

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@po.state.ct.us

Web Site: www.state.ct.us/csc/index.htm

March 20, 2001

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **TS-VOICESTREAM-012-010301** - VoiceStream Wireless Corporation request for an order to approve tower sharing at an existing telecommunications facility located at 130 Vernon Road, Bolton, Connecticut.

Dear Attorney Humes:

At a public meeting held March 15, 2001, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures conditioned with the issuance of a local Building Permit. 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. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letters dated March 1, 2001, and March 12, 2001.

Thank you for your attention and cooperation.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/RKE/laf

- C: Honorable Carl A. Preuss, First Selectman, Town of Bolton
Lincoln B. White, Zoning Enforcement Officer, Town of Bolton
Mountaintop Enterprises, Inc.
Peter W. van Wilgen, SNET Cellular LLC
Sandy M. Carter, Verizon Wireless
Dorian E. Hill, Northeast Utilities Service Company
Ronald C. Clark, Nextel Communications, Inc.
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC

Voicestream Wireless
130 Vernon Road, Bolton
3/14/01



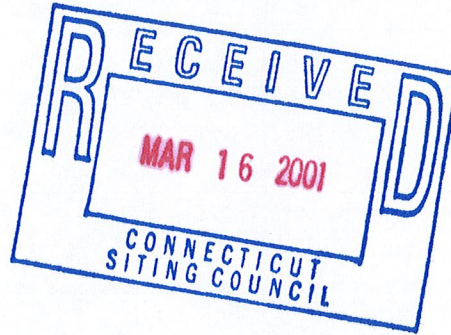


Town of Bolton

222 BOLTON CENTER ROAD • BOLTON, CT 06043

LAND USE DEPARTMENT
649-8066

Joel Rinebold
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Conn. 06051



March 14, 2001

Re: TS-Voicestream-012-010301, 130 Vernon Road, Bolton

Dear Mr. Rinebold,

Thank you for informing the Town of Bolton that VoiceStream Wireless Corporation has requested the Connecticut Siting Council for an order to approve a tower sharing at an existing telecommunications facility at 130 Vernon Road in Bolton. Below I have briefly described Bolton's requirements for a new telecommunications antenna in the town.

Section 17 Wireless Telecommunication Sites, of the Bolton Zoning Regulations, requires all new telecommunication antennas and equipment proposals to receive a Site Plan Review approval or a Special Permit approval from the Bolton Planning and Zoning Commission, depending on the individual circumstances. The purpose of this zoning regulation is to provide for the operation of wireless telecommunication services within the Town of Bolton while protecting neighborhoods and minimizing the adverse visual and operational effects of wireless telecommunications sites through careful design, siting and screening. Once the appropriate zoning approval has been granted, the Building Official may approve a building permit application for the work.

I hope that the Siting Council will give appropriate consideration to the above Bolton regulation in ruling on the request by VoiceStream Wireles Corporation. If you have any questions you may call me at (860) 649-8066 ext. 104 or send a facimile to me at (860) 643-0021.

Sincerely,

Robert Grillo
Town Engineer/Planner

c: Board of Selectmen, Planning & Zoning Commission

LEBOEUF, LAMB, GREENE & MACRAE, L.L.P.

FAX TRANSMISSION

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

**GOODWIN SQUARE
225 ASYLUM STREET
HARTFORD, CT 06103
TELEPHONE: (860) 293-3500
FAX: (860) 293-3555**

IF ANY TRANSMISSION PROBLEMS: (860) 293-3500

From: Kurt Sheathelm, Paralegal

Date: March 12, 2001

ID#: 6150

Page: 1 of 3

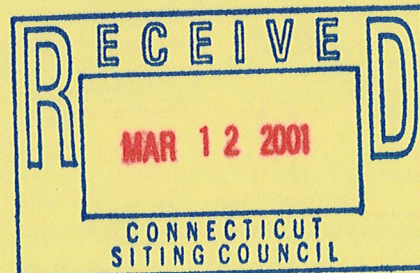
**If you have any questions regarding this transmission, please contact:
Kurt at 293-3565.**

To:	Fax Number	Confirming Telephone Number	Client/Matter Number
Bob Erling Connecticut Siting Council	827-2950	827-2935	07687/153

Comments/Message: URGENT - PLEASE DELIVER TO MR. ERLING IMMEDIATELY. THANKS.

RE: VoiceStream Tower Share Application - 130 Vernon Road, Bolton

Bob - As stated in my voicemail, here are the power density calculation breakdowns for the other antennas on the Vernon Road Tower. I have also included an amendment to the lease showing Mountaintop Enterprises, Inc. as the owner of the tower, as you suggested. Please let me know if you have any questions. Thanks. Kurt



Results of Power Density Calculation at Vernon Road Tower

Transmitting Antenna System	% Maximum Permissible Exposure
Sprint PCS	2.1472
Motorola - Pagemart	20.3289
Motorola - Airtouch	5.65
Motorola - Connecticut Radio	2.0935
Bolton Radio Station	0.023
Omnipoint	0.1444
Nextel	2.999
SNET Moblly	4.2154
Commsite International	0.4293
MetroCall # 1	0.2073
MetroCall # 2	1.1154
NorthUtilities # 1	0.2354
NorthUtilities # 2	0.0472
NorthUtilities # 3	0.0575
NorthUtilities # 4	0.0637
MobileComm # 1	0.8009
MobileComm # 2	0.8008
MobileComm # 3	0.533
MobileMedia # 1	1.1371
MobileMedia # 2	0.1701
MobileMedia # 3	0.3691
MobileMedia # 4	0.3695
BellAtlantic # 1	0.5153
BellAtlantic # 2	0.5153
BellAtlantic Microwave Dish	0.2776
Total % MPE	45.2459

First Amendment to Tower Lease Agreement

This First Amendment to Tower Lease Agreement (hereinafter, the "First Amendment") is entered into as of this 2nd day of October, 2000 by and between Mountaintop Enterprises, Inc. a Connecticut corporation, with its principal office at 10 Quarry Road, Post Office Box 9219, Bolton, CT 06043, hereinafter called Lessor, and Omnipoint Communications, Inc., a Delaware corporation, with its principal office at 360 Newark-Pompton Turnpike, Wayne, NJ 07470, hereinafter called the Lessee.

WHEREAS, Lessor and Lessee are parties to that certain Tower Lease Agreement dated as of May 29, 1998 (the "Lease Agreement"), for a portion of that certain parcel of property located at 130 Vernon Road, City of Bolton, County of Tolland, State of Connecticut, as more particularly described in the Lease Agreement (the "Premises").

WHEREAS, the Lessor and Lessee desire to amend the Exhibit A-1 and the terms of said Lease Agreement as set forth below.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lessor and Lessee agree as follows:

IN WITNESS WHEREOF, the Lessor and Lessee have duly executed this First Amendment as of the date first set forth above.

WITNESS:

Jeremy Wilson

LESSEE: Omnipoint Communications

Michael S. Fullon
By: Michael S. Fullon
Title: Technical Director
Date: Oct 2nd, 2000

WITNESS:

Lynn J. Robison

LESSOR: Mountaintop Enterprises Inc., a Connecticut corporation

Milton Hathaway
By: Milton Hathaway
Title: President
Date: 9-27-00



STATE OF CONNECTICUT

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March 7, 2001

Honorable Carl A. Preuss
First Selectman
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

RE: **TS-VOICESTREAM-012-010301** - VoiceStream Wireless Corporation request for an order to approve tower sharing at an existing telecommunications facility located at 130 Vernon Road, Bolton, Connecticut.

Dear Mr. Preuss:

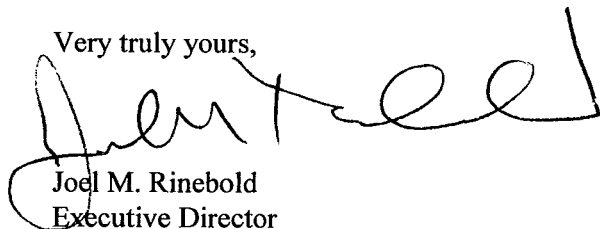
The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for March 15, 2001, at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,



Joel M. Rinebold
Executive Director

JMR/laf

Enclosure: Notice of Tower Sharing

c: Mr. Lincoln B. White, Zoning Enforcement Officer, Town of Bolton

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

NEW YORK
WASHINGTON, D.C.
ALBANY
BOSTON
DENVER
HARRISBURG
HARTFORD
HOUSTON
JACKSONVILLE
LOS ANGELES
NEWARK
PITTSBURGH
SALT LAKE CITY
SAN FRANCISCO

GOODWIN SQUARE
225 ASYLUM STREET
HARTFORD, CT 06103

(860) 293-3500

FACSIMILE: (860) 293-3555

WRITER'S DIRECT DIAL:
(860) 293-3744

LONDON
(A LONDON-BASED
MULTINATIONAL PARTNERSHIP)

PARIS

BRUSSELS

MOSCOW

RIYADH
(AFFILIATED OFFICE)

TASHKENT

BISHKEK

ALMATY

BEIJING

March 1, 2000

RECEIVED

MAR 01 2001

CONNECTICUT
SITING COUNCIL

Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

**Re: Request by VoiceStream Wireless Corp. for an Order
to Approve the Shared Use of a Tower Facility
130 Vernon Road, Bolton, Connecticut**

Dear Chairman Gelston and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents VoiceStream Wireless Corporation ("VoiceStream") in the above-referenced matter. Pursuant to Connecticut General Statutes §16-50aa, VoiceStream hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by the applicant of an existing tower located at 130 Vernon Road in Bolton, Connecticut. VoiceStream proposes to install antennas on the existing tower, and the equipment associated with this facility would be located near the base of the tower within the existing compound (see "Exhibit A"). VoiceStream requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in §16-50aa and issue an order approving the proposed use.

Background

In February 2000, VoiceStream acquired from Omnipoint Communications, Inc. the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. VoiceStream is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

The tower at 130 Vernon Road in Bolton is a 280-foot guyed tower. The coordinates for the site are 41°-48'-10" N and 72°-26'-28" W. VoiceStream and the owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the owner has authorized VoiceStream to act on its behalf to apply for all necessary local, state and federal permits, approvals and authorizations which may be required for the proposed shared use of this facility.

VoiceStream proposes to install an antenna cluster comprised of two sectors, with 4 antennas per sector. The model number for each sector is EMS RR90-17-02 DP. The proposed antennas would be mounted with standoff brackets with centerlines at the 180-foot elevation. The radio transmission equipment associated with these antennas, a Nortel S8000 cabinet, would be located near the base of the tower on an existing concrete pad. Exhibit B contains specifications for the proposed antennas and equipment cabinet.

C.G.S. §16-50aa (c) (1) provides in pertinent part that upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." The shared use of the tower satisfies those criteria as follows:

A. Technical Feasibility - The existing tower was designed to accommodate multiple carriers. A structural analysis of the tower with the proposed VoiceStream installation has been performed and is attached as Exhibit C. The proposed shared use of this tower therefore is technically feasible.

B. Legal Feasibility Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the proposed shared use of an existing tower facility such as the facility at 130 Vernon Road in Bolton. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. § 16-50x(a) vests exclusive jurisdiction over these facilities in the Council, which shall "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing towers facilities. Under this statutory authority vested in the Council, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility The proposed shared use would have minimal environmental effects, if any, for the following reasons:

1. The proposed installations (i.e., two sectors with 4 antennas per sector) would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. In particular, the proposed installations would not increase the height of the existing tower, and would not extend the boundaries of the existing compound area.
2. The proposed installations would not increase the noise levels at the existing facility by six decibels or more.
3. Operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the American National Standards Institute ("ANSI"). The "worst-case" exposure calculated for operation of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field of the antennas), with the existing and VoiceStream antennas, would be 46.25 % of the ANSI standard. These calculations are attached as Exhibit D.

4. The proposed installations would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities, or generate air emissions or discharges to water bodies. After construction is complete (approximately two weeks), the proposed installations would not generate any traffic other than periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, if any, and is environmentally feasible.

D. Economic Feasibility As previously mentioned, the owner and VoiceStream have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety Concerns As stated above, the existing tower is structurally capable of supporting the proposed VoiceStream antennas. The tower stands on a compound accessible from Vernon Road. VoiceStream is not aware of any other public safety concerns relative to the proposed sharing of the existing tower. In fact, the provision of new or improved phone service through shared use of the existing tower will enhance the safety and welfare of area residents.


Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at 130 Vernon Road in Manchester, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in Connecticut. VoiceStream therefore respectfully requests that the Council issue an order approving the proposed shared use of this tower.

Thank you for your consideration of this matter.

Respectfully submitted,

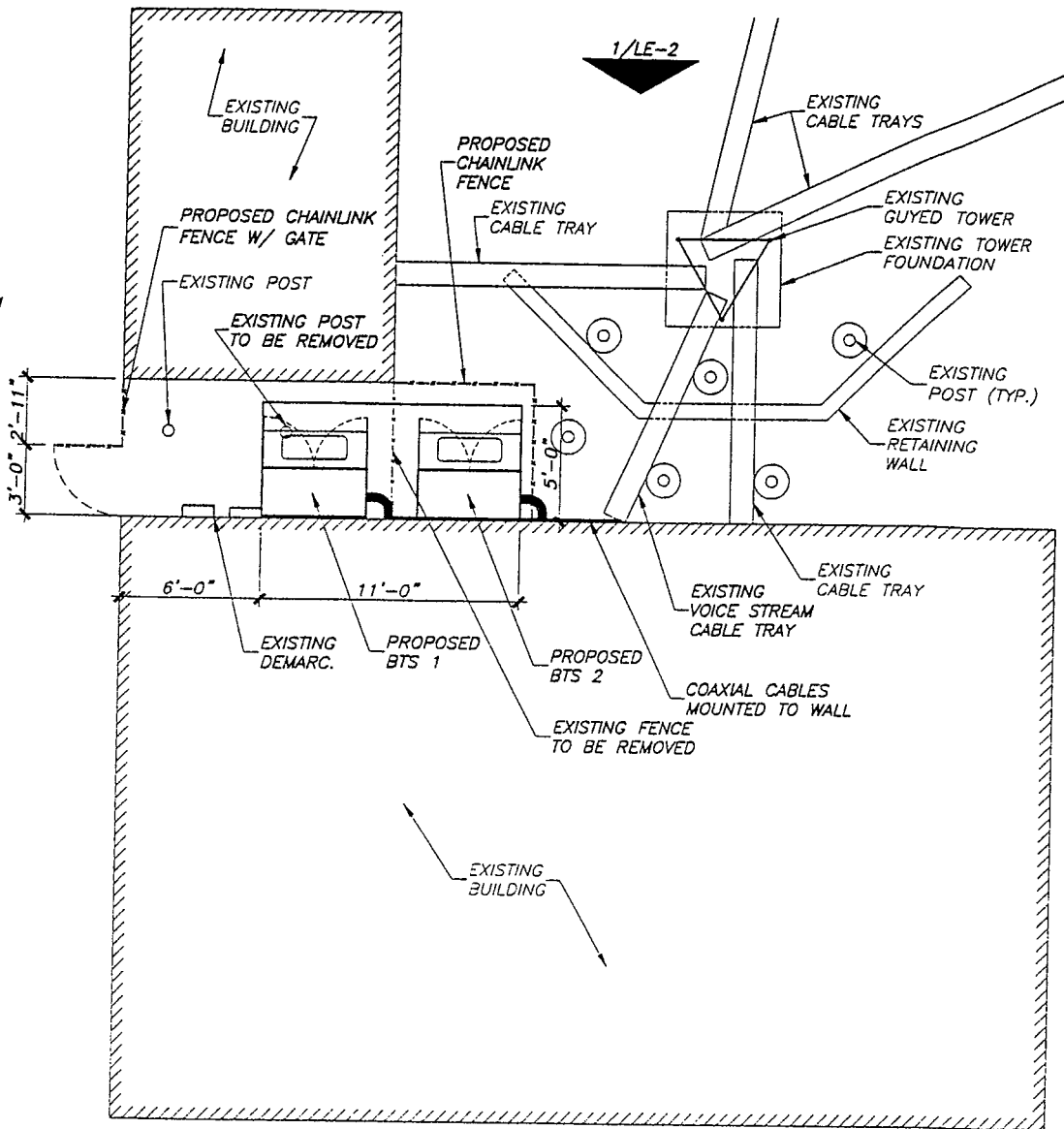
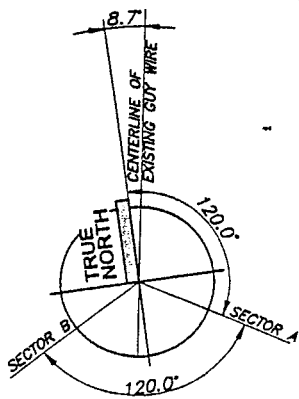
VOICESTREAM WIRELESS CORPORATION

By: 
Its Counsel
Stephen J. Humes
Diane W. Whitney

Attachments

cc: Carl A. Preuss, First Selectman, Town of Bolton

X-REFS: 320377-180C-LE-BORDER.DWG
 1500 (CAD) 320377-180C-LE-1.DWG



1
Compound Plan
LE-1
SCALE: 1/8" = 1'-0"

NOTE:

LEASE EXHIBITS SUBMITTED ARE A CONCEPTUAL REPRESENTATION OF THE LEASE AGREEMENT ONLY. CONSTRUCTION DOCUMENTS MAY VARY FROM THESE EXHIBITS IN ORDER TO COMPLY WITH ALL APPLICABLE CODES.

THIS PLAN WAS PREPARED USING AVAILABLE SITE INFORMATION FROM SEVERAL SOURCES, SOME OF WHICH MAY BE UNCONFIRMED, AND REPRESENTS A CONCEPTUAL SITE DEVELOPMENT PLAN BASED ON DEVELOPMENT REQUIREMENTS PROVIDED BY VOICESTREAM WIRELESS.

Client:

VoiceStream
WIRELESS

100 FILLEY STREET
BLOOMFIELD, CT 06002

OMNIPPOINT

Approved By: _____ Date: _____
 Owner/SAC: _____ Date: _____
 R.F. Engr.: _____ Date: _____
 Network: _____ Date: _____

Drawing Title:
COMPOUND PLAN

Project:
280'-0" GUYED TOWER
130 VERNON STREET
BOLTON, CT

Client Project I.D. No.
CT-11180C

Carter = Burgess

481 BUCKLAND ROAD, SUITE 201
SOUTH WINDSOR, CT 06074
TEL 860-648-5619 FAX 860-648-5665

C-B Project Number	PK	Drawn by	Date
320377	KAM	DBK	08/08/00

Rev. No. | Date:

Drawing No.

LE-1

TUE, AUG 08, 2000 08:28 A DBK H:\VOICESTREAM-OMNIPPOINT\BOLTON\320377-180C\CAD\320377-180C-LE-2.DWG X-REFS, 320377-180C-LE-BORDER.DWG

⊕ TOP OF EXISTING GUYED TOWER
280'-0" A.G.L.

