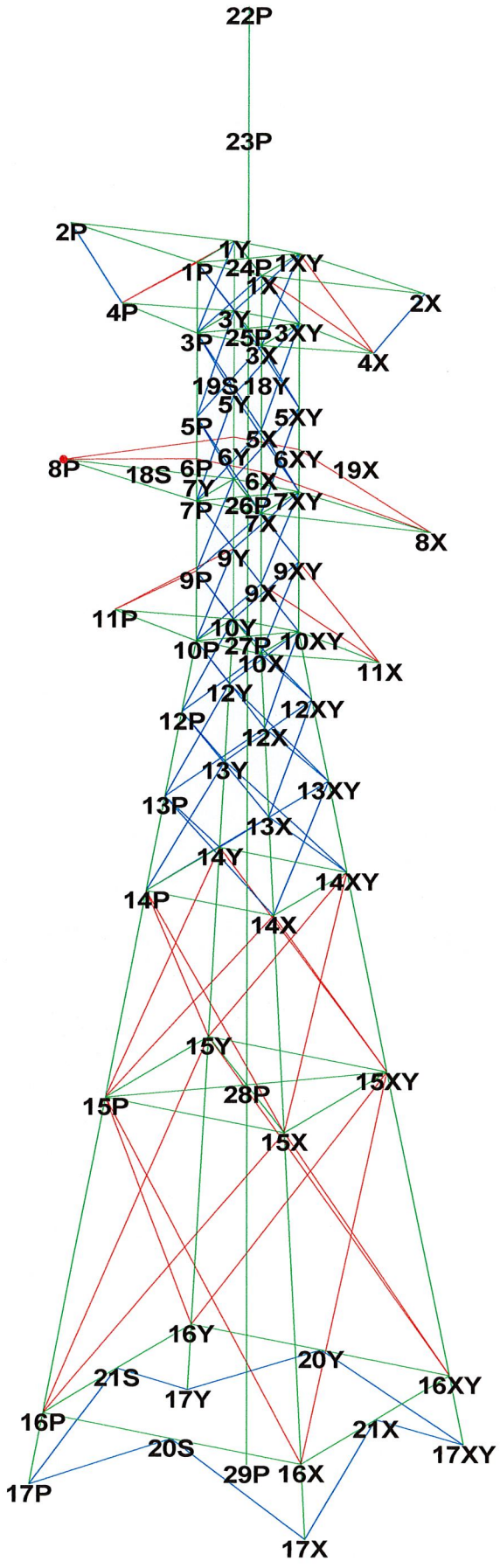
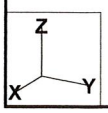
Tower Version 11.11, 1:45:07 PM Tuesday, November 20, 2012
Undeformed geometry displayed





Project Name : 12101.CO4 - Fairfield, CT
Project Notes: CL&P Structure # 876 / AT&T CT5145
Project File : J:\Jobs\1210100.WI\CO4 - CT5145 - Fairfield\Calcs\PLS\cl&p # 876 w_powermnt.tow
Date run : 1:44:09 PM Tuesday, November 20, 2012
by : Tower Version 11.11
Licensed to : Centek Engineering Inc

Successfully performed nonlinear analysis

Member "g6P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g6X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g6XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g6Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g9P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "g10P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "g11P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "g12P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g12X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "g15P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "g21P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g21X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Unable to calculate rupture capacity for member "g47P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49X" because it has a long and short edge distance of 0. ??
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Unable to calculate rupture capacity for member "g49Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g51P" because it has a long and short edge distance of 0. ??
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Unable to calculate rupture capacity for member "g58X" because it has a long and short edge distance of 0. ??
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Unable to calculate rupture capacity for member "g60X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g60XY" because it has a long and short edge distance of 0. ??
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Unable to calculate rupture capacity for member "g61P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62XY" because it has a long and short edge distance of 0. ??

Unable to calculate rupture capacity for member "g62Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g63P" because it has a long and short edge distance of 0. ??
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Unable to calculate rupture capacity for member "g64X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64Y" because it has a long and short edge distance of 0. ??
w/t equals 34.00 for member "g65P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g66P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g67P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g68P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g69P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g70P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g71P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
Unusual number of fixed joints found: 5. Towers normally have from between 1 and 4 fixed joints. ??
The model has 122 warnings. ??

Member check option: ASCE 10
Connection rupture check: ASCE 10
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None

Loads from file: j:\jobs\1210100.wi\co4 - ct5145 - fairfield\calcs\pls\876 w_ powermnt.lca

*** Analysis Results:

Maximum element usage is 97.92% for Angle "g11X" in load case "Extreme Wind"
Maximum insulator usage is 23.59% for Clamp "31" in load case "NESC Heavy"

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Vert. Moment (ft-k)	Bending Moment (ft-k)	Found. Usage %
NESC Heavy	17P	2.60	-3.45	-18.92	4.32	-0.03	0.02	0.27	0.03	0.00
NESC Heavy	29P	0.02	-0.63	24.44	0.64	4.96	0.42	-0.19	4.97	0.00
NESC Heavy	17X	-5.18	-6.07	36.23	7.98	-0.03	0.06	-0.03	0.07	0.00
NESC Heavy	17XY	5.00	-5.64	34.99	7.54	-0.04	-0.07	0.03	0.08	0.00
NESC Heavy	17Y	-2.44	-3.16	-18.70	3.99	-0.05	-0.01	-0.27	0.05	0.00
Extreme Wind	17P	6.91	-9.92	-50.32	12.09	-0.06	0.09	0.72	0.11	0.00
Extreme Wind	29P	0.04	-0.88	8.72	0.89	8.77	0.83	-0.51	8.81	0.00
Extreme Wind	17X	-8.68	-11.72	59.73	14.59	-0.11	0.12	0.65	0.16	0.00
Extreme Wind	17XY	8.34	-10.83	57.48	13.67	-0.14	-0.13	-0.65	0.19	0.00
Extreme Wind	17Y	-6.61	-9.06	-48.42	11.22	-0.12	-0.09	-0.73	0.15	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support Joint	Origin Joint	Member Leg Dir.	Leg Force In (kips)	Residual Shear Perpendicular To Leg (kips)	Residual Shear Horizontal To Leg - Res. (kips)	Residual Shear Horizontal To Leg - Long. (kips)	Residual Shear Horizontal To Leg - Tran. (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vert. Force (kips)
NESC Heavy	17P	16P	g12P	-19.384	0.813	0.820	0.028	0.820	2.60	-3.45	-18.92
NESC Heavy	17X	16X	g12X	37.087	1.034	1.046	0.150	1.036	-5.18	-6.07	36.23
NESC Heavy	17XY	16XY	g12XY	35.787	0.785	0.795	-0.143	0.782	5.00	-5.64	34.99

NESC Heavy	17Y	16Y	g12Y	-19.117	0.582	0.584	-0.155	0.563	-2.44	-3.16	-18.70
Extreme Wind	17P	16P	g12P	-51.674	2.904	2.930	0.082	2.929	6.91	-9.92	-50.32
Extreme Wind	17X	16X	g12X	61.388	3.410	3.450	0.389	3.428	-8.68	-11.72	59.73
Extreme Wind	17XY	16XY	g12XY	59.013	2.837	2.871	-0.362	2.848	8.34	-10.83	57.48
Extreme Wind	17Y	16Y	g12Y	-49.652	2.319	2.339	-0.116	2.336	-6.61	-9.06	-48.42

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)
1	104.000	59.000	46	143	0.00	5.00	157.500	0.00	20.50	425.250
2	59.000	41.500	16	40	5.00	9.81	129.882	5.00	9.81	129.882
3	41.500	0.000	23	54	9.81	21.39	646.560	9.81	21.39	646.560

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	Comp. Capacity (kips)	L/R Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/R Comp. Member (ft)	KL/R	Length	Curve No.	Of Bolts
LEG1	L4x4x1/4	SAE	4X4X0.25	33.0	77.90	77.90	g6XY	-41.683	Extreme	53.509	125.640	168.750	1.000	1.000	1.000	75.47	75.47	5.000	1	12
LEG2	L4x4x5/16	SAE	4X4X0.3125	33.0	89.63	89.63	g12X	-58.759	Extreme	65.558	104.700	175.781	1.000	1.000	1.000	77.30	77.30	5.096	1	10
LEG3	L4x4x3/8	SAE	4X4X0.375	33.0	97.92	97.92	g11X	-58.566	Extreme	59.809	104.700	210.937	0.330	0.330	0.330	112.73	112.73	22.432	1	10
XBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	58.57	58.57	g13P	-6.770	Extreme	11.559	20.940	21.094	0.750	0.500	0.500	122.85	122.85	7.071	5	2
XBR2	L3x2x3/16	SAU	3X2X0.1875	33.0	33.68	33.68	g23Y	-6.395	Extreme	18.986	31.410	31.641	0.500	0.750	0.500	109.16	111.87	7.071	2	3
XBR3	L3x2x3/16	SAU	3X2X0.1875	33.0	36.19	36.19	g19X	-6.245	Extreme	17.255	31.410	31.641	1.000	1.500	1.000	120.57	120.57	3.905	4	3
XBR4	L2x2x3/16	SAE	2X2X0.1875	33.0	25.03	25.03	g26Y	-2.719	Extreme	10.862	20.940	21.094	1.000	0.560	0.560	147.29	136.78	7.573	6	2
XBR5	L2.5x2x3/16	SAU	2.5X2X0.1875	33.0	18.15	18.15	g30Y	-1.254	Extreme	6.910	20.940	21.094	0.560	1.000	0.560	222.71	183.17	11.135	6	2
XBR6	L1.75x1.75x1/4	SAE	1.75X1.75X0.25	33.0	94.93	94.93	g31P	-2.142	NESC Hea	2.257	20.940	28.125	0.790	0.580	0.580	383.86	321.10	18.807	5	2
XBR7	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	35.98	0.00	g34XY	0.000		1.061	20.940	21.094	0.800	0.410	0.410	499.05	408.88	27.916	5	2
PMBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	59.11	56.84	g60XY	-5.795	Extreme	21.670	10.470	10.195	1.000	1.000	1.000	85.71	102.85	3.536	3	1
PMBR2	L3.5x3.5x1/4	SAE	3.5X3.5X0.25	36.0	20.98	20.98	g64X	-2.197	Extreme	16.980	10.470	13.594	1.000	1.000	1.000	168.78				

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168.78  9.761     4     1
    HBR1 L1.75x1.75x3/16   SAE 1.75X1.75X0.1875     33.0 83.46 83.46     g37P  -4.840Extreme      5.799   10.470   10.547 1.000 1.000 1.000  174.93
174.93  5.000     4     1
    HBR2      2.5x2x3/16   SAU     2.5X2X0.1875     33.0 44.03 44.03     g41P  -4.610Extreme     10.510   10.470   10.547 1.000 0.500 0.500  148.52
148.52  9.815     4     1
    HBR3     L3x2.5x1/4    SAU       3X2.5X0.25     33.0 48.25 48.25     g43P  -5.052Extreme     12.202   10.470   14.062 1.000 0.500 0.500  175.29
175.29 13.804     4     1
    HBR4       L4x3x1/4    SAU         4X3X0.25     33.0 40.00 40.00     g45P  -4.188Extreme     13.759   10.470   14.062 2.000 1.000 1.000  187.50
187.50 10.000     4     1 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize
moments): g46P g46X g46XY g46Y  ??
    Arm1     L3x2.5x1/4    SAU       3X2.5X0.25     33.0 20.17 20.17     g49Y  -5.751NESC Hea    28.509   31.410   42.187 1.000 0.500 0.500   97.38
108.69  7.669     3     3
    Arm2   L3.5x2.5x1/4    SAU     3.5X2.5X0.25     33.0 26.69 26.69     g53P  -6.547NESC Hea    24.527   31.410   42.187 1.000 0.500 0.500  132.50
129.56 12.013     5     3
  ArmBR1   L2.5x2.5x3/16   SAE   2.5X2.5X0.1875     33.0 29.09 29.09     g55P  -3.046NESC Hea    10.714   10.470   10.547 1.000 1.000 1.000  155.23
155.23  6.403     4     1
  ArmBR2   L1.75x1/4x1/4   BAR   1.75X0.25X0.25     33.0 77.34  0.00     g59Y   0.000             0.050   10.470   14.062 1.000 1.000 1.000 1588.21
1588.21  9.556     4     1
 Powermnt    12" Std. Pipe   PIP     12.75X0.375     50.0 20.24 20.24     g65P -23.334NESC Hea   115.298    0.000    0.000 1.000 1.000 1.000   73.97
73.97 27.000     1     0


Group Summary (Tension Portion):

    Group            Group Angle               Angle    Steel    Max     Max Tension Tension Tension      Net  Tension  Tension  Tension Length    No.    No.
Hole
    Label             Desc.   Type               Size Strength Usage     Use Control   Force Control  Section Connect. Connect. Connect.   Tens.     Of     Of
Diameter
                                                                          In  Member            Load Capacity    Shear  Bearing  Rupture Member Bolts Holes
                                                                        Tens.                    Case          Capacity Capacity Capacity        Tens.
                                                      (ksi)      %       %          (kips)              (kips)   (kips)   (kips)   (kips)   (ft)
(in)
-------------------------------------------------------------------------------------------------------------------------------------------------------
-------
     LEG1        L4x4x1/4    SAE          4X4X0.25     33.0 77.90 68.49      g6Y  36.077Extreme    52.676  125.640  168.750  220.588  5.000     12 2.000
0.6875
     LEG2        L4x4x5/16   SAE         4X4X0.3125    33.0 89.63 77.62     g12P  50.465Extreme    65.020  104.700  175.781  103.401  5.096     10 2.000
0.6875
     LEG3        L4x4x3/8    SAE          4X4X0.375    33.0 97.92 55.27     g11P  42.759Extreme    77.364  104.700  210.937  193.014 22.432     10 2.000
0.6875
     XBR1 L1.75x1.75x3/16    SAE 1.75X1.75X0.1875     33.0 58.57 43.53     g13X   6.349Extreme    14.585   20.940   21.094   16.189  7.071      2 1.000
0.6875
     XBR2        L3x2x3/16   SAU        3X2X0.1875    33.0 33.68 32.07    g23XY   7.345Extreme    22.901   31.410   31.641   28.125  7.071      3 1.000
0.6875
     XBR3        L3x2x3/16   SAU        3X2X0.1875    33.0 36.19 35.69     g35P   2.754Extreme    17.333   10.470   10.547    7.717 11.826      1 1.000
0.6875
     XBR4        L2x2x3/16   SAE        2X2X0.1875    33.0 25.03 14.37    g26XY   2.191Extreme    17.258   20.940   21.094   15.240  7.573      2 1.000
0.6875
     XBR5      L2.5x2x3/16   SAU      2.5X2X0.1875    33.0 18.15 10.40     g28P   1.950Extreme    20.228   20.940   21.094   18.750  9.373      2 1.000
0.6875
     XBR6  L1.75x1.75x1/4    SAE     1.75X1.75X0.25    33.0 94.93 28.96    g32XY   5.514Extreme    19.041   20.940   28.125   24.820 18.807      2 1.000
0.6875
     XBR7 L1.75x1.75x3/16    SAE 1.75X1.75X0.1875     33.0 35.98 35.98     g33X   5.248Extreme    14.585   20.940   21.094   17.420 27.916      2 1.000
0.6875
    PMBR1    L2.5x2.5x3/16   SAE    2.5X2.5X0.1875    36.0 59.11 59.11     g60Y   6.027Extreme    25.048   10.470   10.195    0.000  3.536      1 1.000
0.6875
    PMBR2    L3.5x3.5x1/4    SAE      3.5X3.5X0.25    36.0 20.98  0.00     g64Y   0.000            49.187   10.470   13.594    0.000  9.761      1 1.000
0.6875
     HBR1 L1.75x1.75x3/16    SAE 1.75X1.75X0.1875     33.0 83.46 56.86     g38P   4.388Extreme    14.585   10.470   10.547    7.717  5.000      1 1.000
```

0.6875														
HBR2	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	44.03	9.68	g42Y	0.747NESC Hea	17.444	10.470	10.547	7.717	9.815	1 1.000
0.6875														
HBR3	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	48.25	12.86	g43X	1.346Extreme	30.090	10.470	14.062	12.500	13.804	1 1.000
0.6875														
HBR4	**L4x3x1/4**	**SAU**	**4X3X0.25**	**33.0**	**40.00**	**8.62**	**g45XY**	**0.902Extreme**	**37.663**	**10.470**	**14.062**	**12.500**	**10.000**	**1 1.000**
0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g46P g46X g46XY g46Y ??														
Arm1	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	20.17	9.78	g48Y	4.227NESC Hea	43.230	0.000	0.000	0.000	5.000	0 0.000
0.6875														
Arm2	L3.5x2.5x1/4	SAU	3.5X2.5X0.25	33.0	26.69	0.00	g54Y	0.000	47.520	0.000	0.000	0.000	5.000	0 0.000
0.6875														
ArmBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	29.09	0.00	g55X	0.000	22.961	10.470	10.547	0.000	6.403	1 1.000
0.6875														
ArmBR2	L1.75x1/4x1/4	BAR	1.75X0.25X0.25	33.0	77.34	77.34	g57Y	6.101NESC Hea	7.889	10.470	14.062	0.000	12.382	1 1.000
0.6875														
Powermnt	12" Std. Pipe	PIP	12.75X0.375	50.0	20.24	0.00	g71P	0.000	729.999	0.000	0.000	0.000	9.000	0 0.000
0														

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	94.93	g31P	Angle
Extreme Wind	97.92	g11X	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	8.78	NESC Heavy	0.0
2	Clamp	5.57	NESC Heavy	0.0
3	Clamp	10.73	NESC Heavy	0.0
4	Clamp	10.65	NESC Heavy	0.0
5	Clamp	10.79	NESC Heavy	0.0
6	Clamp	10.74	NESC Heavy	0.0
7	Clamp	10.67	NESC Heavy	0.0
8	Clamp	10.62	NESC Heavy	0.0
14	Clamp	3.66	Extreme Wind	0.0
15	Clamp	3.95	NESC Heavy	0.0
16	Clamp	4.25	Extreme Wind	0.0
17	Clamp	2.57	Extreme Wind	0.0
18	Clamp	1.75	Extreme Wind	0.0
19	Clamp	0.99	Extreme Wind	0.0
20	Clamp	0.99	Extreme Wind	0.0
21	Clamp	1.54	Extreme Wind	0.0
22	Clamp	0.99	Extreme Wind	0.0
23	Clamp	0.99	Extreme Wind	0.0
24	Clamp	0.99	Extreme Wind	0.0
25	Clamp	9.19	Extreme Wind	0.0

26	Clamp	3.33	NESC Heavy	0.0
27	Clamp	4.03	NESC Heavy	0.0
28	Clamp	5.27	NESC Heavy	0.0
29	Clamp	10.35	NESC Heavy	0.0
30	Clamp	17.89	NESC Heavy	0.0
31	Clamp	23.59	NESC Heavy	0.0

*** Weight of structure (lbs):

Weight of Angles*Section DLF:	13831.2
Total:	13831.2

*** End of Report

```
*****************************************************************************
*                                                                           *
* TOWER - Analysis and Design -  Copyright Power Line Systems, Inc. 1986-2011 *
*                                                                           *
*****************************************************************************

Project Name : 12101.CO4 - Fairfield, CT
Project Notes: CL&P Structure # 876 / AT&T CT5145
Project File : J:\Jobs\1210100.WI\CO4 - CT5145 - Fairfield\Calcs\PLS\cl&p # 876 w_powermnt.tow
Date run     : 1:44:08 PM Tuesday, November 20, 2012
by           : Tower Version 11.11
Licensed to  : Centek Engineering Inc

Successfully performed nonlinear analysis

Member "g6P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g6X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g6XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g6Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g9P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g9X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g9XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g9Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g10P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g10X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g10XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g10Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g11P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g11X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g11XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g11Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g12P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g12X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g12XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g12Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g15P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "g15X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
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and spacing distances will be checked. ??
Member "g15XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g15Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g16P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g16X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g16XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g16Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g17P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g17X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g17XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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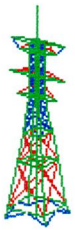
Member "g18P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g18X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g18XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g18Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g19P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g19X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g19XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g19Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g20P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g20X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g20XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g20Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g21P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g21X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g21XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g21Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g22P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g22X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g22XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge

and spacing distances will be checked. ??
Member "g22Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g23P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g23X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g23XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g23Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g24P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g24X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g24XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "g24Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Unable to calculate rupture capacity for member "g47P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g47Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g49Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g51P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g51X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g51XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g51Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g53P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g53X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g53XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g53Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g55P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g55X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g56P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g56X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g56XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g56Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g57P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g57X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g57XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g57Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g58P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g58X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g58XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g58Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g59P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g59X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g59XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g59Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g60P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g60X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g60XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g60Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61P" because it has a long and short edge distance of 0. ??

Unable to calculate rupture capacity for member "g61X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g61Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g62Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g63P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g63X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g63XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g63Y" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64P" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64X" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64XY" because it has a long and short edge distance of 0. ??
Unable to calculate rupture capacity for member "g64Y" because it has a long and short edge distance of 0. ??
w/t equals 34.00 for member "g65P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g66P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g67P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g68P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g69P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g70P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
w/t equals 34.00 for member "g71P" which exceeds ASCE 10 section 3.7.1 limit of 25. ??
Unusual number of fixed joints found: 5. Towers normally have from between 1 and 4 fixed joints. ??
The model has 122 warnings. ??



Nonlinear convergence parameters: Use Standard Parameters
Member check option: ASCE 10
Connection rupture check: ASCE 10
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None

Joints Geometry:

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.

1P	XY-Symmetry	2.5	-2.5	86	Free	Free	Free	Free	Free	Free
2P	X-Symmetry	0	-13.75	86	Free	Free	Free	Free	Free	Free
3P	XY-Symmetry	2.5	-2.5	81	Free	Free	Free	Free	Free	Free
4P	X-Symmetry	0	-9.75	81	Free	Free	Free	Free	Free	Free
5P	XY-Symmetry	2.5	-2.5	75	Free	Free	Free	Free	Free	Free
6P	XY-Symmetry	2.5	-2.5	72	Free	Free	Free	Free	Free	Free
7P	XY-Symmetry	2.5	-2.5	69	Free	Free	Free	Free	Free	Free
8P	X-Symmetry	0	-14.25	69	Free	Free	Free	Free	Free	Free
9P	XY-Symmetry	2.5	-2.5	64	Free	Free	Free	Free	Free	Free
10P	XY-Symmetry	2.5	-2.5	59	Free	Free	Free	Free	Free	Free
11P	X-Symmetry	0	-10.25	59	Free	Free	Free	Free	Free	Free
12P	XY-Symmetry	3.188	-3.188	54.05	Free	Free	Free	Free	Free	Free
13P	XY-Symmetry	4.013	-4.013	48.1	Free	Free	Free	Free	Free	Free
14P	XY-Symmetry	4.907	-4.907	41.5	Free	Free	Free	Free	Free	Free
15P	XY-Symmetry	6.902	-6.902	27	Free	Free	Free	Free	Free	Free
16P	XY-Symmetry	10	-10	5	Free	Free	Free	Free	Free	Free
17P	XY-Symmetry	10.69	-10.69	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
22P	None	0	0	104	Free	Free	Free	Free	Free	Free
23P	None	0	0	95	Free	Free	Free	Free	Free	Free
24P	None	0	0	86	Free	Free	Free	Free	Free	Free
25P	None	0	0	81	Free	Free	Free	Free	Free	Free
26P	None	0	0	69	Free	Free	Free	Free	Free	Free
27P	None	0	0	59	Free	Free	Free	Free	Free	Free
28P	None	0	0	27	Free	Free	Free	Free	Free	Free
29P	None	0	0	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
1X	X-GenXY	2.5	2.5	86	Free	Free	Free	Free	Free	Free
1XY	XY-GenXY	-2.5	2.5	86	Free	Free	Free	Free	Free	Free
1Y	Y-GenXY	-2.5	-2.5	86	Free	Free	Free	Free	Free	Free
2X	X-Gen	0	13.75	86	Free	Free	Free	Free	Free	Free
3X	X-GenXY	2.5	2.5	81	Free	Free	Free	Free	Free	Free
3XY	XY-GenXY	-2.5	2.5	81	Free	Free	Free	Free	Free	Free
3Y	Y-GenXY	-2.5	-2.5	81	Free	Free	Free	Free	Free	Free
4X	X-Gen	0	9.75	81	Free	Free	Free	Free	Free	Free
5X	X-GenXY	2.5	2.5	75	Free	Free	Free	Free	Free	Free
5XY	XY-GenXY	-2.5	2.5	75	Free	Free	Free	Free	Free	Free
5Y	Y-GenXY	-2.5	-2.5	75	Free	Free	Free	Free	Free	Free
6X	X-GenXY	2.5	2.5	72	Free	Free	Free	Free	Free	Free
6XY	XY-GenXY	-2.5	2.5	72	Free	Free	Free	Free	Free	Free
6Y	Y-GenXY	-2.5	-2.5	72	Free	Free	Free	Free	Free	Free
7X	X-GenXY	2.5	2.5	69	Free	Free	Free	Free	Free	Free
7XY	XY-GenXY	-2.5	2.5	69	Free	Free	Free	Free	Free	Free
7Y	Y-GenXY	-2.5	-2.5	69	Free	Free	Free	Free	Free	Free
8X	X-Gen	0	14.25	69	Free	Free	Free	Free	Free	Free
9X	X-GenXY	2.5	2.5	64	Free	Free	Free	Free	Free	Free
9XY	XY-GenXY	-2.5	2.5	64	Free	Free	Free	Free	Free	Free
9Y	Y-GenXY	-2.5	-2.5	64	Free	Free	Free	Free	Free	Free
10X	X-GenXY	2.5	2.5	59	Free	Free	Free	Free	Free	Free
10XY	XY-GenXY	-2.5	2.5	59	Free	Free	Free	Free	Free	Free
10Y	Y-GenXY	-2.5	-2.5	59	Free	Free	Free	Free	Free	Free
11X	X-Gen	0	10.25	59	Free	Free	Free	Free	Free	Free
12X	X-GenXY	3.188	3.188	54.05	Free	Free	Free	Free	Free	Free
12XY	XY-GenXY	-3.188	3.188	54.05	Free	Free	Free	Free	Free	Free
12Y	Y-GenXY	-3.188	-3.188	54.05	Free	Free	Free	Free	Free	Free
13X	X-GenXY	4.013	4.013	48.1	Free	Free	Free	Free	Free	Free
13XY	XY-GenXY	-4.013	4.013	48.1	Free	Free	Free	Free	Free	Free
13Y	Y-GenXY	-4.013	-4.013	48.1	Free	Free	Free	Free	Free	Free
14X	X-GenXY	4.907	4.907	41.5	Free	Free	Free	Free	Free	Free
14XY	XY-GenXY	-4.907	4.907	41.5	Free	Free	Free	Free	Free	Free

14Y	Y-GenXY	-4.907	-4.907	41.5	Free	Free	Free	Free	Free	Free
15X	X-GenXY	6.902	6.902	27	Free	Free	Free	Free	Free	Free
15XY	XY-GenXY	-6.902	6.902	27	Free	Free	Free	Free	Free	Free
15Y	Y-GenXY	-6.902	-6.902	27	Free	Free	Free	Free	Free	Free
16X	X-GenXY	10	10	5	Free	Free	Free	Free	Free	Free
16XY	XY-GenXY	-10	10	5	Free	Free	Free	Free	Free	Free
16Y	Y-GenXY	-10	-10	5	Free	Free	Free	Free	Free	Free
17X	X-GenXY	10.69	10.69	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
17XY	XY-GenXY	-10.69	10.69	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
17Y	Y-GenXY	-10.69	-10.69	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

Secondary Joints:

Joint Label	Symmetry Code	Origin Joint	End Joint	Fraction	Elevation (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.
18S	Y-Symmetry	6P	6X	0.5	0	Free	Free	Free	Free	Free	Free
19S	X-Symmetry	6P	6Y	0.5	0	Free	Free	Free	Free	Free	Free
20S	Y-Symmetry	16P	16X	0.5	0	Free	Free	Free	Free	Free	Free
21S	X-Symmetry	16P	16Y	0.5	0	Free	Free	Free	Free	Free	Free
18Y	Y-Gen	6P	6X	0.5	0	Free	Free	Free	Free	Free	Free
19X	X-Gen	6P	6Y	0.5	0	Free	Free	Free	Free	Free	Free
20Y	Y-Gen	16P	16X	0.5	0	Free	Free	Free	Free	Free	Free
21X	X-Gen	16P	16Y	0.5	0	Free	Free	Free	Free	Free	Free

The model contains 68 primary and 8 secondary joints for a total of 76 joints.