⊕ RAD. CENTER OF VOICE STREAM ANTENNAS
180'-0" A.G.L.

PROPOSED VOICE STREAM
ANTENNAS MOUNTED ON
STANDOFF BRACKETS

EXISTING
GUY WIRE
(TYP.)

EXISTING GUYED
TOWER

EXISTING SNET
SHELTER IN
BACKGROUND

EXISTING
SHELTER IN
FOREGROUND

GRADE AT
CABINETS

EXISTING
RETAINING WALL
BEYOND TOWER

PROPOSED
CHAINLINK
FENCE

PROPOSED
BTS 2

EXISTING SHELTER
IN FOREGROUND

EXISTING DEMARC.
ON WALL

PROPOSED
BTS 1

1
LE-3

1 Tower Elevation
LE-2 SCALE: 1" = 40'-0"

Client:

VoiceStream
WIRELESS

100 FILLEY STREET
BLOOMFIELD, CT 06002

OMNIPPOINT

Approved By:

Owner/SAC: _____ Date: _____

R.F. Engr.: _____ Date: _____

Network: _____ Date: _____

Drawing Title:
TOWER ELEVATION

Project:
**280'-0" GUYED TOWER
130 VERNON STREET
BOLTON, CT**

Client Project I.D. No:
CT-11180C

Carter-Burgess

481 BUCKLAND ROAD, SUITE 201
SOUTH WINDSOR, CT 06074
TEL 860-648-5619 FAX 860-648-5665

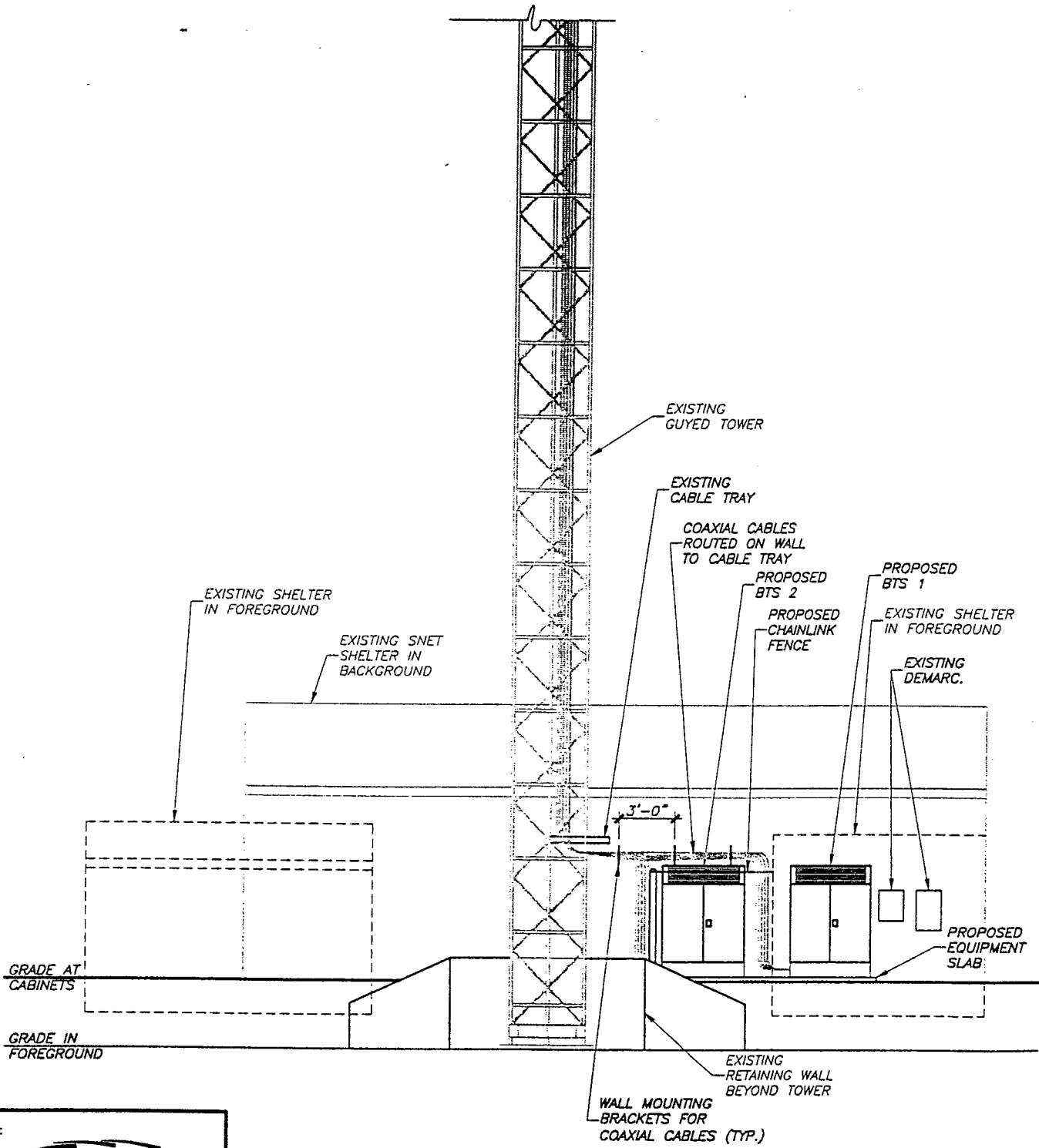
C-B Project Number: 320377
PK: KAM
Drawn By: DBK
Date: 08/08/00

Rev. No. Date:

Drawing No.

LE-2

X-REFS. 320377-180C-LE-BORDER.DWG



1
Equipment Elevation
 LE-3 SCALE: 1/8" = 1'-0"

Client:

VoiceStream
WIRELESS

100 FILLEY STREET
BLOOMFIELD, CT 06002

OMNIPPOINT

Approved By: _____ Date: _____

Owner/SAC: _____ Date: _____

R.F. Engr.: _____ Date: _____

Network: _____ Date: _____

Drawing Title:
EQUIPMENT ELEVATION

Project:
280'-0" GUYED TOWER
130 VERNON STREET
BOLTON, CT

Carter-Burgess

481 BUCKLAND ROAD, SUITE 201
SOUTH WINDSOR, CT 06074
TEL 860-648-5619 FAX 860-648-5665

Client Project I.D. No:	C-B Project Number	PIB	Drawn By	Date
CT-11180C	320377	KAM	DBK	08/08/00

Rev. No.	Date:
Drawing No.	
LE-3	

Exhibit B

Equipment Specifications **130 Vernon Road, Bolton, CT**

Exhibit D

Power Density Calculations **130 Vernon Road, Bolton, CT**

Technical Memo

To: Brendan Sharkey
From: Haider Syed (Radio Engineering Consultant)
cc: Mike Fulton
Subject: Power Density Report for CT11180C
Date: 2/2/01

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the proposed VoiceStream Wireless installation on tower at 130 Vernon Rd, Bolton CT. This study incorporates the most conservative considerations for determining the practical combined worst case power density levels that would be theoretically encountered from several locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

- 1) The emissions from the OCI transmitters are in the 1930-1945 MHz frequency band.
- 2) The antenna cluster consists of two sectors, with up to four antennas per sector. The model number for each antenna is EMS RR901702 DP.
- 3) The antenna height is 180 feet centerline.
- 4) The maximum transmit power from each sector is 1482.83 Watts Effective Isotropic Radiated Power (EiRP) assuming eight channel capacity.
- 5) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
- 6) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) The average ground level of the studied area does not significantly change with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worse case assumptions, the power density calculations from the proposed VoiceStream Wireless, PCS tower is 0.010041 mw/cm^2 . This value represents only 1.0041 % of the Maximum Permissible Emission (MPE) standard of 1000 microwatts per square centimeter ($\mu\text{w/cm}^2$) set forth in the FCC/ANSI/IEEE C95.1-1991. The combined MPE with AT&T and Police equipment will be 46.25 %.

Details are shown in the attachment. Furthermore, the proposed VoiceStream Wireless installation on tower at 130 Vernon Rd, Bolton CT, will not interfere with existing public safety telecommunications, AM band and FM band radio broadcast, TV, Police Communication, HAM Radio communications and other signals in the area.

Worst Case Power Density for proposed installation on tower @ at 130 Vernon Rd, Bolton CT

Region 11 - Connecticut Power Density Calculation - Worst Case	
Base Station TX output	20 W
Number of channels	4
Antenna Model	EMS: RR-90-17 / RV-90-17
Antenna Gain	16.5 dBi
Cable Size	1 5/8"
Cable Length	200 ft
Jumper & Connector loss	1.5 dB
Cable Loss per foot	0.0116
Total Cable Loss	2.32 dB
Total Attenuation	3.82 dB
Total EIRP per channel	55.69 dB
Total EIRP per sector	61.71 dB
Ground Reflection	1.6
Frequency	1930 MHz
Antenna Height	180 ft
nsg	12.68
Power Density (S) =	0.0100407320463508 mW / cm²
% MPE =	1.0041%

**Existing % MPE = 45.2459 %
Combined % MPE with Voicestream = 46.25 %**

Equation Used :

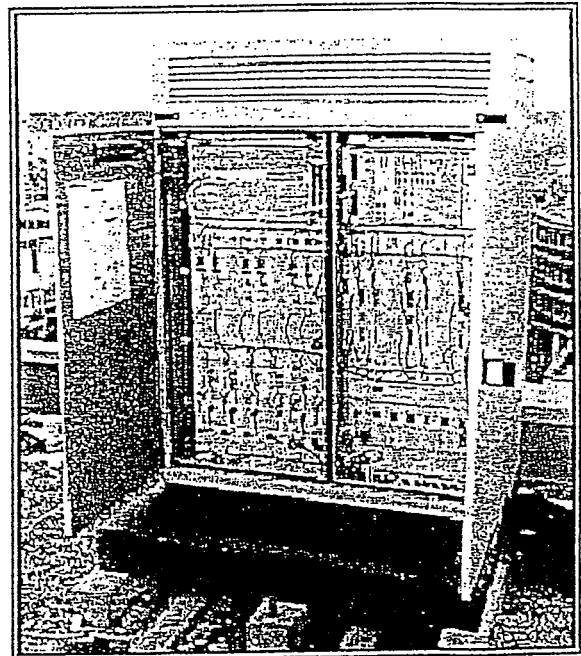
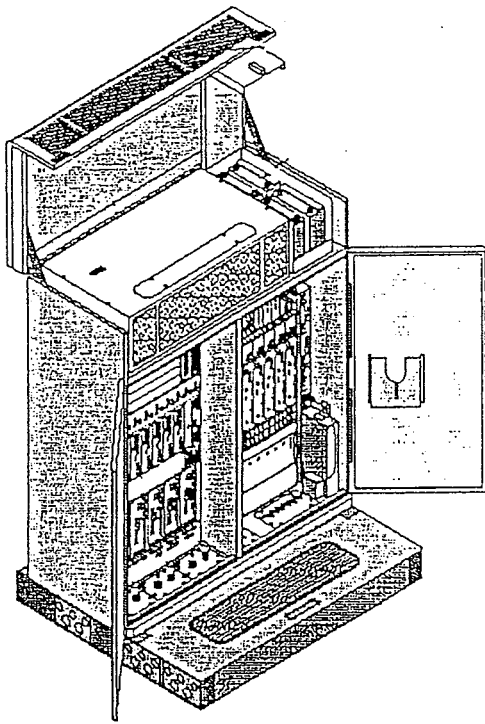
$$S = \frac{(1000(grf))^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

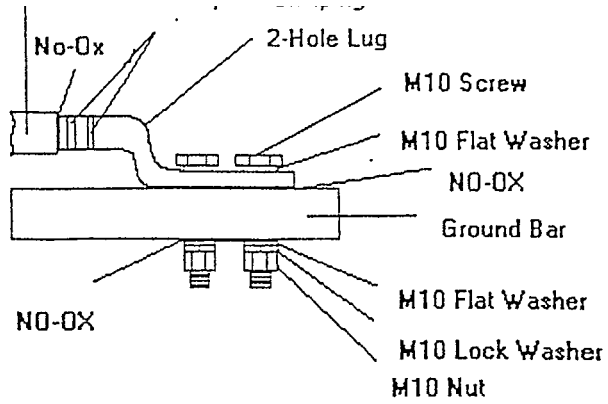
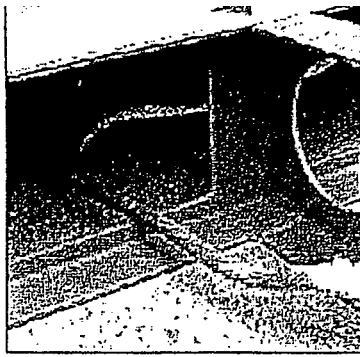
Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997



S8000 BTS

Site Specifications





Apply a light coating of No Oxidation (NO-OX) to the ground bar area.

Dimensions, Weights & Clearances

BTS

Weight: 915 pounds
 Dimensions: 53.2"W x 26"D x 63"H

Clearances while transporting in building:

Door Access:

Height: 6.6 feet
 Width 3 feet

Corridor Access:

Height: 6.6 feet
 Width: 3.6 feet (straight), 6.6 feet (right angle)

Clearances when installed:

Above: 28 inches for opening of hood
 Rear: 8 inches for installation of outer skin
 Sides: 8 inches for adjustment of door hinges
 Front: 54 inches to open door and technician access

Plinth

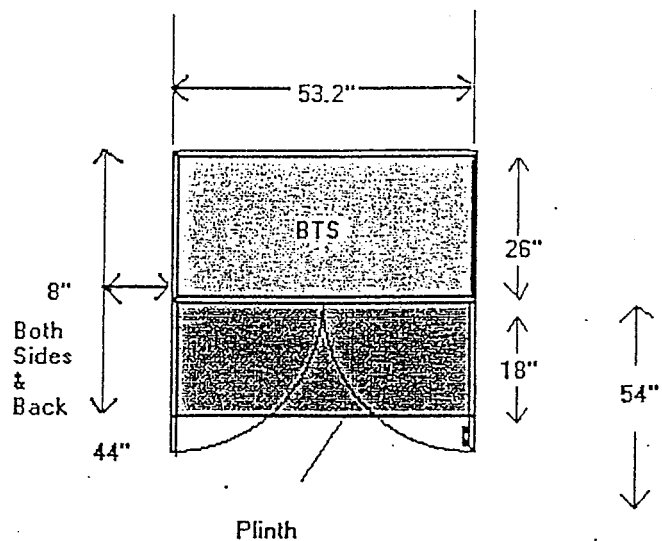
Weight:
 87 pounds

Dimensions:
 53.2"W x 44"D x 10.2"H

Floor Characteristics

Minimum Floor Resistance:
 123 pounds/foot²

Flatness:
 ¼ inch over 78 inches



Electrical Specifications

Split Single-Phase

3 wires plus ground

L1: Black 6 gauge

L2: Red 6 gauge

Neutral: White 6 gauge

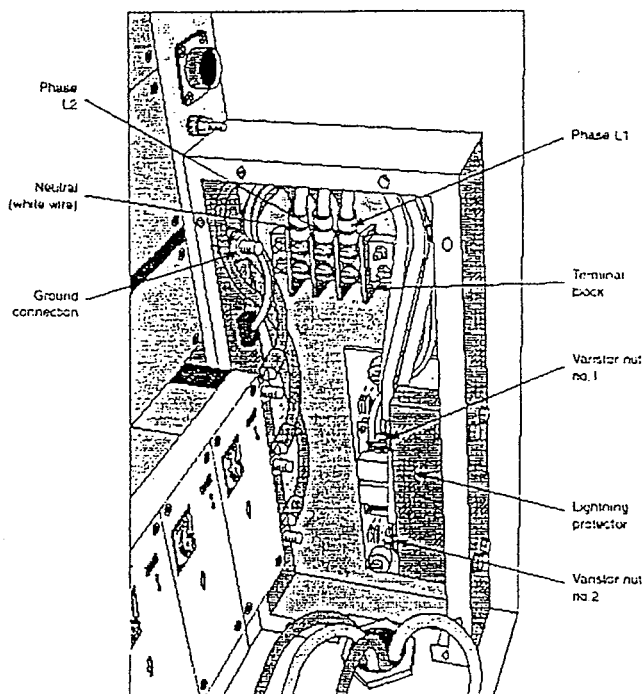
Ground: Yellow/Green 6 gauge

Maximum distance between AC box and BTS: 105 feet

187 ~ 254 VAC between L1 and L2

99 ~ 127 VAC between Neutral and L1 or L2

45 ~ 65 Hertz



AC connection to BTS located at the front, lower, right-hand side of BTS

Circuit Breaker in AC Box

Up to 4 transmitters

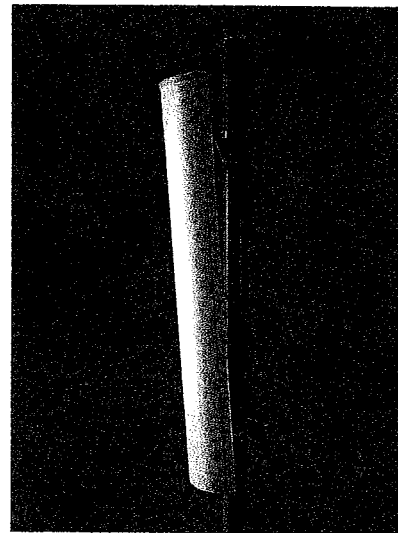
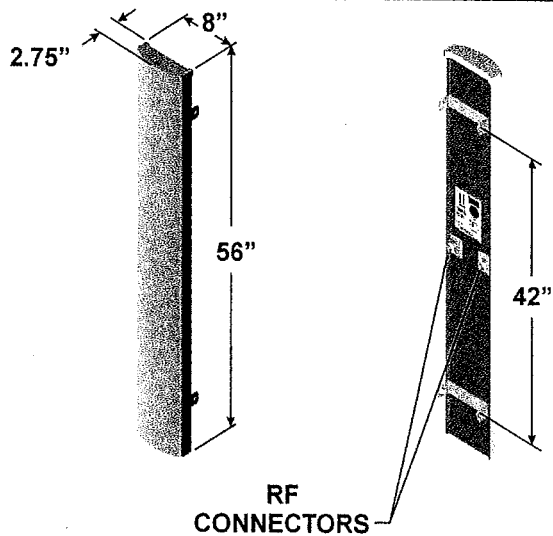
30 A, bipolar, C curve

5 or more transmitters

40A, bipolar, C curve

BTS to Ground connection

Minimum 2 AWG, run in most direct route as possible towards true earth, minimizing bends. No bend shall be less than 90 degrees.