Steel Material Properties:

Steel Material Label	Modulus of Elasticity (ksi)	Yield Stress Fy (ksi)	Ultimate Stress Fu (ksi)	Member All. Stress Hyp. 1 (ksi)	Member All. Stress Hyp. 2 (ksi)	Member Rupture Hyp. 1 (ksi)	Member Rupture Hyp. 2 (ksi)	Member Bearing Hyp. 1 (ksi)	Member Bearing Hyp. 2 (ksi)
A7	2.9e+004	33	60	0	0	0	0	0	0
A36	2.9e+004	36	58	0	0	0	0	0	0
A572-50	2.9e+004	50	65	0	0	0	0	0	0

Bolt Properties:

Bolt Label	Bolt Diameter (in)	Hole Diameter (in)	Ultimate Shear Capacity (kips)	Default End Distance (in)	Default Bolt Spacing (in)	Shear Capacity Hyp. 1 (kips)	Shear Capacity Hyp. 2 (kips)
5/8 A7	0.625	0.6875	10.47	0	0	0	0

Number Bolts Used By Type:

Bolt Type	Number Bolts
5/8 A7	542

Angle Properties:

Angle Type	Angle Size	Long Leg	Short Leg	Thick.	Unit Weight	Gross Area	w/t Ratio	Radius of Gyration	Radius of Gyration	Radius of Gyration	Number of	Wind Width	Short Edge	Long Edge	Optimize Cost	Section Modulus

		(in)	(in)	(in)	(lbs/ft)	(in^2)		Rx (in)	Ry (in)	Rz (in)	Angles	(in)	Dist. (in)	Dist. (in)	Factor	(in^3)
SAE	1.75X1.75X0.1875	1.75	1.75	0.1875	2.12	0.62	6	0.537	0.537	0.343	1	1.75	0	0	1.0000	0
SAE	1.75X1.75X0.25	1.75	1.75	0.25	2.77	0.813	4.25	0.529	0.529	0.341	1	1.75	0	0	1.0000	0
SAE	2.5X2.5X0.1875	2.5	2.5	0.1875	3.07	0.902	10.67	0.778	0.778	0.495	1	2.5	0	0	1.0000	0
SAE	2X2X0.1875	2	2	0.1875	2.44	0.71	8	0.617	0.617	0.394	1	2	0	0	1.0000	0
SAE	3.5X3.5X0.25	3.5	3.5	0.25	5.8	1.69	11.5	1.09	1.09	0.694	1	3.5	0	0	1.0000	0
SAE	4X4X0.25	4	4	0.25	6.6	1.94	13.5	1.25	1.25	0.795	1	4	0	0	1.0000	0
SAE	4X4X0.3125	4	4	0.3125	8.2	2.4	10.6	1.24	1.24	0.791	1	4	0	0	1.0000	0
SAE	4X4X0.375	4	4	0.375	9.8	2.86	8.67	1.23	1.23	0.788	1	4	0	0	1.0000	0
SAU	2.5X2X0.1875	2.5	2	0.1875	2.75	0.81	10.67	0.793	0.6	0.427	1	2.5	0	0	1.0000	0
SAU	3.5X2.5X0.25	3.5	2.5	0.25	4.9	1.44	11.25	1.12	0.735	0.544	1	3.5	0	0	1.0000	0
SAU	3X2.5X0.25	3	2.5	0.25	4.5	1.31	9.5	0.945	0.753	0.528	1	3	0	0	1.0000	0
SAU	3X2X0.1875	3	2	0.1875	3.07	0.9	13.33	0.966	0.583	0.439	1	3	0	0	1.0000	0
SAU	4X3X0.25	4	3	0.25	5.8	1.69	13.25	1.28	0.896	0.651	1	4	0	0	1.0000	0
BAR	1.75X0.25X0.25	1.75	0.25	0.25	1.49	0.4375	7	0.5052	0.0722	0.101	1	1.75	0	0	1.0000	0
PIP	12.75X0.375	12.75	12.75	0.375	49.56	14.6	34	4.38	4.38	4.38	1	12.75	0	0	1.0000	0

Angle Groups:

Group Label	Group Description	Angle Type	Angle Size	Material Type	Element Type	Group Type	Optimize Group	Allow. Add. Angle Width For Optimize (in)
LEG1	L4x4x1/4	SAE	4X4X0.25	A7	Beam	Leg	None	12.000
LEG2	L4x4x5/16	SAE	4X4X0.3125	A7	Beam	Leg	None	12.000
LEG3	L4x4x3/8	SAE	4X4X0.375	A7	Beam	Leg	None	12.000
XBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	A7	Truss	Crossing Diagonal	None	12.000
XBR2	L3x2x3/16	SAU	3X2X0.1875	A7	Truss	Crossing Diagonal	None	12.000
XBR3	L3x2x3/16	SAU	3X2X0.1875	A7	Truss	Other	None	12.000
XBR4	L2x2x3/16	SAE	2X2X0.1875	A7	Truss	Crossing Diagonal	None	12.000
XBR5	L2.5x2x3/16	SAU	2.5X2X0.1875	A7	Truss	Crossing Diagonal	None	12.000
XBR6	L1.75x1.75x1/4	SAE	1.75X1.75X0.25	A7	T-Only	Other	None	12.000
XBR7	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	A7	T-Only	Other	None	12.000
PMBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	A36	Beam	Other	None	12.000
PMBR2	L3.5x3.5x1/4	SAE	3.5X3.5X0.25	A36	Beam	Other	None	12.000
HBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	A7	Beam	Other	None	12.000
HBR2	2.5x2x3/16	SAU	2.5X2X0.1875	A7	Beam	Other	None	12.000
HBR3	L3x2.5x1/4	SAU	3X2.5X0.25	A7	Beam	Other	None	12.000
HBR4	L4x3x1/4	SAU	4X3X0.25	A7	Beam	Other	None	12.000
Arm1	L3x2.5x1/4	SAU	3X2.5X0.25	A7	Beam	Other	None	12.000
Arm2	L3.5x2.5x1/4	SAU	3.5X2.5X0.25	A7	Beam	Other	None	12.000
ArmBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	A7	Truss	Other	None	0.000
ArmBR2	L1.75x1/4x1/4	BAR	1.75X0.25X0.25	A7	T-Only	Other	None	0.000
Powermnt	12" Std. Pipe	PIP	12.75X0.375	A572-50	Beam	Other	None	0.000

Aggregate Angle Information:

Note: Estimate of surface area reported for painting purposes, not wind loading.

Angle Type	Angle Size	Material Type	Total Length (ft)	Total Surface Area (ft^2)	Total Weight (lbs)
SAE	4X4X0.25	A7	108.00	144.00	712.80
SAE	4X4X0.3125	A7	91.69	122.26	751.90

SAE	4X4X0.375	A7	148.82	198.42	1458.39	
SAE	1.75X1.75X0.1875	A7	319.89	186.60	678.17	
SAU	3X2X0.1875	A7	332.71	277.26	1021.42	
SAE	2X2X0.1875	A7	60.58	40.39	147.83	
SAU	2.5X2X0.1875	A7	203.33	152.50	559.15	
SAE	1.75X1.75X0.25	A7	150.45	87.77	416.76	
SAU	3X2.5X0.25	A7	194.56	178.35	875.54	
SAU	4X3X0.25	A7	80.00	93.33	464.00	
SAU	3.5X2.5X0.25	A7	58.05	58.05	284.46	
SAE	2.5X2.5X0.1875	A7	12.81	10.67	39.32	
BAR	1.75X0.25X0.25	A7	134.37	44.79	200.21	
SAE	2.5X2.5X0.1875	A36	56.57	47.14	173.67	
SAE	3.5X3.5X0.25	A36	39.04	45.55	226.46	
PIP	12.75X0.375	A572-50	104.00	442.00	5154.24	

Sections:
The adjustment factors below only apply to dead load and wind areas that are calculated for members in the model.
They do not apply to equipment or to manually input dead load and drag areas.

Section Label	Joint Defining Section Bottom	Dead Load Adjust. Factor	Transverse Drag x Area Factor For Face	Longitudinal Drag x Area Factor For Face	Transverse Area Factor (CD From Code)	Longitudinal Area Factor (CD From Code)	Af Flat Factor For Face EIA Only	Ar Round Factor For Face EIA Only	Transverse Drag x Area Factor For All	Longitudinal Drag x Area Factor For All	SAPS Angle Drag x Area Factor	SAPS Round Drag x Area Factor	Force Solid Face
1	10P	1.000	3.200	3.200	1.000	1.000	0.000	0.000	1.000	1.000	0.000	0.000	None
2	14P	1.000	3.200	3.200	1.000	1.000	0.000	0.000	1.000	1.000	0.000	0.000	None
3	17P	1.100	3.200	3.200	1.100	1.100	0.000	0.000	1.000	1.000	0.000	0.000	None

Angle Member Connectivity:

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ	Bolt Type	# Bolts	# Bolt Holes	# Shear Planes	Connect Leg	Short Edge Dist. (in)	Long Edge Dist. (in)	End Dist. (in)	Bolt Spacing (in)	Rest. Coef.
g1P	LEG1		XY-Symmetry	1P	3P	1	4	1	1	1		0	0	0		0	0	0	0	0
g1X	LEG1		X-GenXY	1X	3X	1	4	1	1	1		0	0	0		0	0	0	0	0
g1XY	LEG1		XY-GenXY	1XY	3XY	1	4	1	1	1		0	0	0		0	0	0	0	0
g1Y	LEG1		Y-GenXY	1Y	3Y	1	4	1	1	1		0	0	0		0	0	0	0	0
g2P	LEG1		XY-Symmetry	3P	5P	1	4	1	1	1		0	0	0		0	0	0	0	0
g2X	LEG1		X-GenXY	3X	5X	1	4	1	1	1		0	0	0		0	0	0	0	0
g2XY	LEG1		XY-GenXY	3XY	5XY	1	4	1	1	1		0	0	0		0	0	0	0	0
g2Y	LEG1		Y-GenXY	3Y	5Y	1	4	1	1	1		0	0	0		0	0	0	0	0
g3P	LEG1		XY-Symmetry	5P	6P	1	4	1	1	1		0	0	0		0	0	0	0	0
g3X	LEG1		X-GenXY	5X	6X	1	4	1	1	1		0	0	0		0	0	0	0	0
g3XY	LEG1		XY-GenXY	5XY	6XY	1	4	1	1	1		0	0	0		0	0	0	0	0

g3Y	LEG1	Y-GenXY	5Y	6Y	1	4	1	1	1		0	0	0		0	0	0	0
g4P	LEG1	XY-Symmetry	6P	7P	1	4	1	1	1		0	0	0		0	0	0	0
g4X	LEG1	X-GenXY	6X	7X	1	4	1	1	1		0	0	0		0	0	0	0
g4XY	LEG1	XY-GenXY	6XY	7XY	1	4	1	1	1		0	0	0		0	0	0	0
g4Y	LEG1	Y-GenXY	6Y	7Y	1	4	1	1	1		0	0	0		0	0	0	0
g5P	LEG1	XY-Symmetry	7P	9P	1	4	1	1	1		0	0	0		0	0	0	0
g5X	LEG1	X-GenXY	7X	9X	1	4	1	1	1		0	0	0		0	0	0	0
g5XY	LEG1	XY-GenXY	7XY	9XY	1	4	1	1	1		0	0	0		0	0	0	0
g5Y	LEG1	Y-GenXY	7Y	9Y	1	4	1	1	1		0	0	0		0	0	0	0
g6P	LEG1	XY-Symmetry	9P	10P	1	4	1	1	1	5/8 A7	12	2	1	Both	1.25	2.375	1.5	4
g6X	LEG1	X-GenXY	9X	10X	1	4	1	1	1	5/8 A7	12	2	1	Both	1.25	2.375	1.5	4
g6XY	LEG1	XY-GenXY	9XY	10XY	1	4	1	1	1	5/8 A7	12	2	1	Both	1.25	2.375	1.5	4
g6Y	LEG1	Y-GenXY	9Y	10Y	1	4	1	1	1	5/8 A7	12	2	1	Both	1.25	2.375	1.5	4
g7P	LEG2	XY-Symmetry	10P	12P	1	4	1	1	1		0	0	0		0	0	0	0
g7X	LEG2	X-GenXY	10X	12X	1	4	1	1	1		0	0	0		0	0	0	0
g7XY	LEG2	XY-GenXY	10XY	12XY	1	4	1	1	1		0	0	0		0	0	0	0
g7Y	LEG2	Y-GenXY	10Y	12Y	1	4	1	1	1		0	0	0		0	0	0	0
g8P	LEG2	XY-Symmetry	12P	13P	1	4	1	1	1		0	0	0		0	0	0	0
g8X	LEG2	X-GenXY	12X	13X	1	4	1	1	1		0	0	0		0	0	0	0
g8XY	LEG2	XY-GenXY	12XY	13XY	1	4	1	1	1		0	0	0		0	0	0	0
g8Y	LEG2	Y-GenXY	12Y	13Y	1	4	1	1	1		0	0	0		0	0	0	0
g9P	LEG2	XY-Symmetry	13P	14P	1	4	1	1	1	5/8 A7	10	2.02	1	Both	0.875	2	1.5	3.5
g9X	LEG2	X-GenXY	13X	14X	1	4	1	1	1	5/8 A7	10	2.02	1	Both	0.875	2	1.5	3.5
g9XY	LEG2	XY-GenXY	13XY	14XY	1	4	1	1	1	5/8 A7	10	2.02	1	Both	0.875	2	1.5	3.5
g9Y	LEG2	Y-GenXY	13Y	14Y	1	4	1	1	1	5/8 A7	10	2.02	1	Both	0.875	2	1.5	3.5
g10P	LEG3	XY-Symmetry	14P	15P	1	4	0.5	0.5	0.5	5/8 A7	10	2	1	Both	1.3125	2.375	1.5	3.5
g10X	LEG3	X-GenXY	14X	15X	1	4	0.5	0.5	0.5	5/8 A7	10	2	1	Both	1.3125	2.375	1.5	3.5
g10XY	LEG3	XY-GenXY	14XY	15XY	1	4	0.5	0.5	0.5	5/8 A7	10	2	1	Both	1.3125	2.375	1.5	3.5
g10Y	LEG3	Y-GenXY	14Y	15Y	1	4	0.5	0.5	0.5	5/8 A7	10	2	1	Both	1.3125	2.375	1.5	3.5

g11P	LEG3	XY-Symmetry	15P	16P	1	4	0.33	0.33	0.33	5/8	A7	10	2	1	Both	0.875	1.9375	1.5	3.75
0																			
g11X	LEG3	X-GenXY	15X	16X	1	4	0.33	0.33	0.33	5/8	A7	10	2	1	Both	0.875	1.9375	1.5	3.75
0																			
g11XY	LEG3	XY-GenXY	15XY	16XY	1	4	0.33	0.33	0.33	5/8	A7	10	2	1	Both	0.875	1.9375	1.5	3.75
0																			
g11Y	LEG3	Y-GenXY	15Y	16Y	1	4	0.33	0.33	0.33	5/8	A7	10	2	1	Both	0.875	1.9375	1.5	3.75
0																			
g12P	LEG2	XY-Symmetry	16P	17P	1	4	1	1	1	5/8	A7	10	2	1	Both	0.5625	1.625	1.5625	3.75
0																			
g12X	LEG2	X-GenXY	16X	17X	1	4	1	1	1	5/8	A7	10	2	1	Both	0.5625	1.625	1.5625	3.75
0																			
g12XY	LEG2	XY-GenXY	16XY	17XY	1	4	1	1	1	5/8	A7	10	2	1	Both	0.5625	1.625	1.5625	3.75
0																			
g12Y	LEG2	Y-GenXY	16Y	17Y	1	4	1	1	1	5/8	A7	10	2	1	Both	0.5625	1.625	1.5625	3.75
0																			
g13P	XBR1	XY-Symmetry	1P	3X	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g13X	XBR1	X-GenXY	1X	3P	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g13XY	XBR1	XY-GenXY	1XY	3Y	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g13Y	XBR1	Y-GenXY	1Y	3XY	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g14P	XBR1	XY-Symmetry	1X	3XY	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g14X	XBR1	X-GenXY	1P	3Y	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g14XY	XBR1	XY-GenXY	1Y	3P	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g14Y	XBR1	Y-GenXY	1XY	3X	2	5	0.75	0.5	0.5	5/8	A7	2	1	1	Short only	0.8125	0	1	2
0																			
g15P	XBR2	XY-Symmetry	3P	5X	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g15X	XBR2	X-GenXY	3X	5P	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g15XY	XBR2	XY-GenXY	3XY	5Y	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g15Y	XBR2	Y-GenXY	3Y	5XY	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g16P	XBR2	XY-Symmetry	3X	5XY	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g16X	XBR2	X-GenXY	3P	5Y	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g16XY	XBR2	XY-GenXY	3Y	5P	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g16Y	XBR2	Y-GenXY	3XY	5X	2	5	0.5	0.75	0.5	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g17P	XBR3	XY-Symmetry	5P	18S	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g17X	XBR3	X-GenXY	5X	18S	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g17XY	XBR3	XY-GenXY	5XY	18Y	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g17Y	XBR3	Y-GenXY	5Y	18Y	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g18P	XBR3	XY-Symmetry	5X	19X	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125
0																			
g18X	XBR3	X-GenXY	5P	19S	2	4	1	1.5	1	5/8	A7	3	1	1	Long only	0.875	2	1	3.125

g18XY	XBR3	XY-GenXY	5Y	19S	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g18Y	XBR3	Y-GenXY	5XY	19X	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g19P	XBR3	XY-Symmetry	18S	7P	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g19X	XBR3	X-GenXY	18S	7X	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g19XY	XBR3	XY-GenXY	18Y	7XY	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g19Y	XBR3	Y-GenXY	18Y	7Y	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g20P	XBR3	XY-Symmetry	19X	7X	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g20X	XBR3	X-GenXY	19S	7P	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g20XY	XBR3	XY-GenXY	19S	7Y	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g20Y	XBR3	Y-GenXY	19X	7XY	2	4	1	1.5	1 5/8	A7	3	1	1	Long only	0.875	2	1	3.125
g21P	XBR2	XY-Symmetry	7P	9X	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g21X	XBR2	X-GenXY	7X	9P	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g21XY	XBR2	XY-GenXY	7XY	9Y	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g21Y	XBR2	Y-GenXY	7Y	9XY	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g22P	XBR2	XY-Symmetry	7X	9XY	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g22X	XBR2	X-GenXY	7P	9Y	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g22XY	XBR2	XY-GenXY	7Y	9P	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g22Y	XBR2	Y-GenXY	7XY	9X	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g23P	XBR2	XY-Symmetry	9P	10X	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g23X	XBR2	X-GenXY	9X	10P	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g23XY	XBR2	XY-GenXY	9XY	10Y	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g23Y	XBR2	Y-GenXY	9Y	10XY	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g24P	XBR2	XY-Symmetry	9X	10XY	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g24X	XBR2	X-GenXY	9P	10Y	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g24XY	XBR2	XY-GenXY	9Y	10P	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g24Y	XBR2	Y-GenXY	9XY	10X	2	5	0.5	0.75	0.5 5/8	A7	3	1	1	Long only	0.875	2	1	2.75
g25P	XBR4	XY-Symmetry	10P	12X	2	5	0.78	0.56	0.56 5/8	A7	2	1	1	Short only	1	0	1	1.6875
g25X	XBR4	X-GenXY	10X	12P	2	5	0.78	0.56	0.56 5/8	A7	2	1	1	Short only	1	0	1	1.6875
g25XY	XBR4	XY-GenXY	10XY	12Y	2	5	0.78	0.56	0.56 5/8	A7	2	1	1	Short only	1	0	1	1.6875

g25Y	XBR4	Y-GenXY	10Y	12XY	2	5	0.78	0.56	0.56	5/8 A7	2	1	1	Short only	1	0	1	1.6875	0
g26P	XBR4	XY-Symmetry	10X	12XY	2	5	0.78	0.56	0.56	5/8 A7	2	1	1	Short only	1	0	1	1.6875	0
g26X	XBR4	X-GenXY	10P	12Y	2	5	0.78	0.56	0.56	5/8 A7	2	1	1	Short only	1	0	1	1.6875	0
g26XY	XBR4	XY-GenXY	10Y	12P	2	5	0.78	0.56	0.56	5/8 A7	2	1	1	Short only	1	0	1	1.6875	0
g26Y	XBR4	Y-GenXY	10XY	12X	2	5	0.78	0.56	0.56	5/8 A7	2	1	1	Short only	1	0	1	1.6875	0
g27P	XBR5	XY-Symmetry	12P	13X	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g27X	XBR5	X-GenXY	12X	13P	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g27XY	XBR5	XY-GenXY	12XY	13Y	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g27Y	XBR5	Y-GenXY	12Y	13XY	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g28P	XBR5	XY-Symmetry	12X	13XY	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g28X	XBR5	X-GenXY	12P	13Y	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g28XY	XBR5	XY-GenXY	12Y	13P	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g28Y	XBR5	Y-GenXY	12XY	13X	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.375	0
g29P	XBR5	XY-Symmetry	13P	14X	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g29X	XBR5	X-GenXY	13X	14P	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g29XY	XBR5	XY-GenXY	13XY	14Y	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g29Y	XBR5	Y-GenXY	13Y	14XY	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g30P	XBR5	XY-Symmetry	13X	14XY	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g30X	XBR5	X-GenXY	13P	14Y	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g30XY	XBR5	XY-GenXY	13Y	14P	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g30Y	XBR5	Y-GenXY	13XY	14X	2	5	0.56	0.78	0.56	5/8 A7	2	1	1	Long only	1	0	1	2.25	0
g31P	XBR6	XY-Symmetry	14P	15X	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g31X	XBR6	X-GenXY	14X	15P	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g31XY	XBR6	XY-GenXY	14XY	15Y	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g31Y	XBR6	Y-GenXY	14Y	15XY	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g32P	XBR6	XY-Symmetry	14X	15XY	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g32X	XBR6	X-GenXY	14P	15Y	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g32XY	XBR6	XY-GenXY	14Y	15P	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g32Y	XBR6	Y-GenXY	14XY	15X	2	5	0.79	0.58	0.58	5/8 A7	2	1	1	Short only	1	0	1	2.1875	0
g33P	XBR7	XY-Symmetry	15P	16X	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125	

g33X	XBR7	X-GenXY	15X	16P	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g33XY	XBR7	XY-GenXY	15XY	16Y	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g33Y	XBR7	Y-GenXY	15Y	16XY	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g34P	XBR7	XY-Symmetry	15X	16XY	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g34X	XBR7	X-GenXY	15P	16Y	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g34XY	XBR7	XY-GenXY	15Y	16P	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g34Y	XBR7	Y-GenXY	15XY	16X	2	5	0.8	0.41	0.41	5/8 A7	2	1	1	Short only	0.875	0	1	2.125
g35P	XBR3	XY-Symmetry	17P	20S	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g35X	XBR3	X-GenXY	17X	20S	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g35XY	XBR3	XY-GenXY	17XY	20Y	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g35Y	XBR3	Y-GenXY	17Y	20Y	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g36P	XBR3	XY-Symmetry	17X	21X	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g36X	XBR3	X-GenXY	17P	21S	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g36XY	XBR3	XY-GenXY	17Y	21S	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g36Y	XBR3	Y-GenXY	17XY	21X	2	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g37P	HBR1	X-Symmetry	1P	1Y	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g37X	HBR1	X-Gen	1X	1XY	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g38P	HBR1	X-Symmetry	3P	3Y	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g38X	HBR1	X-Gen	3X	3XY	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g39P	HBR1	X-Symmetry	7P	7Y	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g39X	HBR1	X-Gen	7X	7XY	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g40P	HBR1	X-Symmetry	10P	10Y	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g40X	HBR1	X-Gen	10X	10XY	3	4	1	1	1	5/8 A7	1	1	1	Short only	0.875	0	1	0
g41P	HBR2	X-Symmetry	14P	14Y	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g41X	HBR2	X-Gen	14X	14XY	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g42P	HBR2	Y-Symmetry	14P	14X	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g42Y	HBR2	Y-Gen	14Y	14XY	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	0.875	0	1	0
g43P	HBR3	X-Symmetry	15P	15Y	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	1.25	0	1	0
g43X	HBR3	X-Gen	15X	15XY	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	1.25	0	1	0

g44P	HBR3	Y-Symmetry	15P	15X	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	1.25	0	1	0
g44Y	HBR3	Y-Gen	15Y	15XY	3	4	1	0.5	0.5	5/8 A7	1	1	1	Short only	1.25	0	1	0
g45P	HBR4	XY-Symmetry	16P	20S	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g45X	HBR4	X-GenXY	16X	20S	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g45XY	HBR4	XY-GenXY	16XY	20Y	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g45Y	HBR4	Y-GenXY	16Y	20Y	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g46P	HBR4	XY-Symmetry	16P	21S	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g46X	HBR4	X-GenXY	16X	21X	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g46XY	HBR4	XY-GenXY	16XY	21X	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g46Y	HBR4	Y-GenXY	16Y	21S	3	4	2	1	1	5/8 A7	1	1	1	Short only	1.25	0	1	0
g47P	Arm1	XY-Symmetry	2P	1P	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g47X	Arm1	X-GenXY	2X	1X	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g47XY	Arm1	XY-GenXY	2X	1XY	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g47Y	Arm1	Y-GenXY	2P	1Y	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g48P	Arm1	Y-Symmetry	1P	1X	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g48Y	Arm1	Y-Gen	1Y	1XY	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g49P	Arm1	XY-Symmetry	4P	3P	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g49X	Arm1	X-GenXY	4X	3X	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g49XY	Arm1	XY-GenXY	4X	3XY	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g49Y	Arm1	Y-GenXY	4P	3Y	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g50P	Arm1	Y-Symmetry	3P	3X	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g50Y	Arm1	Y-Gen	3Y	3XY	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g51P	Arm1	XY-Symmetry	11P	10P	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g51X	Arm1	X-GenXY	11X	10X	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g51XY	Arm1	XY-GenXY	11X	10XY	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g51Y	Arm1	Y-GenXY	11P	10Y	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g52P	Arm1	Y-Symmetry	10P	10X	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g52Y	Arm1	Y-Gen	10Y	10XY	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g53P	Arm2	XY-Symmetry	8P	7P	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g53X	Arm2	X-GenXY	8X	7X	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0

g53XY	Arm2	XY-GenXY	8X	7XY	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g53Y	Arm2	Y-GenXY	8P	7Y	3	5	1	0.5	0.5	5/8 A7	3	1	1	Long only	0	0	0	0
g54P	Arm2	Y-Symmetry	7P	7X	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g54Y	Arm2	Y-Gen	7Y	7XY	3	6	1	1	1	5/8 A7	0	0	0		0	0	0	0
g55P	ArmBR1	X-Symmetry	2P	4P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g55X	ArmBR1	X-Gen	2X	4X	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g56P	ArmBR2	XY-Symmetry	4P	1P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g56X	ArmBR2	X-GenXY	4X	1X	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g56XY	ArmBR2	XY-GenXY	4X	1XY	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g56Y	ArmBR2	Y-GenXY	4P	1Y	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g57P	ArmBR2	XY-Symmetry	8P	6P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g57X	ArmBR2	X-GenXY	8X	6X	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g57XY	ArmBR2	XY-GenXY	8X	6XY	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g57Y	ArmBR2	Y-GenXY	8P	6Y	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g58P	ArmBR2	XY-Symmetry	6P	18S	2	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g58X	ArmBR2	X-GenXY	6X	18S	2	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g58XY	ArmBR2	XY-GenXY	6XY	18Y	2	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g58Y	ArmBR2	Y-GenXY	6Y	18Y	2	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g59P	ArmBR2	XY-Symmetry	11P	9P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g59X	ArmBR2	X-GenXY	11X	9X	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g59XY	ArmBR2	XY-GenXY	11X	9XY	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g59Y	ArmBR2	Y-GenXY	11P	9Y	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g60P	PMBR1	XY-Symmetry	1P	24P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g60X	PMBR1	X-GenXY	1X	24P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g60XY	PMBR1	XY-GenXY	1XY	24P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g60Y	PMBR1	Y-GenXY	1Y	24P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g61P	PMBR1	XY-Symmetry	3P	25P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g61X	PMBR1	X-GenXY	3X	25P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0
g61XY	PMBR1	XY-GenXY	3XY	25P	3	4	1	1	1	5/8 A7	1	1	1	Long only	0	0	0	0

g61Y	PMBR1	Y-GenXY	3Y	25P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g62P	PMBR1	XY-Symmetry	7P	26P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g62X	PMBR1	X-GenXY	7X	26P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g62XY	PMBR1	XY-GenXY	7XY	26P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g62Y	PMBR1	Y-GenXY	7Y	26P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g63P	PMBR1	XY-Symmetry	10P	27P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g63X	PMBR1	X-GenXY	10X	27P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g63XY	PMBR1	XY-GenXY	10XY	27P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g63Y	PMBR1	Y-GenXY	10Y	27P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g64P	PMBR2	XY-Symmetry	15P	28P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g64X	PMBR2	X-GenXY	15X	28P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g64XY	PMBR2	XY-GenXY	15XY	28P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g64Y	PMBR2	Y-GenXY	15Y	28P	3	4	1	1	1 5/8 A7	1	1	1	Long only	0	0	0	0	0	
g65P	Powermnt	None	29P	28P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g66P	Powermnt	None	28P	27P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g67P	Powermnt	None	27P	26P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g68P	Powermnt	None	26P	25P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g69P	Powermnt	None	25P	24P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g70P	Powermnt	None	24P	23P	1	4	1	1	1	0	0	0		0	0	0	0	0	
g71P	Powermnt	None	23P	22P	1	4	1	1	1	0	0	0		0	0	0	0	0	

Member Capacities and Overrides:

Member Label	Group Label	Design Comp. Override	Comp. Override	Design Tension Override	Tension Control	L/r Length		L/r	Connection Comp. Capacity	Connection Shear Capacity	Bearing Capacity	Net Section Tension Capacity	Rupture Tension Capacity	RTE End Dist. Capacity	RTE Edge Dist. Capacity	Override Comp. Capacity	Warnings or Errors
		Comp. Tension Capacity	Control Criterion	Tension Face	Control Criterion	Member											
		(kips)				(ft)			(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	
g1P	LEG1	53.509	L/r	64.020	Net Sect	75	5.00		53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000	