1850 MHz - 1990 MHz (P)


- 90° beamwidth
- 16.5 dBi gain
- ±45° DualPol™
- 56 inch

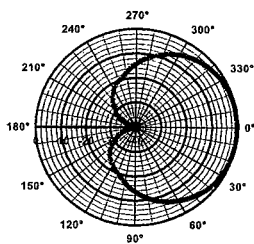
SPECIFICATIONS

Electrical		Mechanical	
Azimuth Beamwidth Elevation Beamwidth Gain Polarization Port-to-Port Isolation Front-to-Back Ratio Electrical Downtilt Options VSWR Connectors Power Handling Passive Intermodulation Lightning Protection	90° 6° 16.5 dBi (14.4 dBd) Slant, ±45° ≥ 30 dB ≥ 25 dB (≥ 30 dB Typ.) 0°, 2°, 4°, 6° 1.35:1 Max 2; Type N or 7-16 DIN (female) 250 Watts CW <-147 dBc (2 tone @ +43 dBm (20W) ea.) Chassis Ground	Dimensions (L x W x D) Rated Wind Velocity Equivalent Flat Plate Area Front Wind Load @ 100 mph (161 kph) Side Wind Load @ 100 mph (161 kph) Weight	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm) 150 mph (241 km/hr) 3.1ft ² (.29 m ²) 90 lbs (400 N) 31 lbs (139 N) 18 lbs (8.2 kg)
Note: Patent Pending and US Patent number 5, 757, 246. Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is available from the factory or via the web site www.emswireless.com and reflect all updates.			

MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart, 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

* Model number shown represents a series of products. See mounting options section for specific model number.



Azimuth

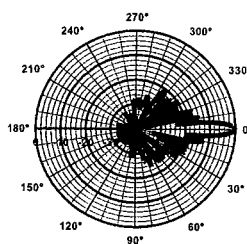
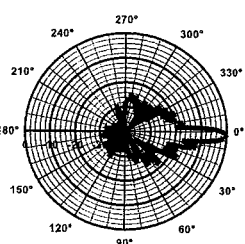
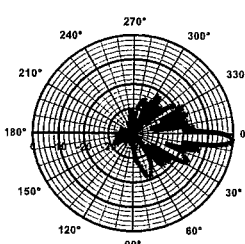
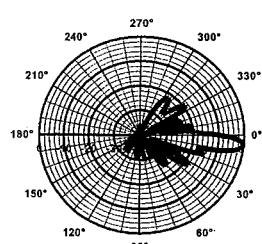

 Elevation
 0° Downtilt

 Elevation
 2° Downtilt

 Elevation
 4° Downtilt

 Elevation
 6° Downtilt

Exhibit C

Structural Analysis

130 Vernon Road, Bolton, CT



PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street • Suite 500 • Columbus, Ohio 43215

October 5, 2000

Carter & Burgess
481 Buckland Road
Suite 201
South Windsor, Connecticut

Attn: Kemp Morhardt

Re: Existing 280 ft guyed tower
Located in Bolton, Connecticut
(PJF # 36500-16)

Dear Kemp Morhardt,

We have completed the structural re-analysis of the existing 280-ft guyed tower located in Bolton, Connecticut. The structural analysis was performed to determine if the existing tower could safely support the existing and new antenna. See the antenna listed on page 1 of the enclosed sketches for antenna types, mounts and coax distribution. If antenna or coax information does not represent what is listed on page 1 a re-analysis will be needed.

Our analyses was performed according to the recommendations of the Electronic Industries Association Standard ANSI/EIA-222 Revision F 1996. The standard recommends a minimum design wind velocity of 85-mph in Tolland County. The existing tower has the capacity to safely withstand 88-mph winds.

If ice accumulation is considered, then the EIA standard recommends a minimum design wind velocity of 74-mph with 1/2" of radial ice accumulation. The existing tower has the capacity to safely withstand 75-mph winds with 1/2" ice.

As you can see, the existing tower meets the recommendations of the EIA standard when supporting the new antenna loading.

We were not able to verify the capacity of the existing foundations without foundation dimensions. We were able to compare the foundation loads from the Leblanc report. Since our loads are slightly smaller than the existing loads, the foundations should be adequate to support the new foundation loads if the foundations were correctly installed.

If you have any questions, please call.

Sincerely,

PAUL J. FORD AND COMPANY

Jason M. Lanham, E.I.T.

Engineer

e-mail: jlanham@pjfweb.com



COLUMBUS, OHIO
614-221-6679
FAX 614-221-0166

• ATLANTA, GEORGIA •
404-266-2407
FAX 404-869-4608

• ORLANDO, FLORIDA •
407-898-9039
FAX 407-897-3662

• www.pjfweb.com •

CARTER & BURGESS

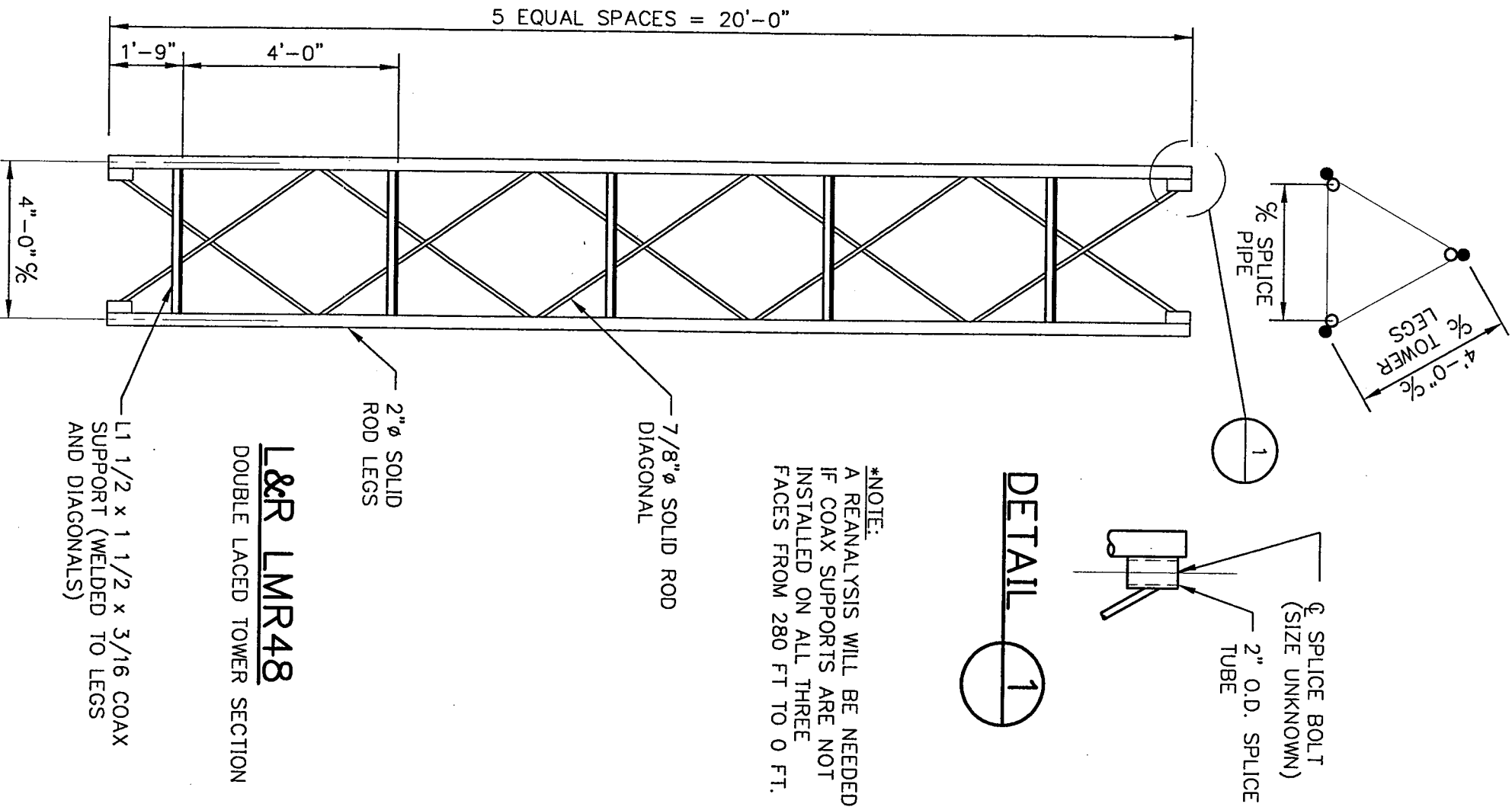
481 BUCKLAND RD. SUITE 201 SOUTH WINDSOR, CONNECTICUT 06074
 PH: (860) 648-5619 FAX: (860) 648-5665

Tower EXISTING 280 FT GUYED
 Location BOLTON CONNECTICUT
 Site CT-11-180C TOLLAND COUNTY
 Owner CONSULTING ENGINEERS, INC.



PAUL J. FORD AND COMPANY
 STRUCTURAL ENGINEERS
 250 East Broad Street Suite 500 Columbus, Ohio 43215
 (614)-221-6679 FAX (614)-221-0166

Page 2 of 3
 By JML Date _____
 Job No. 36500-16 C & B No. 320377
 Revision No. 1 Date 10-6-2000



CARTER & BURGESS

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PAUL J. FORD AND COMPANY
 STRUCTURAL ENGINEERS
 250 East Broad Street Suite 500 Columbus, Ohio 43215
 (614)-221-6679 FAX (614)-221-0166

Tower EXISTING 280 FT GUYED

Location BOLTON, CONNECTICUT

Site CT-11-180C TOLLAND COUNTY

Owner CONSULTING ENGINEERS, INC.

EIA Min 85 MPH/74 MPH + 1/2" RADIAL ICE

Capacity 88 MPH/75 MPH + 1/2" RADIAL ICE

According to ANSI/EIA 222-F 1996

GUY ANCHOR LOCATIONS		
AZ	RADIUS	ELEVATION
0°	219'±	-26.5'±
120°	205'±	-7.5'±
240°	213'±	-17.5'±

Page 1 of 3

By JML Date

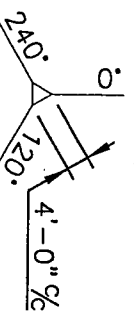
Job No. 36500-16 C & B No. 320377

Revision No. 1 Date 10-6-2000

ANTENNA LIST

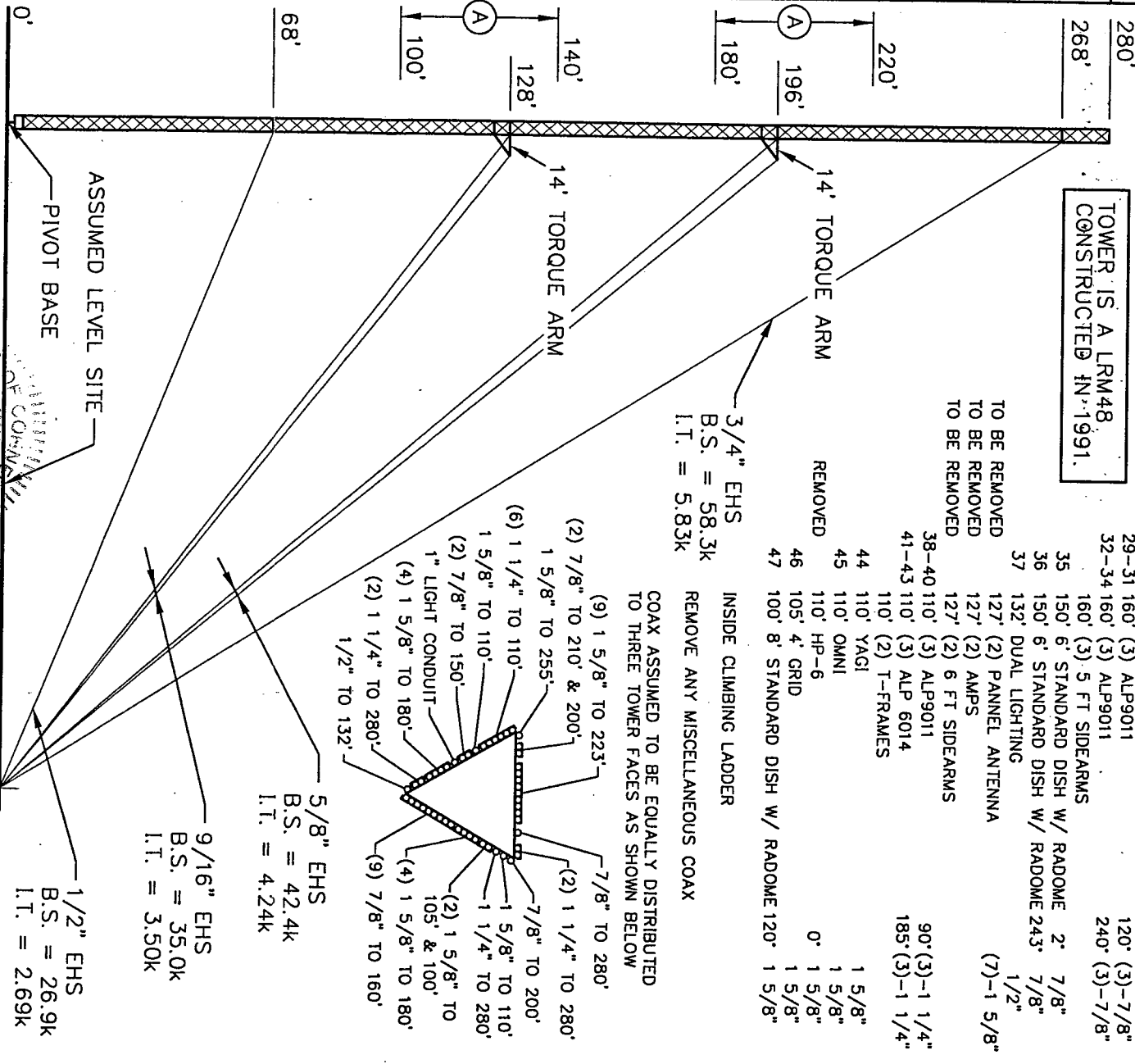
NO.	ELEV ANTENNA	AZ	COAX
1-5	TOP BEACON		1"
6	TOP ERI LP22	(9)-1 1/4"	7/8"
7	TOP 14 FT PLATFORM		1 5/8"
	255' DB809		
	255' 2' SIDEARM		
8-10	223' (3) ALP9011	0° (3)-1 5/8"	
11-13	223' (3) ALP9011	120° (3)-1 5/8"	
14-16	223' (3) ALP9011	240° (3)-1 5/8"	
	223' 15 FT SECTOR MOUNT		
17	210' 8" STANDARD DISH W/ RADOME	0° 7/8"	
18	200' 6" STANDARD DISH W/ RADOME	3° 7/8"	
19	200' 8" STANDARD DISH W/ RADOME 242°	7/8"	
	NEW 20-23 180° (4) EMS RR90-17-020P	(8)-1 5/8"	
	NEW 24,25 180° (2) PCS 1900 MHA		
	NEW 180° (2) 15' FT SECTOR MOUNTS		
	176' ABANDONED 7.5 FT MOUNT		
	26-28 160° (3) ALP9011	0° (3)-7/8"	
	29-31 160° (3) ALP9011	120° (3)-7/8"	
	32-34 160° (3) ALP9011	240° (3)-7/8"	
	160° (3) 5 FT SIDEARMS		
35	150' 6" STANDARD DISH W/ RADOME 2°	7/8"	
36	150' 6" STANDARD DISH W/ RADOME 243°	7/8"	
37	132' DUAL LIGHTING	1/2"	
	127' (2) PANNEL ANTENNA	(7)-1 5/8"	
	127' (2) AMPS		
	127' (2) 6 FT SIDEARMS		
	38-40 110° (3) ALP9011	90° (3)-1 1/4"	
	41-43 110° (3) ALP 6014	185° (3)-1 1/4"	
	110° (2) T-FRAMES		
	44 110' YAGI	1 5/8"	
	45 110' OMNI	1 5/8"	
	110' HP-6	0° 1 5/8"	
	46 105' 4' GRID	1 5/8"	
	47 100' 8" STANDARD DISH W/ RADOME 120°	1 5/8"	

TOWER IS A LRM48
 CONSTRUCTED IN 1991.

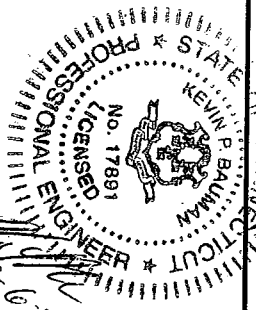


(A) DIAGONAL REINFORCING W/ L 2 1/2 x 2 1/2 x 1/4 U-BLOTED TO EXISTING DIAGONALS

ASTM	44 KSI
LEGS	2"Ø SOLID ROD
DIAGONALS	7/8"Ø SOLID ROD
COAX SUPPORT	L1 1/2 x 1 1/2 x 3/16



BASE REACTION
 H = 6.9 KIPS
 V = 159 KIPS



GUY ANCHOR REACTIONS
 H = 74.6 KIPS
 V = 61.9 KIPS
 R = 96.9 KIPS

SEE CHART

CARTER & BURGESS

481 BUCKLAND RD. SUITE 201 SOUTH WINDSOR, CONNECTICUT 06074
PH: (860) 648-5619 FAX: (860) 648-5665

Tower EXISTING 280 FT GUYED
Location BOLTON CONNECTICUT
Site CT-11-180C TOLLAND COUNTY
Owner CONSULTING ENGINEERS, INC.



PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street Suite 500 Columbus, Ohio 43215
(614)-221-6679 FAX (614)-221-0166

Page 3 Of 3
By JML Date _____
Job No. 36500-16 C & B No. 320377
Revision No. 1 Date 10-6-2000

STRUCTURAL ANALYSIS OF EXISTING TOWERS

1. PAUL J. FORD AND COMPANY has not made a field inspection to verify tower member sizes and dimensions. We were provided tower drawings by KM Consulting Engineers, Inc. dated May 30, 2000. If the existing conditions are not as represented on these sketches, we should be contacted immediately to reevaluate the structural integrity of the tower.
2. No allowance was made for any damaged, missing, or rusted tower members. The analysis of this tower assumes that no physical deterioration has occurred in any of the structural components of the tower and that all the tower members have the same capacity as the day the tower was built.
3. It is not possible to have all of the very detailed information to perform a detailed and thorough analysis of every structural sub component of an existing tower. The structural analysis provided by PAUL J. FORD AND COMPANY verifies the adequacy of the main structural members of the tower. PAUL J. FORD AND COMPANY provides a limited scope of service in that we cannot verify the adequacy of every weld, plate, connection detail, etc.
4. The structural integrity of the existing tower foundations can only be verified if exact foundation sizes and soils conditions are known. PAUL J. FORD AND COMPANY will not accept any responsibility for the adequacy of the existing foundations unless the foundation sizes and a soils report are provided.
5. It is the owner's responsibility to determine the amount of ice accumulation, if any, that shall be used in the structural analysis.
6. The tower has been analyzed according to the minimum design wind loads recommended by the Electronics Industry Association Standard ANSI/EIA-222-F. If the owner or local or state agencies require a higher design wind load, PAUL J. FORD AND COMPANY should be made aware of this requirement.
7. The enclosed sketches are a schematic representation of the tower we have analyzed. If any material is fabricated from these sketches, the fabricator shall be responsible for field verifying the existing conditions and for proper fit and clearance in the field.
8. Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

*** INPUT DATA ***

WIND = 85 (mph)

ICE = 0 (in)

TOWER SPAN NO.	SPAN LENGTH (FT)	FACE WIDTH (FT)	RADIAL ICE (IN)	SHAPE OF MEMBER	TYPE OF MEMBER	MEMBER WIDTH/DIA (IN)	MEMBER LENGTH (FT)	NO. OF MEMBERS PER FACE
-	-----	-----	-----	-----	-----	-----	-----	---
1	68.00	4.00	0.00	ROUND	LEG	2.000	68.00	2
1	68.00	4.00	0.00	ROUND	DIAGONAL	0.875	5.42	34
1	68.00	4.00	0.00	FLAT	GIRT	1.500	3.83	17
2	60.00	4.00	0.00	ROUND	LEG	2.000	60.00	2
2	60.00	4.00	0.00	ROUND	DIAGONAL	0.875	5.42	30
2	60.00	4.00	0.00	FLAT	GIRT	1.500	3.83	15
3	68.00	4.00	0.00	ROUND	LEG	2.000	68.00	2
3	68.00	4.00	0.00	ROUND	DIAGONAL	0.875	5.42	34
3	68.00	4.00	0.00	FLAT	GIRT	1.500	3.83	17
4	72.00	4.00	0.00	ROUND	LEG	2.000	72.00	2
4	72.00	4.00	0.00	ROUND	DIAGONAL	0.875	5.42	36
4	72.00	4.00	0.00	FLAT	GIRT	1.500	3.83	18
5	12.00	4.00	0.00	ROUND	LEG	2.000	12.00	2
5	12.00	4.00	0.00	ROUND	DIAGONAL	0.875	5.42	6
5	12.00	4.00	0.00	FLAT	GIRT	1.500	3.83	3

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 85 (mph)

ICE = 0 (in)

*** LADDER DATA ***

TOWER SEC. NO.	LADDER LENGTH (FT)	RADIAL ICE (IN)	SHAPE OF MEMBER	TYPE OF MEMBER	MEMBER WIDTH/DIA (IN)	MEMBER LENGTH (FT)	NO. OF MEMBERS PER SECTION
-	----	----	----	----	-----	-----	--
1	68.0	0.00	FLAT	RAIL	0.250	68.00	2
1	68.0	0.00	ROUND	RUNG	0.625	1.50	68
2	60.0	0.00	FLAT	RAIL	0.250	60.00	2
2	60.0	0.00	ROUND	RUNG	0.625	1.50	60
3	68.0	0.00	FLAT	RAIL	0.250	68.00	2
3	68.0	0.00	ROUND	RUNG	0.625	1.50	68
4	72.0	0.00	FLAT	RAIL	0.250	72.00	2
4	72.0	0.00	ROUND	RUNG	0.625	1.50	72
5	12.0	0.00	FLAT	RAIL	0.250	12.00	2
5	12.0	0.00	ROUND	RUNG	0.625	1.50	12

*** ANTENNA AND COAX/WAVEGUIDE INPUT DATA ***

ANTENNA ELEV (FT.)	EFFECTIVE AREA OF ANT. (SQ. FT.)	ANTENNA WEIGHT (KIPS)	TYPE OF COAX	COAX WIDTH (appurt) (in.)	COAX WIDTH (struct) (in.)	COAX WEIGHT (LB/FT)
280.0	69.76	2.12	ROUND	1.100	3.100	3.84
255.0	6.26	0.16	ROUND	1.980	0.000	1.04
223.0	60.04	1.24	ROUND	17.820	0.000	9.36
210.0	43.39	0.30	ROUND	1.100	0.000	0.54
200.0	24.41	0.16	ROUND	1.100	0.000	1.08
200.0	19.26	0.30	ROUND	0.000	0.000	0.00
180.0	53.64	0.91	ROUND	-7.920	7.920	8.32
176.0	5.10	0.29	ROUND	0.000	0.000	0.00
160.0	42.66	0.92	ROUND	-9.450	9.450	4.86
150.0	24.41	0.16	ROUND	0.000	0.000	1.08
150.0	10.83	0.16	ROUND	0.000	0.000	0.00
132.0	5.00	0.17	ROUND	0.000	0.000	0.24
110.0	73.13	0.89	ROUND	-4.660	4.660	6.04
105.0	7.46	0.10	ROUND	0.000	0.000	1.04
100.0	43.39	0.30	ROUND	-0.860	1.070	1.04
196.0	34.00	1.10	ROUND	0.000	0.000	0.00
128.0	34.00	1.10	ROUND	0.000	0.000	0.00

NOTES:

- (appurt) - Waveguide considered a LINEAR APPURTENANCE
- (struct) - Waveguide considered PART of the STRUCTURE

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 85 (mph) ICE = 0 (in)

*** OUTPUT DATA (BOTTOM SPAN STARTS FIRST) ***

*** WIND PRESSURE AND SECTION DATA ***

SECT NO	MID-POINT OF SECTION	Kz	Qz	Gh	WIND PRESSURE (psf)	e	Cf	Rr	Cf x Ae (sq ft)
1	34.00	1.01	18.65	1.09	20.37	0.680	1.78	0.81	292.15
2	98.00	1.36	25.24	1.09	27.57	0.642	1.78	0.78	249.01
3	162.00	1.58	29.14	1.09	31.82	0.428	2.01	0.66	265.10
4	232.00	1.75	32.29	1.09	35.26	0.218	2.54	0.59	189.98
5	274.00	1.83	33.86	1.09	36.98	0.218	2.54	0.59	21.37

*** WIND PRESSURE AND GUY DATA ***

GUY LEVEL (FT.)	MID-HT. OF GUYS (FT)	Kz	Qz	Gh	WIND PRESSURE (PSF)	EFFECTIVE WIND VEL. AT GUYS (MPH)
68.0	34.0	1.01	18.7	1.09	20.37	89.2
128.0	64.0	1.21	22.3	1.09	24.41	97.6
196.0	98.0	1.36	25.2	1.09	27.57	103.8
268.0	134.0	1.49	27.6	1.09	30.14	108.5

*** POINT LOADS (DISCRETE APPURTENANCE) ***

ANT No	ELEV (FT)	Kz	Qz	Gh	WIND PRESSURE (PSF)
1	280.0	1.84	34.07	1.09	37.21
2	255.0	1.79	33.17	1.09	36.23
3	223.0	1.73	31.93	1.09	34.87
4	210.0	1.70	31.38	1.09	34.27
5	200.0	1.67	30.95	1.09	33.80
6	200.0	1.67	30.95	1.09	33.80
7	180.0	1.62	30.03	1.09	32.80
8	176.0	1.61	29.84	1.09	32.59
9	160.0	1.57	29.04	1.09	31.71
10	150.0	1.54	28.51	1.09	31.13
11	150.0	1.54	28.51	1.09	31.13
12	132.0	1.49	27.48	1.09	30.02
13	110.0	1.41	26.09	1.09	28.49
14	105.0	1.39	25.75	1.09	28.12
15	100.0	1.37	25.39	1.09	27.73
16	196.0	1.66	30.77	1.09	33.60
17	128.0	1.47	27.24	1.09	29.75

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 85 (mph)

ICE = 0 (in)

*** SECTION DATA (BOTTOM SPAN STARTS FIRST) ***

SPAN No.	SPAN LENGTH (FT)	MOMENT OF INERTIA (IN ² -FT ²)	SPAN WEIGHT (KIPS)	TOTAL WIND LOAD (KIPS)	FACE WIDTH (FT)	SPAN L/r
1	68.00	25.13	6.68	5.95	4.00	41.6
2	60.00	25.13	5.74	6.86	4.00	36.7
3	68.00	25.13	5.76	8.44	4.00	41.6
4	72.00	25.13	4.91	6.70	4.00	44.1
5	12.00	25.13	0.76	0.79	4.00	7.3

*** POINT LOAD DATA ***

POINT LOAD NO.	WIND LOAD (KIPS)	WEIGHT (KIPS)	HT. OF POINT LOAD (FT)
1	2.596	2.122	280.00
2	0.227	0.155	255.00
3	2.093	1.239	223.00
4	1.487	0.304	210.00
5	0.825	0.162	200.00
6	0.651	0.304	200.00
7	1.759	0.914	180.00
8	0.166	0.295	176.00
9	1.353	0.924	160.00
10	0.760	0.162	150.00
11	0.337	0.162	150.00
12	0.150	0.175	132.00
13	2.084	0.893	110.00
14	0.210	0.096	105.00
15	1.203	0.304	100.00
16	1.143	1.100	196.00
17	1.012	1.100	128.00

THE MOMENT AT THE TOP OF THE TOWER IS 0.00 FT-KIPS

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

*** INPUT DATA ***

WIND = 73.61216 (mph)

ICE = .5 (in)

TOWER SPAN NO.	SPAN LENGTH (FT)	FACE WIDTH (FT)	RADIAL ICE (IN)	SHAPE OF MEMBER	TYPE OF MEMBER	MEMBER WIDTH/DIA (IN)	MEMBER LENGTH (FT)	NO. OF MEMBERS PER FACE
1	68.00	4.00	0.50	ROUND	LEG	2.000	68.00	2
1	68.00	4.00	0.50	ROUND	DIAGONAL	0.875	5.42	34
1	68.00	4.00	0.50	FLAT	GIRT	1.500	3.83	17
2	60.00	4.00	0.50	ROUND	LEG	2.000	60.00	2
2	60.00	4.00	0.50	ROUND	DIAGONAL	0.875	5.42	30
2	60.00	4.00	0.50	FLAT	GIRT	1.500	3.83	15
3	68.00	4.00	0.50	ROUND	LEG	2.000	68.00	2
3	68.00	4.00	0.50	ROUND	DIAGONAL	0.875	5.42	34
3	68.00	4.00	0.50	FLAT	GIRT	1.500	3.83	17
4	72.00	4.00	0.50	ROUND	LEG	2.000	72.00	2
4	72.00	4.00	0.50	ROUND	DIAGONAL	0.875	5.42	36
4	72.00	4.00	0.50	FLAT	GIRT	1.500	3.83	18
5	12.00	4.00	0.50	ROUND	LEG	2.000	12.00	2
5	12.00	4.00	0.50	ROUND	DIAGONAL	0.875	5.42	6
5	12.00	4.00	0.50	FLAT	GIRT	1.500	3.83	3

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 73.61216 (mph)

ICE = .5 (in)

*** LADDER DATA ***

TOWER SEC. NO.	LADDER LENGTH (FT)	RADIAL ICE (IN)	SHAPE OF MEMBER	TYPE OF MEMBER	MEMBER WIDTH/DIA (IN)	MEMBER LENGTH (FT)	NO. OF MEMBERS PER SECTION
1	68.0	0.50	FLAT	RAIL	0.250	68.00	2
1	68.0	0.50	ROUND	RUNG	0.625	1.50	68
2	60.0	0.50	FLAT	RAIL	0.250	60.00	2
2	60.0	0.50	ROUND	RUNG	0.625	1.50	60
3	68.0	0.50	FLAT	RAIL	0.250	68.00	2
3	68.0	0.50	ROUND	RUNG	0.625	1.50	68
4	72.0	0.50	FLAT	RAIL	0.250	72.00	2
4	72.0	0.50	ROUND	RUNG	0.625	1.50	72
5	12.0	0.50	FLAT	RAIL	0.250	12.00	2
5	12.0	0.50	ROUND	RUNG	0.625	1.50	12

*** ANTENNA AND COAX/WAVEGUIDE INPUT DATA ***

ANTENNA ELEV (FT.)	EFFECTIVE AREA OF ANT. (SQ. FT.)	ANTENNA WEIGHT (KIPS)	TYPE OF COAX	COAX WIDTH (appurt) (in.)	COAX WIDTH (struct) (in.)	COAX WEIGHT (LB/FT)
280.0	90.60	3.00	ROUND	2.100	5.100	11.08
255.0	8.22	0.22	ROUND	2.980	0.000	2.56
223.0	75.83	1.90	ROUND	26.820	0.000	22.95
210.0	44.30	0.62	ROUND	2.100	0.000	1.52
200.0	25.09	0.32	ROUND	2.100	0.000	3.03
200.0	20.89	0.62	ROUND	0.000	0.000	0.00
180.0	69.00	1.30	ROUND	%-11.920	11.920	20.44
176.0	6.43	0.39	ROUND	0.000	0.000	0.00
160.0	51.24	1.38	ROUND	%-18.450	18.450	13.65
150.0	25.09	0.32	ROUND	0.000	0.000	3.03
150.0	11.51	0.32	ROUND	0.000	0.000	0.00
132.0	8.00	0.20	ROUND	0.000	0.000	0.93
110.0	93.00	1.51	ROUND	-5.660	5.660	16.58
105.0	20.31	0.17	ROUND	0.160	0.070	2.56
100.0	44.30	0.62	ROUND	2.980	0.000	2.56
196.0	36.50	1.60	ROUND	0.000	0.000	0.00
128.0	36.50	1.60	ROUND	0.000	0.000	0.00

NOTES:

(appurt) - Waveguide considered a LINEAR APPURTENANCE
 (struct) - Waveguide considered PART of the STRUCTURE

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 73.61216 (mph) ICE = .5 (in)

*** OUTPUT DATA (BOTTOM SPAN STARTS FIRST) ***

*** WIND PRESSURE AND SECTION DATA ***

SECT NO	MID-POINT OF SECTION	Kz	Qz	Gh	WIND PRESSURE (psf)	e	Cf	Rr	Cf x Ae (sq ft)
1	34.00	1.01	13.99	1.09	15.28	1.072	2.27	1.00	578.00
2	98.00	1.36	18.93	1.09	20.68	1.038	2.19	1.00	510.00
3	162.00	1.58	21.86	1.09	23.87	0.713	1.78	0.83	459.86
4	232.00	1.75	24.22	1.09	26.45	0.364	2.14	0.64	298.38
5	274.00	1.83	25.40	1.09	27.73	0.364	2.14	0.64	34.10

*** WIND PRESSURE AND GUY DATA ***

GUY LEVEL (FT.)	MID-HT. OF GUYS (FT)	Kz	Qz	Gh	WIND PRESSURE (PSF)	EFFECTIVE WIND VEL. AT GUYS (MPH)
68.0	34.0	1.01	14.0	1.09	15.28	77.3
128.0	64.0	1.21	16.8	1.09	18.31	84.6
196.0	98.0	1.36	18.9	1.09	20.68	89.9
268.0	134.0	1.49	20.7	1.09	22.61	94.0

*** POINT LOADS (DISCRETE APPURTENANCE) ***

ANT No	ELEV (FT)	Kz	Qz	Gh	WIND PRESSURE (PSF)
1	280.0	1.84	25.55	1.09	27.91
2	255.0	1.79	24.88	1.09	27.17
3	223.0	1.73	23.95	1.09	26.15
4	210.0	1.70	23.54	1.09	25.71
5	200.0	1.67	23.21	1.09	25.35
6	200.0	1.67	23.21	1.09	25.35
7	180.0	1.62	22.52	1.09	24.60
8	176.0	1.61	22.38	1.09	24.44
9	160.0	1.57	21.78	1.09	23.78
10	150.0	1.54	21.38	1.09	23.35
11	150.0	1.54	21.38	1.09	23.35
12	132.0	1.49	20.61	1.09	22.51
13	110.0	1.41	19.57	1.09	21.37
14	105.0	1.39	19.31	1.09	21.09
15	100.0	1.37	19.04	1.09	20.79
16	196.0	1.66	23.08	1.09	25.20
17	128.0	1.47	20.43	1.09	22.31

WIND LOAD AND WEIGHT OF GUYED TOWER SECTIONS PER EIA-222-E STANDARD

Existing 280 ft guyed tower located in BOLTON CT

WIND = 73.61216 (mph)

ICE = .5 (in)

*** SECTION DATA (BOTTOM SPAN STARTS FIRST) ***

SPAN No.	SPAN LENGTH (FT)	MOMENT OF INERTIA (IN ² -FT ²)	SPAN WEIGHT (KIPS)	TOTAL WIND LOAD (KIPS)	FACE WIDTH (FT)	SPAN L/r
1	68.00	25.13	12.12	8.83	4.00	41.6
2	60.00	25.13	10.27	10.54	4.00	36.7
3	68.00	25.13	9.63	10.98	4.00	41.6
4	72.00	25.13	7.17	7.89	4.00	44.1
5	12.00	25.13	1.06	0.95	4.00	7.3

*** POINT LOAD DATA ***

POINT LOAD NO.	WIND LOAD (KIPS)	WEIGHT (KIPS)	HT. OF POINT LOAD (FT)
1	2.528	3.000	280.00
2	0.223	0.224	255.00
3	1.983	1.896	223.00
4	1.139	0.621	210.00
5	0.636	0.321	200.00
6	0.529	0.621	200.00
7	1.697	1.298	180.00
8	0.157	0.390	176.00
9	1.219	1.380	160.00
10	0.586	0.321	150.00
11	0.269	0.321	150.00
12	0.180	0.200	132.00
13	1.987	1.513	110.00
14	0.428	0.173	105.00
15	0.921	0.621	100.00
16	0.920	1.600	196.00
17	0.814	1.600	128.00

THE MOMENT AT THE TOP OF THE TOWER IS 0.00 FT-KIPS

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

E C H O O F G U Y I N P U T D A T A

***** WIND INTO APEX *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	0	0	219.00	94.50	2.69	0.504	0.5000	2994	2.31	93.5
1	2	120	120	213.00	85.50	2.69	0.504	0.5000	2994	2.31	92.2
1	3	240	240	205.00	75.50	2.69	0.504	0.5000	2994	2.31	90.5
2	1	0	300	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	2	0	60	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	3	120	60	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	4	120	180	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	5	240	180	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
2	6	240	300	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
3	1	0	300	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	2	0	60	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	3	120	60	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	4	120	180	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	5	240	180	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
3	6	240	300	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
4	1	0	0	219.00	294.50	5.83	1.155	0.7500	6716	2.31	110.0
4	2	120	120	213.00	285.50	5.83	1.155	0.7500	6716	2.31	109.5
4	3	240	240	205.00	275.50	5.83	1.155	0.7500	6716	2.31	108.9