0.000		0.000	Automatic												
g1X	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g1XY	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g1Y	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g2P	LEG1	48.884	L/r 64.020	Net Sect	91	6.00	48.884	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g2X	LEG1	48.884	L/r 64.020	Net Sect	91	6.00	48.884	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g2XY	LEG1	48.884	L/r 64.020	Net Sect	91	6.00	48.884	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g2Y	LEG1	48.884	L/r 64.020	Net Sect	91	6.00	48.884	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g3P	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g3X	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g3XY	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g3Y	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g4P	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g4X	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g4XY	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g4Y	LEG1	60.236	L/r 64.020	Net Sect	45	3.00	60.236	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g5P	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g5X	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g5XY	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g5Y	LEG1	53.509	L/r 64.020	Net Sect	75	5.00	53.509	0.000	0.000	64.020	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g6P	**LEG1**	**53.509**	**L/r 52.676**	**Net Sect**	**75**	**5.00**	**53.509**	**125.640**	**168.750**	**52.676**	**220.588**	**0.000**	**0.000**	**0.000**
0.000		**0.000**	**Automatic**	**Member "g6P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??**											
g6X	**LEG1**	**53.509**	**L/r 52.676**	**Net Sect**	**75**	**5.00**	**53.509**	**125.640**	**168.750**	**52.676**	**220.588**	**0.000**	**0.000**	**0.000**
0.000		**0.000**	**Automatic**	**Member "g6X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??**											
g6XY	**LEG1**	**53.509**	**L/r 52.676**	**Net Sect**	**75**	**5.00**	**53.509**	**125.640**	**168.750**	**52.676**	**220.588**	**0.000**	**0.000**	**0.000**
0.000		**0.000**	**Automatic**	**Member "g6XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??**											
g6Y	**LEG1**	**53.509**	**L/r 52.676**	**Net Sect**	**75**	**5.00**	**53.509**	**125.640**	**168.750**	**52.676**	**220.588**	**0.000**	**0.000**	**0.000**
0.000		**0.000**	**Automatic**	**Member "g6Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??**											
g7P	LEG2	65.816	L/r 79.200	Net Sect	77	5.05	65.816	0.000	0.000	79.200	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g7X	LEG2	65.816	L/r 79.200	Net Sect	77	5.05	65.816	0.000	0.000	79.200	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g7XY	LEG2	65.816	L/r 79.200	Net Sect	77	5.05	65.816	0.000	0.000	79.200	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g7Y	LEG2	65.816	L/r 79.200	Net Sect	77	5.05	65.816	0.000	0.000	79.200	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												

g8P	LEG2	59.927	L/r 79.200	Net Sect	92	6.06	59.927	0.000	0.000	79.200	0.000	0.000	0.000	0.000	0.000
0.000	0.000	Automatic													
g8X	LEG2	59.927	L/r 79.200	Net Sect	92	6.06	59.927	0.000	0.000	79.200	0.000	0.000	0.000	0.000	0.000
0.000	0.000	Automatic													
g8XY	LEG2	59.927	L/r 79.200	Net Sect	92	6.06	59.927	0.000	0.000	79.200	0.000	0.000	0.000	0.000	0.000
0.000	0.000	Automatic													
g8Y	LEG2	59.927	L/r 79.200	Net Sect	92	6.06	59.927	0.000	0.000	79.200	0.000	0.000	0.000	0.000	0.000
0.000	0.000	Automatic													
g9P	LEG2	55.441	L/r 64.878	Net Sect	102	6.72	55.441	104.700	175.781	64.878	160.845	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g9P" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g9X	LEG2	55.441	L/r 64.878	Net Sect	102	6.72	55.441	104.700	175.781	64.878	160.845	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g9X" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g9XY	LEG2	55.441	L/r 64.878	Net Sect	102	6.72	55.441	104.700	175.781	64.878	160.845	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g9XY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g9Y	LEG2	55.441	L/r 64.878	Net Sect	102	6.72	55.441	104.700	175.781	64.878	160.845	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g9Y" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g10P	LEG3	59.964	L/r 77.364	Net Sect	112	14.77	59.964	104.700	210.937	77.364	281.250	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g10P" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g10X	LEG3	59.964	L/r 77.364	Net Sect	112	14.77	59.964	104.700	210.937	77.364	281.250	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g10X" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g10XY	LEG3	59.964	L/r 77.364	Net Sect	112	14.77	59.964	104.700	210.937	77.364	281.250	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g10XY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g10Y	LEG3	59.964	L/r 77.364	Net Sect	112	14.77	59.964	104.700	210.937	77.364	281.250	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g10Y" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g11P	LEG3	59.809	L/r 77.364	Net Sect	113	22.43	59.809	104.700	210.937	77.364	193.014	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g11P" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g11X	LEG3	59.809	L/r 77.364	Net Sect	113	22.43	59.809	104.700	210.937	77.364	193.014	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g11X" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g11XY	LEG3	59.809	L/r 77.364	Net Sect	113	22.43	59.809	104.700	210.937	77.364	193.014	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g11XY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g11Y	LEG3	59.809	L/r 77.364	Net Sect	113	22.43	59.809	104.700	210.937	77.364	193.014	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g11Y" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g12P	LEG2	65.558	L/r 65.020	Net Sect	77	5.10	65.558	104.700	175.781	65.020	103.401	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g12P" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g12X	LEG2	65.558	L/r 65.020	Net Sect	77	5.10	65.558	104.700	175.781	65.020	103.401	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g12X" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g12XY	LEG2	65.558	L/r 65.020	Net Sect	77	5.10	65.558	104.700	175.781	65.020	103.401	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g12XY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g12Y	LEG2	65.558	L/r 65.020	Net Sect	77	5.10	65.558	104.700	175.781	65.020	103.401	0.000	0.000	0.000	
0.000	0.000	Automatic	Member "g12Y" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
g13P	XBR1	11.559	L/r 14.585	Net Sect	124	7.07	11.559	20.940	21.094	14.585	16.189	0.000	0.000	0.000	
0.000	0.000	Automatic													

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   g13X     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
  g13XY     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
   g13Y     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
   g14P     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
   g14X     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
  g14XY     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
   g14Y     XBR1   11.559       L/r   14.585  Net Sect  124   7.07   11.559     20.940     21.094   14.585   16.189    0.000    0.000    0.000
0.000             0.000          Automatic
   g15P     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g15P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g15X     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g15X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g15XY     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic Member "g15XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g15Y     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g15Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g16P     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g16P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g16X     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g16X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g16XY     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic Member "g16XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g16Y     XBR2   17.275       L/r   22.901  Net Sect  121   7.81   17.275     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g16Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g17P     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g17P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g17X     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g17X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g17XY     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic Member "g17XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g17Y     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g17Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g18P     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g18P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g18X     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic  Member "g18X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g18XY     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000             0.000          Automatic Member "g18XY" will not be checked for block shear since more than one gage line exists (long edge
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distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g18Y     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g18Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g19P     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g19P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g19X     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g19X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g19XY     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic Member "g19XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g19Y     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g19Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g20P     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g20P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g20X     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g20X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g20XY     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic Member "g20XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g20Y     XBR3   17.255       L/r   22.901  Net Sect  121   3.91   17.255     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g20Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g21P     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g21P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g21X     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g21X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g21XY     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic Member "g21XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g21Y     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g21Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g22P     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g22P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g22X     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g22X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
  g22XY     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic Member "g22XY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g22Y     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g22Y" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g23P     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g23P" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
   g23X     XBR2   18.986       L/r   22.901  Net Sect  109   7.07   18.986     31.410     31.641   22.901   28.125    0.000    0.000    0.000
0.000            0.000          Automatic  Member "g23X" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
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g23XY	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g23XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g23Y	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g23Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g24P	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g24P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g24X	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g24X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g24XY	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g24XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g24Y	XBR2	18.986	L/r 22.901	Net Sect	109	7.07	18.986	31.410	31.641	22.901	28.125	0.000	0.000	0.000
0.000		0.000	Automatic Member "g24Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??														
g25P	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g25X	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g25XY	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g25Y	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g26P	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g26X	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g26XY	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g26Y	XBR4	12.533	L/r 15.240	Rupture	129	7.57	12.533	20.940	21.094	17.258	15.240	0.000	0.000	0.000
0.000		0.000	Automatic											
g27P	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g27X	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g27XY	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g27Y	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g28P	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g28X	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g28XY	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g28Y	XBR5	11.661	L/r 18.750	Rupture	148	9.37	11.661	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g29P	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g29X	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g29XY	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g29Y	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g30P	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000

0.000		0.000	Automatic											
g30X	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g30XY	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g30Y	XBR5	8.819	L/r 18.750	Rupture	175	11.14	8.819	20.940	21.094	20.228	18.750	0.000	0.000	0.000
0.000		0.000	Automatic											
g31P	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g31X	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g31XY	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g31Y	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g32P	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g32X	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g32XY	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g32Y	XBR6	2.257	L/r 19.041	Net Sect	384	18.81	2.257	20.940	28.125	19.041	24.820	0.000	0.000	0.000
0.000		0.000	Automatic											
g33P	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g33X	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g33XY	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g33Y	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g34P	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g34X	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g34XY	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g34Y	XBR7	1.061	L/r 14.585	Net Sect	499	27.92	1.061	20.940	21.094	14.585	17.420	0.000	0.000	0.000
0.000		0.000	Automatic											
g35P	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g35X	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g35XY	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g35Y	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g36P	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g36X	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g36XY	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g36Y	XBR3	9.860	L/r 7.717	Rupture	162	11.83	9.860	10.470	10.547	17.333	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g37P	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											
g37X	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000
0.000		0.000	Automatic											

g38P	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g38X	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g39P	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g39X	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g40P	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g40X	HBR1	5.799	L/r 7.717	Rupture	175	5.00	5.799	10.470	10.547	14.585	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g41P	HBR2	10.470	Shear 7.717	Rupture	149	9.81	10.510	10.470	10.547	17.444	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g41X	HBR2	10.470	Shear 7.717	Rupture	149	9.81	10.510	10.470	10.547	17.444	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g42P	HBR2	10.470	Shear 7.717	Rupture	149	9.81	10.510	10.470	10.547	17.444	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g42Y	HBR2	10.470	Shear 7.717	Rupture	149	9.81	10.510	10.470	10.547	17.444	7.717	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g43P	HBR3	10.470	Shear 10.470	Shear	175	13.80	12.202	10.470	14.062	30.090	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g43X	HBR3	10.470	Shear 10.470	Shear	175	13.80	12.202	10.470	14.062	30.090	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g44P	HBR3	10.470	Shear 10.470	Shear	175	13.80	12.202	10.470	14.062	30.090	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g44Y	HBR3	10.470	Shear 10.470	Shear	175	13.80	12.202	10.470	14.062	30.090	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g45P	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g45X	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g45XY	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g45Y	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g46P	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g46X	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g46XY	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g46Y	HBR4	10.470	Shear 10.470	Shear	188	10.00	13.759	10.470	14.062	37.663	12.500	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
g47P	**Arm1**	**19.099**	**L/r 31.410**	**Shear**	**146**	**11.52**	**19.099**	**31.410**	**42.187**	**33.802**	**0.000**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**										**Unable to calculate**		
rupture capacity for member "g47P" because it has a long and short edge distance of 0. ??															
g47X	**Arm1**	**19.099**	**L/r 31.410**	**Shear**	**146**	**11.52**	**19.099**	**31.410**	**42.187**	**33.802**	**0.000**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**										**Unable to calculate**		
rupture capacity for member "g47X" because it has a long and short edge distance of 0. ??															
g47XY	**Arm1**	**19.099**	**L/r 31.410**	**Shear**	**146**	**11.52**	**19.099**	**31.410**	**42.187**	**33.802**	**0.000**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**										**Unable to calculate**		
rupture capacity for member "g47XY" because it has a long and short edge distance of 0. ??															
g47Y	**Arm1**	**19.099**	**L/r 31.410**	**Shear**	**146**	**11.52**	**19.099**	**31.410**	**42.187**	**33.802**	**0.000**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**										**Unable to calculate**		
rupture capacity for member "g47Y" because it has a long and short edge distance of 0. ??															
g48P	Arm1	26.226	L/r 43.230	Net Sect	114	5.00	26.226	0.000	0.000	43.230	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g48Y	Arm1	26.226	L/r 43.230	Net Sect	114	5.00	26.226	0.000	0.000	43.230	0.000	0.000	0.000	0.000	

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0.000             0.000          Automatic
   g49P     Arm1   28.509      L/r   31.410     Shear   97   7.67   28.509     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g49P" because it has a long and short edge distance of 0.  ??
   g49X     Arm1   28.509      L/r   31.410     Shear   97   7.67   28.509     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g49X" because it has a long and short edge distance of 0.  ??
  g49XY     Arm1   28.509      L/r   31.410     Shear   97   7.67   28.509     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g49XY" because it has a long and short edge distance of 0.  ??
   g49Y     Arm1   28.509      L/r   31.410     Shear   97   7.67   28.509     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g49Y" because it has a long and short edge distance of 0.  ??
   g50P     Arm1   26.226      L/r   43.230  Net Sect  114   5.00   26.226      0.000      0.000   43.230   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g50Y     Arm1   26.226      L/r   43.230  Net Sect  114   5.00   26.226      0.000      0.000   43.230   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g51P     Arm1   27.682      L/r   31.410     Shear  103   8.14   27.682     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g51P" because it has a long and short edge distance of 0.  ??
   g51X     Arm1   27.682      L/r   31.410     Shear  103   8.14   27.682     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g51X" because it has a long and short edge distance of 0.  ??
  g51XY     Arm1   27.682      L/r   31.410     Shear  103   8.14   27.682     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g51XY" because it has a long and short edge distance of 0.  ??
   g51Y     Arm1   27.682      L/r   31.410     Shear  103   8.14   27.682     31.410     42.187   33.802   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g51Y" because it has a long and short edge distance of 0.  ??
   g52P     Arm1   26.226      L/r   43.230  Net Sect  114   5.00   26.226      0.000      0.000   43.230   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g52Y     Arm1   26.226      L/r   43.230  Net Sect  114   5.00   26.226      0.000      0.000   43.230   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g53P     Arm2   24.527      L/r   31.410     Shear  132  12.01   24.527     31.410     42.187   37.663   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g53P" because it has a long and short edge distance of 0.  ??
   g53X     Arm2   24.527      L/r   31.410     Shear  132  12.01   24.527     31.410     42.187   37.663   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g53X" because it has a long and short edge distance of 0.  ??
  g53XY     Arm2   24.527      L/r   31.410     Shear  132  12.01   24.527     31.410     42.187   37.663   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g53XY" because it has a long and short edge distance of 0.  ??
   g53Y     Arm2   24.527      L/r   31.410     Shear  132  12.01   24.527     31.410     42.187   37.663   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g53Y" because it has a long and short edge distance of 0.  ??
   g54P     Arm2   29.359      L/r   47.520  Net Sect  110   5.00   29.359      0.000      0.000   47.520   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g54Y     Arm2   29.359      L/r   47.520  Net Sect  110   5.00   29.359      0.000      0.000   47.520   0.000   0.000   0.000   0.000
0.000             0.000          Automatic
   g55P   ArmBR1   10.470    Shear   10.470     Shear  155   6.40   10.714     10.470     10.547   22.961   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g55P" because it has a long and short edge distance of 0.  ??
   g55X   ArmBR1   10.470    Shear   10.470     Shear  155   6.40   10.714     10.470     10.547   22.961   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g55X" because it has a long and short edge distance of 0.  ??
   g56P   ArmBR2    0.054      L/r    7.889  Net Sect 1522   9.15    0.054     10.470     14.062    7.889   0.000   0.000   0.000   0.000
0.000             0.000          Automatic                                                                                      Unable to calculate
rupture capacity for member "g56P" because it has a long and short edge distance of 0.  ??
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   g56X   ArmBR2    0.054       L/r    7.889  Net Sect 1522   9.15    0.054     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic
rupture capacity for member "g56X" because it has a long and short edge distance of 0.  ??
  g56XY   ArmBR2    0.054       L/r    7.889  Net Sect 1522   9.15    0.054     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g56XY" because it has a long and short edge distance of 0.  ??
   g56Y   ArmBR2    0.054       L/r    7.889  Net Sect 1522   9.15    0.054     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g56Y" because it has a long and short edge distance of 0.  ??
   g57P   ArmBR2    0.030       L/r    7.889  Net Sect 2058  12.38    0.030     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g57P" because it has a long and short edge distance of 0.  ??
   g57X   ArmBR2    0.030       L/r    7.889  Net Sect 2058  12.38    0.030     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g57X" because it has a long and short edge distance of 0.  ??
  g57XY   ArmBR2    0.030       L/r    7.889  Net Sect 2058  12.38    0.030     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g57XY" because it has a long and short edge distance of 0.  ??
   g57Y   ArmBR2    0.030       L/r    7.889  Net Sect 2058  12.38    0.030     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g57Y" because it has a long and short edge distance of 0.  ??
   g58P   ArmBR2    0.725       L/r    7.889  Net Sect  416   2.50    0.725     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g58P" because it has a long and short edge distance of 0.  ??
   g58X   ArmBR2    0.725       L/r    7.889  Net Sect  416   2.50    0.725     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g58X" because it has a long and short edge distance of 0.  ??
  g58XY   ArmBR2    0.725       L/r    7.889  Net Sect  416   2.50    0.725     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g58XY" because it has a long and short edge distance of 0.  ??
   g58Y   ArmBR2    0.725       L/r    7.889  Net Sect  416   2.50    0.725     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g58Y" because it has a long and short edge distance of 0.  ??
   g59P   ArmBR2    0.050       L/r    7.889  Net Sect 1588   9.56    0.050     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g59P" because it has a long and short edge distance of 0.  ??
   g59X   ArmBR2    0.050       L/r    7.889  Net Sect 1588   9.56    0.050     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g59X" because it has a long and short edge distance of 0.  ??
  g59XY   ArmBR2    0.050       L/r    7.889  Net Sect 1588   9.56    0.050     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g59XY" because it has a long and short edge distance of 0.  ??
   g59Y   ArmBR2    0.050       L/r    7.889  Net Sect 1588   9.56    0.050     10.470     14.062    7.889    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g59Y" because it has a long and short edge distance of 0.  ??
   g60P    PMBR1   10.195    Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g60P" because it has a long and short edge distance of 0.  ??
   g60X    PMBR1   10.195    Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g60X" because it has a long and short edge distance of 0.  ??
  g60XY    PMBR1   10.195    Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g60XY" because it has a long and short edge distance of 0.  ??
   g60Y    PMBR1   10.195    Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000             0.000          Automatic                                                                                          Unable to calculate
rupture capacity for member "g60Y" because it has a long and short edge distance of 0.  ??
   g61P    PMBR1   10.195    Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
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0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g61P" because it has a long and short edge distance of 0.  ??
   g61X     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g61X" because it has a long and short edge distance of 0.  ??
  g61XY     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g61XY" because it has a long and short edge distance of 0.  ??
   g61Y     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g61Y" because it has a long and short edge distance of 0.  ??
   g62P     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g62P" because it has a long and short edge distance of 0.  ??
   g62X     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g62X" because it has a long and short edge distance of 0.  ??
  g62XY     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g62XY" because it has a long and short edge distance of 0.  ??
   g62Y     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g62Y" because it has a long and short edge distance of 0.  ??
   g63P     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g63P" because it has a long and short edge distance of 0.  ??
   g63X     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g63X" because it has a long and short edge distance of 0.  ??
  g63XY     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g63XY" because it has a long and short edge distance of 0.  ??
   g63Y     PMBR1   10.195   Bearing   10.195   Bearing   86   3.54   21.670     10.470     10.195   25.048    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g63Y" because it has a long and short edge distance of 0.  ??
   g64P     PMBR2   10.470    Shear   10.470    Shear  169   9.76   16.980     10.470     13.594   49.187    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g64P" because it has a long and short edge distance of 0.  ??
   g64X     PMBR2   10.470    Shear   10.470    Shear  169   9.76   16.980     10.470     13.594   49.187    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g64X" because it has a long and short edge distance of 0.  ??
  g64XY     PMBR2   10.470    Shear   10.470    Shear  169   9.76   16.980     10.470     13.594   49.187    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g64XY" because it has a long and short edge distance of 0.  ??
   g64Y     PMBR2   10.470    Shear   10.470    Shear  169   9.76   16.980     10.470     13.594   49.187    0.000    0.000    0.000    0.000
0.000              0.000          Automatic                                                                                  Unable to calculate
rupture capacity for member "g64Y" because it has a long and short edge distance of 0.  ??
   g65P Powermnt  115.298      L/r  729.999  Net Sect   74  27.00  115.298      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000          Automatic
w/t equals 34.00 for member "g65P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g66P Powermnt  113.390      L/r  729.999  Net Sect   88  32.00  113.390      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000          Automatic
w/t equals 34.00 for member "g66P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g67P Powermnt  119.367      L/r  729.999  Net Sect   27  10.00  119.367      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000          Automatic
w/t equals 34.00 for member "g67P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g68P Powermnt  119.082      L/r  729.999  Net Sect   33  12.00  119.082      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000          Automatic
```

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w/t equals 34.00 for member "g68P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g69P Powermnt  119.852       L/r  729.999  Net Sect   14   5.00  119.852      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000           Automatic
w/t equals 34.00 for member "g69P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g70P Powermnt  119.490       L/r  729.999  Net Sect   25   9.00  119.490      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000           Automatic
w/t equals 34.00 for member "g70P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
   g71P Powermnt  119.490       L/r  729.999  Net Sect   25   9.00  119.490      0.000      0.000  729.999    0.000    0.000    0.000    0.000
0.000              0.000           Automatic
w/t equals 34.00 for member "g71P" which exceeds ASCE 10 section 3.7.1 limit of 25.  ??
```

The model contains 237 angle members.

Sum of Unfactored Dead Load and Drag Areas From Equipment, Input and Calculated:

Joint Label	Dead Load (kips)	X-Drag Area (ft^2)	Y-Drag Area (ft^2)
1P	0.0862	4.647	3.059
2P	0.0617	3.479	1.146
3P	0.115	6.231	5.377
4P	0.058	3.764	1.961
5P	0.0657	4.089	4.089
6P	0.0309	2.067	1.285
7P	0.113	6.408	4.695
8P	0.0773	5.196	1.299
9P	0.0835	5.357	5.092
10P	0.118	6.075	5.158
11P	0.0509	3.283	1.440
12P	0.0898	4.476	4.476
13P	0.109	5.559	5.559
14P	0.21	8.854	8.854
15P	0.384	14.948	14.948
16P	0.248	9.854	9.854
17P	0.0572	2.948	2.948
22P	0.223	4.781	4.781
23P	0.446	9.563	9.563
24P	0.369	8.479	8.479
25P	0.443	10.073	10.073
26P	0.567	12.729	12.729
27P	1.06	23.354	23.354
28P	1.58	35.370	35.370
29P	0.669	14.344	14.344
1X	0.0862	4.647	3.059
1XY	0.0862	4.647	3.059
1Y	0.0862	4.647	3.059
2X	0.0617	3.479	1.146
3X	0.115	6.231	5.377
3XY	0.115	6.231	5.377
3Y	0.115	6.231	5.377
4X	0.058	3.764	1.961
5X	0.0657	4.089	4.089
5XY	0.0657	4.089	4.089
5Y	0.0657	4.089	4.089
6X	0.0309	2.067	1.285
6XY	0.0309	2.067	1.285
6Y	0.0309	2.067	1.285
7X	0.113	6.408	4.695

7XY	0.113	6.408	4.695
7Y	0.113	6.408	4.695
8X	0.0773	5.196	1.299
9X	0.0835	5.357	5.092
9XY	0.0835	5.357	5.092
9Y	0.0835	5.357	5.092
10X	0.118	6.075	5.158
10XY	0.118	6.075	5.158
10Y	0.118	6.075	5.158
11X	0.0509	3.283	1.440
12X	0.0898	4.476	4.476
12XY	0.0898	4.476	4.476
12Y	0.0898	4.476	4.476
13X	0.109	5.559	5.559
13XY	0.109	5.559	5.559
13Y	0.109	5.559	5.559
14X	0.21	8.854	8.854
14XY	0.21	8.854	8.854
14Y	0.21	8.854	8.854
15X	0.384	14.948	14.948
15XY	0.384	14.948	14.948
15Y	0.384	14.948	14.948
16X	0.248	9.854	9.854
16XY	0.248	9.854	9.854
16Y	0.248	9.854	9.854
17X	0.0572	2.948	2.948
17XY	0.0572	2.948	2.948
17Y	0.0572	2.948	2.948
18S	0.0277	2.317	1.500
19S	0.024	1.500	1.953
20S	0.0943	6.285	1.262
21S	0.0943	1.262	6.285
18Y	0.0277	2.317	1.500
19X	0.024	1.500	1.953
20Y	0.0943	6.285	1.262
21X	0.0943	1.262	6.285
Total	13.2	498.919	453.959

Unadjusted Dead Load and Drag Areas by Section:

Section Label	Unfactored Dead Load (kips)	X-Drag Area All (ft^2)	Y-Drag Area All (ft^2)	X-Drag Area Face (ft^2)	Y-Drag Area Face (ft^2)
1	5.203	223.043	178.083	120.137	88.094
2	1.292	63.588	63.588	24.850	24.850
3	6.669	212.288	212.288	120.189	120.189
Total	13.164	498.919	453.959	265.175	233.133

Angle Member Weights and Surface Areas by Section:

Section Label	Unfactored Weight (kips)	Factored Weight (kips)	Unfactored Surface Area (ft^2)	Factored Surface Area (ft^2)
1	5.203	5.203	878.388	878.388
2	1.292	1.292	287.969	287.969
3	6.669	7.336	962.726	1058.999
Total	13.164	13.831	2129.083	2225.356

Section Joint Information:

Section Label	Joint Label	Joint Elevation (ft)
1	1P	86.000
1	3P	81.000
1	1X	86.000
1	3X	81.000
1	1XY	86.000
1	3XY	81.000
1	1Y	86.000
1	3Y	81.000
1	5P	75.000
1	5X	75.000
1	5XY	75.000
1	5Y	75.000
1	6P	72.000
1	6X	72.000
1	6XY	72.000
1	6Y	72.000
1	7P	69.000
1	7X	69.000
1	7XY	69.000
1	7Y	69.000
1	9P	64.000
1	9X	64.000
1	9XY	64.000
1	9Y	64.000
1	10P	59.000
1	10X	59.000
1	10XY	59.000
1	10Y	59.000
1	18S	72.000
1	18Y	72.000
1	19X	72.000
1	19S	72.000
1	2P	86.000
1	2X	86.000
1	4P	81.000
1	4X	81.000
1	11P	59.000
1	11X	59.000
1	8P	69.000
1	8X	69.000
1	24P	86.000
1	25P	81.000
1	26P	69.000
1	27P	59.000
1	23P	95.000
1	22P	104.000
2	10P	59.000
2	12P	54.047
2	10X	59.000
2	12X	54.047
2	10XY	59.000
2	12XY	54.047

2	10Y	59.000
2	12Y	54.047
2	13P	48.105
2	13X	48.105
2	13XY	48.105
2	13Y	48.105
2	14P	41.500
2	14X	41.500
2	14XY	41.500
2	14Y	41.500
3	14P	41.500
3	15P	27.000
3	14X	41.500
3	15X	27.000
3	14XY	41.500
3	15XY	27.000
3	14Y	41.500
3	15Y	27.000
3	16P	5.000
3	16X	5.000
3	16XY	5.000
3	16Y	5.000
3	17P	0.000
3	17X	0.000
3	17XY	0.000
3	17Y	0.000
3	20S	5.000
3	20Y	5.000
3	21X	5.000
3	21S	5.000
3	28P	27.000
3	29P	0.000
3	27P	59.000

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)
1	104.000	59.000	46	143	0.00	5.00	157.500	0.00	20.50	425.250
2	59.000	41.500	16	40	5.00	9.81	129.882	5.00	9.81	129.882
3	41.500	0.000	23	54	9.81	21.39	646.560	9.81	21.39	646.560

*** Insulator Data

Clamp Properties:

Label	Stock Number	Holding Capacity (lbs)
clamp-prop#1		3e+004

Clamp Insulator Connectivity:

Clamp Label	Structure And Tip Attach	Property Set	Min. Required Vertical Load (uplift)

			(lbs)
1	2P	clamp-prop#1	No Limit
2	2X	clamp-prop#1	No Limit
3	4P	clamp-prop#1	No Limit
4	4X	clamp-prop#1	No Limit
5	8P	clamp-prop#1	No Limit
6	8X	clamp-prop#1	No Limit
7	11P	clamp-prop#1	No Limit
8	11X	clamp-prop#1	No Limit
14	16P	clamp-prop#1	No Limit
15	15P	clamp-prop#1	No Limit
16	14P	clamp-prop#1	No Limit
17	10P	clamp-prop#1	No Limit
18	7P	clamp-prop#1	No Limit
19	3X	clamp-prop#1	No Limit
20	1P	clamp-prop#1	No Limit
21	3P	clamp-prop#1	No Limit
22	1X	clamp-prop#1	No Limit
23	1XY	clamp-prop#1	No Limit
24	3XY	clamp-prop#1	No Limit
25	23P	clamp-prop#1	No Limit
26	24P	clamp-prop#1	No Limit
27	25P	clamp-prop#1	No Limit
28	26P	clamp-prop#1	No Limit
29	27P	clamp-prop#1	No Limit
30	28P	clamp-prop#1	No Limit
31	22P	clamp-prop#1	No Limit

*** Loads Data

Loads from file: j:\jobs\1210100.wi\co4 - ct5145 - fairfield\calcs\pls\876 w_ powermnt.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)	104.00 (ft)	
Structure height	104.00 (ft)	
Structure height above ground	104.00 (ft)	
Tower Shape	Rectangular	

Vector Load Cases:

Load Case Description	Dead Load Factor	Wind Area Factor	SF for Steel Poles Tubular Arms and Towers	SF for Guys and Cables	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)	Joint Displ.
NESC Heavy	1.5000	2.5000	1.00000	1.0000	1.0000	1.0000	34 loads	Wind on Face	4	0	0.000	56.000	0.0	
Extreme Wind	1.0000	1.0000	1.00000	1.0000	1.0000	1.0000	34 loads	NESC 2007	31	0	0.000	56.000	0.0	

Point Loads for Load Case "NESC Heavy":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
2X	1362	821	0	Shield Wire
2P	2299	1067	0	Shield Wire
4P	2882	1179	0	Conductor
4X	2882	1179	0	Conductor
8P	2882	1179	0	Conductor
8X	2882	1179	0	Conductor
11P	2882	1179	0	Conductor
11X	2882	1179	0	Conductor
1P	72	18	0	AT&T
3P	72	18	0	AT&T
1X	72	18	0	AT&T
3X	72	18	0	AT&T
1XY	72	18	0	AT&T
3XY	72	18	0	AT&T
3P	138	56	0	AT&T Coax
7P	253	102	0	AT&T Coax
10P	310	125	0	AT&T Coax
14P	368	148	0	AT&T Coax
15P	425	171	0	AT&T Coax
16P	368	148	0	AT&T Coax
23P	47	0	0	Sprint Coax
24P	66	0	0	Sprint Coax

25P	80	0	0	Sprint Coax
26P	103	0	0	Sprint Coax
27P	197	0	0	Sprint Coax
28P	402	0	0	Sprint Coax
23P	258	27	0	T-Mobile Coax
24P	361	38	0	T-Mobile Coax
25P	439	46	0	T-Mobile Coax
26P	568	60	0	T-Mobile Coax
27P	1084	115	0	T-Mobile Coax
28P	2220	235	0	T-Mobile Coax
22P	6708	542	0	Sprint
23P	1518	610	0	T-Mobile

Section Load Case Information (Standard) for "NESC Heavy":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
1	104.00	59.00	81.50	10.00	10.00	3.200	2819.0	0.00	3.200	0.0	0	7805
2	59.00	41.50	50.25	10.00	10.00	3.200	795.2	0.00	3.200	0.0	0	1938
3	41.50	0.00	20.75	10.00	10.00	3.200	3846.0	0.00	3.200	0.0	0	11004

Point Loads for Load Case "Extreme Wind":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
2X	343	483	0	Shield Wire
2P	709	1042	0	Shield Wire
4P	1024	1304	0	Conductor
4X	1024	1304	0	Conductor
8P	1024	1304	0	Conductor
8X	1024	1304	0	Conductor
11P	1024	1304	0	Conductor
11X	1024	1304	0	Conductor
1P	30	68	0	AT&T
3P	30	68	0	AT&T
1X	30	68	0	AT&T
3X	30	68	0	AT&T
1XY	30	68	0	AT&T
3XY	30	68	0	AT&T
3P	37	163	0	AT&T Coax
7P	69	300	0	AT&T Coax
10P	84	368	0	AT&T Coax
14P	100	436	0	AT&T Coax
15P	115	504	0	AT&T Coax
16P	100	436	0	AT&T Coax
23P	31	0	0	Sprint Coax
24P	44	0	0	Sprint Coax
25P	53	0	0	Sprint Coax
26P	69	0	0	Sprint Coax
27P	131	0	0	Sprint Coax
28P	268	0	0	Sprint Coax
23P	59	71	0	T-Mobile Coax
24P	83	100	0	T-Mobile Coax

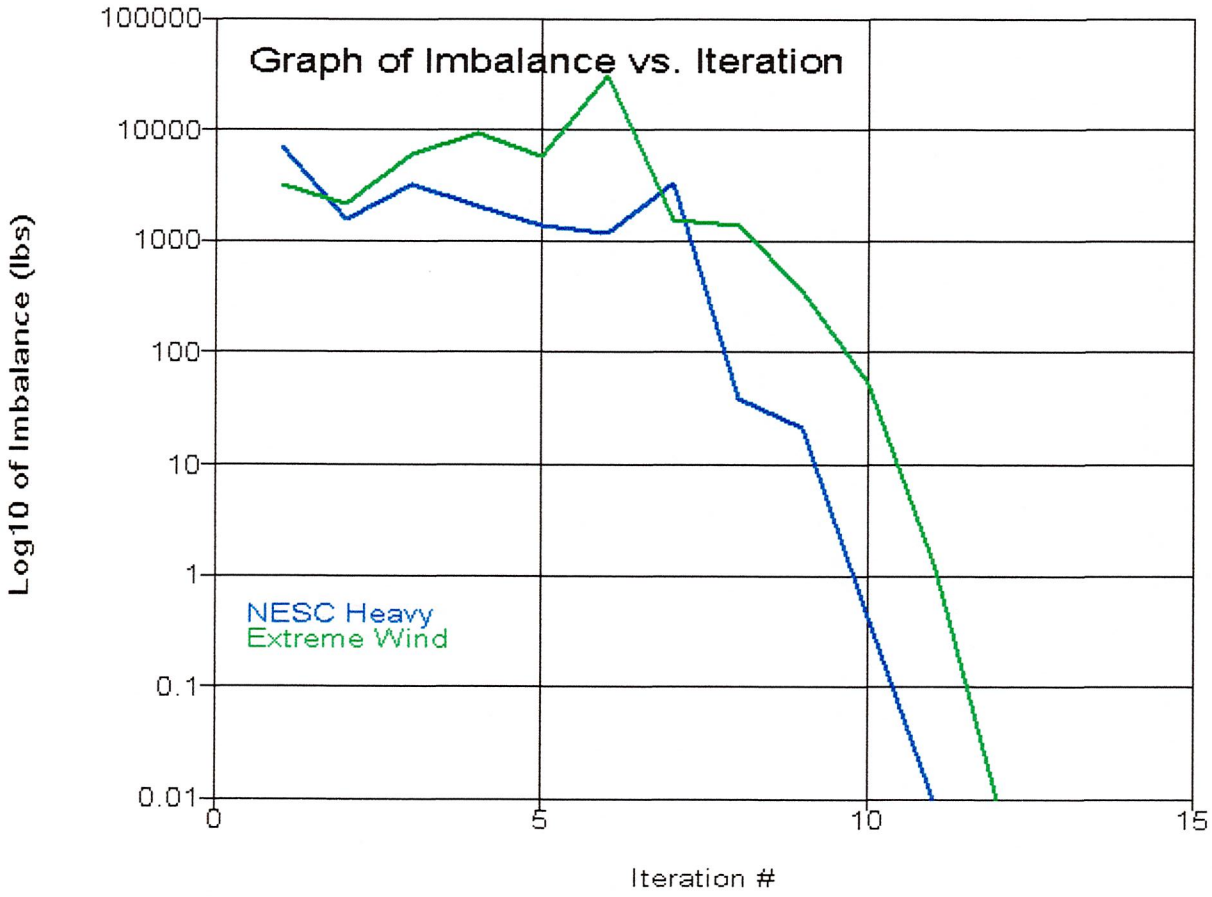
25P	101	121	0	T-Mobile Coax
26P	131	156	0	T-Mobile Coax
27P	249	299	0	T-Mobile Coax
28P	511	611	0	T-Mobile Coax
22P	3071	2024	0	Sprint
23P	664	2352	0	T-Mobile

Section Load Case Information (Code) for "Extreme Wind":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Angle Face Area (ft^2)	Tran Gross Area (ft^2)	Tran Soli-dity Ratio	Tran Angle Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Angle Face Area (ft^2)	Long Gross Area (ft^2)	Long Soli-dity Ratio	Long Angle Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
1	104.00	59.00	81.50	31.51	31.51	88.09	157.50	0.559	3.200	8883.1	0.00	120.14	425.25	0.283	3.200	0.0	0	5203
2	59.00	41.50	50.25	31.51	31.51	24.85	129.88	0.191	3.200	2505.8	0.00	24.85	129.88	0.191	3.200	0.0	0	1292
3	41.50	0.00	20.75	31.51	31.51	132.21	646.56	0.204	3.200	13331.5	0.00	132.21	646.56	0.204	3.200	0.0	0	7336

*** Analysis Results:

Maximum element usage is 97.92% for Angle "g11X" in load case "Extreme Wind"
Maximum insulator usage is 23.59% for Clamp "31" in load case "NESC Heavy"



Angle Forces For All Load Cases:
Positive for tension - negative for compression

Group Label	Angle Label	Max. Usage For All LC %	Max. Tens. For All LC (kips)	Max. Comp. For All LC (kips)	LC 1 (kips)	LC 2 (kips)
LEG1	g1P	5.71	3.653	-0.956	-0.956	3.653
LEG1	g1X	9.99	0.000	-5.343	-3.390	-5.343
LEG1	g1XY	9.96	0.000	-5.330	-3.359	-5.330
LEG1	g1Y	5.72	3.659	-0.925	-0.925	3.659

LEG1	g2P	21.48	13.751	0.000	3.350	13.751
LEG1	g2X	25.47	0.000	-12.448	-6.901	-12.448
LEG1	g2XY	25.36	0.000	-12.398	-6.800	-12.398
LEG1	g2Y	21.66	13.865	0.000	3.545	13.865
LEG1	g3P	28.19	18.050	0.000	5.687	18.050
LEG1	g3X	38.34	0.000	-23.093	-11.618	-23.093
LEG1	g3XY	38.28	0.000	-23.056	-11.463	-23.056
LEG1	g3Y	28.47	18.226	0.000	5.841	18.226
LEG1	g4P	27.15	17.379	0.000	4.145	17.379
LEG1	g4X	39.44	0.000	-23.756	-13.155	-23.756
LEG1	g4XY	39.39	0.000	-23.724	-13.002	-23.724
LEG1	g4Y	27.42	17.556	0.000	4.298	17.556
LEG1	g5P	43.68	27.963	0.000	8.525	27.963
LEG1	g5X	60.48	0.000	-32.363	-19.322	-32.363
LEG1	g5XY	61.38	0.000	-32.844	-19.300	-32.844
LEG1	g5Y	44.78	28.671	0.000	9.032	28.671
LEG1	g6P	65.26	34.378	0.000	11.137	34.378
LEG1	g6X	74.95	0.000	-40.103	-24.590	-40.103
LEG1	g6XY	77.90	0.000	-41.683	-24.913	-41.683
LEG1	g6Y	68.49	36.077	0.000	11.938	36.077
LEG2	g7P	50.86	40.282	0.000	15.063	40.282
LEG2	g7X	68.23	0.000	-44.906	-26.962	-44.906
LEG2	g7XY	70.95	0.000	-46.699	-27.316	-46.699
LEG2	g7Y	53.23	42.155	0.000	16.124	42.155
LEG2	g8P	54.76	43.368	0.000	16.706	43.368
LEG2	g8X	82.88	0.000	-49.667	-30.408	-49.667
LEG2	g8XY	84.47	0.000	-50.620	-30.476	-50.620
LEG2	g8Y	56.35	44.626	0.000	17.398	44.626
LEG2	g9P	66.65	43.239	0.000	17.191	43.239
LEG2	g9X	87.72	0.000	-48.635	-30.181	-48.635
LEG2	g9XY	88.58	0.000	-49.111	-30.078	-49.111
LEG2	g9Y	67.67	43.904	0.000	17.573	43.904
LEG3	g10P	51.04	39.486	0.000	16.978	39.486
LEG3	g10X	90.02	0.000	-53.979	-31.427	-53.979
LEG3	g10XY	88.80	0.000	-53.247	-31.116	-53.247
LEG3	g10Y	51.74	40.025	0.000	17.230	40.025
LEG3	g11P	55.27	42.759	0.000	16.165	42.759
LEG3	g11X	97.92	0.000	-58.566	-35.804	-58.566
LEG3	g11XY	94.59	0.000	-56.573	-34.668	-56.573
LEG3	g11Y	54.74	42.347	0.000	16.460	42.347
LEG2	g12P	77.62	50.465	0.000	18.997	50.465
LEG2	g12X	89.63	0.000	-58.759	-36.183	-58.759
LEG2	g12XY	86.59	0.000	-56.768	-35.047	-56.768
LEG2	g12Y	75.11	48.835	0.000	18.970	48.835
XBR1	g13P	58.57	0.000	-6.770	-2.483	-6.770
XBR1	g13X	43.53	6.349	0.000	1.722	6.349
XBR1	g13XY	43.48	6.341	0.000	1.702	6.341
XBR1	g13Y	58.22	0.000	-6.729	-2.445	-6.729
XBR1	g14P	2.98	0.000	-0.257	-0.257	-0.200
XBR1	g14X	3.26	0.476	0.000	0.028	0.476
XBR1	g14XY	3.19	0.465	0.000	0.044	0.465
XBR1	g14Y	3.22	0.000	-0.278	-0.278	-0.209
XBR2	g15P	25.82	0.000	-4.461	-2.409	-4.461
XBR2	g15X	23.17	5.306	0.000	3.012	5.306
XBR2	g15XY	22.84	5.230	0.000	2.971	5.230
XBR2	g15Y	25.42	0.000	-4.391	-2.367	-4.391
XBR2	g16P	21.53	0.000	-2.635	-1.176	-2.635
XBR2	g16X	19.84	0.000	-2.429	-1.881	-2.429
XBR2	g16XY	20.82	0.000	-2.549	-1.897	-2.549

XBR2 g16Y	20.89	0.000	-2.557	-1.171	-2.557
XBR3 g17P	32.05	0.000	-5.530	-3.060	-5.530
XBR3 g17X	20.46	4.685	0.000	2.428	4.685
XBR3 g17XY	20.17	4.620	0.000	2.389	4.620
XBR3 g17Y	31.56	0.000	-5.445	-3.013	-5.445
XBR3 g18P	8.77	2.009	0.000	0.006	2.009
XBR3 g18X	11.10	2.542	0.000	1.004	2.542
XBR3 g18XY	10.57	2.421	0.000	0.987	2.421
XBR3 g18Y	9.10	2.084	0.000	0.011	2.084
XBR3 g19P	22.91	5.248	0.000	2.505	5.248
XBR3 g19X	36.19	0.000	-6.245	-3.196	-6.245
XBR3 g19XY	35.83	0.000	-6.183	-3.155	-6.183
XBR3 g19Y	22.73	5.205	0.000	2.473	5.205
XBR3 g20P	8.78	2.011	-0.013	-0.013	2.011
XBR3 g20X	10.26	2.350	0.000	0.965	2.350
XBR3 g20XY	10.79	2.472	0.000	0.982	2.472
XBR3 g20Y	8.46	1.936	-0.017	-0.017	1.936
XBR2 g21P	30.62	0.000	-5.814	-2.097	-5.814
XBR2 g21X	30.44	6.970	0.000	4.891	6.970
XBR2 g21XY	31.22	7.150	0.000	4.953	7.150
XBR2 g21Y	31.31	0.000	-5.945	-2.121	-5.945
XBR2 g22P	2.35	0.539	0.000	0.277	0.539
XBR2 g22X	6.73	0.000	-0.941	-0.678	-0.941
XBR2 g22XY	9.85	0.000	-1.378	-0.813	-1.378
XBR2 g22Y	4.69	1.074	0.000	0.442	1.074
XBR2 g23P	32.07	0.000	-6.089	-2.147	-6.089
XBR2 g23X	30.77	7.048	0.000	4.969	7.048
XBR2 g23XY	32.07	7.345	0.000	5.075	7.345
XBR2 g23Y	33.68	0.000	-6.395	-2.225	-6.395
XBR2 g24P	12.33	0.000	-1.725	-1.397	-1.725
XBR2 g24X	6.94	1.588	0.000	0.254	1.588
XBR2 g24XY	5.20	1.191	0.000	0.126	1.191
XBR2 g24Y	9.00	0.000	-1.259	-1.259	-1.249
XBR4 g25P	12.13	0.000	-1.520	-1.520	-1.335
XBR4 g25X	3.27	0.498	0.000	0.423	0.498
XBR4 g25XY	1.52	0.231	0.000	0.231	0.030
XBR4 g25Y	11.83	0.000	-1.285	-1.285	-0.737
XBR4 g26P	24.11	0.000	-2.619	-1.428	-2.619
XBR4 g26X	13.97	2.129	0.000	0.883	2.129
XBR4 g26XY	14.37	2.191	0.000	1.005	2.191
XBR4 g26Y	25.03	0.000	-2.719	-1.433	-2.719
XBR5 g27P	5.24	0.000	-0.611	-0.581	-0.611
XBR5 g27X	5.68	1.064	0.000	1.019	1.064
XBR5 g27XY	4.44	0.833	0.000	0.833	0.581
XBR5 g27Y	3.68	0.000	-0.429	-0.429	-0.252
XBR5 g28P	10.40	1.950	0.000	1.022	1.950
XBR5 g28X	16.68	0.000	-1.483	-0.703	-1.483
XBR5 g28XY	16.14	0.000	-1.434	-0.608	-1.434
XBR5 g28Y	9.83	1.842	0.000	1.009	1.842
XBR5 g29P	14.48	0.000	-1.277	-1.012	-1.277
XBR5 g29X	4.19	0.786	0.000	0.549	0.786
XBR5 g29XY	2.76	0.517	0.000	0.433	0.517
XBR5 g29Y	10.16	0.000	-0.896	-0.872	-0.896
XBR5 g30P	18.09	0.000	-1.250	-0.696	-1.250
XBR5 g30X	4.58	0.858	0.000	0.344	0.858
XBR5 g30XY	4.75	0.891	0.000	0.416	0.891
XBR5 g30Y	18.15	0.000	-1.254	-0.681	-1.254
XBR6 g31P	94.93	0.000	-2.142	-2.142	0.000
XBR6 g31X	22.58	4.300	-0.170	-0.170	4.300

XBR6 g31XY	16.00	3.046	-0.344	-0.344	3.046
XBR6 g31Y	79.19	0.000	-1.787	-1.787	0.000
XBR6 g32P	0.00	0.000	0.000	0.000	0.000
XBR6 g32X	28.67	5.458	0.000	2.257	5.458
XBR6 g32XY	28.96	5.514	0.000	2.400	5.514
XBR6 g32Y	0.00	0.000	-0.000	0.000	-0.000
XBR7 g33P	0.00	0.000	0.000	0.000	0.000
XBR7 g33X	35.98	5.248	0.000	2.517	5.248
XBR7 g33XY	24.95	3.640	0.000	1.824	3.640
XBR7 g33Y	0.00	0.000	0.000	0.000	0.000
XBR7 g34P	0.00	0.000	0.000	0.000	0.000
XBR7 g34X	34.54	5.038	0.000	1.888	5.038
XBR7 g34XY	34.77	5.072	0.000	2.058	5.072
XBR7 g34Y	0.00	0.000	0.000	0.000	0.000
XBR3 g35P	35.69	2.754	0.000	0.887	2.754
XBR3 g35X	35.52	0.000	-3.503	-1.271	-3.503
XBR3 g35XY	28.59	0.000	-2.820	-0.973	-2.820
XBR3 g35Y	26.92	2.077	0.000	0.592	2.077
XBR3 g36P	6.03	0.000	-0.595	-0.215	-0.595
XBR3 g36X	1.14	0.000	-0.113	-0.026	-0.113
XBR3 g36XY	1.75	0.000	-0.173	-0.173	-0.153
XBR3 g36Y	5.83	0.000	-0.574	-0.213	-0.574
HBR1 g37P	83.46	0.000	-4.840	-3.116	-4.840
HBR1 g37X	47.87	3.694	0.000	0.092	3.694
HBR1 g38P	56.86	4.388	0.000	3.862	4.388
HBR1 g38X	18.95	0.995	-1.099	0.995	-1.099
HBR1 g39P	13.58	1.048	0.000	1.048	0.005
HBR1 g39X	18.78	0.916	-1.089	0.916	-1.089
HBR1 g40P	33.86	2.613	0.000	1.862	2.613
HBR1 g40X	36.44	0.000	-2.113	-0.256	-2.113
HBR2 g41P	44.03	0.000	-4.610	-2.007	-4.610
HBR2 g41X	9.60	0.741	0.000	0.392	0.741
HBR2 g42P	16.33	0.724	-1.709	0.724	-1.709
HBR2 g42Y	10.29	0.747	-1.078	0.747	-1.078
HBR3 g43P	48.25	0.000	-5.052	-2.405	-5.052
HBR3 g43X	12.86	1.346	0.000	0.467	1.346
HBR3 g44P	18.29	0.000	-1.915	-0.231	-1.915
HBR3 g44Y	7.34	0.075	-0.769	0.075	-0.769
HBR4 g45P	40.00	0.000	-4.188	-1.952	-4.188
HBR4 g45X	8.51	0.891	-0.001	-0.001	0.891
HBR4 g45XY	8.62	0.902	0.000	0.001	0.902
HBR4 g45Y	28.14	0.000	-2.946	-1.414	-2.946
HBR4 g46P	26.43	0.000	-2.768	-1.205	-2.768
HBR4 g46X	1.84	0.193	0.000	0.033	0.193
HBR4 g46XY	1.67	0.175	0.000	0.031	0.175
HBR4 g46Y	26.09	0.000	-2.732	-1.072	-2.732
Arm1 g47P	1.62	0.401	-0.310	0.401	-0.310
Arm1 g47X	3.23	1.015	0.000	1.015	0.531
Arm1 g47XY	3.24	1.017	0.000	1.017	0.533
Arm1 g47Y	1.58	0.405	-0.302	0.405	-0.302
Arm1 g48P	9.76	4.220	0.000	4.220	1.476
Arm1 g48Y	9.78	4.227	0.000	4.227	1.502
Arm1 g49P	20.16	0.000	-5.748	-5.748	-2.619
Arm1 g49X	11.72	0.000	-3.342	-3.342	-0.582
Arm1 g49XY	11.71	0.000	-3.338	-3.338	-0.580
Arm1 g49Y	20.17	0.000	-5.751	-5.751	-2.617
Arm1 g50P	17.15	0.000	-4.499	-4.499	-2.101
Arm1 g50Y	17.04	0.000	-4.470	-4.470	-1.999
Arm1 g51P	11.06	0.000	-3.061	-3.061	-1.775

Arm1	g51X	6.24	0.000	-1.728	-1.728	-0.039
Arm1	g51XY	6.46	0.000	-1.788	-1.788	-0.165
Arm1	g51Y	10.99	0.000	-3.043	-3.043	-1.673
Arm1	g52P	12.60	0.000	-3.304	-3.304	-1.252
Arm1	g52Y	12.40	0.000	-3.253	-3.253	-1.182
Arm2	g53P	26.69	0.000	-6.547	-6.547	-3.005
Arm2	g53X	21.55	0.000	-5.285	-5.285	-1.431
Arm2	g53XY	21.56	0.000	-5.288	-5.288	-1.444
Arm2	g53Y	26.68	0.000	-6.544	-6.544	-2.990
Arm2	g54P	19.40	0.000	-5.695	-5.695	-1.741
Arm2	g54Y	19.23	0.000	-5.645	-5.645	-1.564
ArmBR1	g55P	29.09	0.000	-3.046	-3.046	-1.036
ArmBR1	g55X	17.65	0.000	-1.848	-1.848	-0.571
ArmBR2	g56P	61.72	4.869	0.000	4.869	1.762
ArmBR2	g56X	50.91	4.016	0.000	4.016	1.420
ArmBR2	g56XY	50.88	4.014	0.000	4.014	1.422
ArmBR2	g56Y	61.81	4.876	0.000	4.876	1.768
ArmBR2	g57P	77.33	6.101	0.000	6.101	2.299
ArmBR2	g57X	77.05	6.079	0.000	6.079	2.266
ArmBR2	g57XY	77.14	6.085	0.000	6.085	2.287
ArmBR2	g57Y	77.34	6.101	0.000	6.101	2.294
ArmBR2	g58P	69.99	5.522	0.000	5.522	1.805
ArmBR2	g58X	71.70	5.657	0.000	5.657	2.429
ArmBR2	g58XY	71.77	5.662	0.000	5.662	2.450
ArmBR2	g58Y	69.96	5.519	0.000	5.519	1.798
ArmBR2	g59P	35.87	2.830	0.000	2.830	1.152
ArmBR2	g59X	35.01	2.762	0.000	2.762	0.971
ArmBR2	g59XY	35.92	2.834	0.000	2.834	1.124
ArmBR2	g59Y	35.65	2.812	0.000	2.812	1.040
PMBR1	g60P	58.92	6.007	0.000	2.486	6.007
PMBR1	g60X	56.80	0.000	-5.791	-1.738	-5.791
PMBR1	g60XY	56.84	0.000	-5.795	-1.721	-5.795
PMBR1	g60Y	59.11	6.027	0.000	2.471	6.027
PMBR1	g61P	35.32	0.000	-3.601	-1.192	-3.601
PMBR1	g61X	45.17	4.606	0.000	1.674	4.606
PMBR1	g61XY	44.22	4.509	0.000	1.643	4.509
PMBR1	g61Y	34.25	0.000	-3.492	-1.156	-3.492
PMBR1	g62P	11.58	0.000	-1.181	-1.077	-1.181
PMBR1	g62X	9.72	0.000	-0.991	-0.991	-0.543
PMBR1	g62XY	11.36	0.000	-1.158	-1.158	-1.029
PMBR1	g62Y	9.34	0.000	-0.952	-0.952	-0.841
PMBR1	g63P	6.67	0.680	0.000	0.056	0.680
PMBR1	g63X	11.85	0.000	-1.208	-1.144	-1.208
PMBR1	g63XY	10.52	0.000	-1.073	-1.073	-0.996
PMBR1	g63Y	6.08	0.620	0.000	0.028	0.620
PMBR2	g64P	18.53	0.000	-1.940	-0.417	-1.940
PMBR2	g64X	20.98	0.000	-2.197	-0.945	-2.197
PMBR2	g64XY	20.94	0.000	-2.192	-0.935	-2.192
PMBR2	g64Y	18.23	0.000	-1.909	-0.399	-1.909
Powermnt	g65P	20.24	0.000	-23.334	-23.334	-8.402
Powermnt	g66P	15.95	0.000	-18.086	-18.086	-7.278
Powermnt	g67P	12.36	0.000	-14.755	-14.755	-6.130
Powermnt	g68P	10.61	0.000	-12.637	-12.637	-5.353
Powermnt	g69P	9.14	0.000	-10.955	-10.955	-4.707
Powermnt	g70P	7.97	0.000	-9.522	-9.522	-3.965
Powermnt	g71P	5.89	0.000	-7.036	-7.036	-3.135