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

R E S U L T A N T G U Y F O R C E S

***** WIND INTO APEX *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	8.57	239	3.30	7.87	0.00	7.84	0.00	3.46
1	2	1.54	230	0.52	1.39	0.09	-0.78	1.18	0.60
1	3	1.40	218	0.44	1.29	-0.09	-0.72	1.09	0.52
2	1	12.08	268	6.78	9.89	0.00	9.80	0.00	7.06
2	2	12.08	268	6.78	9.89	0.00	9.80	0.00	7.06
2	3	2.06	258	1.09	1.63	0.14	-0.96	1.39	1.18
2	4	2.06	258	1.09	1.63	0.14	-0.96	1.39	1.18
2	5	1.93	246	0.99	1.54	-0.13	-0.91	1.31	1.08
2	6	1.93	246	0.99	1.54	-0.13	-0.91	1.31	1.08
3	1	14.28	312	9.88	10.09	0.00	9.87	0.00	10.31
3	2	14.28	312	9.88	10.09	0.00	9.87	0.00	10.31
3	3	3.02	302	2.01	2.00	0.21	-1.24	1.74	2.13
3	4	3.02	302	2.01	2.00	0.21	-1.24	1.74	2.13
3	5	2.89	289	1.91	1.92	-0.20	-1.19	1.67	2.03
3	6	2.89	289	1.91	1.92	-0.20	-1.19	1.67	2.03
4	1	17.98	367	13.91	10.89	0.00	10.44	0.01	14.64
4	2	5.06	356	3.79	2.78	0.34	-1.80	2.47	4.03
4	3	4.85	343	3.64	2.66	-0.32	-1.72	2.37	3.87

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---		--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	(deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)
1	58.71	50.53	77.46	12.000:10.328	40.72	219.00	0
2	11.41	10.50	15.50	12.000:11.041	42.62	213.00	120
3	10.86	9.87	14.68	12.000:10.910	42.28	205.00	240

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND INTO APEX *****

E C H O O F T O W E R S P A N I N P U T D A T A

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	6.68	5.95	4.00	4.000	4.000	4.000	15
2	60.00	25.13	5.74	6.86	4.00	4.000	4.000	4.000	13
3	68.00	25.13	5.76	8.44	4.00	4.000	4.000	4.000	15
4	72.00	25.13	4.91	6.70	4.00	4.000	4.000	4.000	16
5	12.00	25.13	0.76	0.79	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 60 F

NORMAL TEMPERATURE = 60 F

L O A D S A T G U Y A T T A C H M E N T E L E V A T I O N S

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.100	1.012	0.000
3	196.00	1.100	1.143	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	2.122	2.596	0.000

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND INTO APEX *****

A N T E N N A L O A D S

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.227	0.155	255.00
2	2.093	1.239	223.00
3	1.487	0.304	210.00
4	0.825	0.162	200.00
5	0.651	0.304	200.00
6	1.759	0.914	180.00
7	0.166	0.295	176.00
8	1.353	0.924	160.00
9	0.760	0.162	150.00
10	0.337	0.162	150.00
11	0.150	0.175	132.00
12	2.084	0.893	110.00
13	0.210	0.096	105.00
14	1.203	0.304	100.00

T O W E R F O R C E S A N D D E F L E C T I O N S

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	0.530	6.34	16.00	22.73	101.78	0.530	0.09356
2	128	0.736	15.94	-121.59	-73.69	90.77	0.205	0.04107
3	196	0.968	15.07	-94.96	-27.26	64.67	0.233	0.04105
4	268	1.090	6.97	-35.90	-11.19	28.28	0.122	0.02032
TOP	280	1.092					0.002	0.00229

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN THE CANTILEVER

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.092		0.00	2.12	2.60	1.50	2.12	0.71	0.71
276.0	1.091	0.016	-10.91	2.38	2.86	1.65	2.33	-2.36	2.37
272.0	1.090	0.012	-22.88	2.63	3.12	1.80	2.55	-5.73	4.18
268.0	1.090	0.005	-35.90	2.88	3.39	1.95		-9.40	6.14

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.090		-11.19	25.15	-3.53	2.04	2.88	5.15	10.00
264.0	1.089	0.017	2.34	27.58	-3.16	1.82	2.58	9.87	8.86
260.0	1.088	0.017	14.38	27.86	-2.79	1.61	2.28	13.44	7.21
256.0	1.086	0.022	24.92	28.13	-2.41	1.39	1.97	16.57	5.78
252.0	1.084	0.030	33.27	28.40	-1.81	1.05	1.48	19.07	4.66
248.0	1.081	0.040	39.89	28.67	-1.44	0.83	1.17	21.07	3.80
244.0	1.078	0.053	44.99	28.95	-1.06	0.61	0.87	22.64	3.15
240.0	1.073	0.067	48.58	29.22	-0.69	0.40	0.56	23.76	2.73
236.0	1.067	0.082	50.65	29.49	-0.32	0.18	0.26	24.45	2.52
232.0	1.060	0.098	51.20	29.76	0.06	0.03	0.05	24.70	2.53
228.0	1.052	0.114	50.23	30.04	0.43	0.25	0.35	24.51	2.76
224.0	1.043	0.130	47.74	30.31	0.80	0.46	0.66	23.88	3.21
220.0	1.033	0.145	37.45	30.58	3.27	1.89	2.67	21.00	4.79
216.0	1.022	0.156	23.55	30.86	3.64	2.10	2.97	17.08	6.89
212.0	1.011	0.164	8.16	31.13	4.00	2.31	3.27	12.73	9.20
208.0	0.999	0.166	-11.71	31.40	5.86	3.38	4.78	7.09	12.16
204.0	0.988	0.162	-36.03	31.67	6.22	3.59	5.08	0.16	15.76
200.0	0.977	0.151	-61.82	31.95	6.58	3.80	5.37	-7.20	19.57
196.0	0.968	0.131	-94.96	30.73	8.42	4.86		-17.17	23.95

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 3

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	0.968		-27.26	60.33	-5.26	3.04	4.30	12.24	24.05
192.0	0.959	0.132	-6.78	63.30	-4.77	2.76	3.90	19.14	22.08
188.0	0.950	0.130	11.72	63.64	-4.28	2.47	3.50	24.60	19.52
184.0	0.941	0.134	28.22	63.98	-3.79	2.19	3.09	29.47	17.25
180.0	0.931	0.143	42.69	64.32	-3.29	1.90	2.69	33.76	15.28
176.0	0.920	0.156	48.08	64.66	-1.03	0.60	0.84	35.43	14.61
172.0	0.908	0.171	50.76	65.00	-0.37	0.21	0.30	36.32	14.34
168.0	0.895	0.186	51.37	65.34	0.13	0.07	0.11	36.61	14.36
164.0	0.881	0.203	49.93	65.68	0.63	0.36	0.51	36.31	14.69
160.0	0.865	0.218	46.43	66.02	1.12	0.65	0.92	35.41	15.30
156.0	0.849	0.233	35.47	66.35	2.97	1.71	2.42	32.36	17.00
152.0	0.832	0.244	22.47	66.69	3.46	2.00	2.82	28.72	18.99
148.0	0.815	0.251	5.27	67.03	5.04	2.91	4.11	23.86	21.58
144.0	0.797	0.252	-16.13	67.37	5.52	3.19	4.51	17.80	24.78
140.0	0.780	0.247	-39.49	67.71	6.00	3.46	4.90	11.17	28.27
136.0	0.763	0.235	-64.77	68.05	6.47	3.73	5.28	3.98	32.03
132.0	0.748	0.214	-91.96	68.39	6.93	4.00	5.66	-3.75	36.07
128.0	0.736	0.185	-121.59	67.55	7.54	4.35		-12.58	40.07

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 2

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	0.736		-73.69	87.06	-7.12	4.11	5.81	7.75	39.66
124.0	0.725	0.144	-45.66	88.73	-6.70	3.87	5.47	16.40	36.17
120.0	0.716	0.130	-19.37	89.12	-6.26	3.61	5.11	24.12	32.50
116.0	0.708	0.124	5.14	89.50	-5.82	3.36	4.75	31.32	29.09
112.0	0.699	0.125	27.80	89.88	-5.37	3.10	4.38	37.99	25.95
108.0	0.690	0.134	44.42	90.26	-2.83	1.63	2.31	42.91	23.68
104.0	0.679	0.148	54.74	90.65	-2.16	1.25	1.76	46.02	22.32
100.0	0.668	0.165	62.49	91.03	-1.69	0.98	1.38	48.38	21.32
96.0	0.655	0.184	63.47	91.41	-0.02	0.01	0.02	48.79	21.31
92.0	0.641	0.204	62.50	91.80	0.45	0.26	0.37	48.64	21.58
88.0	0.625	0.224	59.58	92.18	0.92	0.53	0.75	47.93	22.13
84.0	0.608	0.242	54.71	92.56	1.40	0.81	1.14	46.65	22.96
80.0	0.590	0.260	47.90	92.94	1.87	1.08	1.53	44.81	24.07
76.0	0.571	0.275	39.17	93.33	2.34	1.35	1.91	42.42	25.46
72.0	0.551	0.287	28.53	93.71	2.81	1.62	2.30	39.47	27.12
68.0	0.530	0.296	16.00	93.64	3.28	1.89		35.83	28.91

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 1

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	0.530		22.73	98.44	-2.89	1.67	2.36	39.38	29.53
64.0	0.508	0.312	33.55	98.84	-2.52	1.46	2.06	42.63	28.10
60.0	0.486	0.323	42.89	99.23	-2.15	1.24	1.76	45.46	26.89
56.0	0.462	0.336	50.74	99.62	-1.77	1.02	1.45	47.86	25.88
52.0	0.438	0.352	57.08	100.02	-1.39	0.80	1.14	49.82	25.10
48.0	0.412	0.370	61.88	100.41	-1.01	0.58	0.82	51.33	24.54
44.0	0.385	0.389	65.16	100.80	-0.62	0.36	0.51	52.41	24.20
40.0	0.356	0.410	66.88	101.19	-0.24	0.14	0.19	53.04	24.08
36.0	0.326	0.431	67.06	101.59	0.15	0.09	0.12	53.22	24.18
32.0	0.295	0.452	65.68	101.98	0.54	0.31	0.44	52.95	24.51
28.0	0.262	0.472	62.76	102.37	0.92	0.53	0.75	52.24	25.07
24.0	0.227	0.492	58.30	102.77	1.31	0.75	1.07	51.09	25.84
20.0	0.192	0.510	52.31	103.16	1.69	0.97	1.38	49.49	26.84
16.0	0.155	0.527	44.81	103.55	2.06	1.19	1.69	47.45	28.05
12.0	0.117	0.541	35.80	103.95	2.44	1.41	1.99	44.98	29.48
8.0	0.078	0.552	25.31	104.34	2.80	1.62	2.29	42.09	31.13
4.0	0.039	0.560	13.37	104.73	3.17	1.83	2.58	38.77	32.98
0.0	0.000	0.564	0.00	105.12	3.52	2.03		35.04	35.04

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice).

E C H O O F G U Y I N P U T D A T A

***** WIND PARALLEL TO FACE *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	30	30	219.00	94.50	2.69	0.504	0.5000	2994	2.31	93.5
1	2	150	150	213.00	85.50	2.69	0.504	0.5000	2994	2.31	92.2
1	3	270	270	205.00	75.50	2.69	0.504	0.5000	2994	2.31	90.5
2	1	30	330	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	2	30	90	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	3	150	90	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	4	150	210	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	5	270	210	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
2	6	270	330	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
3	1	30	330	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	2	30	90	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	3	150	90	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	4	150	210	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	5	270	210	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
3	6	270	330	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
4	1	30	30	219.00	294.50	5.83	1.155	0.7500	6716	2.31	110.0
4	2	150	150	213.00	285.50	5.83	1.155	0.7500	6716	2.31	109.5
4	3	270	270	205.00	275.50	5.83	1.155	0.7500	6716	2.31	108.9

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

R E S U L T A N T G U Y F O R C E S

***** WIND PARALLEL TO FACE *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	8.75	239	3.37	8.04	0.04	6.92	4.03	3.54
1	2	0.54	230	0.16	0.47	0.04	-0.44	0.21	0.23
1	3	3.23	218	1.05	3.01	-0.11	-0.10	3.01	1.16
2	1	12.45	268	7.00	10.19	0.07	8.72	5.09	7.27
2	2	12.45	268	7.00	10.19	0.07	8.72	5.09	7.27
2	3	0.69	258	0.33	0.49	0.06	-0.52	0.23	0.39
2	4	0.69	258	0.33	0.49	0.06	-0.52	0.23	0.39
2	5	4.56	246	2.41	3.77	-0.17	-0.15	3.77	2.57
2	6	4.56	246	2.41	3.77	-0.17	-0.15	3.77	2.57
3	1	14.42	312	9.99	10.19	0.11	8.60	5.06	10.41
3	2	14.42	312	9.99	10.19	0.11	8.60	5.06	10.41
3	3	1.26	302	0.79	0.72	0.11	-0.84	0.37	0.86
3	4	1.26	302	0.79	0.72	0.11	-0.84	0.37	0.86
3	5	5.70	289	3.84	3.99	-0.25	-0.23	3.99	4.07
3	6	5.70	289	3.84	3.99	-0.25	-0.23	3.99	4.07
4	1	17.63	367	13.64	10.67	0.18	8.80	5.26	14.35
4	2	2.60	356	1.87	1.24	0.17	-1.51	0.67	2.01
4	3	8.55	343	6.53	5.01	-0.39	-0.36	5.01	6.92

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---		--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	(deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)
1	59.46	50.98	78.32	12.000:10.288	40.61	219.00	30
2	4.12	4.26	5.93	11.610:12.000	45.95	213.00	150
3	23.53	20.09	30.94	12.000:10.246	40.49	205.00	270

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND PARALLEL TO FACE *****

ECHO OF TOWER SPAN INPUT DATA

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	6.68	5.95	4.00	4.000	4.000	4.000	15
2	60.00	25.13	5.74	6.86	4.00	4.000	4.000	4.000	13
3	68.00	25.13	5.76	8.44	4.00	4.000	4.000	4.000	15
4	72.00	25.13	4.91	6.70	4.00	4.000	4.000	4.000	16
5	12.00	25.13	0.76	0.79	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 60 F

NORMAL TEMPERATURE = 60 F

LOADS AT GUY ATTACHMENT ELEVATIONS

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.100	1.012	0.000
3	196.00	1.100	1.143	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	2.122	2.596	0.000

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND PARALLEL TO FACE *****

A N T E N N A L O A D S

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.227	0.155	255.00
2	2.093	1.239	223.00
3	1.487	0.304	210.00
4	0.825	0.162	200.00
5	0.651	0.304	200.00
6	1.759	0.914	180.00
7	0.166	0.295	176.00
8	1.353	0.924	160.00
9	0.760	0.162	150.00
10	0.337	0.162	150.00
11	0.150	0.175	132.00
12	2.084	0.893	110.00
13	0.210	0.096	105.00
14	1.203	0.304	100.00

T O W E R F O R C E S A N D D E F L E C T I O N S

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	0.610	6.32	21.78	28.37	106.22	0.610	0.10763
2	128	0.862	15.99	-115.98	-68.13	94.88	0.252	0.05047
3	196	1.096	15.05	-90.25	-23.56	67.03	0.234	0.04131
4	268	1.227	7.03	-35.90	-10.88	29.15	0.131	0.02179
TOP	280	1.229					0.002	0.00229

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN THE CANTILEVER

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.229		0.00	2.12	2.60	1.73	2.45	0.71	0.71
276.0	1.228	0.016	-10.91	2.38	2.86	1.91	2.70	-1.94	3.52
272.0	1.227	0.012	-22.88	2.63	3.12	2.08	2.94	-4.84	6.60
268.0	1.227	0.005	-35.90	2.88	3.39	2.26		-8.01	9.94

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.227		-10.88	26.01	-3.59	2.40	3.39	5.95	11.39
264.0	1.226	0.019	2.91	28.45	-3.22	2.15	3.04	10.21	8.76
260.0	1.224	0.020	15.21	28.72	-2.85	1.90	2.69	13.38	5.77
256.0	1.223	0.024	26.00	29.00	-2.48	1.65	2.34	16.17	3.16
252.0	1.220	0.032	34.62	29.27	-1.88	1.25	1.77	18.41	1.10
248.0	1.217	0.043	41.49	29.54	-1.50	1.00	1.42	20.22	-0.52
244.0	1.213	0.056	46.85	29.82	-1.13	0.75	1.06	21.65	-1.77
240.0	1.208	0.071	50.69	30.09	-0.75	0.50	0.71	22.70	-2.64
236.0	1.202	0.087	53.01	30.36	-0.38	0.25	0.36	23.37	-3.13
232.0	1.195	0.104	53.80	30.63	-0.00	0.00	0.00	23.66	-3.24
228.0	1.187	0.120	53.07	30.91	0.37	0.25	0.35	23.57	-2.97
224.0	1.177	0.137	50.82	31.18	0.74	0.50	0.70	23.10	-2.31
220.0	1.167	0.153	40.77	31.45	3.21	2.14	3.02	20.68	0.29
216.0	1.155	0.166	27.11	31.72	3.58	2.38	3.37	17.35	3.80
212.0	1.143	0.174	11.95	32.00	3.95	2.63	3.72	13.65	7.68
208.0	1.130	0.178	-7.68	32.27	5.80	3.87	5.47	8.84	12.68
204.0	1.118	0.175	-31.78	32.54	6.16	4.11	5.81	2.90	18.79
200.0	1.107	0.165	-57.34	32.82	6.52	4.35	6.15	-3.40	25.27
196.0	1.096	0.147	-90.25	31.60	8.36	5.57		-12.03	33.10

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 3

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	1.096		-23.56	62.69	-5.30	3.53	5.00	15.01	26.79
192.0	1.088	0.122	-2.91	65.66	-4.81	3.21	4.54	21.16	22.61
188.0	1.079	0.121	15.76	66.00	-4.32	2.88	4.07	25.94	18.06
184.0	1.071	0.126	32.43	66.34	-3.82	2.55	3.60	30.22	14.01
180.0	1.061	0.136	47.06	66.68	-3.33	2.22	3.14	33.99	10.46
176.0	1.051	0.150	52.60	67.02	-1.07	0.71	1.01	35.49	9.19
172.0	1.039	0.167	55.41	67.35	-0.40	0.27	0.38	36.30	8.60
168.0	1.026	0.184	56.16	67.69	0.10	0.07	0.09	36.60	8.52
164.0	1.012	0.202	54.84	68.03	0.60	0.40	0.56	36.39	8.97
160.0	0.997	0.219	51.45	68.37	1.09	0.73	1.03	35.65	9.93
156.0	0.980	0.235	40.59	68.71	2.94	1.96	2.77	33.05	12.75
152.0	0.963	0.248	27.69	69.05	3.43	2.29	3.24	29.94	16.09
148.0	0.945	0.256	10.56	69.39	5.02	3.34	4.73	25.77	20.49
144.0	0.927	0.259	-10.76	69.73	5.50	3.67	5.19	20.55	25.93
140.0	0.909	0.256	-34.05	70.06	5.98	3.99	5.64	14.84	31.87
136.0	0.892	0.245	-59.27	70.40	6.45	4.30	6.08	8.65	38.29
132.0	0.876	0.227	-86.40	70.74	6.92	4.61	6.52	1.98	45.18
128.0	0.862	0.199	-115.98	69.91	7.52	5.02		-5.69	52.30

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 2

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	0.862		-68.13	91.16	-7.15	4.76	6.74	13.36	47.42
124.0	0.850	0.176	-39.98	92.84	-6.72	4.48	6.33	20.95	40.94
120.0	0.839	0.163	-13.58	93.22	-6.28	4.19	5.92	27.68	34.47
116.0	0.827	0.159	11.03	93.61	-5.84	3.89	5.50	33.96	28.45
112.0	0.816	0.162	33.78	93.99	-5.39	3.59	5.08	39.77	22.89
108.0	0.804	0.173	50.46	94.37	-2.84	1.90	2.68	44.07	18.84
104.0	0.791	0.189	60.83	94.75	-2.17	1.45	2.05	46.79	16.38
100.0	0.776	0.208	68.62	95.14	-1.70	1.13	1.60	48.87	14.56
96.0	0.760	0.229	69.63	95.52	-0.02	0.02	0.02	49.25	14.43
92.0	0.743	0.251	68.66	95.90	0.45	0.30	0.43	49.13	14.80
88.0	0.724	0.272	65.71	96.28	0.93	0.62	0.87	48.52	15.67
84.0	0.703	0.293	60.81	96.67	1.41	0.94	1.33	47.42	17.02
80.0	0.682	0.312	53.94	97.05	1.88	1.26	1.78	45.84	18.86
76.0	0.659	0.329	45.14	97.43	2.36	1.57	2.22	43.76	21.19
72.0	0.635	0.343	34.41	97.81	2.83	1.89	2.67	41.21	24.00
68.0	0.610	0.354	21.78	97.75	3.30	2.20		38.03	27.14

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 1

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	0.610		28.37	102.88	-2.84	1.89	2.67	41.39	27.20
64.0	0.584	0.369	38.98	103.27	-2.47	1.64	2.32	44.17	24.68
60.0	0.557	0.382	48.09	103.66	-2.09	1.39	1.97	46.58	22.53
56.0	0.530	0.397	55.69	104.06	-1.71	1.14	1.61	48.61	20.76
52.0	0.501	0.414	61.76	104.45	-1.33	0.88	1.25	50.26	19.38
48.0	0.471	0.433	66.29	104.84	-0.94	0.63	0.88	51.52	18.38
44.0	0.439	0.454	69.26	105.24	-0.55	0.37	0.52	52.39	17.76
40.0	0.406	0.476	70.68	105.63	-0.16	0.10	0.15	52.88	17.54
36.0	0.371	0.498	70.52	106.02	0.23	0.16	0.22	52.97	17.71
32.0	0.335	0.520	68.81	106.41	0.62	0.42	0.59	52.67	18.27
28.0	0.297	0.542	65.53	106.81	1.01	0.68	0.96	51.98	19.22
24.0	0.257	0.562	60.70	107.20	1.40	0.93	1.32	50.91	20.56
20.0	0.217	0.582	54.33	107.59	1.78	1.19	1.68	49.45	22.28
16.0	0.175	0.599	46.43	107.99	2.16	1.44	2.04	47.60	24.39
12.0	0.132	0.613	37.03	108.38	2.54	1.69	2.39	45.38	26.87
8.0	0.089	0.625	26.14	108.77	2.91	1.94	2.74	42.79	29.72
4.0	0.044	0.633	13.78	109.16	3.27	2.18	3.08	39.83	32.94
0.0	0.000	0.637	0.00	109.56	3.62	2.41		36.52	36.52

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

E C H O O F G U Y I N P U T D A T A

***** WIND INTO FACE *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	60	60	219.00	94.50	2.69	0.504	0.5000	2994	2.31	93.5
1	2	180	180	213.00	85.50	2.69	0.504	0.5000	2994	2.31	92.2
1	3	300	300	205.00	75.50	2.69	0.504	0.5000	2994	2.31	90.5
2	1	60	0	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	2	60	120	219.00	154.50	3.50	0.637	0.5625	3886	8.08	100.3
2	3	180	120	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	4	180	240	213.00	145.50	3.50	0.637	0.5625	3886	8.08	99.4
2	5	300	240	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
2	6	300	0	205.00	135.50	3.50	0.637	0.5625	3886	8.08	98.4
3	1	60	0	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	2	60	120	219.00	222.50	4.24	0.796	0.6250	4712	8.08	105.7
3	3	180	120	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	4	180	240	213.00	213.50	4.24	0.796	0.6250	4712	8.08	105.0
3	5	300	240	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
3	6	300	0	205.00	203.50	4.24	0.796	0.6250	4712	8.08	104.3
4	1	60	60	219.00	294.50	5.83	1.155	0.7500	6716	2.31	110.0
4	2	180	180	213.00	285.50	5.83	1.155	0.7500	6716	2.31	109.5
4	3	300	300	205.00	275.50	5.83	1.155	0.7500	6716	2.31	108.9

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

R E S U L T A N T G U Y F O R C E S

***** WIND INTO FACE *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	6.94	239	2.66	6.37	0.10	3.10	5.53	2.82
1	2	0.32	230	0.07	0.26	-0.00	-0.28	0.00	0.15
1	3	7.41	218	2.48	6.95	-0.09	3.41	6.04	2.62
2	1	9.80	268	5.49	8.01	0.15	3.87	6.94	5.74
2	2	9.80	268	5.49	8.01	0.15	3.87	6.94	5.74
2	5	10.54	246	5.67	8.79	-0.13	4.29	7.61	5.89
2	6	10.54	246	5.67	8.79	-0.13	4.29	7.61	5.89
3	1	11.48	312	7.93	8.08	0.22	3.81	6.96	8.29
3	2	11.48	312	7.93	8.08	0.22	3.81	6.96	8.29
3	3	0.51	302	0.26	0.19	-0.00	-0.39	0.00	0.33
3	4	0.51	302	0.26	0.19	-0.00	-0.39	0.00	0.33
3	5	12.24	289	8.39	8.71	-0.20	4.16	7.51	8.73
3	6	12.24	289	8.39	8.71	-0.20	4.16	7.51	8.73
4	1	14.64	367	11.30	8.79	0.35	4.00	7.53	11.90
4	2	1.54	356	1.03	0.59	-0.00	-1.03	0.00	1.15
4	3	14.91	343	11.54	8.96	-0.32	4.12	7.67	12.10

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---		--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	(deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)
1	47.34	40.79	62.49	12.000:10.340	40.75	219.00	60
2	1.23	1.62	2.03	9.149:12.000	52.68	213.00	180
3	50.92	42.14	66.09	12.000: 9.931	39.61	205.00	300

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND INTO FACE *****

E C H O O F T O W E R S P A N I N P U T D A T A

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	6.68	5.95	4.00	4.000	4.000	4.000	15
2	60.00	25.13	5.74	6.86	4.00	4.000	4.000	4.000	13
3	68.00	25.13	5.76	8.44	4.00	4.000	4.000	4.000	15
4	72.00	25.13	4.91	6.70	4.00	4.000	4.000	4.000	16
5	12.00	25.13	0.76	0.79	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 60 F

NORMAL TEMPERATURE = 60 F

L O A D S A T G U Y A T T A C H M E N T E L E V A T I O N S

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.100	1.012	0.000
3	196.00	1.100	1.143	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	2.122	2.596	0.000

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

***** WIND INTO FACE *****

ANTENNA LOADS

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.227	0.155	255.00
2	2.093	1.239	223.00
3	1.487	0.304	210.00
4	0.825	0.162	200.00
5	0.651	0.304	200.00
6	1.759	0.914	180.00
7	0.166	0.295	176.00
8	1.353	0.924	160.00
9	0.760	0.162	150.00
10	0.337	0.162	150.00
11	0.150	0.175	132.00
12	2.084	0.893	110.00
13	0.210	0.096	105.00
14	1.203	0.304	100.00

TOWER FORCES AND DEFLECTIONS

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	0.730	6.23	33.29	39.22	115.52	0.730	0.12882
2	128	1.048	16.12	-108.73	-62.20	103.52	0.318	0.06361
3	196	1.296	15.10	-86.07	-20.40	72.67	0.248	0.04377
4	268	1.433	7.09	-35.90	-10.76	30.95	0.137	0.02283
TOP	280	1.435					0.002	0.00229

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN THE CANTILEVER

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.435		0.00	2.12	2.60	1.50	2.12	0.71	0.71
276.0	1.434	0.016	-10.91	2.38	2.86	1.65	2.33	-0.78	3.94
272.0	1.433	0.012	-22.88	2.63	3.12	1.80	2.55	-2.43	7.48
268.0	1.433	0.005	-35.90	2.88	3.39	1.95		-4.22	11.32

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.433		-10.76	27.82	-3.65	2.11	2.98	7.72	12.38
264.0	1.432	0.019	3.27	30.25	-3.28	1.89	2.68	10.56	9.14
260.0	1.430	0.020	15.81	30.53	-2.91	1.68	2.38	12.46	5.61
256.0	1.429	0.025	26.86	30.80	-2.54	1.46	2.07	14.14	2.51
252.0	1.426	0.034	35.71	31.07	-1.93	1.12	1.58	15.51	0.05
248.0	1.423	0.045	42.83	31.34	-1.56	0.90	1.27	16.63	-1.91
244.0	1.419	0.058	48.42	31.62	-1.18	0.68	0.97	17.53	-3.44
240.0	1.414	0.074	52.50	31.89	-0.81	0.47	0.66	18.21	-4.52
236.0	1.408	0.090	55.05	32.16	-0.43	0.25	0.35	18.67	-5.17
232.0	1.400	0.107	56.07	32.44	-0.06	0.03	0.05	18.91	-5.37
228.0	1.391	0.125	55.57	32.71	0.31	0.18	0.26	18.92	-5.14
224.0	1.381	0.142	53.54	32.98	0.69	0.40	0.56	18.72	-4.46
220.0	1.370	0.159	43.71	33.25	3.15	1.82	2.57	17.39	-1.53
216.0	1.358	0.173	30.26	33.53	3.52	2.03	2.88	15.54	2.44
212.0	1.346	0.182	15.31	33.80	3.89	2.25	3.18	13.48	6.85
208.0	1.332	0.187	-4.12	34.07	5.74	3.32	4.69	10.76	12.55
204.0	1.320	0.186	-28.01	34.35	6.11	3.53	4.99	7.41	19.53
200.0	1.307	0.177	-53.36	34.62	6.47	3.74	5.28	3.84	26.94
196.0	1.296	0.160	-86.07	33.40	8.31	4.79		-1.29	35.98

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 3

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	1.296		-20.40	68.33	-5.38	3.10	4.39	19.83	28.67
192.0	1.288	0.121	0.58	71.30	-4.89	2.82	3.99	23.85	23.60
188.0	1.279	0.121	19.58	71.64	-4.39	2.54	3.59	26.71	18.23
184.0	1.270	0.128	36.57	71.98	-3.89	2.25	3.18	29.27	13.44
180.0	1.261	0.139	51.51	72.32	-3.39	1.96	2.77	31.54	9.24
176.0	1.250	0.155	57.34	72.66	-1.13	0.65	0.93	32.50	7.67
172.0	1.238	0.173	60.44	73.00	-0.47	0.27	0.38	33.06	6.88
168.0	1.224	0.192	61.46	73.34	0.04	0.02	0.03	33.32	6.70
164.0	1.210	0.211	60.39	73.68	0.54	0.31	0.44	33.27	7.13
160.0	1.193	0.230	57.24	74.01	1.04	0.60	0.85	32.93	8.15
156.0	1.176	0.248	46.60	74.35	2.89	1.67	2.36	31.51	11.33
152.0	1.158	0.262	33.90	74.69	3.38	1.95	2.76	29.79	15.11
148.0	1.139	0.273	16.97	75.03	4.97	2.87	4.05	27.46	20.11
144.0	1.119	0.278	-4.17	75.37	5.45	3.15	4.45	24.52	26.33
140.0	1.100	0.277	-27.29	75.71	5.93	3.42	4.84	21.30	33.11
136.0	1.081	0.268	-52.35	76.05	6.40	3.70	5.23	17.79	40.46
132.0	1.064	0.251	-79.31	76.39	6.87	3.96	5.61	14.01	48.36
128.0	1.048	0.226	-108.73	75.55	7.47	4.31		9.49	56.57

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 2

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	1.048		-62.20	99.80	-7.27	4.20	5.94	24.29	51.22
124.0	1.033	0.220	-33.51	101.48	-6.85	3.95	5.59	28.99	43.50
120.0	1.018	0.209	-6.57	101.86	-6.41	3.70	5.23	33.01	35.85
116.0	1.004	0.207	18.56	102.25	-5.96	3.44	4.87	36.76	28.72
112.0	0.989	0.213	41.82	102.63	-5.50	3.18	4.49	40.25	22.14
108.0	0.973	0.226	58.99	103.01	-2.96	1.71	2.41	42.85	17.31
104.0	0.956	0.245	69.81	103.39	-2.28	1.31	1.86	44.54	14.31
100.0	0.937	0.266	78.02	103.78	-1.80	1.04	1.47	45.85	12.07
96.0	0.917	0.291	79.41	104.16	-0.12	0.07	0.10	46.18	11.80
92.0	0.895	0.316	78.79	104.54	0.36	0.21	0.30	46.22	12.10
88.0	0.871	0.340	76.17	104.92	0.85	0.49	0.69	45.97	12.99
84.0	0.846	0.364	71.54	105.31	1.33	0.77	1.09	45.43	14.45
80.0	0.819	0.387	64.92	105.69	1.82	1.05	1.49	44.60	16.49
76.0	0.790	0.407	56.32	106.07	2.30	1.33	1.88	43.49	19.10
72.0	0.761	0.425	45.77	106.45	2.79	1.61	2.27	42.09	22.27
68.0	0.730	0.439	33.29	106.39	3.26	1.88		40.27	25.85

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 85 mph (no ice)

MEMBER LOADS IN SPAN 1

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	0.730		39.22	112.18	-2.74	1.58	2.24	43.06	26.07
64.0	0.699	0.451	49.44	112.58	-2.36	1.37	1.93	44.66	23.25
60.0	0.666	0.466	58.13	112.97	-1.98	1.14	1.62	46.05	20.88
56.0	0.632	0.485	65.27	113.36	-1.59	0.92	1.30	47.21	18.94
52.0	0.597	0.505	70.85	113.76	-1.20	0.69	0.98	48.15	17.47
48.0	0.560	0.527	74.85	114.15	-0.80	0.46	0.65	48.85	16.44
44.0	0.522	0.551	77.26	114.54	-0.40	0.23	0.33	49.33	15.88
40.0	0.481	0.575	78.08	114.94	-0.00	0.00	0.00	49.58	15.77
36.0	0.440	0.600	77.29	115.33	0.40	0.23	0.32	49.60	16.13
32.0	0.396	0.624	74.91	115.72	0.79	0.46	0.65	49.39	16.95
28.0	0.351	0.647	70.95	116.11	1.19	0.69	0.97	48.94	18.22
24.0	0.304	0.670	65.40	116.51	1.58	0.91	1.29	48.27	19.96
20.0	0.256	0.690	58.28	116.90	1.97	1.14	1.61	47.38	22.14
16.0	0.206	0.709	49.62	117.29	2.36	1.36	1.92	46.26	24.77
12.0	0.156	0.724	39.44	117.69	2.74	1.58	2.23	44.92	27.84
8.0	0.104	0.736	27.75	118.08	3.11	1.79	2.54	43.36	31.35
4.0	0.052	0.745	14.59	118.47	3.47	2.00	2.83	41.60	35.28
0.0	0.000	0.750	0.00	118.86	3.82	2.21		39.62	39.62

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

E C H O O F G U Y I N P U T D A T A

***** WIND INTO APEX *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	0	0	219.00	94.50	2.69	1.115	1.5000	2994	2.31	81.0
1	2	120	120	213.00	85.50	2.69	1.115	1.5000	2994	2.31	79.8
1	3	240	240	205.00	75.50	2.69	1.115	1.5000	2994	2.31	78.4
2	1	0	300	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	2	0	60	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	3	120	60	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	4	120	180	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	5	240	180	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
2	6	240	300	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
3	1	0	300	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	2	0	60	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	3	120	60	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	4	120	180	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	5	240	180	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
3	6	240	300	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
4	1	0	0	219.00	294.50	5.83	1.919	1.7500	6716	2.31	95.3
4	2	120	120	213.00	285.50	5.83	1.919	1.7500	6716	2.31	94.8
4	3	240	240	205.00	275.50	5.83	1.919	1.7500	6716	2.31	94.3

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

R E S U L T A N T G U Y F O R C E S

***** WIND INTO APEX *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	12.11	239	4.58	11.11	0.00	11.05	0.00	4.94
1	2	2.30	230	0.74	2.05	0.21	-1.22	1.71	0.92
1	3	2.13	218	0.63	1.92	-0.20	-1.14	1.60	0.80
2	1	15.93	268	8.82	13.06	0.00	12.87	0.00	9.38
2	2	15.93	268	8.82	13.06	0.00	12.87	0.00	9.38
2	3	3.15	258	1.62	2.44	0.30	-1.53	2.08	1.81
2	4	3.15	258	1.62	2.44	0.30	-1.53	2.08	1.81
2	5	2.95	246	1.48	2.31	-0.28	-1.44	1.97	1.66
2	6	2.95	246	1.48	2.31	-0.28	-1.44	1.97	1.66
3	1	17.12	312	11.65	12.15	0.00	11.73	0.01	12.48
3	2	17.12	312	11.65	12.15	0.00	11.73	0.01	12.48
3	3	4.55	302	2.97	2.94	0.42	-1.95	2.57	3.20
3	4	4.55	302	2.97	2.94	0.42	-1.95	2.57	3.20
3	5	4.34	289	2.83	2.83	-0.39	-1.86	2.47	3.05
3	6	4.34	289	2.83	2.83	-0.39	-1.86	2.47	3.05
4	1	21.38	367	16.28	13.04	0.00	12.25	0.01	17.52
4	2	6.97	356	5.14	3.74	0.59	-2.59	3.35	5.53
4	3	6.70	343	4.95	3.59	-0.56	-2.48	3.22	5.32

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---		--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	(deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)
1	74.57	61.81	96.86	12.000:	9.946 39.65	219.00	0
2	16.55	15.08	22.39	12.000:	10.930 42.33	213.00	120
3	15.79	14.18	21.23	12.000:	10.778 41.93	205.00	240

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND INTO APEX *****

E C H O O F T O W E R S P A N I N P U T D A T A

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	12.12	8.83	4.00	4.000	4.000	4.000	15
2	60.00	25.13	10.27	10.54	4.00	4.000	4.000	4.000	13
3	68.00	25.13	9.63	10.98	4.00	4.000	4.000	4.000	15
4	72.00	25.13	7.17	7.89	4.00	4.000	4.000	4.000	16
5	12.00	25.13	1.06	0.95	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 30 F NORMAL TEMPERATURE = 60 F

L O A D S A T G U Y A T T A C H M E N T E L E V A T I O N S

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.600	0.814	0.000
3	196.00	1.600	0.920	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	3.000	2.528	0.000