Moments for Angles Modeled as Beams For All Load Cases

Load Case	Angle Label	Torsion (ft-lbs)	Origin X Moment (ft-lbs)	Origin Y Moment (ft-lbs)	End X Moment (ft-lbs)	End Y Moment (ft-lbs)	X Shear (lbs)	Y Shear (lbs)
NESC Heavy	g1P	-19.22	-203.31	-184.52	-171.41	-128.40	-74.94	-62.59
NESC Heavy	g1X	-6.58	64.90	-60.74	26.71	64.59	18.32	0.77
NESC Heavy	g1XY	6.77	66.10	61.54	28.45	-63.29	18.91	-0.35
NESC Heavy	g1Y	19.34	-203.04	184.71	-172.16	128.61	-75.04	62.67
NESC Heavy	g2P	1.59	-100.35	-17.99	-9.12	-343.14	-18.24	-60.18
NESC Heavy	g2X	2.23	128.21	-215.62	4.50	-604.01	22.12	-136.62
NESC Heavy	g2XY	-1.95	126.76	214.82	1.57	604.29	21.39	136.54
NESC Heavy	g2Y	-1.37	-98.17	18.19	-5.88	344.30	-17.34	60.41
NESC Heavy	g3P	1.62	9.12	343.14	-305.09	1185.90	-98.64	509.63
NESC Heavy	g3X	2.29	-4.50	604.01	110.98	1269.31	35.51	624.57
NESC Heavy	g3XY	-2.01	-1.56	-604.29	112.49	-1268.72	36.99	-624.46
NESC Heavy	g3Y	-1.40	5.88	-344.30	-308.13	-1185.05	-100.74	-509.73
NESC Heavy	g4P	1.35	305.09	-1185.90	49.88	-928.09	118.31	-704.61
NESC Heavy	g4X	2.29	-110.99	-1269.31	-117.55	-650.64	-76.20	-640.13
NESC Heavy	g4XY	-2.01	-112.49	1268.72	-115.04	653.83	-75.87	641.00
NESC Heavy	g4Y	-1.13	308.13	1185.05	50.03	928.06	119.38	704.32
NESC Heavy	g5P	5.45	-445.62	711.28	-328.30	350.38	-154.76	212.31
NESC Heavy	g5X	-4.18	429.21	410.07	187.31	-55.63	123.35	70.91
NESC Heavy	g5XY	4.75	427.03	-413.67	184.78	54.53	122.40	-71.85
NESC Heavy	g5Y	-4.71	-444.29	-710.16	-325.64	-347.76	-153.96	-211.55
NESC Heavy	g6P	5.21	328.30	-350.39	-14.19	-278.11	62.81	-125.67
NESC Heavy	g6X	-4.05	-187.31	55.63	-258.11	135.91	-89.13	38.32
NESC Heavy	g6XY	4.63	-184.78	-54.53	-264.05	-140.54	-89.81	-39.03
NESC Heavy	g6Y	-4.47	325.64	347.76	-25.11	286.90	60.09	126.90
NESC Heavy	g7P	11.16	28.42	196.43	-43.09	190.74	-2.90	76.69
NESC Heavy	g7X	10.84	-404.72	-127.20	-66.26	30.38	-93.35	-19.19
NESC Heavy	g7XY	-6.67	-416.96	131.94	-71.18	-34.94	-96.75	19.23
NESC Heavy	g7Y	-6.61	48.65	-190.46	-41.98	-187.36	1.32	-74.84
NESC Heavy	g8P	11.14	43.08	-190.74	-45.41	-0.30	-0.38	-31.53
NESC Heavy	g8X	10.88	66.25	-30.38	24.82	99.25	15.05	11.38
NESC Heavy	g8XY	-6.71	71.17	34.94	43.53	-84.04	18.95	-8.11
NESC Heavy	g8Y	-6.58	41.98	187.36	-46.57	0.42	-0.76	31.00
NESC Heavy	g9P	11.15	45.41	0.24	-35.01	50.88	1.55	7.60
NESC Heavy	g9X	10.40	-24.83	-99.30	101.43	-16.17	11.40	-17.18
NESC Heavy	g9XY	-6.30	-43.53	84.07	36.35	-43.13	-1.07	6.09
NESC Heavy	g9Y	-6.60	46.57	-0.39	-39.05	-50.33	1.12	-7.54
NESC Heavy	g10P	17.03	35.84	-50.71	-32.54	0.12	0.22	-3.42
NESC Heavy	g10X	10.22	-107.10	18.03	-43.33	22.31	-10.19	2.73
NESC Heavy	g10XY	-0.76	-29.73	52.63	14.26	11.38	-1.05	4.34
NESC Heavy	g10Y	-6.04	38.52	51.22	-30.80	0.54	0.52	3.50
NESC Heavy	g11P	71.02	-24.95	21.52	-35.95	67.32	-2.71	3.96
NESC Heavy	g11X	0.22	2.87	13.43	45.60	73.01	2.16	3.86
NESC Heavy	g11XY	9.10	8.67	-2.09	59.53	-49.18	3.04	-2.29
NESC Heavy	g11Y	-61.56	-11.04	-11.72	-28.10	-59.73	-1.74	-3.19
NESC Heavy	g12P	-266.46	132.98	-21.77	7.07	22.23	27.47	0.09
NESC Heavy	g12X	38.92	-100.22	-30.83	-60.55	17.05	-31.57	-2.70
NESC Heavy	g12XY	-35.00	-113.25	16.66	-74.83	-15.20	-36.93	0.28
NESC Heavy	g12Y	270.86	139.36	22.53	32.27	-12.29	33.67	1.99
NESC Heavy	g37P	0.01	1.89	-1.38	-1.85	2.39	0.01	0.20
NESC Heavy	g37X	0.01	3.37	-0.14	-3.15	1.12	0.04	0.20
NESC Heavy	g38P	-0.01	-1.40	1.53	1.51	-0.62	0.02	0.18
NESC Heavy	g38X	0.02	-4.03	0.84	4.21	0.06	0.03	0.18
NESC Heavy	g39P	-0.02	-17.18	1.00	17.42	-0.13	0.05	0.17
NESC Heavy	g39X	0.01	-21.98	0.04	21.91	0.80	-0.02	0.17

NESC	Heavy	g40P	-0.18	0.11	-0.47	-0.10	1.47	0.00	0.20
NESC	Heavy	g40X	-0.19	0.73	1.55	-0.64	-0.43	0.02	0.23
NESC	Heavy	g41P	-0.44	0.32	0.72	0.12	4.33	0.04	0.51
NESC	Heavy	g41X	-0.35	-5.68	3.30	-9.75	0.93	-1.57	0.43
NESC	Heavy	g42P	0.40	1.71	-6.38	3.09	-3.54	0.49	-1.01
NESC	Heavy	g42Y	-0.78	-0.27	-5.19	0.81	-8.32	0.05	-1.38
NESC	Heavy	g43P	-0.45	2.72	-6.10	-3.05	7.70	-0.02	0.12
NESC	Heavy	g43X	-1.36	-21.92	0.03	-16.80	-0.71	-2.80	-0.05
NESC	Heavy	g44P	-3.48	-9.64	-10.46	-18.38	-3.73	-2.03	-1.03
NESC	Heavy	g44Y	-0.06	-4.86	11.49	-10.71	3.67	-1.13	1.10
NESC	Heavy	g45P	7.31	-8.57	-173.27	-21.43	-17.96	-3.00	-19.12
NESC	Heavy	g45X	7.33	-15.37	8.47	-21.43	17.96	-3.68	2.64
NESC	Heavy	g45XY	-7.67	-20.71	-5.83	-18.48	-17.80	-3.92	-2.36
NESC	Heavy	g45Y	-7.66	5.66	176.07	-18.48	17.80	-1.28	19.39
NESC	Heavy	g46P	-0.69	153.61	495.46	212.91	625.03	36.65	112.05
NESC	Heavy	g46X	-0.71	-69.91	-54.77	-61.01	-71.35	-13.09	-12.61
NESC	Heavy	g46XY	-0.75	-62.18	55.49	-61.00	71.35	-12.32	12.68
NESC	Heavy	g46Y	-1.64	157.51	-494.91	212.90	-625.03	37.04	-112.00
NESC	Heavy	g47P	-1.13	-0.23	-6.70	-40.78	-9.62	-3.56	-1.42
NESC	Heavy	g47X	-0.46	0.03	-0.47	-36.28	-1.13	-3.15	-0.14
NESC	Heavy	g47XY	0.43	0.16	0.47	-36.10	2.08	-3.12	0.22
NESC	Heavy	g47Y	1.12	-0.27	6.70	-40.91	10.55	-3.57	1.50
NESC	Heavy	g48P	2.81	-1.12	-0.14	-66.67	4.97	-13.56	0.97
NESC	Heavy	g48Y	-2.91	-0.55	4.31	-65.99	-0.87	-13.31	0.69
NESC	Heavy	g49P	-11.16	-3.90	17.53	-87.96	21.18	-11.98	5.04
NESC	Heavy	g49X	13.43	-4.75	-3.66	-75.16	-1.82	-10.42	-0.71
NESC	Heavy	g49XY	-13.50	-4.53	3.66	-74.62	3.12	-10.32	0.88
NESC	Heavy	g49Y	11.18	-3.81	-17.53	-87.73	-19.89	-11.94	-4.87
NESC	Heavy	g50P	-5.56	-23.16	-1.58	-61.64	-4.41	-16.96	-1.20
NESC	Heavy	g50Y	5.41	-22.07	6.02	-61.08	8.75	-16.63	2.96
NESC	Heavy	g51P	-0.79	-0.70	3.93	-12.33	2.08	-1.60	0.74
NESC	Heavy	g51X	9.50	-2.60	1.95	-102.79	5.19	-12.94	0.88
NESC	Heavy	g51XY	-9.23	-3.44	-1.95	-105.95	-3.94	-13.43	-0.73
NESC	Heavy	g51Y	1.05	0.10	-3.93	-9.31	-0.86	-1.13	-0.59
NESC	Heavy	g52P	2.02	-3.02	-12.49	-65.26	-4.35	-13.66	-3.37
NESC	Heavy	g52Y	-0.36	-1.46	16.36	-63.51	8.24	-12.99	4.92
NESC	Heavy	g53P	-34.16	-7.37	4.93	-241.76	6.60	-20.74	0.92
NESC	Heavy	g53X	40.12	-8.61	-2.63	-250.83	-2.68	-21.60	-0.39
NESC	Heavy	g53XY	-40.15	-8.48	2.63	-250.43	3.50	-21.56	0.46
NESC	Heavy	g53Y	34.20	-7.19	-4.93	-241.42	-5.82	-20.70	-0.85
NESC	Heavy	g54P	-13.12	33.88	5.46	-114.38	1.52	-16.10	1.39
NESC	Heavy	g54Y	12.71	35.24	0.62	-113.90	4.37	-15.73	1.01
NESC	Heavy	g60P	20.64	-249.95	30.36	-315.00	32.84	-159.77	17.95
NESC	Heavy	g60X	14.85	-121.26	2.90	-102.37	0.45	-63.26	0.96
NESC	Heavy	g60XY	-14.92	-122.19	-9.12	-103.54	-17.31	-63.85	-7.49
NESC	Heavy	g60Y	-20.58	-250.13	-36.59	-315.14	-49.77	-159.85	-24.50
NESC	Heavy	g61P	4.89	-233.68	-41.86	-237.66	-52.11	-133.32	-26.57
NESC	Heavy	g61X	-8.56	-208.15	-3.57	-205.12	-10.82	-116.88	-4.09
NESC	Heavy	g61XY	8.57	-208.48	-3.06	-205.69	-6.82	-117.14	-2.77
NESC	Heavy	g61Y	-4.98	-233.64	35.11	-237.58	34.27	-133.29	19.61
NESC	Heavy	g62P	30.87	-293.94	-16.73	-268.48	-26.09	-159.09	-12.01
NESC	Heavy	g62X	-32.58	-276.32	7.35	-226.41	2.36	-142.20	2.66
NESC	Heavy	g62XY	32.40	-276.48	-15.20	-227.28	-23.17	-142.50	-10.77
NESC	Heavy	g62Y	-30.90	-294.34	8.47	-269.08	4.70	-159.37	3.63
NESC	Heavy	g63P	7.53	-168.34	-32.57	-188.40	-36.13	-100.90	-19.41
NESC	Heavy	g63X	-2.31	-119.01	7.42	-131.45	-4.57	-70.84	0.80
NESC	Heavy	g63XY	2.60	-119.84	-18.10	-128.55	-21.50	-70.26	-11.20
NESC	Heavy	g63Y	-8.00	-165.70	21.58	-187.36	9.80	-99.86	8.86
NESC	Heavy	g64P	0.90	-54.73	-40.59	-75.51	-18.90	-13.34	-6.09

NESC Heavy	g64X	-5.08	-36.46	6.65	-30.14	2.65	-6.82	0.95
NESC Heavy	g64XY	-1.90	4.40	-14.39	7.39	-15.57	1.21	-3.07
NESC Heavy	g64Y	-5.13	-40.82	37.44	-55.48	6.39	-9.86	4.49
NESC Heavy	g65P	189.20	4955.17	-418.27	273.98	-240.07	193.68	-24.39
NESC Heavy	g66P	164.02	-195.41	201.11	-8755.45	-285.91	-279.73	-2.62
NESC Heavy	g67P	111.49	8844.84	282.25	-3499.91	-0.09	534.51	28.23
NESC Heavy	g68P	69.27	3556.94	1.16	-1312.69	-28.94	187.03	-2.31
NESC Heavy	g69P	33.79	1353.12	29.19	-21856.94	-23.94	-4100.87	1.07
NESC Heavy	g70P	-0.00	22207.11	24.93	-6816.96	-9.87	1710.05	1.67
NESC Heavy	g71P	-0.00	6816.96	9.87	-0.00	-0.00	757.45	1.10
Extreme Wind	g1P	-35.65	-319.95	-299.90	-319.18	-344.91	-127.79	-128.98
Extreme Wind	g1X	-29.67	-87.55	33.61	-157.89	83.20	-49.10	23.35
Extreme Wind	g1XY	30.16	-85.22	-30.30	-155.72	-79.48	-48.20	-21.95
Extreme Wind	g1Y	35.88	-320.54	302.41	-320.59	346.44	-128.19	129.79
Extreme Wind	g2P	3.94	49.77	221.37	3.70	172.12	8.91	65.57
Extreme Wind	g2X	2.54	167.65	-178.60	26.81	-334.23	32.41	-85.49
Extreme Wind	g2XY	-1.61	166.90	177.74	24.35	334.96	31.88	85.47
Extreme Wind	g2Y	-3.20	51.88	-218.71	6.32	-170.31	9.70	-64.82
Extreme Wind	g3P	3.88	-3.71	-172.12	-285.89	408.63	-96.50	78.81
Extreme Wind	g3X	2.66	-26.81	334.24	-161.78	527.57	-62.88	287.39
Extreme Wind	g3XY	-1.73	-24.35	-334.96	-161.79	-530.10	-62.07	-288.47
Extreme Wind	g3Y	-3.14	-6.32	170.31	-288.26	-407.43	-98.16	-79.02
Extreme Wind	g4P	3.74	285.89	-408.63	-85.94	-686.28	66.62	-364.86
Extreme Wind	g4X	2.59	161.78	-527.57	-56.43	-70.12	35.13	-199.31
Extreme Wind	g4XY	-1.66	161.79	530.10	-52.17	79.01	36.56	203.12
Extreme Wind	g4Y	-3.00	288.26	407.43	-85.61	685.52	67.52	364.20
Extreme Wind	g5P	3.25	-172.30	554.19	-235.42	495.21	-81.50	209.78
Extreme Wind	g5X	1.13	190.06	-125.92	-50.64	-391.56	27.90	-103.56
Extreme Wind	g5XY	0.77	188.40	117.58	-50.59	387.63	27.58	101.10
Extreme Wind	g5Y	-0.84	-172.86	-547.65	-234.92	-488.46	-81.51	-207.12
Extreme Wind	g6P	2.84	235.42	-495.21	-275.09	-501.33	-7.93	-199.19
Extreme Wind	g6X	1.42	50.64	391.56	-298.31	385.21	-49.57	155.47
Extreme Wind	g6XY	0.46	50.59	-387.63	-324.50	-406.20	-54.82	-158.88
Extreme Wind	g6Y	-0.43	234.92	488.46	-295.19	517.04	-12.05	200.97
Extreme Wind	g7P	29.57	376.64	114.26	64.03	250.87	87.28	72.30
Extreme Wind	g7X	29.48	-583.24	9.90	-39.60	197.43	-123.47	41.11
Extreme Wind	g7XY	-15.28	-630.59	3.75	-62.91	-202.44	-137.49	-39.39
Extreme Wind	g7Y	-15.39	413.67	-98.31	56.29	-252.18	93.07	-69.40
Extreme Wind	g8P	29.42	-64.07	-250.88	-163.44	81.64	-37.54	-27.92
Extreme Wind	g8X	29.63	39.57	-197.41	22.49	129.06	10.26	-11.30
Extreme Wind	g8XY	-15.46	62.89	202.43	87.87	-86.30	24.91	19.19
Extreme Wind	g8Y	-15.23	-56.31	252.19	-154.21	-70.52	-34.73	29.97
Extreme Wind	g9P	29.09	163.42	-81.80	9.85	17.17	25.75	-9.61
Extreme Wind	g9X	29.03	-22.51	-129.19	183.68	-87.58	23.98	-32.27
Extreme Wind	g9XY	-15.00	-87.88	86.36	-9.16	-102.12	-14.44	-2.35
Extreme Wind	g9Y	-14.95	154.19	70.61	-15.18	-32.11	20.66	5.72
Extreme Wind	g10P	46.89	-11.99	-10.84	-124.12	57.44	-9.21	3.16
Extreme Wind	g10X	43.10	-193.02	108.68	-49.63	131.74	-16.43	16.29
Extreme Wind	g10XY	-10.60	34.28	118.22	122.21	-1.48	10.60	7.91
Extreme Wind	g10Y	-10.50	9.52	31.43	-107.79	-43.75	-6.65	-0.84
Extreme Wind	g11P	193.44	31.01	8.10	23.16	114.39	2.45	5.45
Extreme Wind	g11X	170.82	-21.88	-25.18	33.22	84.21	0.53	2.62
Extreme Wind	g11XY	-148.74	-25.88	20.30	57.19	-43.90	1.41	-1.04
Extreme Wind	g11Y	-171.37	53.71	10.50	40.02	-101.42	4.20	-4.04
Extreme Wind	g12P	-729.72	324.52	-33.42	-20.24	37.39	59.62	0.75
Extreme Wind	g12X	-633.73	-318.60	-13.71	-156.80	132.15	-93.52	23.09
Extreme Wind	g12XY	642.19	-344.40	-7.29	-188.97	-122.99	-104.90	-25.38
Extreme Wind	g12Y	741.44	329.83	43.89	18.42	2.36	68.30	9.05
Extreme Wind	g37P	0.00	1.44	-2.42	-0.62	5.23	0.16	0.56

Extreme Wind	g37X	0.02	2.33	-1.77	-1.49	4.53	0.17	0.55
Extreme Wind	g38P	-0.02	4.12	2.95	-3.09	-0.36	0.21	0.52
Extreme Wind	g38X	0.01	-0.65	2.73	1.45	-0.15	0.16	0.52
Extreme Wind	g39P	-0.03	-2.90	1.66	4.28	0.88	0.28	0.51
Extreme Wind	g39X	-0.01	-12.84	1.89	13.00	0.57	0.03	0.49
Extreme Wind	g40P	-0.45	1.56	1.30	-0.28	1.61	0.26	0.58
Extreme Wind	g40X	-0.56	2.98	2.06	-2.07	0.95	0.18	0.60
Extreme Wind	g41P	-1.26	0.82	2.38	1.13	8.49	0.20	1.11
Extreme Wind	g41X	-1.34	-19.59	2.46	-26.51	6.63	-4.70	0.93
Extreme Wind	g42P	0.37	-2.18	-21.00	-4.64	-20.63	-0.70	-4.24
Extreme Wind	g42Y	-1.81	-6.33	-12.82	-8.54	-14.38	-1.51	-2.77
Extreme Wind	g43P	-1.75	7.28	-14.35	-4.52	18.60	0.20	0.31
Extreme Wind	g43X	-3.77	-54.19	-14.95	-52.34	12.75	-7.72	-0.16
Extreme Wind	g44P	-7.16	-26.96	-39.91	-34.05	-38.97	-4.42	-5.72
Extreme Wind	g44Y	-2.86	-10.75	42.70	-11.42	38.37	-1.61	5.87
Extreme Wind	g45P	37.81	60.34	-615.78	15.45	-103.65	7.57	-71.95
Extreme Wind	g45X	37.81	-48.14	-365.20	15.41	103.65	-3.26	-26.16
Extreme Wind	g45XY	-38.93	-61.69	373.07	18.98	-100.75	-4.26	27.23
Extreme Wind	g45Y	-38.93	88.44	619.45	19.02	100.74	10.73	72.03
Extreme Wind	g46P	1.46	465.41	1505.74	637.74	1858.43	110.33	336.43
Extreme Wind	g46X	-4.24	-398.76	1140.68	-487.11	1449.49	-88.61	259.01
Extreme Wind	g46XY	1.16	-385.93	-1139.04	-487.14	-1449.49	-87.31	-258.85
Extreme Wind	g46Y	-6.73	464.42	-1503.78	637.67	-1858.44	110.25	-336.23
Extreme Wind	g47P	1.00	0.02	-12.37	0.17	-17.95	0.02	-2.63
Extreme Wind	g47X	-0.83	-0.07	-7.94	-14.16	-12.29	-1.24	-1.76
Extreme Wind	g47XY	0.72	0.42	7.94	-13.47	14.98	-1.13	1.99
Extreme Wind	g47Y	-0.92	0.40	12.37	0.60	20.63	0.09	2.86
Extreme Wind	g48P	1.73	-92.34	4.06	-140.56	6.75	-46.58	2.16
Extreme Wind	g48Y	-1.88	-91.79	8.58	-140.25	5.73	-46.41	2.86
Extreme Wind	g49P	4.08	0.91	14.90	-10.30	21.18	-1.22	4.71
Extreme Wind	g49X	6.75	-2.74	8.40	-52.71	14.33	-7.23	2.97
Extreme Wind	g49XY	-7.01	-2.00	-8.40	-51.50	-10.55	-6.98	-2.47
Extreme Wind	g49Y	-3.78	1.80	-14.90	-8.82	-17.43	-0.92	-4.22
Extreme Wind	g50P	-9.73	-110.94	-1.17	-131.65	-2.03	-48.52	-0.65
Extreme Wind	g50Y	9.41	-109.75	14.30	-131.05	14.83	-48.16	5.84
Extreme Wind	g51P	9.84	1.57	5.29	78.91	6.45	9.88	1.44
Extreme Wind	g51X	8.65	-1.61	6.80	-113.09	10.13	-14.08	2.09
Extreme Wind	g51XY	-7.96	-3.75	-6.80	-122.07	-6.57	-15.45	-1.65
Extreme Wind	g51Y	-8.90	4.48	-5.29	87.76	-3.09	11.33	-1.02
Extreme Wind	g52P	5.54	-31.92	-16.93	-72.27	-14.05	-20.84	-6.19
Extreme Wind	g52Y	-1.05	-29.94	27.92	-68.32	25.02	-19.65	10.59
Extreme Wind	g53P	-8.26	-2.30	1.58	-72.94	3.60	-6.26	0.43
Extreme Wind	g53X	21.26	-4.64	3.02	-107.24	5.68	-9.31	0.74
Extreme Wind	g53XY	-21.31	-4.42	-3.02	-106.92	-3.32	-9.27	-0.54
Extreme Wind	g53Y	8.48	-1.26	-1.58	-71.48	-1.23	-6.06	-0.23
Extreme Wind	g54P	-26.43	-38.30	9.25	-110.01	10.51	-29.67	3.94
Extreme Wind	g54Y	25.42	-37.03	8.55	-109.45	6.66	-29.30	3.06
Extreme Wind	g60P	51.34	-373.73	52.05	-513.25	51.41	-250.79	29.57
Extreme Wind	g60X	45.95	-9.66	37.00	98.67	36.05	25.20	20.61
Extreme Wind	g60XY	-46.19	-13.25	-55.42	94.41	-85.73	23.01	-39.88
Extreme Wind	g60Y	-51.15	-375.78	-70.42	-515.59	-101.19	-252.00	-48.84
Extreme Wind	g61P	-3.81	-208.36	-62.56	-220.66	-85.99	-121.36	-42.03
Extreme Wind	g61X	-4.55	-130.95	-47.33	-136.04	-69.83	-75.50	-33.14
Extreme Wind	g61XY	4.46	-133.52	27.72	-139.05	17.82	-77.08	12.89
Extreme Wind	g61Y	3.67	-211.10	42.58	-223.40	33.29	-122.91	21.47
Extreme Wind	g62P	11.25	-218.91	-13.75	-225.76	-34.94	-125.78	-13.74
Extreme Wind	g62X	-16.90	-206.93	-16.73	-170.27	-38.78	-106.68	-15.73
Extreme Wind	g62XY	16.23	-209.49	-6.23	-174.50	-22.12	-108.62	-7.99
Extreme Wind	g62Y	-11.15	-223.01	-10.62	-230.56	-27.98	-128.29	-10.95

Extreme Wind	g63P	7.86	-191.39	-38.57	-218.28	-60.41	-115.88	-27.98
Extreme Wind	g63X	6.25	-98.19	-27.87	-104.79	-52.60	-57.42	-22.75
Extreme Wind	g63XY	-5.12	-101.29	-4.32	-95.94	-24.39	-55.79	-8.13
Extreme Wind	g63Y	-9.55	-187.19	6.69	-216.82	-16.20	-114.27	-2.71
Extreme Wind	g64P	-5.07	-82.90	-101.98	-109.84	-46.79	-19.75	-15.24
Extreme Wind	g64X	-9.34	-54.72	-91.48	-41.02	-39.81	-9.81	-13.45
Extreme Wind	g64XY	-11.97	51.92	80.69	51.41	26.44	10.59	10.98
Extreme Wind	g64Y	-6.26	-48.80	102.75	-65.43	31.99	-11.70	13.80
Extreme Wind	g65P	509.08	8765.96	-828.99	-205.38	-345.15	317.06	-43.49
Extreme Wind	g66P	481.53	339.44	254.27	-16790.80	-805.68	-514.12	-17.05
Extreme Wind	g67P	327.87	16976.97	794.41	-8083.99	112.78	889.31	90.78
Extreme Wind	g68P	203.79	8155.28	-106.32	-5484.45	-48.20	222.57	-12.85
Extreme Wind	g69P	99.16	5592.25	51.98	-63707.72	-62.45	-11623.22	-1.95
Extreme Wind	g70P	-0.07	64709.41	67.24	-20569.87	-23.11	4904.44	4.90
Extreme Wind	g71P	0.00	20569.87	23.12	-0.00	-0.00	2285.56	2.57

*** Analysis Results for Load Case No. 1 "NESC Heavy" - Number of iterations in SAPS 11

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

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)
1P	0.00302	0.2105	0.00397	-0.2773	0.0146	0.0139	2.503	-2.29	86
2P	0.007523	0.2095	0.05142	-0.2207	0.0072	0.0203	0.007523	-13.54	86.05
3P	0.003375	0.1847	0.004121	-0.2848	0.0014	0.0257	2.503	-2.315	81
4P	0.005462	0.1852	0.03308	-0.1999	0.0071	0.0204	0.005462	-9.565	81.03
5P	0.0002452	0.1529	0.003849	-0.3105	0.0929	0.0240	2.5	-2.347	75
6P	-0.003457	0.1375	0.003588	-0.2662	-0.0257	0.0240	2.497	-2.363	72
7P	0.00154	0.1249	0.003397	-0.2303	-0.0620	0.0237	2.502	-2.375	69
8P	0.005618	0.126	0.01647	0.0111	0.0068	0.0203	0.005618	-14.12	69.02
9P	-0.0004022	0.1009	0.002697	-0.2579	0.0227	0.0200	2.5	-2.399	64
10P	0.0005406	0.08302	0.00174	-0.1775	0.0058	0.0169	2.501	-2.417	59
11P	0.003002	0.08295	0.02488	-0.1658	0.0046	0.0198	0.003002	-10.17	59.02
12P	-0.0008141	0.0673	0.002647	-0.1677	0.0156	0.0111	3.187	-3.121	54.05
13P	-0.000592	0.05284	0.003221	-0.1213	-0.0015	0.0131	4.013	-3.96	48.11
14P	-0.0005081	0.04009	0.00328	-0.0964	0.0031	0.0081	4.907	-4.867	41.5
15P	-0.0006134	0.02158	0.002743	-0.0529	0.0066	-0.0083	6.902	-6.881	27
16P	-0.0003915	0.0009395	0.001232	-0.0050	-0.0300	-0.1352	10	-9.999	5.001
17P	0	0	0	0.0000	0.0000	0.0000	10.69	-10.69	0
22P	0.004786	0.3584	-0.005031	-0.5184	0.0073	0.0165	0.004786	0.3584	104
23P	0.003663	0.2785	-0.004527	-0.4873	0.0073	0.0165	0.003663	0.2785	95
24P	0.002548	0.2105	-0.004067	-0.3546	0.0072	0.0165	0.002548	0.2105	86
25P	0.001937	0.183	-0.003862	-0.2957	0.0070	0.0162	0.001937	0.183	81
26P	0.0005077	0.1237	-0.003357	-0.2660	0.0069	0.0151	0.0005077	0.1237	69
27P	-0.0005959	0.08189	-0.002921	-0.2033	0.0054	0.0137	-0.0005959	0.08189	59
28P	-0.001291	0.02079	-0.001496	-0.0642	-0.0024	0.0067	-0.001291	0.02079	27
29P	0	0	0	0.0000	0.0000	0.0000	0	0	0
1X	0.001655	0.211	-0.02137	-0.3172	0.0200	0.0188	2.502	2.711	85.98
1XY	0.00163	0.2092	-0.02076	-0.3172	-0.0059	0.0240	-2.498	2.709	85.98
1Y	0.003887	0.2087	0.004599	-0.2774	-0.0002	0.0289	-2.496	-2.291	86
2X	-0.002424	0.2102	-0.08959	-0.3664	0.0070	0.0203	-0.002424	13.96	85.91
3X	0.001174	0.184	-0.02099	-0.3082	-0.0094	0.0229	2.501	2.684	80.98
3XY	0.0008979	0.1822	-0.02038	-0.3084	0.0234	0.0197	-2.499	2.682	80.98
3Y	0.002302	0.1828	0.004749	-0.2847	0.0129	0.0170	-2.498	-2.317	81
4X	-0.001584	0.1822	-0.06649	-0.3832	0.0068	0.0204	-0.001584	9.932	80.93
5X	0.0005128	0.1542	-0.02018	-0.2734	0.1000	0.0208	2.501	2.654	74.98
5XY	0.0001335	0.1524	-0.01958	-0.2731	-0.0863	0.0216	-2.5	2.652	74.98
5Y	0.003967	0.1512	0.004455	-0.3106	-0.0789	0.0185	-2.496	-2.349	75
6X	-0.00465	0.1396	-0.01952	-0.2896	0.0063	0.0204	2.495	2.64	71.98
6XY	0.004592	0.1378	-0.01893	-0.2892	0.0073	0.0219	-2.495	2.638	71.98
6Y	0.006954	0.1357	0.004185	-0.2665	0.0395	0.0185	-2.493	-2.364	72
7X	-0.0002458	0.1242	-0.01878	-0.2887	-0.0808	0.0200	2.5	2.624	68.98
7XY	-0.0005001	0.1224	-0.0182	-0.2889	0.0938	0.0222	-2.501	2.622	68.98
7Y	0.001249	0.1231	0.003987	-0.2301	0.0757	0.0187	-2.499	-2.377	69
8X	-0.004592	0.1213	-0.1142	-0.5415	0.0064	0.0202	-0.004592	14.37	68.89
9X	0.000811	0.1036	-0.01702	-0.2319	0.0285	0.0221	2.501	2.604	63.98
9XY	-0.002641	0.1018	-0.01644	-0.2320	-0.0160	0.0197	-2.503	2.602	63.98
9Y	0.002021	0.09916	0.003242	-0.2579	-0.0094	0.0219	-2.498	-2.401	64
10X	-0.001511	0.08256	-0.01479	-0.2153	0.0097	0.0247	2.498	2.583	58.99
10XY	-0.001439	0.08082	-0.01418	-0.2134	0.0042	0.0168	-2.501	2.581	58.99
10Y	2.323e-005	0.08127	0.002213	-0.1757	0.0049	0.0246	-2.5	-2.419	59
11X	-0.004201	0.08121	-0.05303	-0.3189	0.0076	0.0198	-0.004201	10.33	58.95

12X	-0.001092	0.06809	-0.01473	-0.1467	-0.0148	0.0253	3.187	3.256	54.03
12XY	-0.003561	0.06615	-0.01388	-0.1428	0.0288	0.0138	-3.191	3.254	54.03
12Y	0.001078	0.06539	0.003106	-0.1631	-0.0075	0.0280	-3.187	-3.122	54.05
13X	-0.001811	0.05319	-0.01418	-0.1317	0.0139	0.0246	4.011	4.066	48.09
13XY	-0.004924	0.0511	-0.01306	-0.1276	0.0044	0.0125	-4.018	4.064	48.09
13Y	0.0006158	0.05079	0.003674	-0.1177	0.0087	0.0235	-4.013	-3.963	48.11
14X	-0.004427	0.04038	-0.01329	-0.0926	0.0067	0.0218	4.903	4.948	41.49
14XY	-0.00459	0.03821	-0.01188	-0.0895	-0.0045	0.0104	-4.912	4.946	41.49
14Y	0.0003306	0.03791	0.003739	-0.0924	0.0026	0.0254	-4.907	-4.869	41.5
15X	-0.00227	0.02149	-0.009877	-0.0676	-0.0120	0.0095	6.9	6.924	26.99
15XY	-0.002439	0.01937	-0.009112	-0.0603	-0.0034	0.0076	-6.905	6.922	26.99
15Y	0.0002608	0.01935	0.003187	-0.0505	-0.0031	0.0282	-6.902	-6.883	27
16X	5.629e-006	0.0005393	-0.002624	-0.0147	-0.0037	0.0177	10	10	4.997
16XY	-4.138e-006	0.0003913	-0.00256	-0.0121	0.0014	-0.0163	-10	10	4.997
16Y	0.0002922	0.0006812	0.00128	-0.0008	0.0289	0.1371	-10	-9.999	5.001
17X	0	0	0	0.0000	0.0000	0.0000	10.69	10.69	0
17XY	0	0	0	0.0000	0.0000	0.0000	-10.69	10.69	0
17Y	0	0	0	0.0000	0.0000	0.0000	-10.69	-10.69	0
18S	-0.004075	0.1385	-0.007511	0.0000	0.0000	0.0000	2.496	0.1385	71.99
19S	0.001723	0.2002	0.002794	0.0000	0.0000	0.0000	0.001723	-2.3	72
20S	0.003153	0.0005404	0.0002311	-0.0116	-0.0169	0.0276	10	0.0005404	5
21S	-3.675e-005	0.04691	-0.006847	-0.0037	0.0005	0.0006	-3.675e-005	-9.953	4.993
18Y	0.005792	0.1367	-0.006928	0.0000	0.0000	0.0000	-2.494	0.1367	71.99
19X	-9.481e-006	0.08204	-0.01888	0.0000	0.0000	0.0000	-9.481e-006	2.582	71.98
20Y	-0.003227	0.000392	0.0002432	-0.0133	0.0152	-0.0289	-10	0.000392	5
21X	5.779e-007	-0.004883	-0.0009101	-0.0135	0.0008	0.0003	5.779e-007	9.995	4.999

Joint Support Reactions for Load Case "NESC Heavy":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y 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 %
17P	2.60	0.0	-3.45	0.0	-18.92	0.0	0.0	19.40	0.0	-0.03	0.0	0.0	0.0	0.27	0.0	0.0
29P	0.02	0.0	-0.63	0.0	24.44	0.0	0.0	24.45	0.0	4.96	0.0	0.4	0.0	-0.19	0.0	0.0
17X	-5.18	0.0	-6.07	0.0	36.23	0.0	0.0	37.10	0.0	-0.03	0.0	0.1	0.0	-0.03	0.0	0.0
17XY	5.00	0.0	-5.64	0.0	34.99	0.0	0.0	35.80	0.0	-0.04	0.0	-0.1	0.0	0.03	0.0	0.0
17Y	-2.44	0.0	-3.16	0.0	-18.70	0.0	0.0	19.13	0.0	-0.05	0.0	-0.0	0.0	-0.27	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Heavy":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.0842	-0.2013	-0.0000	-0.0842	0.2013	0.0030	0.2105	0.0040
2P	0.0000	1.1037	-2.3915	0.0000	-1.1037	2.3915	0.0075	0.2095	0.0514
3P	0.0000	0.1904	-0.3818	0.0000	-0.1904	0.3818	0.0034	0.1847	0.0041
4P	0.0000	1.2418	-2.9690	0.0000	-1.2418	2.9690	0.0055	0.1852	0.0331
5P	0.0000	0.0949	-0.0985	-0.0000	-0.0949	0.0985	0.0002	0.1529	0.0038
6P	0.0000	0.0411	-0.0463	0.0000	-0.0411	0.0463	-0.0035	0.1375	0.0036
7P	0.0000	0.2002	-0.4218	-0.0000	-0.2002	0.4218	0.0015	0.1249	0.0034
8P	0.0000	1.2206	-2.9980	0.0000	-1.2206	2.9980	0.0056	0.1260	0.0165
9P	0.0000	0.1229	-0.1253	-0.0000	-0.1229	0.1253	-0.0004	0.1009	0.0027
10P	0.0000	0.2367	-0.4865	0.0000	-0.2367	0.4865	0.0005	0.0830	0.0017
11P	0.0000	1.2251	-2.9583	0.0000	-1.2251	2.9583	0.0030	0.0830	0.0249
12P	0.0000	0.1099	-0.1347	-0.0000	-0.1099	0.1347	-0.0008	0.0673	0.0026
13P	0.0000	0.1357	-0.1632	-0.0000	-0.1357	0.1632	-0.0006	0.0528	0.0032

14P	0.0000	0.3750	-0.7012	0.0000	-0.3750	0.7012	-0.0005	0.0401	0.0033
15P	0.0000	0.5311	-1.0586	0.0000	-0.5311	1.0586	-0.0006	0.0216	0.0027
16P	0.0000	0.4115	-0.7772	0.0000	-0.4115	0.7772	-0.0004	0.0009	0.0012
17P	0.0000	0.0741	-0.0944	-2.5991	3.3729	19.0094	0.0000	0.0000	0.0000
22P	0.0000	0.6950	-7.0425	0.0000	-0.6950	7.0425	0.0048	0.3584	-0.0050
23P	0.0000	0.9430	-2.4921	-0.0000	-0.9430	2.4921	0.0037	0.2785	-0.0045
24P	0.0000	0.1910	-0.9799	0.0000	-0.1910	0.9799	0.0025	0.2105	-0.0041
25P	0.0000	0.2500	-1.1835	-0.0000	-0.2500	1.1835	0.0019	0.1830	-0.0039
26P	0.0000	0.4340	-1.5213	0.0000	-0.4340	1.5213	0.0005	0.1237	-0.0034
27P	0.0000	0.8290	-2.9936	-0.0000	-0.8290	2.9936	-0.0006	0.0819	-0.0029
28P	0.0000	1.2380	-5.2212	-0.0000	-1.2380	5.2212	-0.0013	0.0208	-0.0015
29P	0.0000	0.4590	-1.1039	-0.0233	0.1757	-23.3345	0.0000	0.0000	0.0000
1X	0.0000	0.0180	-0.2013	-0.0000	-0.0180	0.2013	0.0017	0.2110	-0.0214
1XY	0.0000	0.0180	-0.2013	0.0000	-0.0180	0.2013	0.0016	0.2092	-0.0208
1Y	0.0000	0.0662	-0.1293	0.0000	-0.0662	0.1293	0.0039	0.2087	0.0046
2X	0.0000	0.8210	-1.4545	-0.0000	-0.8210	1.4545	-0.0024	0.2102	-0.0896
3X	0.0000	0.0180	-0.2438	0.0000	-0.0180	0.2438	0.0012	0.1840	-0.0210
3XY	0.0000	0.0180	-0.2438	-0.0000	-0.0180	0.2438	0.0009	0.1822	-0.0204
3Y	0.0000	0.1164	-0.1718	-0.0000	-0.1164	0.1718	0.0023	0.1828	0.0047
4X	0.0000	1.1790	-2.9690	-0.0000	-1.1790	2.9690	-0.0016	0.1822	-0.0665
5X	0.0000	0.0000	-0.0985	0.0000	-0.0000	0.0985	0.0005	0.1542	-0.0202
5XY	0.0000	0.0000	-0.0985	-0.0000	-0.0000	0.0985	0.0001	0.1524	-0.0196
5Y	0.0000	0.0949	-0.0985	0.0000	-0.0949	0.0985	0.0040	0.1512	0.0045
6X	0.0000	0.0000	-0.0463	0.0000	-0.0000	0.0463	-0.0046	0.1396	-0.0195
6XY	0.0000	0.0000	-0.0463	-0.0000	-0.0000	0.0463	0.0046	0.1378	-0.0189
6Y	0.0000	0.0411	-0.0463	-0.0000	-0.0411	0.0463	0.0070	0.1357	0.0042
7X	0.0000	0.0000	-0.1688	-0.0000	-0.0000	0.1688	-0.0002	0.1242	-0.0188
7XY	0.0000	0.0000	-0.1688	0.0000	-0.0000	0.1688	-0.0005	0.1224	-0.0182
7Y	0.0000	0.0982	-0.1688	0.0000	-0.0982	0.1688	0.0012	0.1231	0.0040
8X	0.0000	1.1790	-2.9980	-0.0000	-1.1790	2.9980	-0.0046	0.1213	-0.1142
9X	0.0000	0.0000	-0.1253	-0.0000	-0.0000	0.1253	0.0008	0.1036	-0.0170
9XY	0.0000	0.0000	-0.1253	-0.0000	-0.0000	0.1253	-0.0026	0.1018	-0.0164
9Y	0.0000	0.1229	-0.1253	0.0000	-0.1229	0.1253	0.0020	0.0992	0.0032
10X	0.0000	0.0000	-0.1765	0.0000	-0.0000	0.1765	-0.0015	0.0826	-0.0148
10XY	0.0000	0.0000	-0.1765	-0.0000	-0.0000	0.1765	-0.0014	0.0808	-0.0142
10Y	0.0000	0.1117	-0.1765	-0.0000	-0.1117	0.1765	0.0000	0.0813	0.0022
11X	0.0000	1.1790	-2.9583	-0.0000	-1.1790	2.9583	-0.0042	0.0812	-0.0530
12X	0.0000	0.0000	-0.1347	-0.0000	-0.0000	0.1347	-0.0011	0.0681	-0.0147
12XY	0.0000	0.0000	-0.1347	-0.0000	-0.0000	0.1347	-0.0036	0.0661	-0.0139
12Y	0.0000	0.1099	-0.1347	-0.0000	-0.1099	0.1347	0.0011	0.0654	0.0031
13X	0.0000	0.0000	-0.1632	-0.0000	-0.0000	0.1632	-0.0018	0.0532	-0.0142
13XY	0.0000	0.0000	-0.1632	-0.0000	-0.0000	0.1632	-0.0049	0.0511	-0.0131
13Y	0.0000	0.1357	-0.1632	-0.0000	-0.1357	0.1632	0.0006	0.0508	0.0037
14X	0.0000	0.0000	-0.3332	-0.0000	-0.0000	0.3332	-0.0044	0.0404	-0.0133
14XY	0.0000	0.0000	-0.3332	-0.0000	-0.0000	0.3332	-0.0046	0.0382	-0.0119
14Y	0.0000	0.2270	-0.3332	-0.0000	-0.2270	0.3332	0.0003	0.0379	0.0037
15X	0.0000	0.0000	-0.6336	-0.0000	-0.0000	0.6336	-0.0023	0.0215	-0.0099
15XY	0.0000	0.0000	-0.6336	-0.0000	-0.0000	0.6336	-0.0024	0.0194	-0.0091
15Y	0.0000	0.3601	-0.6336	-0.0000	-0.3601	0.6336	0.0003	0.0193	0.0032
16X	0.0000	0.0000	-0.4092	-0.0000	-0.0000	0.4092	0.0000	0.0005	-0.0026
16XY	0.0000	0.0000	-0.4092	0.0000	-0.0000	0.4092	-0.0000	0.0004	-0.0026
16Y	0.0000	0.2635	-0.4092	-0.0000	-0.2635	0.4092	0.0003	0.0007	0.0013
17X	0.0000	0.0000	-0.0944	5.1827	6.0680	-36.1388	0.0000	0.0000	0.0000
17XY	0.0000	0.0000	-0.0944	-5.0028	5.6424	-34.8979	0.0000	0.0000	0.0000
17Y	0.0000	0.0741	-0.0944	2.4425	3.0870	18.7984	0.0000	0.0000	0.0000
18S	0.0000	0.0000	-0.0416	0.0000	-0.0000	0.0416	-0.0041	0.1385	-0.0075
19S	0.0000	0.0625	-0.0360	0.0000	-0.0625	0.0360	0.0017	0.2002	0.0028
20S	0.0000	0.0000	-0.1556	0.0000	-0.0000	0.1556	0.0032	0.0005	0.0002
21S	0.0000	0.2011	-0.1556	0.0000	-0.2011	0.1556	-0.0000	0.0469	-0.0068

18Y	0.0000	0.0000	-0.0416	-0.0000	-0.0000	0.0416	0.0058	0.1367	-0.0069
19X	0.0000	0.0000	-0.0360	-0.0000	-0.0000	0.0360	-0.0000	0.0820	-0.0189
20Y	0.0000	0.0000	-0.1556	-0.0000	-0.0000	0.1556	-0.0032	0.0004	0.0002
21X	0.0000	0.0000	-0.1556	0.0000	-0.0000	0.1556	0.0000	-0.0049	-0.0009

Crossing Diagonal Check for Load Case "NESC Heavy" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original-Supported L/R Cap. (kips)	RLX	RLY	RLZ	Original-Supported L/R	Original-Supported KL/R	Original-Supported Curve No.	Alternate-Unsupported L/R Cap. (kips)	Alternate-Unsupported RLOUT	Alternate-Unsupported L/R	Alternate-Unsupported KL/R	Alternate-Unsupported Curve No.
g14P	g14Y	Short only	-0.26	-0.28	11.56	0.750	0.500	0.500	123.69	122.85	5	8.63	1.000	158.01	143.38	6
g14Y	g14P	Short only	-0.28	-0.26	11.56	0.750	0.500	0.500	123.69	122.85	5	8.63	1.000	158.01	143.38	6
g16P	g16Y	Long only	-1.18	-1.17	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16X	g16XY	Long only	-1.88	-1.90	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16XY	g16X	Long only	-1.90	-1.88	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16Y	g16P	Long only	-1.17	-1.18	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g22X	g22XY	Long only	-0.68	-0.81	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g22XY	g22X	Long only	-0.81	-0.68	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g24P	g24Y	Long only	-1.40	-1.26	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g24Y	g24P	Long only	-1.26	-1.40	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g25Y	g25XY	Short only	-1.28	0.23	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g26P	g26Y	Short only	-1.43	-1.43	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g26Y	g26P	Short only	-1.43	-1.43	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g28X	g28XY	Long only	-0.70	-0.61	11.66	0.560	0.780	0.560	147.51	141.00	5	8.89	1.000	187.46	161.49	6
g28XY	g28X	Long only	-0.61	-0.70	11.66	0.560	0.780	0.560	147.51	141.00	5	8.89	1.000	187.46	161.49	6
g30P	g30Y	Long only	-0.70	-0.68	8.82	0.560	0.780	0.560	175.25	162.14	5	6.91	1.000	222.71	183.17	6
g30Y	g30P	Long only	-0.68	-0.70	8.82	0.560	0.780	0.560	175.25	162.14	5	6.91	1.000	222.71	183.17	6

Summary of Clamp Capacities and Usages for Load Case "NESC Heavy":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
1	2.634	30.00	30.00	8.78
2	1.670	30.00	30.00	5.57
3	3.218	30.00	30.00	10.73
4	3.194	30.00	30.00	10.65
5	3.237	30.00	30.00	10.79
6	3.221	30.00	30.00	10.74
7	3.202	30.00	30.00	10.67
8	3.185	30.00	30.00	10.62
14	0.879	30.00	30.00	2.93
15	1.184	30.00	30.00	3.95
16	0.795	30.00	30.00	2.65
17	0.541	30.00	30.00	1.80
18	0.467	30.00	30.00	1.56
19	0.244	30.00	30.00	0.81
20	0.218	30.00	30.00	0.73
21	0.427	30.00	30.00	1.42
22	0.202	30.00	30.00	0.67
23	0.202	30.00	30.00	0.67
24	0.244	30.00	30.00	0.81

25	2.665	30.00	30.00	8.88
26	0.998	30.00	30.00	3.33
27	1.210	30.00	30.00	4.03
28	1.582	30.00	30.00	5.27
29	3.106	30.00	30.00	10.35
30	5.366	30.00	30.00	17.89
31	7.077	30.00	30.00	23.59

*** Analysis Results for Load Case No. 2 "Extreme Wind" - Number of iterations in SAPS 12

Equilibrium Joint Positions and Rotations for Load Case "Extreme Wind":

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)
1P	0.005217	0.4217	0.01899	-0.6101	0.0175	0.0459	2.505	-2.078	86.02
2P	0.01754	0.4197	0.1396	-0.6112	0.0133	0.0582	0.01754	-13.33	86.14
3P	0.005368	0.3662	0.01897	-0.6103	0.0281	0.0675	2.505	-2.134	81.02
4P	0.01227	0.3648	0.09651	-0.6043	0.0131	0.0583	0.01227	-9.385	81.1
5P	-0.0001612	0.3033	0.01784	-0.5973	0.0419	0.0645	2.5	-2.197	75.02
6P	-0.0004776	0.2727	0.01703	-0.5575	-0.0398	0.0639	2.5	-2.227	72.02
7P	0.002013	0.2451	0.01624	-0.5052	-0.0006	0.0622	2.502	-2.255	69.02
8P	0.01409	0.2438	0.1103	-0.4339	0.0133	0.0579	0.01409	-14.01	69.11
9P	-0.002111	0.2002	0.01395	-0.4904	0.0132	0.0601	2.498	-2.3	64.01
10P	0.0001599	0.1625	0.01104	-0.3706	0.0148	0.0584	2.5	-2.338	59.01
11P	0.00756	0.1607	0.06914	-0.4530	0.0087	0.0564	0.00756	-10.09	59.07
12P	-0.002612	0.1336	0.01178	-0.3071	0.0374	0.0487	3.185	-3.054	54.06
13P	-0.00201	0.1055	0.01198	-0.2344	-0.0024	0.0463	4.011	-3.908	48.12
14P	-0.001351	0.08215	0.01102	-0.1858	0.0054	0.0318	4.906	-4.825	41.51
15P	-0.00116	0.0405	0.009667	-0.1163	0.0129	-0.0200	6.901	-6.862	27.01
16P	-0.001513	0.002424	0.003218	-0.0069	-0.0888	-0.3684	9.998	-9.998	5.003
17P	0	0	0	0.0000	0.0000	0.0000	10.69	-10.69	0
22P	0.007292	0.7757	-0.006664	-1.2716	0.0137	0.0468	0.007292	0.7757	104
23P	0.005308	0.5808	-0.004485	-1.1776	0.0136	0.0468	0.005308	0.5808	95
24P	0.003306	0.4208	-0.00298	-0.7878	0.0135	0.0467	0.003306	0.4208	86
25P	0.002182	0.3623	-0.002582	-0.6118	0.0134	0.0460	0.002182	0.3623	81
26P	-0.0005199	0.2423	-0.001829	-0.5287	0.0138	0.0428	-0.0005199	0.2423	69
27P	-0.002699	0.1597	-0.001344	-0.4014	0.0104	0.0384	-0.002699	0.1597	59
28P	-0.002847	0.03826	-0.000563	-0.1230	-0.0066	0.0181	-0.002847	0.03826	27
29P	0	0	0	0.0000	0.0000	0.0000	0	0	0
1X	0.001234	0.4216	-0.03345	-0.6394	0.0208	0.0485	2.501	2.922	85.97
1XY	0.0002094	0.4165	-0.03228	-0.6395	0.0059	0.0737	-2.5	2.916	85.97
1Y	0.006566	0.4165	0.02018	-0.6101	0.0096	0.0764	-2.493	-2.083	86.02
2X	-0.01091	0.4184	-0.1607	-0.6578	0.0130	0.0581	-0.01091	14.17	85.84
3X	-0.0005484	0.3657	-0.03266	-0.6229	0.0092	0.0667	2.499	2.866	80.97
3XY	-0.0002399	0.3605	-0.03149	-0.6230	0.0174	0.0552	-2.5	2.861	80.97
3Y	0.004151	0.3611	0.02016	-0.6100	-0.0008	0.0546	-2.496	-2.139	81.02
4X	-0.007887	0.3626	-0.1154	-0.6734	0.0128	0.0582	-0.007887	10.11	80.88
5X	-0.001185	0.3035	-0.03101	-0.5832	0.0531	0.0644	2.499	2.804	74.97
5XY	-0.00224	0.2984	-0.02985	-0.5828	-0.0268	0.0568	-2.502	2.798	74.97
5Y	0.006921	0.2981	0.01901	-0.5972	-0.0144	0.0571	-2.493	-2.202	75.02
6X	-0.004311	0.2733	-0.02963	-0.5642	0.0259	0.0637	2.496	2.773	71.97
6XY	-0.0004282	0.2681	-0.02846	-0.5635	0.0007	0.0572	-2.5	2.768	71.97
6Y	0.005871	0.2675	0.0182	-0.5576	0.0670	0.0574	-2.494	-2.232	72.02
7X	-0.003184	0.2447	-0.02822	-0.5334	-0.0385	0.0633	2.497	2.745	68.97
7XY	-0.002878	0.2396	-0.02706	-0.5334	0.0642	0.0571	-2.503	2.74	68.97
7Y	0.002015	0.24	0.01739	-0.5049	0.0279	0.0588	-2.498	-2.26	69.02
8X	-0.01506	0.2411	-0.1532	-0.6435	0.0127	0.0577	-0.01506	14.49	68.85
9X	-0.0007095	0.2011	-0.02516	-0.4770	0.0239	0.0621	2.499	2.701	63.97
9XY	-0.007422	0.196	-0.02395	-0.4773	0.0009	0.0572	-2.507	2.696	63.98
9Y	0.003816	0.1951	0.01504	-0.4903	0.0140	0.0595	-2.496	-2.305	64.02
10X	-0.005503	0.1622	-0.02144	-0.3951	0.0255	0.0612	2.494	2.662	58.98
10XY	-0.004912	0.1572	-0.0201	-0.3893	0.0054	0.0569	-2.505	2.657	58.98
10Y	-0.0005641	0.1575	0.01198	-0.3659	0.0075	0.0597	-2.501	-2.342	59.01
11X	-0.01297	0.1595	-0.08431	-0.5085	0.0174	0.0563	-0.01297	10.41	58.92

12X	-0.005047	0.1336	-0.02195	-0.2929	-0.0218	0.0539	3.183	3.321	54.03
12XY	-0.009524	0.1281	-0.01997	-0.2824	0.0546	0.0564	-3.197	3.316	54.03
12Y	0.001946	0.128	0.0127	-0.2949	-0.0198	0.0617	-3.186	-3.06	54.06
13X	-0.007459	0.1061	-0.02164	-0.2405	0.0365	0.0507	4.006	4.119	48.08
13XY	-0.01232	0.1	-0.01892	-0.2302	0.0107	0.0528	-4.026	4.113	48.09
13Y	0.001247	0.09958	0.01286	-0.2253	0.0175	0.0561	-4.012	-3.914	48.12
14X	-0.01265	0.08138	-0.02085	-0.1926	0.0088	0.0336	4.895	4.989	41.48
14XY	-0.01296	0.07519	-0.01732	-0.1804	-0.0101	0.0536	-4.92	4.983	41.48
14Y	0.0005772	0.07569	0.0119	-0.1744	0.0064	0.0610	-4.907	-4.832	41.51
15X	-0.005005	0.03978	-0.01567	-0.1282	-0.0253	-0.0176	6.897	6.942	26.98
15XY	-0.005493	0.03498	-0.01416	-0.1081	-0.0220	0.0557	-6.908	6.937	26.99
15Y	0.0006769	0.03528	0.01024	-0.1069	-0.0067	0.0671	-6.902	-6.867	27.01
16X	-0.0005462	0.001747	-0.004218	0.0018	0.0469	-0.3231	9.999	10	4.996
16XY	0.0005635	0.001409	-0.004118	0.0074	-0.0507	0.3262	-9.999	10	4.996
16Y	0.001494	0.00183	0.003182	0.0025	0.0890	0.3732	-9.999	-9.998	5.003
17X	0	0	0	0.0000	0.0000	0.0000	10.69	10.69	0
17XY	0	0	0	0.0000	0.0000	0.0000	-10.69	10.69	0
17Y	0	0	0	0.0000	0.0000	0.0000	-10.69	-10.69	0
18S	0.001696	0.2729	-0.006136	0.0000	0.0000	0.0000	2.502	0.2729	71.99
19S	0.002611	0.3491	0.01539	0.0000	0.0000	0.0000	0.002611	-2.151	72.02
20S	-0.006039	0.001568	-0.001244	-0.0306	-0.0208	0.1685	9.994	0.001568	4.999
21S	-9.937e-006	0.1372	-0.02113	-0.0092	-0.0002	0.0014	-9.937e-006	-9.863	4.979
18Y	-0.001019	0.2678	-0.004984	0.0000	0.0000	0.0000	-2.501	0.2678	72
19X	-0.00247	0.3659	-0.02968	0.0000	0.0000	0.0000	-0.00247	2.866	71.97
20Y	0.005811	0.001227	-0.001208	-0.0338	0.0190	-0.1706	-9.994	0.001227	4.999
21X	5.06e-006	0.109	0.01331	0.0095	0.0014	0.0007	5.06e-006	10.11	5.013

Joint Support Reactions for Load Case "Extreme Wind":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y 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 %
17P	6.91	0.0	-9.92	0.0	-50.32	0.0	0.0	51.76	0.0	-0.06	0.0	0.1	0.0	0.72	0.0	0.0
29P	0.04	0.0	-0.88	0.0	8.72	0.0	0.0	8.77	0.0	8.77	0.0	0.8	0.0	-0.51	0.0	0.0
17X	-8.68	0.0	-11.72	0.0	59.73	0.0	0.0	61.48	0.0	-0.11	0.0	0.1	0.0	0.65	0.0	0.0
17XY	8.34	0.0	-10.83	0.0	57.48	0.0	0.0	59.08	0.0	-0.14	0.0	-0.1	0.0	-0.65	0.0	0.0
17Y	-6.61	0.0	-9.06	0.0	-48.42	0.0	0.0	49.71	0.0	-0.12	0.0	-0.1	0.0	-0.73	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "Extreme Wind":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.2611	-0.1431	0.0000	-0.2611	0.1431	0.0052	0.4217	0.0190
2P	0.0000	1.2351	-0.8221	-0.0000	-1.2351	0.8221	0.0175	0.4197	0.1396
3P	0.0000	0.4241	-0.1801	-0.0000	-0.4241	0.1801	0.0054	0.3662	0.0190
4P	0.0000	1.4971	-1.1371	-0.0000	-1.4971	1.1371	0.0123	0.3648	0.0965
5P	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0002	0.3033	0.0178
6P	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0005	0.2727	0.0170
7P	0.0000	0.4931	-0.1821	0.0000	-0.4931	0.1821	0.0020	0.2451	0.0162
8P	0.0000	1.4971	-1.1371	-0.0000	-1.4971	1.1371	0.0141	0.2438	0.1103
9P	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0021	0.2002	0.0140
10P	0.0000	0.7177	-0.2779	-0.0000	-0.7177	0.2779	0.0002	0.1625	0.0110
11P	0.0000	1.4971	-1.1371	-0.0000	-1.4971	1.1371	0.0076	0.1607	0.0691
12P	0.0000	0.1566	-0.0807	-0.0000	-0.1566	0.0807	-0.0026	0.1336	0.0118
13P	0.0000	0.1566	-0.0807	-0.0000	-0.1566	0.0807	-0.0020	0.1055	0.0120