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND INTO APEX *****

A N T E N N A L O A D S

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.223	0.224	255.00
2	1.983	1.896	223.00
3	1.139	0.621	210.00
4	0.636	0.321	200.00
5	0.529	0.621	200.00
6	1.697	1.298	180.00
7	0.157	0.390	176.00
8	1.219	1.380	160.00
9	0.586	0.321	150.00
10	0.269	0.321	150.00
11	0.180	0.200	132.00
12	1.987	1.513	110.00
13	0.428	0.173	105.00
14	0.921	0.621	100.00

T O W E R F O R C E S A N D D E F L E C T I O N S

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	0.851	8.67	66.30	75.73	142.15	0.851	0.15017
2	128	1.048	19.85	-145.99	-84.27	123.91	0.198	0.03950
3	196	1.221	16.02	-116.68	-39.78	85.69	0.173	0.03047
4	268	1.324	7.19	-36.04	-8.24	36.69	0.103	0.01710
TOP	280	1.326					0.002	0.00228

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN THE CANTILEVER

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.326		0.00	3.00	2.53	1.46	2.06	1.00	1.00
276.0	1.325	0.016	-10.75	3.35	2.84	1.64	2.32	-1.99	2.67
272.0	1.324	0.012	-22.76	3.71	3.16	1.83	2.58	-5.34	4.52
268.0	1.324	0.005	-36.04	4.06	3.48	2.01		-9.05	6.56

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.324		-8.24	32.04	-3.66	2.11	2.99	8.30	11.87
264.0	1.323	0.005	5.69	36.12	-3.22	1.86	2.63	13.68	11.22
260.0	1.323	0.006	17.86	36.52	-2.78	1.60	2.27	17.33	9.59
256.0	1.322	0.012	28.26	36.92	-2.34	1.35	1.91	20.46	8.23
252.0	1.321	0.021	36.21	37.31	-1.67	0.97	1.37	22.89	7.21
248.0	1.318	0.032	42.16	37.71	-1.23	0.71	1.01	24.74	6.48
244.0	1.315	0.045	46.33	38.11	-0.79	0.46	0.65	26.08	6.02
240.0	1.311	0.060	48.70	38.51	-0.35	0.20	0.28	26.89	5.81
236.0	1.306	0.075	49.28	38.91	0.09	0.05	0.08	27.20	5.86
232.0	1.300	0.091	48.07	39.31	0.53	0.31	0.44	26.98	6.16
228.0	1.292	0.106	45.06	39.70	0.97	0.56	0.79	26.24	6.73
224.0	1.284	0.120	40.27	40.10	1.41	0.81	1.15	24.99	7.55
220.0	1.275	0.132	27.74	40.50	3.83	2.21	3.13	21.51	9.50
216.0	1.265	0.141	11.45	40.90	4.26	2.46	3.48	16.94	11.98
212.0	1.255	0.144	-6.59	41.30	4.69	2.71	3.83	11.86	14.72
208.0	1.245	0.142	-28.67	41.70	6.26	3.61	5.11	5.62	18.04
204.0	1.236	0.133	-54.75	42.09	6.69	3.86	5.46	-1.77	21.93
200.0	1.227	0.116	-82.55	42.49	7.11	4.10	5.80	-9.66	26.08
196.0	1.221	0.090	-116.68	40.28	8.69	5.02		-20.26	30.27

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 3

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	1.221		-39.78	78.74	-6.14	3.55	5.02	14.76	31.99
192.0	1.215	0.094	-15.97	83.22	-5.51	3.18	4.50	23.13	30.04
188.0	1.208	0.089	5.28	83.78	-4.88	2.81	3.98	29.45	27.17
184.0	1.202	0.090	23.94	84.35	-4.23	2.44	3.46	35.03	24.66
180.0	1.195	0.098	39.98	84.92	-3.59	2.07	2.93	39.85	22.54
176.0	1.188	0.110	46.56	85.48	-1.24	0.72	1.02	41.94	21.77
172.0	1.179	0.125	49.85	86.05	-0.44	0.25	0.36	43.07	21.49
168.0	1.169	0.140	50.47	86.62	0.21	0.12	0.17	43.44	21.59
164.0	1.158	0.156	48.40	87.18	0.86	0.50	0.70	43.03	22.07
160.0	1.146	0.171	43.66	87.75	1.50	0.87	1.23	41.85	22.95
156.0	1.133	0.184	31.39	88.31	3.37	1.94	2.75	38.50	24.91
152.0	1.120	0.194	16.46	88.88	4.00	2.31	3.27	34.38	27.25
148.0	1.106	0.199	-2.78	89.45	5.49	3.17	4.48	29.01	30.22
144.0	1.092	0.198	-26.31	90.01	6.11	3.53	4.99	22.41	33.80
140.0	1.079	0.190	-52.38	90.58	6.73	3.88	5.49	15.07	37.75
136.0	1.067	0.174	-80.93	91.15	7.33	4.23	5.99	7.02	42.06
132.0	1.056	0.148	-111.91	91.71	7.93	4.58	6.47	-1.73	46.72
128.0	1.048	0.113	-145.99	90.51	8.69	5.02		-11.97	51.24

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 2

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	1.048		-84.27	117.27	-10.03	5.79	8.19	14.76	51.26
124.0	1.044	0.066	-44.91	120.27	-9.38	5.41	7.66	27.12	46.57
120.0	1.040	0.052	-8.24	120.95	-8.70	5.02	7.11	37.94	41.51
116.0	1.037	0.049	25.64	121.63	-8.01	4.62	6.54	47.95	36.84
112.0	1.033	0.057	56.64	122.32	-7.30	4.21	5.96	57.13	32.60
108.0	1.028	0.075	80.71	123.00	-4.59	2.65	3.75	64.30	29.35
104.0	1.021	0.100	97.35	123.69	-3.43	1.98	2.80	69.33	27.18
100.0	1.012	0.130	109.62	124.37	-2.68	1.55	2.19	73.10	25.64
96.0	1.000	0.165	115.11	125.06	-1.01	0.58	0.82	74.92	25.07
92.0	0.986	0.201	117.47	125.74	-0.25	0.14	0.20	75.83	24.96
88.0	0.970	0.238	116.71	126.43	0.52	0.30	0.42	75.83	25.30
84.0	0.950	0.274	112.81	127.11	1.28	0.74	1.05	74.94	26.09
80.0	0.929	0.310	105.80	127.80	2.05	1.18	1.67	73.14	27.33
76.0	0.905	0.343	95.69	128.48	2.81	1.62	2.29	70.45	29.01
72.0	0.879	0.373	82.51	129.17	3.57	2.06	2.91	66.88	31.15
68.0	0.851	0.399	66.30	129.04	4.32	2.49		62.15	33.44

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 1

** WIND INTO APEX **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	0.851		75.73	136.09	-4.02	2.32	3.28	67.22	34.43
64.0	0.820	0.439	90.65	136.80	-3.44	1.99	2.81	71.77	32.52
60.0	0.788	0.467	103.22	137.51	-2.84	1.64	2.32	75.63	30.94
56.0	0.753	0.500	113.39	138.23	-2.24	1.29	1.83	78.81	29.71
52.0	0.715	0.535	121.13	138.94	-1.63	0.94	1.33	81.28	28.83
48.0	0.675	0.573	126.41	139.65	-1.01	0.58	0.83	83.04	28.31
44.0	0.633	0.613	129.22	140.36	-0.39	0.23	0.32	84.09	28.14
40.0	0.587	0.654	129.55	141.08	0.23	0.13	0.19	84.42	28.33
36.0	0.539	0.694	127.40	141.79	0.85	0.49	0.69	84.04	28.88
32.0	0.487	0.734	122.77	142.50	1.46	0.85	1.20	82.94	29.78
28.0	0.433	0.773	115.68	143.22	2.08	1.20	1.70	81.13	31.04
24.0	0.377	0.809	106.16	143.93	2.68	1.55	2.19	78.62	32.65
20.0	0.318	0.842	94.23	144.64	3.28	1.89	2.68	75.42	34.61
16.0	0.257	0.872	79.92	145.36	3.87	2.23	3.16	71.52	36.92
12.0	0.194	0.897	63.29	146.07	4.44	2.57	3.63	66.96	39.55
8.0	0.130	0.917	44.39	146.78	5.01	2.89	4.09	61.74	42.52
4.0	0.065	0.931	23.27	147.49	5.55	3.21	4.53	55.88	45.81
0.0	0.000	0.938	0.00	148.21	6.08	3.51		49.40	49.40

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

E C H O O F G U Y I N P U T D A T A

***** WIND PARALLEL TO FACE *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	30	30	219.00	94.50	2.69	1.115	1.5000	2994	2.31	81.0
1	2	150	150	213.00	85.50	2.69	1.115	1.5000	2994	2.31	79.8
1	3	270	270	205.00	75.50	2.69	1.115	1.5000	2994	2.31	78.4
2	1	30	330	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	2	30	90	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	3	150	90	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	4	150	210	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	5	270	210	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
2	6	270	330	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
3	1	30	330	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	2	30	90	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	3	150	90	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	4	150	210	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	5	270	210	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
3	6	270	330	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
4	1	30	30	219.00	294.50	5.83	1.919	1.7500	6716	2.31	95.3
4	2	150	150	213.00	285.50	5.83	1.919	1.7500	6716	2.31	94.8
4	3	270	270	205.00	275.50	5.83	1.919	1.7500	6716	2.31	94.3

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

RESULTANT GUY FORCES

***** WIND PARALLEL TO FACE *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	12.26	239	4.64	11.26	0.09	9.66	5.66	5.01
1	2	0.87	230	0.22	0.72	0.09	-0.72	0.31	0.38
1	3	4.49	218	1.41	4.17	-0.25	-0.23	4.17	1.66
2	1	16.01	268	8.86	13.12	0.14	11.15	6.56	9.43
2	2	16.01	268	8.86	13.12	0.14	11.15	6.56	9.43
2	3	1.14	258	0.52	0.76	0.13	-0.87	0.35	0.65
2	4	1.14	258	0.52	0.76	0.13	-0.87	0.35	0.65
2	5	5.98	246	3.09	4.91	-0.35	-0.32	4.91	3.40
2	6	5.98	246	3.09	4.91	-0.35	-0.32	4.91	3.40
3	1	17.00	312	11.57	12.05	0.21	10.00	5.98	12.38
3	2	17.00	312	11.57	12.05	0.21	10.00	5.98	12.38
3	3	2.10	302	1.30	1.16	0.21	-1.43	0.59	1.41
3	4	2.10	302	1.30	1.16	0.21	-1.43	0.59	1.41
3	5	7.67	289	5.07	5.33	-0.48	-0.45	5.33	5.50
3	6	7.67	289	5.07	5.33	-0.48	-0.45	5.33	5.50
4	1	20.51	367	15.60	12.49	0.32	10.04	6.12	16.80
4	2	3.90	356	2.78	1.79	0.31	-2.30	0.99	2.99
4	3	10.70	343	8.03	6.22	-0.68	-0.63	6.22	8.68

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---			--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	SLOPE (deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)	
1	74.09	61.10	96.04	12.000:	9.896	39.51	219.00	30
2	6.35	6.63	9.18	11.490:	12.000	46.24	213.00	150
3	30.87	25.75	40.20	12.000:	10.011	39.84	205.00	270

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND PARALLEL TO FACE *****

E C H O O F T O W E R S P A N I N P U T D A T A

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	12.12	8.83	4.00	4.000	4.000	4.000	15
2	60.00	25.13	10.27	10.54	4.00	4.000	4.000	4.000	13
3	68.00	25.13	9.63	10.98	4.00	4.000	4.000	4.000	15
4	72.00	25.13	7.17	7.89	4.00	4.000	4.000	4.000	16
5	12.00	25.13	1.06	0.95	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 30 F

NORMAL TEMPERATURE = 60 F

L O A D S A T G U Y A T T A C H M E N T E L E V A T I O N S

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.600	0.814	0.000
3	196.00	1.600	0.920	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	3.000	2.528	0.000

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND PARALLEL TO FACE *****

A N T E N N A L O A D S

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.223	0.224	255.00
2	1.983	1.896	223.00
3	1.139	0.621	210.00
4	0.636	0.321	200.00
5	0.529	0.621	200.00
6	1.697	1.298	180.00
7	0.157	0.390	176.00
8	1.219	1.380	160.00
9	0.586	0.321	150.00
10	0.269	0.321	150.00
11	0.180	0.200	132.00
12	1.987	1.513	110.00
13	0.428	0.173	105.00
14	0.921	0.621	100.00

T O W E R F O R C E S A N D D E F L E C T I O N S

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	0.969	8.64	80.51	89.70	144.79	0.969	0.17098
2	128	1.214	19.79	-132.88	-71.81	126.20	0.245	0.04899
3	196	1.357	16.25	-118.66	-41.68	86.81	0.143	0.02530
4	268	1.444	7.15	-36.04	-8.33	36.85	0.086	0.01440
TOP	280	1.446					0.002	0.00228

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN THE CANTILEVER

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG WINDWARD LOAD (kips)	LEEWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.446		0.00	3.00	2.53	1.69	2.38	1.00	1.00
276.0	1.445	0.016	-10.75	3.35	2.84	1.90	2.68	-1.57	3.80
272.0	1.444	0.012	-22.76	3.71	3.16	2.11	2.98	-4.46	6.93
268.0	1.444	0.005	-36.04	4.06	3.48	2.32		-7.66	10.36

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG WINDWARD LOAD (kips)	LEEWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.444		-8.33	32.20	-3.63	2.42	3.42	8.65	12.82
264.0	1.444	-0.006	5.49	36.28	-3.19	2.13	3.01	13.47	10.72
260.0	1.444	-0.004	17.55	36.68	-2.75	1.83	2.59	16.61	7.84
256.0	1.444	0.001	27.84	37.08	-2.31	1.54	2.18	19.32	5.40
252.0	1.444	0.010	35.69	37.48	-1.65	1.10	1.55	21.41	3.57
248.0	1.442	0.021	41.53	37.88	-1.21	0.80	1.14	23.01	2.24
244.0	1.440	0.034	45.58	38.27	-0.76	0.51	0.72	24.15	1.36
240.0	1.437	0.048	47.85	38.67	-0.32	0.21	0.30	24.85	0.93
236.0	1.432	0.063	48.32	39.07	0.12	0.08	0.11	25.10	0.94
232.0	1.427	0.078	47.00	39.47	0.56	0.37	0.53	24.91	1.41
228.0	1.420	0.093	43.89	39.87	1.00	0.67	0.94	24.26	2.32
224.0	1.413	0.107	38.99	40.27	1.44	0.96	1.35	23.17	3.67
220.0	1.404	0.119	26.36	40.66	3.85	2.57	3.63	20.15	6.96
216.0	1.396	0.127	9.97	41.06	4.29	2.86	4.04	16.18	11.19
212.0	1.386	0.130	-8.18	41.46	4.72	3.15	4.45	11.78	15.87
208.0	1.378	0.127	-30.36	41.86	6.29	4.19	5.93	6.36	21.54
204.0	1.369	0.118	-56.54	42.26	6.71	4.47	6.33	-0.05	28.22
200.0	1.362	0.100	-84.43	42.66	7.13	4.75	6.72	-6.89	35.33
196.0	1.357	0.073	-118.66	40.44	8.71	5.81		-16.19	43.15

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 3

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	1.357		-41.68	79.86	-6.38	4.25	6.01	16.20	37.04
192.0	1.353	0.060	-16.93	84.33	-5.75	3.83	5.42	23.88	32.34
188.0	1.349	0.055	5.27	84.90	-5.11	3.41	4.82	29.62	26.98
184.0	1.345	0.056	24.87	85.47	-4.47	2.98	4.21	34.71	22.27
180.0	1.341	0.064	41.85	86.03	-3.82	2.55	3.60	39.14	18.22
176.0	1.336	0.077	49.38	86.60	-1.48	0.98	1.39	41.21	16.52
172.0	1.329	0.092	53.60	87.17	-0.67	0.45	0.63	42.45	15.66
168.0	1.321	0.109	55.13	87.73	-0.02	0.01	0.02	43.03	15.46
164.0	1.313	0.126	53.98	88.30	0.63	0.42	0.60	42.93	15.94
160.0	1.303	0.143	50.14	88.87	1.28	0.85	1.21	42.16	17.09
156.0	1.292	0.158	38.75	89.43	3.15	2.10	2.97	39.50	20.12
152.0	1.280	0.171	24.70	90.00	3.79	2.52	3.57	36.18	23.82
148.0	1.267	0.178	6.32	90.57	5.28	3.52	4.97	31.77	28.61
144.0	1.255	0.180	-16.38	91.13	5.90	3.94	5.57	26.28	34.47
140.0	1.242	0.175	-41.62	91.70	6.52	4.35	6.15	20.16	40.97
136.0	1.231	0.162	-69.37	92.26	7.13	4.76	6.73	13.41	48.10
132.0	1.221	0.140	-99.57	92.83	7.74	5.16	7.29	6.05	55.84
128.0	1.214	0.109	-132.88	91.62	8.50	5.67		-2.68	63.76

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 2

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	1.214		-71.81	119.57	-10.14	6.76	9.56	21.90	57.81
124.0	1.208	0.080	-32.04	122.56	-9.47	6.32	8.93	32.84	48.86
120.0	1.203	0.070	5.00	123.24	-8.79	5.86	8.29	42.33	39.83
116.0	1.198	0.072	39.22	123.93	-8.09	5.39	7.62	51.11	31.50
112.0	1.192	0.084	70.52	124.61	-7.37	4.91	6.95	59.17	23.91
108.0	1.185	0.106	94.85	125.30	-4.65	3.10	4.38	65.48	18.05
104.0	1.176	0.136	111.70	125.98	-3.47	2.32	3.28	69.92	14.07
100.0	1.164	0.171	124.14	126.67	-2.72	1.81	2.56	73.26	11.19
96.0	1.149	0.210	129.75	127.35	-1.03	0.69	0.97	74.89	10.01
92.0	1.132	0.250	132.19	128.04	-0.26	0.17	0.25	75.73	9.63
88.0	1.111	0.292	131.46	128.72	0.51	0.34	0.48	75.77	10.04
84.0	1.088	0.333	127.55	129.41	1.29	0.86	1.22	75.02	11.25
80.0	1.062	0.373	120.47	130.09	2.06	1.38	1.95	73.48	13.24
76.0	1.033	0.411	110.26	130.78	2.84	1.89	2.68	71.16	16.03
72.0	1.002	0.445	96.93	131.46	3.61	2.41	3.40	68.05	19.59
68.0	0.969	0.476	80.51	131.33	4.37	2.91		63.91	23.65