14P	0.0000	1.1722	-0.4997	-0.0000	-1.1722	0.4997	-0.0014	0.0822	0.0110
15P	0.0000	1.0836	-0.4340	-0.0000	-1.0836	0.4340	-0.0012	0.0405	0.0097
16P	0.0000	1.0156	-0.4190	-0.0000	-1.0156	0.4190	-0.0015	0.0024	0.0032
17P	0.0000	0.5796	-0.3190	-6.9071	9.3385	50.6433	0.0000	0.0000	0.0000
22P	0.0000	2.2171	-3.1841	0.0000	-2.2171	3.1841	0.0073	0.7757	-0.0067
23P	0.0000	2.6161	-0.8671	-0.0000	-2.6161	0.8671	0.0053	0.5808	-0.0045
24P	0.0000	0.2931	-0.2401	0.0000	-0.2931	0.2401	0.0033	0.4208	-0.0030
25P	0.0000	0.3141	-0.2671	-0.0000	-0.3141	0.2671	0.0022	0.3623	-0.0026
26P	0.0000	0.3491	-0.3131	-0.0000	-0.3491	0.3131	-0.0005	0.2423	-0.0018
27P	0.0000	1.0717	-0.8121	-0.0000	-1.0717	0.8121	-0.0027	0.1597	-0.0013
28P	0.0000	1.1906	-1.0980	-0.0000	-1.1906	1.0980	-0.0028	0.0383	-0.0006
29P	0.0000	0.5796	-0.3190	-0.0426	0.3052	-8.4022	0.0000	0.0000	0.0000
1X	0.0000	0.2611	-0.1431	0.0000	-0.2611	0.1431	0.0012	0.4216	-0.0334
1XY	0.0000	0.2611	-0.1431	-0.0000	-0.2611	0.1431	0.0002	0.4165	-0.0323
1Y	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	0.0066	0.4165	0.0202
2X	0.0000	0.6761	-0.4561	0.0000	-0.6761	0.4561	-0.0109	0.4184	-0.1607
3X	0.0000	0.2611	-0.1431	-0.0000	-0.2611	0.1431	-0.0005	0.3657	-0.0327
3XY	0.0000	0.2611	-0.1431	0.0000	-0.2611	0.1431	-0.0002	0.3605	-0.0315
3Y	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	0.0042	0.3611	0.0202
4X	0.0000	1.4971	-1.1371	0.0000	-1.4971	1.1371	-0.0079	0.3626	-0.1154
5X	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0012	0.3035	-0.0310
5XY	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0022	0.2984	-0.0298
5Y	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	0.0069	0.2981	0.0190
6X	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0043	0.2733	-0.0296
6XY	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0004	0.2681	-0.0285
6Y	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	0.0059	0.2675	0.0182
7X	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0032	0.2447	-0.0282
7XY	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0029	0.2396	-0.0271
7Y	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	0.0020	0.2400	0.0174
8X	0.0000	1.4971	-1.1371	0.0000	-1.4971	1.1371	-0.0151	0.2411	-0.1532
9X	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0007	0.2011	-0.0252
9XY	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0074	0.1960	-0.0240
9Y	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	0.0038	0.1951	0.0150
10X	0.0000	0.3497	-0.1939	-0.0000	-0.3497	0.1939	-0.0055	0.1622	-0.0214
10XY	0.0000	0.3497	-0.1939	0.0000	-0.3497	0.1939	-0.0049	0.1572	-0.0201
10Y	0.0000	0.3497	-0.1939	0.0000	-0.3497	0.1939	-0.0006	0.1575	0.0120
11X	0.0000	1.4971	-1.1371	0.0000	-1.4971	1.1371	-0.0130	0.1595	-0.0843
12X	0.0000	0.1566	-0.0807	0.0000	-0.1566	0.0807	-0.0050	0.1336	-0.0220
12XY	0.0000	0.1566	-0.0807	-0.0000	-0.1566	0.0807	-0.0095	0.1281	-0.0200
12Y	0.0000	0.1566	-0.0807	-0.0000	-0.1566	0.0807	0.0019	0.1280	0.0127
13X	0.0000	0.1566	-0.0807	-0.0000	-0.1566	0.0807	-0.0075	0.1061	-0.0216
13XY	0.0000	0.1566	-0.0807	0.0000	-0.1566	0.0807	-0.0123	0.1000	-0.0189
13Y	0.0000	0.1566	-0.0807	0.0000	-0.1566	0.0807	0.0012	0.0996	0.0129
14X	0.0000	0.7362	-0.3997	-0.0000	-0.7362	0.3997	-0.0126	0.0814	-0.0209
14XY	0.0000	0.7362	-0.3997	0.0000	-0.7362	0.3997	-0.0130	0.0752	-0.0173
14Y	0.0000	0.7362	-0.3997	0.0000	-0.7362	0.3997	0.0006	0.0757	0.0119
15X	0.0000	0.5796	-0.3190	-0.0000	-0.5796	0.3190	-0.0050	0.0398	-0.0157
15XY	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	-0.0055	0.0350	-0.0142
15Y	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	0.0007	0.0353	0.0102
16X	0.0000	0.5796	-0.3190	-0.0000	-0.5796	0.3190	-0.0005	0.0017	-0.0042
16XY	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	0.0006	0.0014	-0.0041
16Y	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	0.0015	0.0018	0.0032
17X	0.0000	0.5796	-0.3190	8.6847	11.1434	-59.4080	0.0000	0.0000	0.0000
17XY	0.0000	0.5796	-0.3190	-8.3445	10.2510	-57.1584	0.0000	0.0000	0.0000
17Y	0.0000	0.5796	-0.3190	6.6095	8.4822	48.7429	0.0000	0.0000	0.0000
18S	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	0.0017	0.2729	-0.0061
19S	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	0.0026	0.3491	0.0154
20S	0.0000	0.5796	-0.3190	-0.0000	-0.5796	0.3190	-0.0060	0.0016	-0.0012
21S	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	-0.0000	0.1372	-0.0211

18Y	0.0000	0.1931	-0.1131	-0.0000	-0.1931	0.1131	-0.0010	0.2678	-0.0050
19X	0.0000	0.1931	-0.1131	0.0000	-0.1931	0.1131	-0.0025	0.3659	-0.0297
20Y	0.0000	0.5796	-0.3190	0.0000	-0.5796	0.3190	0.0058	0.0012	-0.0012
21X	0.0000	0.5796	-0.3190	-0.0000	-0.5796	0.3190	0.0000	0.1090	0.0133

Crossing Diagonal Check for Load Case "Extreme Wind" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	RLX	RLY	RLZ	L/R	KL/R	Curve No.	Alternate Unsupported L/R Cap. (kips)	RLOUT	L/R	KL/R	Curve No.
g14P	g14Y	Short only	-0.20	-0.21	11.56	0.750	0.500	0.500	123.69	122.85	5	8.63	1.000	158.01	143.38	6
g14Y	g14P	Short only	-0.21	-0.20	11.56	0.750	0.500	0.500	123.69	122.85	5	8.63	1.000	158.01	143.38	6
g16P	g16Y	Long only	-2.64	-2.56	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16X	g16XY	Long only	-2.43	-2.55	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16XY	g16X	Long only	-2.55	-2.43	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g16Y	g16P	Long only	-2.56	-2.64	17.27	0.500	0.750	0.500	120.57	120.47	5	12.24	1.000	160.76	145.07	6
g22X	g22XY	Long only	-0.94	-1.38	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g22XY	g22X	Long only	-1.38	-0.94	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g24P	g24Y	Long only	-1.72	-1.25	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g24Y	g24P	Long only	-1.25	-1.72	18.99	0.500	0.750	0.500	109.16	111.87	2	13.99	1.000	145.55	135.71	6
g25Y	g25XY	Short only	-0.74	0.03	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g26P	g26Y	Short only	-2.62	-2.72	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g26Y	g26P	Short only	-2.72	-2.62	12.53	0.780	0.560	0.560	129.17	127.02	5	10.86	1.000	147.29	136.78	6
g28X	g28XY	Long only	-1.48	-1.43	11.66	0.560	0.780	0.560	147.51	141.00	5	8.89	1.000	187.46	161.49	6
g28XY	g28X	Long only	-1.43	-1.48	11.66	0.560	0.780	0.560	147.51	141.00	5	8.89	1.000	187.46	161.49	6
g30P	g30Y	Long only	-1.25	-1.25	8.82	0.560	0.780	0.560	175.25	162.14	5	6.91	1.000	222.71	183.17	6
g30Y	g30P	Long only	-1.25	-1.25	8.82	0.560	0.780	0.560	175.25	162.14	5	6.91	1.000	222.71	183.17	6

Summary of Clamp Capacities and Usages for Load Case "Extreme Wind":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
1	1.484	30.00	30.00	4.95
2	0.816	30.00	30.00	2.72
3	1.880	30.00	30.00	6.27
4	1.880	30.00	30.00	6.27
5	1.880	30.00	30.00	6.27
6	1.880	30.00	30.00	6.27
7	1.880	30.00	30.00	6.27
8	1.880	30.00	30.00	6.27
14	1.099	30.00	30.00	3.66
15	1.167	30.00	30.00	3.89
16	1.274	30.00	30.00	4.25
17	0.770	30.00	30.00	2.57
18	0.526	30.00	30.00	1.75
19	0.298	30.00	30.00	0.99
20	0.298	30.00	30.00	0.99
21	0.461	30.00	30.00	1.54
22	0.298	30.00	30.00	0.99
23	0.298	30.00	30.00	0.99
24	0.298	30.00	30.00	0.99

25	2.756	30.00	30.00	9.19
26	0.379	30.00	30.00	1.26
27	0.412	30.00	30.00	1.37
28	0.469	30.00	30.00	1.56
29	1.345	30.00	30.00	4.48
30	1.620	30.00	30.00	5.40
31	3.880	30.00	30.00	12.93

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/R Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/R KL/R Comp.	Length (ft)	Curve No.	No. Of Member Comp.	Bolts
LEG1	L4x4x1/4	SAE	4X4X0.25	33.0	77.90	77.90	g6XY	-41.683	Extreme	53.509	125.640	168.750	1.000	1.000	1.000	75.47	75.47	5.000	1	12
LEG2	L4x4x5/16	SAE	4X4X0.3125	33.0	89.63	89.63	g12X	-58.759	Extreme	65.558	104.700	175.781	1.000	1.000	1.000	77.30	77.30	5.096	1	10
LEG3	L4x4x3/8	SAE	4X4X0.375	33.0	97.92	97.92	g11X	-58.566	Extreme	59.809	104.700	210.937	0.330	0.330	0.330	112.73	112.73	22.432	1	10
XBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	58.57	58.57	g13P	-6.770	Extreme	11.559	20.940	21.094	0.750	0.500	0.500	123.69	122.85	7.071	5	2
XBR2	L3x2x3/16	SAU	3X2X0.1875	33.0	33.68	33.68	g23Y	-6.395	Extreme	18.986	31.410	31.641	0.500	0.750	0.500	109.16	111.87	7.071	2	3
XBR3	L3x2x3/16	SAU	3X2X0.1875	33.0	36.19	36.19	g19X	-6.245	Extreme	17.255	31.410	31.641	1.000	1.500	1.000	120.57	120.57	3.905	4	3
XBR4	L2x2x3/16	SAE	2X2X0.1875	33.0	25.03	25.03	g26Y	-2.719	Extreme	10.862	20.940	21.094	1.000	0.560	0.560	147.29	136.78	7.573	6	2
XBR5	L2.5x2x3/16	SAU	2.5X2X0.1875	33.0	18.15	18.15	g30Y	-1.254	Extreme	6.910	20.940	21.094	0.560	1.000	0.560	222.71	183.17	11.135	6	2
XBR6	L1.75x1.75x1/4	SAE	1.75X1.75X0.25	33.0	94.93	94.93	g31P	-2.142	NESC Hea	2.257	20.940	28.125	0.790	0.580	0.580	383.86	321.10	18.807	5	2
XBR7	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	35.98	0.00	g34XY	0.000		1.061	20.940	21.094	0.800	0.410	0.410	499.05	408.88	27.916	5	2
PMBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	59.11	56.84	g60XY	-5.795	Extreme	21.670	10.470	10.195	1.000	1.000	1.000	85.71	102.85	3.536	3	1
PMBR2	L3.5x3.5x1/4	SAE	3.5X3.5X0.25	36.0	20.98	20.98	g64X	-2.197	Extreme	16.980	10.470	13.594	1.000	1.000	1.000	168.78	168.78	9.761	4	1
HBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	83.46	83.46	g37P	-4.840	Extreme	5.799	10.470	10.547	1.000	1.000	1.000	174.93	174.93	5.000	4	1
HBR2	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	44.03	44.03	g41P	-4.610	Extreme	10.510	10.470	10.547	1.000	0.500	0.500	148.52	148.52	9.815	4	1
HBR3	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	48.25	48.25	g43P	-5.052	Extreme	12.202	10.470	14.062	1.000	0.500	0.500	175.29	175.29	13.804	4	1
HBR4	**L4x3x1/4**	**SAU**	**4X3X0.25**	**33.0**	**40.00**	**40.00**	**g45P**	**-4.188**	**Extreme**	**13.759**	**10.470**	**14.062**	**2.000**	**1.000**	**1.000**	**187.50**	**187.50**	**10.000**	**4**	**1**
A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g46P g46X g46XY g46Y ??																				
Arm1	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	20.17	20.17	g49Y	-5.751	NESC Hea	28.509	31.410	42.187	1.000	0.500	0.500	97.38	108.69	7.669	3	3
Arm2	L3.5x2.5x1/4	SAU	3.5X2.5X0.25	33.0	26.69	26.69	g53P	-6.547	NESC Hea	24.527	31.410	42.187	1.000	0.500	0.500	132.50	129.56	12.013	5	3

ArmBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	29.09	29.09	g55P	-3.046NESC Hea	10.714	10.470	10.547	1.000	1.000	1.000	155.23	155.23	6.403	4	1
ArmBR2	L1.75x1/4x1/4	BAR	1.75X0.25X0.25	33.0	77.34	0.00	g59Y	0.000	0.050	10.470	14.062	1.000	1.000	1.000	1588.21	1588.21	9.556	4	1
Powermnt	12" Std. Pipe	PIP	12.75X0.375	50.0	20.24	20.24	g65P	-23.334NESC Hea	115.298	0.000	0.000	1.000	1.000	1.000	73.97	73.97	27.000	1	0

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Max Use In Tens. %	Tension Control Member	Tension Force Control (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Capacity (kips)	Tension Connect. Capacity (kips)	Tension Connect. Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	No. Of Holes	Hole Diameter (in)
LEG1	L4x4x1/4	SAE	4X4X0.25	33.0	77.90	68.49	g6Y	36.077Extreme		52.676	125.640	168.750	220.588	5.000	12	2.000	0.6875
LEG2	L4x4x5/16	SAE	4X4X0.3125	33.0	89.63	77.62	g12P	50.465Extreme		65.020	104.700	175.781	103.401	5.096	10	2.000	0.6875
LEG3	L4x4x3/8	SAE	4X4X0.375	33.0	97.92	55.27	g11P	42.759Extreme		77.364	104.700	210.937	193.014	22.432	10	2.000	0.6875
XBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	58.57	43.53	g13X	6.349Extreme		14.585	20.940	21.094	16.189	7.071	2	1.000	0.6875
XBR2	L3x2x3/16	SAU	3X2X0.1875	33.0	33.68	32.07	g23XY	7.345Extreme		22.901	31.410	31.641	28.125	7.071	3	1.000	0.6875
XBR3	L3x2x3/16	SAU	3X2X0.1875	33.0	36.19	35.69	g35P	2.754Extreme		17.333	10.470	10.547	7.717	11.826	1	1.000	0.6875
XBR4	L2x2x3/16	SAE	2X2X0.1875	33.0	25.03	14.37	g26XY	2.191Extreme		17.258	20.940	21.094	15.240	7.573	2	1.000	0.6875
XBR5	L2.5x2x3/16	SAU	2.5X2X0.1875	33.0	18.15	10.40	g28P	1.950Extreme		20.228	20.940	21.094	18.750	9.373	2	1.000	0.6875
XBR6	L1.75x1.75x1/4	SAE	1.75X1.75X0.25	33.0	94.93	28.96	g32XY	5.514Extreme		19.041	20.940	28.125	24.820	18.807	2	1.000	0.6875
XBR7	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	35.98	35.98	g33X	5.248Extreme		14.585	20.940	21.094	17.420	27.916	2	1.000	0.6875
PMBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	36.0	59.11	59.11	g60Y	6.027Extreme		25.048	10.470	10.195	0.000	3.536	1	1.000	0.6875
PMBR2	L3.5x3.5x1/4	SAE	3.5X3.5X0.25	36.0	20.98	0.00	g64Y	0.000		49.187	10.470	13.594	0.000	9.761	1	1.000	0.6875
HBR1	L1.75x1.75x3/16	SAE	1.75X1.75X0.1875	33.0	83.46	56.86	g38P	4.388Extreme		14.585	10.470	10.547	7.717	5.000	1	1.000	0.6875
HBR2	2.5x2x3/16	SAU	2.5X2X0.1875	33.0	44.03	9.68	g42Y	0.747NESC Hea		17.444	10.470	10.547	7.717	9.815	1	1.000	0.6875
HBR3	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	48.25	12.86	g43X	1.346Extreme		30.090	10.470	14.062	12.500	13.804	1	1.000	0.6875
HBR4	**L4x3x1/4**	**SAU**	**4X3X0.25**	**33.0**	**40.00**	**8.62**	**g45XY**	**0.902Extreme**		**37.663**	**10.470**	**14.062**	**12.500**	**10.000**	**1**	**1.000**	**0.6875**
Arm1	L3x2.5x1/4	SAU	3X2.5X0.25	33.0	20.17	9.78	g48Y	4.227NESC Hea		43.230	0.000	0.000	0.000	5.000	0	0.000	0.6875
Arm2	L3.5x2.5x1/4	SAU	3.5X2.5X0.25	33.0	26.69	0.00	g54Y	0.000		47.520	0.000	0.000	0.000	5.000	0	0.000	0.6875
ArmBR1	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	33.0	29.09	0.00	g55X	0.000		22.961	10.470	10.547	0.000	6.403	1	1.000	0.6875

0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g46P g46X g46XY g46Y ??

ArmBR2	L1.75x1/4x1/4	BAR	1.75X0.25X0.25	33.0	77.34	77.34	g57Y	6.101NESC Hea	7.889	10.470	14.062	0.000	12.382	1	1.000	0.6875		
Powermnt	12" Std. Pipe	PIP	12.75X0.375	50.0	20.24	0.00	g71P	0.000	729.999	0.000	0.000	0.000	9.000	0	0.000	0		

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	94.93	g31P	Angle
Extreme Wind	97.92	g11X	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	8.78	NESC Heavy	0.0
2	Clamp	5.57	NESC Heavy	0.0
3	Clamp	10.73	NESC Heavy	0.0
4	Clamp	10.65	NESC Heavy	0.0
5	Clamp	10.79	NESC Heavy	0.0
6	Clamp	10.74	NESC Heavy	0.0
7	Clamp	10.67	NESC Heavy	0.0
8	Clamp	10.62	NESC Heavy	0.0
14	Clamp	3.66	Extreme Wind	0.0
15	Clamp	3.95	NESC Heavy	0.0
16	Clamp	4.25	Extreme Wind	0.0
17	Clamp	2.57	Extreme Wind	0.0
18	Clamp	1.75	Extreme Wind	0.0
19	Clamp	0.99	Extreme Wind	0.0
20	Clamp	0.99	Extreme Wind	0.0
21	Clamp	1.54	Extreme Wind	0.0
22	Clamp	0.99	Extreme Wind	0.0
23	Clamp	0.99	Extreme Wind	0.0
24	Clamp	0.99	Extreme Wind	0.0
25	Clamp	9.19	Extreme Wind	0.0
26	Clamp	3.33	NESC Heavy	0.0
27	Clamp	4.03	NESC Heavy	0.0
28	Clamp	5.27	NESC Heavy	0.0
29	Clamp	10.35	NESC Heavy	0.0
30	Clamp	17.89	NESC Heavy	0.0
31	Clamp	23.59	NESC Heavy	0.0

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 Heavy	1	Clamp	2P	0.000	1.104	2.392	2.634
NESC Heavy	2	Clamp	2X	0.000	0.821	1.455	1.670
NESC Heavy	3	Clamp	4P	0.000	1.242	2.969	3.218
NESC Heavy	4	Clamp	4X	0.000	1.179	2.969	3.194
NESC Heavy	5	Clamp	8P	0.000	1.221	2.998	3.237
NESC Heavy	6	Clamp	8X	0.000	1.179	2.998	3.221
NESC Heavy	7	Clamp	11P	0.000	1.225	2.958	3.202
NESC Heavy	8	Clamp	11X	0.000	1.179	2.958	3.185
NESC Heavy	14	Clamp	16P	0.000	0.411	0.777	0.879
NESC Heavy	15	Clamp	15P	0.000	0.531	1.059	1.184
NESC Heavy	16	Clamp	14P	0.000	0.375	0.701	0.795
NESC Heavy	17	Clamp	10P	0.000	0.237	0.487	0.541
NESC Heavy	18	Clamp	7P	0.000	0.200	0.422	0.467
NESC Heavy	19	Clamp	3X	0.000	0.018	0.244	0.244
NESC Heavy	20	Clamp	1P	0.000	0.084	0.201	0.218
NESC Heavy	21	Clamp	3P	0.000	0.190	0.382	0.427
NESC Heavy	22	Clamp	1X	0.000	0.018	0.201	0.202
NESC Heavy	23	Clamp	1XY	0.000	0.018	0.201	0.202
NESC Heavy	24	Clamp	3XY	0.000	0.018	0.244	0.244
NESC Heavy	25	Clamp	23P	0.000	0.943	2.492	2.665
NESC Heavy	26	Clamp	24P	0.000	0.191	0.980	0.998
NESC Heavy	27	Clamp	25P	0.000	0.250	1.183	1.210
NESC Heavy	28	Clamp	26P	0.000	0.434	1.521	1.582
NESC Heavy	29	Clamp	27P	0.000	0.829	2.994	3.106
NESC Heavy	30	Clamp	28P	0.000	1.238	5.221	5.366
NESC Heavy	31	Clamp	22P	0.000	0.695	7.043	7.077
Extreme Wind	1	Clamp	2P	0.000	1.235	0.822	1.484
Extreme Wind	2	Clamp	2X	0.000	0.676	0.456	0.816
Extreme Wind	3	Clamp	4P	0.000	1.497	1.137	1.880
Extreme Wind	4	Clamp	4X	0.000	1.497	1.137	1.880
Extreme Wind	5	Clamp	8P	0.000	1.497	1.137	1.880
Extreme Wind	6	Clamp	8X	0.000	1.497	1.137	1.880
Extreme Wind	7	Clamp	11P	0.000	1.497	1.137	1.880
Extreme Wind	8	Clamp	11X	0.000	1.497	1.137	1.880
Extreme Wind	14	Clamp	16P	0.000	1.016	0.419	1.099
Extreme Wind	15	Clamp	15P	0.000	1.084	0.434	1.167
Extreme Wind	16	Clamp	14P	0.000	1.172	0.500	1.274
Extreme Wind	17	Clamp	10P	0.000	0.718	0.278	0.770
Extreme Wind	18	Clamp	7P	0.000	0.493	0.182	0.526
Extreme Wind	19	Clamp	3X	0.000	0.261	0.143	0.298
Extreme Wind	20	Clamp	1P	0.000	0.261	0.143	0.298
Extreme Wind	21	Clamp	3P	0.000	0.424	0.180	0.461
Extreme Wind	22	Clamp	1X	0.000	0.261	0.143	0.298
Extreme Wind	23	Clamp	1XY	0.000	0.261	0.143	0.298
Extreme Wind	24	Clamp	3XY	0.000	0.261	0.143	0.298
Extreme Wind	25	Clamp	23P	0.000	2.616	0.867	2.756
Extreme Wind	26	Clamp	24P	0.000	0.293	0.240	0.379
Extreme Wind	27	Clamp	25P	0.000	0.314	0.267	0.412
Extreme Wind	28	Clamp	26P	0.000	0.349	0.313	0.469
Extreme Wind	29	Clamp	27P	0.000	1.072	0.812	1.345
Extreme Wind	30	Clamp	28P	0.000	1.191	1.098	1.620
Extreme Wind	31	Clamp	22P	0.000	2.217	3.184	3.880

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.	Total Long.	Total Vert.	Transverse Overturning	Longitudinal Overturning

	Load (kips)	Load (kips)	Load (kips)	Moment (ft-k)	Moment (ft-k)
NESC Heavy	11.493	0.000	37.298	813.107	10.532
Extreme Wind	17.698	0.000	13.346	1296.129	2.909

*** Weight of structure (lbs):

Weight of Angles*Section DLF:	13831.2
Total:	13831.2

*** End of Report

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Subject:	Reinforced Foundation Analysis CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L. Checked by: C.F.C. Job No. 12101.CO4

Foundation Analysis

Input Data:

Max. Reactions at Tower Leg:

Shear =	Shear := 28.3·1.1·kips = 31.1·kips	(User Input)	Combined Reactions from Two Adjacents Legs
Compression =	Comp := 117.2·1.1·kips = 128.9·kips	(User Input)	
Uplift =	Uplift := 98.7·1.1·kips = 108.6·kips	(User Input)	

Tower Properties:

Tower Height =	$H_t := 86 \cdot ft$	(User Input)

Foundation Properties:

Pier Height =	$P_H := 2.25 \cdot ft$	(User Input)
Pier Width =	$P_w := 5 \cdot ft$	(User Input)
Pier Length =	$P_l := 3.33 \cdot ft$	(User Input)
Pier Projection Above Grade =	$P_P := 0 \cdot ft$	(User Input)
Pad Width =	$Pd_w := 5 \cdot ft$	(User Input)
Pad Thickness =	$Pd_t := 2 \cdot ft$	(User Input)
Matt Width =	$Mat_w := 10 \cdot ft$	(User Input)
Matt Length =	$Mat_l := 24 \cdot ft$	(User Input)
Matt Thickness =	$Mat_t := 3 \cdot ft$	(User Input)

Subgrade Properties:

Concrete Unit Weight =	$c := 150 \cdot pcf$	(User Input)
Water Unit Weight =	$w := 62.4 \cdot pcf$	(User Input)
Soil Unit Weight =	$s := 100 \cdot pcf$	(User Input)
Uplift Angle =	$:= 30.0 \cdot deg$	(User Input)
Soil Bearing Capacity =	$BC_{soil} := 4000 \cdot psf$	(User Input)
Coefficient of Friction =	$:= 0.45$	(User Input)

Coefficient of Lateral Soil Pressure = $K_p := \frac{1 + \sin(\ )}{1 - \sin(\ )} = 3$

Calculated Data:

Volume of the Concrete Pad = $V_{pad} := Pd_w^2 \cdot Pd_t = 50 \cdot ft^3$

Volume of the Concrete Pier = $V_{pier} := P_w \cdot P_l \cdot P_H = 37.46 \cdot ft^3$

Volume of Mat = $V_{mat} := Mat_w \cdot Mat_l \cdot Mat_t = 720 \cdot ft^3$

Total Volume of Concrete = $V_{Conc} := V_{pad} \cdot 2 + V_{pier} \cdot 2 + V_{mat} = 895 \cdot ft^3$

Volume of Soil = $V_{soil} := 2 \cdot P_w \cdot (P_w - P_l) \cdot (P_H + Mat_t) = 88 \cdot ft^3$

Mass of Concrete = $Mass_{Conc} := V_{Conc} \cdot \ c = 134.2 \cdot kips$

Mass of Soil = $Mass_{Soil} := V_{soil} \cdot \ s = 9 \cdot kips$

Total Mass = $Mass_{tot} := Mass_{Conc} + Mass_{Soil} = 143 \cdot kips$

Check Uplift:

Required Factor of Safety = $F_S := 1.0$

$$ActualFS := \frac{Mass_{tot}}{Uplift} = 1.32$$

$$Uplift\_Check := if\left(\frac{Mass_{tot}}{Uplift} \geq F_S, "OK", "Overstressed"\right)$$

Uplift_Check = "OK"

Check Bearing:

Cross Sectional Area of Pad = $A_{pad} := Mat_w \cdot Mat_l = 240 ft^2$

Section Modulus of Pad = $S_{pad} := \frac{Mat_l \cdot Mat_w^2}{6} = 400 \cdot ft^3$

Residual Mass of Concrete = $Mass_{Concr} := V_{Conc} \cdot (\ c - \ s) = 44.7 \cdot kips$

$$Bearing := \frac{Comp + Mass_{Concr}}{A_{pad}} + \frac{Shear \cdot (Mat_t + P_H + Pd_t)}{S_{pad}} = 1.29 \cdot ksf$$

$$Bearing\_Check := if(Bearing \leq BC_{soil}, "OK", "No Good")$$

Bearing_Check = "OK"

Check Sliding:

$$Sliding\_Check := if(Shear \leq \ \cdot Comp, "OK", "No Good")$$

Sliding_Check = "OK"

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Subject:	Foundation Analysis CL&P Tower # 876
Location:	Fairfield, CT
Rev. 0: 11/20/12	Prepared by: T.J.L. Checked by: C.F.C. Job No. 12101.CO4

Foundation Analysis

Input Data:

Max. Reactions at Tower Leg:

Shear =	Shear := 14.6·1.1·kips = 16.1·kips	(User Input)
Compression =	Comp := 59.7·1.1·kips = 65.7·kips	(User Input)
Uplift =	Uplift := 50.3·1.1·kips = 55.3·kips	(User Input)

Tower Properties:

Tower Height =	$H_t := 86 \cdot ft$	(User Input)

Foundation Properties:

Pier Height =	$P_H := 3.75 \cdot ft$	(User Input)
Pier Width Top =	$P_{w1} := 1.67 \cdot ft$	(User Input)
Pier Width Botttom =	$P_{w2} := 2.14 \cdot ft$	(User Input)
Pier Projection Above Grade =	$P_P := 2.75 \cdot ft$	(User Input)
Pad Width =	$Pd_w := 10 \cdot ft$	(User Input)
Pad Thickness =	$Pd_t := 3.5 \cdot ft$	(User Input)

Subgrade Properties:

Concrete Unit Weight =	$c := 150 \cdot pcf$	(User Input)
Water Unit Weight =	$w := 62.4 \cdot pcf$	(User Input)
Soil Unit Weight =	$s := 100 \cdot pcf$	(User Input)
Uplift Angle =	$:= 30.0 \cdot deg$	(User Input)
Soil Bearing Capacity =	$BC_{soil} := 4000 \cdot psf$	(User Input)
Coefficient of Friction =	$:= 0.45$	(User Input)
Coefficient of Lateral Soil Pressure =	$K_p := \frac{1 + \sin(\ )}{1 - \sin(\ )} = 3$	

Calculated Data:

Volume of the Concrete Pad = $V_{pad} := Pd_w^{2} \cdot Pd_t = 350 \cdot ft^3$

Volume of the Concrete Pier = $V_{pier} := \frac{(P_H)}{3} \cdot \left(P_{w1}^{2} + P_{w2}^{2} + \sqrt{P_{w1}^{2} \cdot P_{w2}^{2}}\right) = 13.68 \cdot ft^3$

Resisting Pyramid Base 1 = $B_1 := Pd_w^{2} = 100 ft^2$

Resisting Pyramid Base 2 = $B_2 := \left[2 \cdot \tan(\ ) \cdot (P_H - P_P) + Pd_w\right]^2 = 124 ft^2$

Volume of Soil = $V_{soil} := \left[\frac{(P_H - P_P)}{3} \cdot \left(B_1 + B_2 + \sqrt{B_1 \cdot B_2}\right)\right] - V_{pier} = 98 \cdot ft^3$

Total Volume of Concrete = $V_{Conc} := V_{pad} + V_{pier} = 364 \cdot ft^3$

Mass of Concrete = $Mass_{Conc} := V_{Conc} \cdot\ c = 54.6 \cdot kips$

Mass of Soil = $Mass_{Soil} := V_{soil} \cdot\ s = 10 \cdot kips$

Total Mass = $Mass_{tot} := Mass_{Conc} + Mass_{Soil} = 64 \cdot kips$

Check Uplift:

Required Factor of Safety = $F_S := 1.0$

$ActualFS := \frac{Mass_{tot}}{Uplift} = 1.16$

$Uplift\_Check := if\left(\frac{Mass_{tot}}{Uplift} \geq F_S, "OK", "Overstressed"\right)$

Uplift_Check = "OK"

Check Bearing:

Cross Sectional Area of Pad = $A_{pad} := Pd_w^{2} = 100 ft^2$

Section Modulus of Pad = $S_{pad} := \frac{(Pd_w)^3}{6} = 167 \cdot ft^3$

Residual Mass of Concrete = $Mass_{Concr} := V_{Conc} \cdot (\ c - \ s) = 18.2 \cdot kips$

$Bearing := \frac{Comp + Mass_{Concr}}{A_{pad}} + \frac{Shear \cdot (P_H + Pd_t)}{S_{pad}} = 1.54 \cdot ksf$

$Bearing\_Check := if\left(Bearing \leq BC_{soil}, "OK", "No Good"\right)$

Bearing_Check = "OK"

Check Overturning:

Passive Pressure on Pad =

$P_{top1} := K_p \cdot s \cdot (P_H - P_P) = 0.3 \cdot ksf$

$P_{bot1} := K_p \cdot s \cdot (P_H - P_P + Pd_t) = 1.35 \cdot ksf$

$P_{ave1} := \frac{P_{top1} + P_{bot1}}{2} = 0.825 \cdot ksf$

$A_{p1} := Pd_w \cdot Pd_t = 35 ft^2$

Ultimate Shear on Pad=

$S_{u1} := P_{ave1} \cdot A_{p1} = 28.875 \cdot kip$

Mass of Soil Above Footing =

$Mass_{sAF} := \left(Pd_w{}^2 \cdot P_H - V_{pier}\right) \cdot s = 36 \cdot k$

Mass of Soil at Back Face of Footing =

$Mass_{sBF} := \left(\frac{1}{2} \cdot \tan(\ ) \cdot P_H{}^2 \cdot Pd_w\right) \cdot s = 4 \cdot k$

Overturning Moment =

$OM := Uplift \cdot \left(\frac{Pd_w}{2}\right) + Shear \cdot (P_H + Pd_t) = 393 \cdot k \cdot ft$

Resisting Moment =

$MR := \left(Mass_{Conc} + Mass_{sAF}\right) \cdot \left(\frac{Pd_w}{2}\right) + Mass_{sBF} \cdot \left(Pd_w + \tan(\ ) \cdot \frac{P_H}{3}\right) + S_{u1} \cdot \frac{Pd_t}{3} = 531 \cdot k \cdot ft$

$Overturing := \frac{MR}{OM} = 1.35$

Overturning_Check := if(OM ≤ MR, "OK" , "No Good")

Overturning_Check = "OK"

Check Sliding:

Sliding_Check := if(Shear ≤ ·Comp, "OK" , "No Good")

Sliding_Check = "OK"

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CT5145	DATE:	4/3/2012 15:30	RF DESIGN ENG:	Radu Alecsandru	RF PERF ENG:	
ISSUE:	Final	Approved? (Y/N)	Y	RF DESIGN PHONE:	(860) 513-7598	RF PERF PHONE:	
REVISION:	V04	RF MANAGER:	Walter Saddig	RF DESIGN EMAIL:	ra9161@att.com	RF PERF EMAIL:	
INITIATIVE / PROJECT:	2Q11 2CA.					TRIDENT:	
						GSM FREQUENCY:	
						UMTS FREQUENCY:	
						LTE FREQUENCY:	
						I-PLAN JOB # 1:	
						I-PLAN JOB # 2:	
						I-PLAN JOB # 3:	
						I-PLAN JOB # 4:	

Section 2 - LOCATION INFORMATION

USID:	26706	FA LOCATION CODE:	10071095	LOCATION NAME:	Lower Scort Hill	ORACLE PRJT # 1:	
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CT	ORACLE PRJT # 2:	
ADDRESS:	280 MOREHOUSE DRIVE	CITY:	FAIRFIELD	STATE:	CT	ORACLE PRJT # 3:	
ZIP CODE:	06432	COUNTY:	FAIRFIELD	MSA/RSA:	42	ORACLE PRJT # 4:	
LATITUDE (D-M-S):	41° 12' 38.13"	LONGITUDE (D-M-S):	-73° 15' 39.96"	LAT (DEC. DEG.):	41.210592	SEARCH RING NAME:	
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	TBD					SEARCH RING ID:	
						BTA:	
						LONG (DEC. DEG.):	
						BORDER CELL WITH CONTI	
						AM STUDY REQ'D (Y/N):	
						FREQ COORD:	

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED:	TBD	CGSA LOSS:	TBD	PCS REDUCED - UPS ZIP:	TBD
CGSA - MINOR FILING NEEDED:	TBD	CGSA EXT AGMT NEEDED:	TBD	PCS POPS REDUCED:	TBD
CGSA - MAJOR FILING NEEDED:	TBD	CGSA SCORECARD UPDATED:	TBD		

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	TBD	GROUND ELEVATION (ft):	207'	STRUCTURE TYPE:	Power Pole Mount	MKT LOCATION 850 MHZ CALL SIGN(S):	
ADDITIONAL REGULATORY?:	TBD	HEIGHT OVERALL (ft):	TBD	FCC ASR NUMBER:	TBD	MKT LOCATION 1900 MHZ CALL SIGN(S):	
SUB-LEASE RIGHTS?:	TBD	STRUCTURE HEIGHT (ft):	TBD			MKT LOCATION 700 MHZ CALL SIGN(S):	
LIGHTING TYPE:	TBD					MKT LOCATION AWS MHZ CALL SIGN(S):	

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:
ALPHA			TBD	TBD	TBD	TBD
BETA			TBD	TBD	TBD	TBD
GAMMA			TBD	TBD	TBD	TBD
DELTA						
EPSILON						
PSI						

Section 6 - RBS GENERAL INFORMATION

4-DIGIT SITE ID:	5145	COW OR TOY?:	NO	CELLULAR NETWORK:	GO
CELL SITE TYPE:	SECTORIZED	SITE TYPE:	MACRO	OPS DISTRICT:	CT-S
BTS LOCATION ID:	TBD	ORIGINATING CO:	ATT	RF DISTRICT:	Bridg

Section 7 - RBS SPECIFIC INFORMATION

	GSM RBSs	UMTS 1ST CARRIER RBSs	UMTS 2ND CARRIER RBSs	UMTS 3RD CARRIER RBSs	UMTS 4TH CARRIER RBSs
MSC	MBP01	TBD	TBD	N/A	N/A
BSC/RNC	BRPTCTBSC02	BRPTCT04RNC001	BRPTCT04RNC001	N/A	N/A
LAC	05011	5999	5999	N/A	N/A
RAC	TBD	255	255	N/A	N/A
EQUIPMENT VENDOR	NOKIA	ERICSSON	ERICSSON	N/A	N/A
EQUIPMENT TYPE	TBD	RBS3206	RBS3206	N/A	N/A
LOCATION	TBD	TBD	TBD	N/A	N/A
CABINET LOCATION	TBD	TBD	TBD	N/A	N/A

Section 8 - RBS INDIVIDUAL INFORMATION

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS
CELL ID/BCF	N/A	321P5145	N/A	CTU5145	N/A	CTU5145	N/A	N/A	N/A	N/A
CTS COMMON ID	N/A	321P5145	N/A	CTU5145	N/A	CTU5145	N/A	N/A	N/A	N/A

Section 9 - SOFT SECTOR ID

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS
ALPHA (OR OMNI)	N/A	321P51451	N/A	CTU51457	N/A	CTU51454	N/A	N/A	N/A	N/A
BETA	N/A	321P51452	N/A	CTU51458	N/A	CTU51455	N/A	N/A	N/A	N/A
GAMMA	N/A	321P51453	N/A	CTU51459	N/A	CTU51456	N/A	N/A	N/A	N/A
DELTA										
EPSILON										
PSI										

Section 10 - CID/SAC

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS
ALPHA (OR OMNI)	N/A	51451	N/A	51457	N/A	51454	N/A	N/A	N/A	N/A
BETA	N/A	51452	N/A	51458	N/A	51455	N/A	N/A	N/A	N/A
GAMMA	N/A	51453	N/A	51459	N/A	51456	N/A	N/A	N/A	N/A
DELTA										
EPSILON										
PSI										

Section 11 - CURRENT RADIO COUNTS (Existing)

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS
ALPHA (OR OMNI)	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
BETA	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
DELTA										
EPSILON										
PSI										

Section 12 - CURRENT BASE BAND CONFIGURATION (Existing)

	GSM 1st Cabinet	GSM 2nd Cabinet	UMTS 1st Cabinet	UMTS 2nd Cabinet	UMTS 3rd Cabinet
# T1s	1	TBD	TBD	TBD	
LINK PROFILE	TBD	TBD	TBD	TBD	
RF Combining					
Fiber or Ethernet?	TBD	TBD	TBD	TBD	
Tx Board Model					
Tx Board QTY					
RAX/ECU Board Model					
RAX/ECU Board QTY					
BBU Board Model					
BBU Board QTY					
RRU - Type(Qty-Model)					
Fiber Jumper					
DC Cable					
DC/Fiber Dem. Box					
Bundled Fiber Cable					
Bundled DC Cable					

Section 13 - NEW/PROPOSED RADIO COUNTS

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS
ALPHA (OR OMNI)	N/A	2	N/A	1	N/A	1	N/A	N/A	N/A	N/A
BETA	N/A	2	N/A	1	N/A	1	N/A	N/A	N/A	N/A
GAMMA	N/A	2	N/A	1	N/A	1	N/A	N/A	N/A	N/A
DELTA										
EPSILON										
PSI										

Section 14 - NEW/PROPOSED BASE BAND CONFIGURATION

	GSM 1st Cabinet	GSM 2nd Cabinet	UMTS 1st Cabinet	UMTS 2nd Cabinet	UMTS 3rd Cabinet
# T1s					
LINK PROFILE					
RF Combining					
Fiber or Ethernet?					
Tx Board Model					
Tx Board QTY					
RAX/ECU Board Model					
RAX/ECU Board QTY					
BBU Board Model					
BBU Board QTY					
BBU - Type(Qty-Model)					
Fiber Jumper					
DC Cable					
DC/Fiber Dem. Box					
Bundled Fiber Cable					
Bundled DC Cable					

Section 15A - CURRENT SECTOR/CELL INFORMATION - ALPHA (OR OMNI)

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	N/A | ITS / 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	N/A | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	7250.02			
ANTENNA VENDOR	Powerwave			
ANTENNA SIZE (H x W x D)	0			
ANTENNA WEIGHT	0			
ANTENNA GAIN	18.6 dBi | 18.6 dBi			
AZIMUTH	0 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A			
SCPA/MCPA MODULE?	N/A			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1				
Local Market Note2				
Local Market Note3				

Section 15B - CURRENT SECTOR/CELL INFORMATION - BETA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	N/A | ITS / 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	N/A | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	7250.02			
ANTENNA VENDOR	Powerwave			
ANTENNA SIZE (H x W x D)	0			
ANTENNA WEIGHT	0			
ANTENNA GAIN	18.6 dBi | 18.6 dBi			
AZIMUTH	120 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A			
SCPA/MCPA MODULE?	N/A			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1				
Local Market Note2				
Local Market Note3				

Section 15C - CURRENT SECTOR/CELL INFORMATION - GAMMA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	N/A | ITS / 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	N/A | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	7250.02			
ANTENNA VENDOR	Powerwave			
ANTENNA SIZE (H x W x D)	0			
ANTENNA WEIGHT	0			
ANTENNA GAIN	18.6 dBi | 18.6 dBi			
AZIMUTH	240 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A			
SCPA/MCPA MODULE?	N/A			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1				
Local Market Note2				
Local Market Note3				

Section 15D - CURRENT SECTOR/CELL INFORMATION - DELTA								
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?								
TECHNOLOGY								
RRH LOCATION (Top/Bottom/None)								
FEEDERS TYPE								
Feeder Length (feet)								
ANTENNA ATOLL								
ANTENNA MAKE - MODEL								
ANTENNA VENDOR								
ANTENNA SIZE (H x W x D)								
ANTENNA WEIGHT								
ANTENNA GAIN								
AZIMUTH								
RADIATION CENTER (feet)								
ANTENNA TIP HEIGHT								
ELECTRICAL TILT (700/850/1900/AWS)								
MECHANICAL DOWNTILT								
FEEDER AMOUNT								
Antenna RET Motor (QTY/MODEL)								
Antenna RET Splitter (QTY/MODEL)								
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)								
Antenna RET Surge Arrestor (QTY/MODEL)								
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site								
DC BLOCK (QTY/MODEL)								
TMA/LNA (TYPE/MODEL)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)								
PDU FOR TMAS (QTY/MODEL) usually per site								
SURGE ARRESTOR (QTY/MODEL)								
DIPLEXER (QTY/MODEL)								
HYBRID COMBINER (QTY/MODEL)								
DUPLEXER (QTY/MODEL)								
FILTER (QTY/MODEL)								
RXAIT KIT MODULE?								
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)								
SCPA/MCPA MODULE?								
Additional Component1								
Additional Component2								
Additional Component3								
MAGNETIC DECLINATION								
HATCHPLATE POWER (Watts)								
ERP (Watts)								
Local Market Note1								
Local Market Note2								
Local Market Note3								

Section 15E - CURRENT SECTOR/CELL INFORMATION - EPSILON								
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?								
TECHNOLOGY								
RRH LOCATION (Top/Bottom/None)								
FEEDERS TYPE								
Feeder Length (feet)								
ANTENNA ATOLL								
ANTENNA MAKE - MODEL								
ANTENNA VENDOR								
ANTENNA SIZE (H x W x D)								
ANTENNA WEIGHT								
ANTENNA GAIN								
AZIMUTH								
RADIATION CENTER (feet)								
ANTENNA TIP HEIGHT								
ELECTRICAL TILT (700/850/1900/AWS)								
MECHANICAL DOWNTILT								
FEEDER AMOUNT								
Antenna RET Motor (QTY/MODEL)								
Antenna RET Splitter (QTY/MODEL)								
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)								
Antenna RET Surge Arrestor (QTY/MODEL)								
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site								
DC BLOCK (QTY/MODEL)								
TMA/LNA (TYPE/MODEL)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)								
PDU FOR TMAS (QTY/MODEL) usually per site								
SURGE ARRESTOR (QTY/MODEL)								
DIPLEXER (QTY/MODEL)								
HYBRID COMBINER (QTY/MODEL)								
DUPLEXER (QTY/MODEL)								
FILTER (QTY/MODEL)								
RXAIT KIT MODULE?								
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)								
SCPA/MCPA MODULE?								
Additional Component1								
Additional Component2								
Additional Component3								
MAGNETIC DECLINATION								
HATCHPLATE POWER (Watts)								
ERP (Watts)								
Local Market Note1								
Local Market Note2								
Local Market Note3								

Section 15F - CURRENT SECTOR/CELL INFORMATION - ZETA								
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?								
TECHNOLOGY								
RRH LOCATION (Top/Bottom/None)								
FEEDERS TYPE								
Feeder Length (feet)								
ANTENNA ATOLL								
ANTENNA MAKE - MODEL								
ANTENNA VENDOR								
ANTENNA SIZE (H x W x D)								
ANTENNA WEIGHT								
ANTENNA GAIN								
AZIMUTH								
RADIATION CENTER (feet)								
ANTENNA TIP HEIGHT								
ELECTRICAL TILT (700/850/1900/AWS)								
MECHANICAL DOWNTILT								
FEEDER AMOUNT								
Antenna RET Motor (QTY/MODEL)								
Antenna RET Splitter (QTY/MODEL)								
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)								
Antenna RET Surge Arrestor (QTY/MODEL)								
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site								
DC BLOCK (QTY/MODEL)								
TMA/LNA (TYPE/MODEL)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)								
PDU FOR TMAS (QTY/MODEL) usually per site								
SURGE ARRESTOR (QTY/MODEL)								
DIPLEXER (QTY/MODEL)								
HYBRID COMBINER (QTY/MODEL)								
DUPLEXER (QTY/MODEL)								
FILTER (QTY/MODEL)								
RXAIT KIT MODULE?								
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)								
SCPA/MCPA MODULE?								
Additional Component1								
Additional Component2								
Additional Component3								
MAGNETIC DECLINATION								
HATCHPLATE POWER (Watts)								
ERP (Watts)								
Local Market Note1								
Local Market Note2								
Local Market Note3								

Section 16A - NEW/PROPOSED SECTOR/CELL INFORMATION - ALPHA (OR OMNI)

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	LTE / 700 | S / MC 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	BOTTOM | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	FX-X-CH-65-12-65-14-00T-AT			
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN	|			
AZIMUTH	0 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A | N/A / LLC - 1900 Band			
SCPA/MCPA MODULE?	N/A | Booster (1900 Band)			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1	Add 1900 LLC, 1900 Radio kit and jumpers.			
Local Market Note2	CCI Triplexer TPX-070821			
Local Market Note3				

Section 16B - NEW/PROPOSED SECTOR/CELL INFORMATION - BETA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	LTE / 700 | S / MC 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	BOTTOM | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	FX-X-CH-65-12-65-14-00T-AT			
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN	|			
AZIMUTH	120 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A | N/A / LLC - 1900 Band			
SCPA/MCPA MODULE?	N/A | Booster (1900 Band)			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1	Add 1900 LLC, 1900 Radio kit and jumpers.			
Local Market Note2	CCI Triplexer TPX-070821			
Local Market Note3				

Section 16C - NEW/PROPOSED SECTOR/CELL INFORMATION - GAMMA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?	N/A | TxRx-Rx			
TECHNOLOGY	LTE / 700 | S / MC 1900 - GSM / 1900			
RRH LOCATION (Top/Bottom/None)	BOTTOM | N/A			
FEEDERS TYPE	1 5/8" - Andrew | 1 5/8" - Andrew			
Feeder Length (feet)	112 ' | 112 '			
ANTENNA ATOLL				
ANTENNA MAKE - MODEL	FX-X-CH-65-12-65-14-00T-AT			
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN	|			
AZIMUTH	240 °			
RADIATION CENTER (feet)	84 '			
ANTENNA TIP HEIGHT	84 '			
ELECTRICAL TILT (700/850/1900/AWS)	0 ° | 0 °			
MECHANICAL DOWNTILT	0 °			
FEEDER AMOUNT	2			
Antenna RET Motor (QTY/MODEL)	N/A			
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)	N/A			
TMA/LNA (TYPE/MODEL)	N/A			
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A			
PDU FOR TMAS (QTY/MODEL) usually per site	N/A			
SURGE ARRESTOR (QTY/MODEL)	N/A			
DIPLEXER (QTY/MODEL)	N/A			
HYBRID COMBINER (QTY/MODEL)	N/A			
DUPLEXER (QTY/MODEL)	N/A			
FILTER (QTY/MODEL)	N/A			
RXAIT KIT MODULE?	N/A | RxAIT - 1900 Band			
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A | N/A / LLC - 1900 Band			
SCPA/MCPA MODULE?	N/A | Booster (1900 Band)			
Additional Component1	N/A			
Additional Component2	N/A			
Additional Component3	N/A			
MAGNETIC DECLINATION	-14 °			
HATCHPLATE POWER (Watts)	TBD | TBD			
ERP (Watts)	TBD | TBD			
Local Market Note1	Add 1900 LLC, 1900 Radio kit and jumpers.			
Local Market Note2	CCI Triplexer TPX-070821			
Local Market Note3				

Section 16D - NEW/PROPOSED SECTOR/CELL INFORMATION - DELTA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?				
TECHNOLOGY				
RRH LOCATION (Top/Bottom/None)				
FEEDERS TYPE				
Feeder Length (feet)				
ANTENNA ATOLL				
ANTENNA MAKE - MODEL				
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN				
AZIMUTH				
RADIATION CENTER (feet)				
ANTENNA TIP HEIGHT				
ELECTRICAL TILT (700/850/1900/AWS)				
MECHANICAL DOWNTILT				
FEEDER AMOUNT				
Antenna RET Motor (QTY/MODEL)				
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)				
TMA/LNA (TYPE/MODEL)				
CURRENT INJECTORS FOR TMA (QTY/MODEL)				
PDU FOR TMAS (QTY/MODEL) usually per site				
SURGE ARRESTOR (QTY/MODEL)				
DIPLEXER (QTY/MODEL)				
HYBRID COMBINER (QTY/MODEL)				
DUPLEXER (QTY/MODEL)				
FILTER (QTY/MODEL)				
RXAIT KIT MODULE?				
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)				
SCPA/MCPA MODULE?				
Additional Component1				
Additional Component2				
Additional Component3				
MAGNETIC DECLINATION				
HATCHPLATE POWER (Watts)				
ERP (Watts)				
Local Market Note1				
Local Market Note2				
Local Market Note3				

Section 16E - NEW/PROPOSED SECTOR/CELL INFORMATION - EPSILON

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?				
TECHNOLOGY				
RRH LOCATION (Top/Bottom/None)				
FEEDERS TYPE				
Feeder Length (feet)				
ANTENNA ATOLL				
ANTENNA MAKE - MODEL				
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN				
AZIMUTH				
RADIATION CENTER (feet)				
ANTENNA TIP HEIGHT				
ELECTRICAL TILT (700/850/1900/AWS)				
MECHANICAL DOWNTILT				
FEEDER AMOUNT				
Antenna RET Motor (QTY/MODEL)				
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)				
TMA/LNA (TYPE/MODEL)				
CURRENT INJECTORS FOR TMA (QTY/MODEL)				
PDU FOR TMAS (QTY/MODEL) usually per site				
SURGE ARRESTOR (QTY/MODEL)				
DIPLEXER (QTY/MODEL)				
HYBRID COMBINER (QTY/MODEL)				
DUPLEXER (QTY/MODEL)				
FILTER (QTY/MODEL)				
RXAIT KIT MODULE?				
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)				
SCPA/MCPA MODULE?				
Additional Component1				
Additional Component2				
Additional Component3				
MAGNETIC DECLINATION				
HATCHPLATE POWER (Watts)				
ERP (Watts)				
Local Market Note1				
Local Market Note2				
Local Market Note3				

Section 16F - NEW/PROPOSED SECTOR/CELL INFORMATION - ZETA

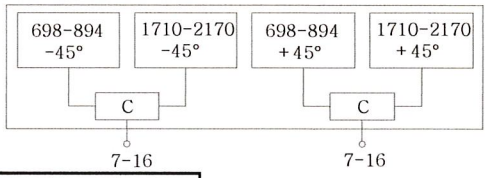
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)
TX/RX?				
TECHNOLOGY				
RRH LOCATION (Top/Bottom/None)				
FEEDERS TYPE				
Feeder Length (feet)				
ANTENNA ATOLL				
ANTENNA MAKE - MODEL				
ANTENNA VENDOR				
ANTENNA SIZE (H x W x D)				
ANTENNA WEIGHT				
ANTENNA GAIN				
AZIMUTH				
RADIATION CENTER (feet)				
ANTENNA TIP HEIGHT				
ELECTRICAL TILT (700/850/1900/AWS)				
MECHANICAL DOWNTILT				
FEEDER AMOUNT				
Antenna RET Motor (QTY/MODEL)				
Antenna RET Splitter (QTY/MODEL)				
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)				
Antenna RET Surge Arrestor (QTY/MODEL)				
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site				
DC BLOCK (QTY/MODEL)				
TMA/LNA (TYPE/MODEL)				
CURRENT INJECTORS FOR TMA (QTY/MODEL)				
PDU FOR TMAS (QTY/MODEL) usually per site				
SURGE ARRESTOR (QTY/MODEL)				
DIPLEXER (QTY/MODEL)				
HYBRID COMBINER (QTY/MODEL)				
DUPLEXER (QTY/MODEL)				
FILTER (QTY/MODEL)				
RXAIT KIT MODULE?				
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)				
SCPA/MCPA MODULE?				
Additional Component1				
Additional Component2				
Additional Component3				
MAGNETIC DECLINATION				
HATCHPLATE POWER (Watts)				
ERP (Watts)				
Local Market Note1				
Local Market Note2				
Local Market Note3				

2 foot Panel Antenna
Fixed Electrical Tilt with Integrated Diplexer
FX-X-CD-65-12-65-14-00T-ST

698~894MHz, X-pol., H65°/ V33°
1710~2170MHz, X-pol., H60°/ V18°

● Electrical Specification

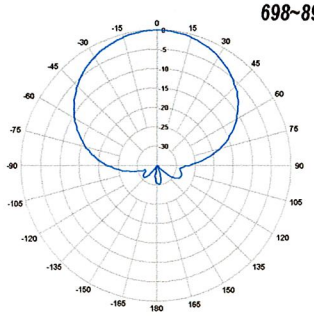
Product Number		FX-X-CD-65-12-65-14-00T-ST			
Frequency Band		698~894MHz		1710~2170MHz	
Frequency Range		698~824MHz	824~894MHz	1710~1990MHz	1920~2170MHz
3dB Beam-Width	Horizontal	65°	62°	55°	55°
	Vertical	35.0°	32.0°	19.0°	17.0°
Gain (dBi /dBd)		12.7 / 10.6	12.4 / 10.3	14.0 / 11.9	13.5 / 11.4
Fixed Electrical Down Tilt		0°			
Front-to-Back Ratio		≥ 25dB		≥ 27dB	
Polarization Type		Dual, Slant ±45°		Dual, Slant ±45°	
Cross –Polar Discrimination	Boresight	≥ 15dB		≥ 15dB	
	±60°	≥ 8dB		≥ 8dB	
Input Maximum CW Power		500W		300W	
Impedance		50Ω		50Ω	
VSWR (Return Loss)		≤1.5:1 (≥ 14dB)		≤1.5:1 (≥ 14dB)	
Isolation	Between Ports	≥ 30dB		≥ 30dB	
	Between Bands	≥ 35dB (698~894MHz // 1710~2170MHz)			
Passive Intermodulation, IM3		≤ -150dBc (@2x43dBm)			



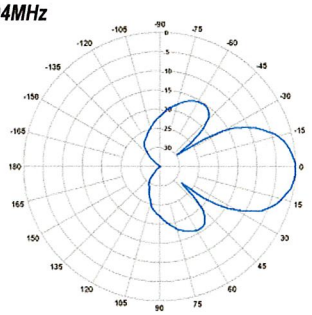
● Mechanical Specification

Dimension (Length x Width x Depth)	622mm x 300mm x 150mm (24.0" x 11.8" x 6.0")
Weight without Clamp	7.0kg (15.4lbs)
Max. Wind Speed	60m/s (150mph)
Wind Load (@100mph), Front / Side / Rear	280.8N / 138.1N / 280.8N (63.1lbf / 31.1lbf / 63.1lbf)
Connector (Type / Position)	2 x 7/16" DIN(Female) / Bottom

698~894MHz

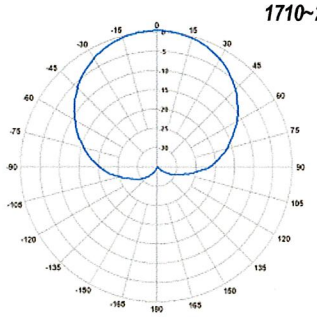


Horizontal Pattern

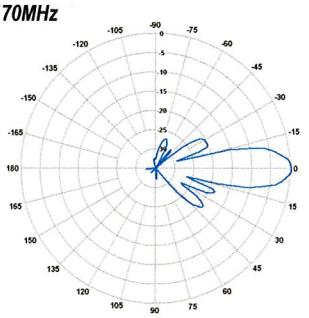


Vertical Pattern

1710~2170MHz



Horizontal Pattern



Vertical Pattern

• Specifications are subject to change without notice. October 21st, 2011