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 1

** WIND PARALLEL TO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	0.969		89.70	138.73	-3.90	2.60	3.68	68.67	23.82
64.0	0.933	0.513	104.11	139.44	-3.30	2.20	3.11	72.51	20.45
60.0	0.895	0.546	116.11	140.15	-2.70	1.80	2.54	75.74	17.69
56.0	0.854	0.583	125.66	140.87	-2.08	1.39	1.96	78.37	15.54
52.0	0.811	0.622	132.74	141.58	-1.46	0.97	1.37	80.38	14.01
48.0	0.765	0.664	137.32	142.29	-0.83	0.55	0.78	81.76	13.10
44.0	0.715	0.707	139.38	143.01	-0.20	0.13	0.19	82.51	12.82
40.0	0.663	0.750	138.92	143.72	0.43	0.29	0.40	82.64	13.18
36.0	0.607	0.794	135.95	144.43	1.06	0.71	1.00	82.13	14.16
32.0	0.549	0.837	130.47	145.14	1.68	1.12	1.59	81.00	15.76
28.0	0.488	0.878	122.49	145.86	2.30	1.54	2.17	79.24	18.00
24.0	0.424	0.916	112.05	146.57	2.92	1.94	2.75	76.87	20.84
20.0	0.357	0.951	99.18	147.28	3.52	2.35	3.32	73.89	24.30
16.0	0.289	0.982	83.91	148.00	4.11	2.74	3.88	70.31	28.35
12.0	0.218	1.009	66.30	148.71	4.69	3.13	4.42	66.14	33.00
8.0	0.146	1.030	46.40	149.42	5.26	3.50	4.95	61.41	38.21
4.0	0.073	1.044	24.28	150.13	5.80	3.87	5.47	56.11	43.98
0.0	0.000	1.052	0.00	150.85	6.33	4.22		50.28	50.28

 Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

E C H O O F G U Y I N P U T D A T A

***** WIND INTO FACE *****

GUY LEV	GUY No	GUY ANGLE (deg)	ARM ANGLE (deg)	HORZ. DIST. (ft)	VERT. DIST. (ft)	INIT. TENS. (k)	GUY WT/FT (plf)	GUY DIAM. (in)	GUY AE (k)	MOMENT ARM (ft)	WIND VEL. (mph)
1	1	60	60	219.00	94.50	2.69	1.115	1.5000	2994	2.31	81.0
1	2	180	180	213.00	85.50	2.69	1.115	1.5000	2994	2.31	79.8
1	3	300	300	205.00	75.50	2.69	1.115	1.5000	2994	2.31	78.4
2	1	60	0	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	2	60	120	219.00	154.50	3.50	1.286	1.5625	3886	8.08	86.9
2	3	180	120	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	4	180	240	213.00	145.50	3.50	1.286	1.5625	3886	8.08	86.1
2	5	300	240	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
2	6	300	0	205.00	135.50	3.50	1.286	1.5625	3886	8.08	85.3
3	1	60	0	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	2	60	120	219.00	222.50	4.24	1.483	1.6250	4712	8.08	91.5
3	3	180	120	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	4	180	240	213.00	213.50	4.24	1.483	1.6250	4712	8.08	91.0
3	5	300	240	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
3	6	300	0	205.00	203.50	4.24	1.483	1.6250	4712	8.08	90.4
4	1	60	60	219.00	294.50	5.83	1.919	1.7500	6716	2.31	95.3
4	2	180	180	213.00	285.50	5.83	1.919	1.7500	6716	2.31	94.8
4	3	300	300	205.00	275.50	5.83	1.919	1.7500	6716	2.31	94.3

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

R E S U L T A N T G U Y F O R C E S

***** WIND INTO FACE *****

GUY LEVEL	GUY NO.	MAXIMUM TENSION (kips)	GUY LENGTH (ft)	-GUY FORCE COMPONENT- AT THE GUY ANCHOR			-GUY FORCE COMPONENT- AT THE TOWER		
				VERT (kips)	HORIZ. (kips)	NORMAL (kips)	HORIZ. (kips)	NORMAL (kips)	VERT (kips)
1	1	9.43	239	3.53	8.65	0.23	4.13	7.53	3.89
1	2	0.53	230	0.09	0.40	-0.00	-0.46	0.00	0.26
1	3	10.14	218	3.33	9.51	-0.20	4.60	8.27	3.64
2	1	12.57	268	6.93	10.28	0.32	4.85	8.91	7.43
2	2	12.57	268	6.93	10.28	0.32	4.85	8.91	7.43
2	3	0.15	258	-0.04	-0.04	-0.00	-0.12	0.00	0.09
2	4	0.15	258	-0.04	-0.04	-0.00	-0.12	0.00	0.09
2	5	13.30	246	7.05	11.10	-0.28	5.31	9.62	7.50
2	6	13.30	246	7.05	11.10	-0.28	5.31	9.62	7.50
3	1	13.54	312	9.17	9.55	0.44	4.30	8.22	9.87
3	2	13.54	312	9.17	9.55	0.44	4.30	8.22	9.87
3	3	0.95	302	0.50	0.35	-0.00	-0.74	0.00	0.60
3	4	0.95	302	0.50	0.35	-0.00	-0.74	0.00	0.60
3	5	14.04	289	9.45	10.01	-0.39	4.60	8.62	10.09
3	6	14.04	289	9.45	10.01	-0.39	4.60	8.62	10.09
4	1	16.73	367	12.68	10.09	0.61	4.32	8.59	13.69
4	2	2.54	356	1.71	0.94	-0.00	-1.71	0.00	1.88
4	3	17.00	343	12.94	10.24	-0.56	4.47	8.73	13.88

ANCHOR NO	-GUY ANCHOR REACTIONS--			--GUY ROD SLOPE---			--ANCHOR LOCATION--	
	HORIZ (kips)	UPLIFT (kips)	RESULTANT (kips)	H : V	(deg)	GUY RADIUS (ft)	GUY ANGLE (degrees)	
1	58.40	48.41	75.86	12.000:	9.949	39.66	219.00	60
2	1.96	2.71	3.35	8.676:	12.000	54.13	213.00	180
3	61.97	49.27	79.17	12.000:	9.540	38.48	205.00	300

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND INTO FACE *****

E C H O O F T O W E R S P A N I N P U T D A T A

SHAFT SPAN NO.	SPAN LENGTH (ft)	MOM. OF INERTIA (in ² -ft ²)	SPAN WEIGHT (kips)	WIND LOAD (kips)	FACE WIDTH (ft)	PANEL DATA			No. MID
						TOP (ft)	BOTT (ft)	MIDDLE (ft)	
1	68.00	25.13	12.12	8.83	4.00	4.000	4.000	4.000	15
2	60.00	25.13	10.27	10.54	4.00	4.000	4.000	4.000	13
3	68.00	25.13	9.63	10.98	4.00	4.000	4.000	4.000	15
4	72.00	25.13	7.17	7.89	4.00	4.000	4.000	4.000	16
5	12.00	25.13	1.06	0.95	4.00	4.000	4.000	4.000	1

DESIGN TEMPERATURE = 30 F

NORMAL TEMPERATURE = 60 F

L O A D S A T G U Y A T T A C H M E N T E L E V A T I O N S

LEVEL NO.	ELEV (ft)	WEIGHT (kips)	WIND LOAD (kips)	MOMENT (ft-kips)
1	68.00	0.000	0.000	0.000
2	128.00	1.600	0.814	0.000
3	196.00	1.600	0.920	0.000
4	268.00	0.000	0.000	0.000
TOP	280.00	3.000	2.528	0.000

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

***** WIND INTO FACE *****

A N T E N N A L O A D S

ANTENNA NUMBER	WIND LOAD (kips)	WEIGHT (kips)	HEIGHT (ft)
1	0.223	0.224	255.00
2	1.983	1.896	223.00
3	1.139	0.621	210.00
4	0.636	0.321	200.00
5	0.529	0.621	200.00
6	1.697	1.298	180.00
7	0.157	0.390	176.00
8	1.219	1.380	160.00
9	0.586	0.321	150.00
10	0.269	0.321	150.00
11	0.180	0.200	132.00
12	1.987	1.513	110.00
13	0.428	0.173	105.00
14	0.921	0.621	100.00

T O W E R F O R C E S A N D D E F L E C T I O N S

GUY LEVEL	ELEV (ft)	TOTAL DEFLECT (ft)	SUPPORT REACTION (kips)	MOMENT ABOVE (ft-k)	MOMENT BELOW (ft-k)	AXIAL (kips)	LEVEL DEFLECT. (ft-span)	AVE SPAN SLOPE (in/ft)
1	68	1.165	8.29	111.37	119.46	152.50	1.165	0.20563
2	128	1.458	20.13	-120.92	-61.18	133.14	0.292	0.05846
3	196	1.564	16.39	-117.48	-41.41	90.47	0.107	0.01887
4	268	1.607	7.14	-36.04	-8.37	37.91	0.043	0.00711
TOP	280	1.609					0.002	0.00228

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN THE CANTILEVER

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
280.0	1.609		0.00	3.00	2.53	1.46	2.06	1.00	1.00
276.0	1.608	0.016	-10.75	3.35	2.84	1.64	2.32	-0.43	4.22
272.0	1.607	0.012	-22.76	3.71	3.16	1.83	2.58	-2.05	7.81
268.0	1.607	0.005	-36.04	4.06	3.48	2.01		-3.85	11.76

MEMBER LOADS IN SPAN 4

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
268.0	1.607		-8.37	33.26	-3.65	2.11	2.98	9.88	13.50
264.0	1.610	-0.042	5.52	37.34	-3.21	1.85	2.62	13.24	10.85
260.0	1.613	-0.040	17.66	37.74	-2.77	1.60	2.26	15.13	7.48
256.0	1.615	-0.035	28.03	38.14	-2.33	1.35	1.90	16.76	4.62
252.0	1.617	-0.026	35.95	38.54	-1.67	0.96	1.36	18.03	2.47
248.0	1.618	-0.015	41.87	38.94	-1.22	0.71	1.00	19.02	0.89
244.0	1.618	-0.002	45.99	39.33	-0.78	0.45	0.64	19.75	-0.17
240.0	1.617	0.013	48.33	39.73	-0.34	0.20	0.28	20.22	-0.71
236.0	1.616	0.028	48.87	40.13	0.10	0.06	0.08	20.43	-0.73
232.0	1.613	0.043	47.62	40.53	0.54	0.31	0.44	20.38	-0.24
228.0	1.608	0.058	44.58	40.93	0.98	0.57	0.80	20.08	0.77
224.0	1.603	0.072	39.74	41.33	1.42	0.82	1.16	19.51	2.30
220.0	1.598	0.084	27.17	41.72	3.84	2.22	3.13	17.83	6.06
216.0	1.591	0.093	10.85	42.12	4.27	2.47	3.49	15.61	10.91
212.0	1.584	0.096	-7.24	42.52	4.70	2.71	3.84	13.13	16.26
208.0	1.578	0.094	-29.36	42.92	6.27	3.62	5.12	10.07	22.78
204.0	1.572	0.084	-55.48	43.32	6.69	3.86	5.46	6.43	30.45
200.0	1.567	0.067	-83.31	43.72	7.11	4.11	5.81	2.55	38.62
196.0	1.564	0.040	-117.48	41.50	8.69	5.02		-3.12	47.75

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16 INITIALS: JML DATE: 10-06-2000
 Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 3

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
196.0	1.564		-41.41	83.52	-6.57	3.79	5.36	21.86	39.79
192.0	1.563	0.017	-15.88	87.99	-5.94	3.43	4.85	27.04	33.91
188.0	1.562	0.012	7.10	88.56	-5.30	3.06	4.33	30.54	27.47
184.0	1.561	0.014	27.48	89.13	-4.66	2.69	3.80	33.68	21.78
180.0	1.560	0.023	45.22	89.69	-4.01	2.31	3.27	36.42	16.84
176.0	1.557	0.037	53.50	90.26	-1.66	0.96	1.36	37.81	14.64
172.0	1.554	0.053	58.47	90.83	-0.85	0.49	0.69	38.71	13.40
168.0	1.548	0.072	60.74	91.39	-0.20	0.11	0.16	39.23	12.93
164.0	1.542	0.091	60.30	91.96	0.46	0.26	0.37	39.36	13.25
160.0	1.534	0.110	57.16	92.53	1.11	0.64	0.90	39.09	14.34
156.0	1.526	0.127	46.45	93.09	2.98	1.72	2.43	37.74	17.62
152.0	1.516	0.142	33.06	93.66	3.62	2.09	2.96	35.99	21.67
148.0	1.505	0.152	15.32	94.23	5.11	2.95	4.18	33.62	26.99
144.0	1.494	0.157	-6.75	94.79	5.75	3.32	4.69	30.62	33.55
140.0	1.483	0.155	-31.39	95.36	6.37	3.68	5.20	27.26	40.85
136.0	1.473	0.145	-58.55	95.92	6.98	4.03	5.70	23.52	48.88
132.0	1.464	0.126	-88.17	96.49	7.59	4.38	6.20	19.44	57.62
128.0	1.458	0.098	-120.92	95.28	8.36	4.83		14.31	66.67

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 2

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
128.0	1.458		-61.18	126.51	-10.59	6.11	8.64	33.34	59.83
124.0	1.452	0.083	-19.60	129.50	-9.92	5.73	8.10	40.34	48.82
120.0	1.446	0.077	19.24	130.18	-9.22	5.33	7.53	46.17	37.84
116.0	1.441	0.083	55.20	130.87	-8.51	4.91	6.95	51.59	27.69
112.0	1.434	0.100	88.20	131.55	-7.78	4.49	6.35	56.58	18.39
108.0	1.425	0.128	114.15	132.24	-5.04	2.91	4.12	60.56	11.12
104.0	1.413	0.163	132.56	132.92	-3.85	2.22	3.15	63.44	6.04
100.0	1.399	0.205	146.49	133.61	-3.08	1.78	2.51	65.68	2.25
96.0	1.382	0.251	153.50	134.29	-1.37	0.79	1.12	66.92	0.45
92.0	1.361	0.299	157.25	134.97	-0.58	0.34	0.47	67.69	-0.40
88.0	1.336	0.348	157.73	135.66	0.22	0.12	0.18	67.99	-0.31
84.0	1.309	0.398	154.94	136.34	1.02	0.59	0.83	67.81	0.72
80.0	1.277	0.446	148.89	137.03	1.82	1.05	1.48	67.17	2.70
76.0	1.243	0.493	139.59	137.71	2.62	1.51	2.14	66.05	5.61
72.0	1.205	0.537	127.07	138.40	3.41	1.97	2.78	64.47	9.45
68.0	1.165	0.577	111.37	138.27	4.20	2.42		62.17	13.94

Existing 280 ft guyed tower located in BOLTON CT

JOB NUMBER: 36500-16

INITIALS: JML

DATE: 10-06-2000

Design wind velocity = 73.612 mph with 0.50 inch radial ice accumulation

MEMBER LOADS IN SPAN 1

** WIND INTO FACE **

ELEV (ft)	DEFL. (ft)	SWAY (deg)	BENDING MOMENT (ft-k)	AXIAL COMP (kips)	SHEAR (kips)	GIRT LOAD (kips)	DIAG LOAD (kips)	WINDWARD LEG (kips)	LEEWARD LEG (kips)
68.0	1.165		119.46	146.44	-3.66	2.11	2.99	66.06	14.33
64.0	1.122	0.625	132.85	147.15	-3.03	1.75	2.48	68.23	10.70
60.0	1.075	0.667	143.72	147.87	-2.40	1.38	1.96	70.03	7.80
56.0	1.025	0.712	152.03	148.58	-1.76	1.01	1.43	71.47	5.64
52.0	0.972	0.760	157.76	149.29	-1.11	0.64	0.90	72.53	4.22
48.0	0.916	0.809	160.87	150.01	-0.45	0.26	0.37	73.22	3.56
44.0	0.856	0.860	161.38	150.72	0.20	0.12	0.16	73.53	3.65
40.0	0.792	0.910	159.27	151.43	0.86	0.49	0.70	73.47	4.50
36.0	0.725	0.960	154.54	152.14	1.51	0.87	1.23	73.02	6.10
32.0	0.655	1.009	147.23	152.86	2.15	1.24	1.76	72.20	8.45
28.0	0.581	1.055	137.34	153.57	2.79	1.61	2.28	71.01	11.54
24.0	0.504	1.098	124.91	154.28	3.42	1.97	2.79	69.46	15.37
20.0	0.425	1.138	109.99	155.00	4.04	2.33	3.30	67.54	19.91
16.0	0.343	1.172	92.63	155.71	4.64	2.68	3.79	65.27	25.16
12.0	0.259	1.201	72.88	156.42	5.23	3.02	4.27	62.66	31.10
8.0	0.174	1.224	50.81	157.14	5.80	3.35	4.74	59.71	37.71
4.0	0.087	1.240	26.49	157.85	6.35	3.67	5.19	56.44	44.97
0.0	0.000	1.248	0.00	158.56	6.88	3.97		52.85	52.85

Sprint PCS

Engineering and Operations
9 Barnes Industrial Road
Wallingford, CT 06492

Date : May 06,1999

Dear Mr. Milton Hathaway,

Ref: Power Density Calculations for Radio Towers on Vernon Road

Sprint PCS has done a detailed Engineering analysis for Power density for the Radio Towers at Vernon Road. The power density calculations were done on the bases of the engineering data as provided by you.

The Total percentage of Maximum Permissable Exposure (% MPE) is 45.2459. A Engineering Sheet is attached to show the calculated results . Also attached is the detail calculations for the Various Transmitting Antenna Systems .

If you have any questions or concerns, please feel free to contact us

With best regards,

Sincerely,

Mridul Chaturvedi

RF Engineer,
Sprint PCS, CT

Phone: + 203 294 5613

Fax: + 203 294 5647

Attachments:

- 1) Result of Power Density Calculations
- 2) Results of detail calculations of various transmitting system.



Results of Power Density Calculation at Vernon Road Tower

Transmitting Antenna System	% Maximum Permissible Exposure
Sprint PCS	2.1472
Motorola - Pagemart	20.3289
Motorola - Airtouch	5.65
Motorola - Connecticut Radio	2.0935
Bolton Radio Station	0.023
Omnipoint	0.1444
Nextel	2.999
SNET Moblity	4.2154
Commsite International	0.4293
MetroCall # 1	0.2073
MetroCall # 2	1.1154
NorthUtilities # 1	0.2354
NorthUtilities # 2	0.0472
NorthUtilities # 3	0.0575
NorthUtilities # 4	0.0637
MobileComm # 1	0.8009
MobileComm # 2	0.8008
MobileComm # 3	0.533
MobileMedia # 1	1.1371
MobileMedia # 2	0.1701
MobileMedia # 3	0.3691
MobileMedia # 4	0.3695
BellAtlantic # 1	0.5153
BellAtlantic # 2	0.5153
BellAtlantic Microwave Dish	0.2776
Total % MPE	45.2459

**Bolton Road Tower: Sprint PCS @ 150 ft
Worst Case Power Density Analysis of Sprint PCS Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
1962.5	11	122	1342	150	0	0.021472	1	2.1472%
1962.5	11	122	1342	150	50	0.019325	1	1.9325%
1962.5	11	122	1342	150	100	0.014865	1	1.4865%
1962.5	11	122	1342	150	150	0.010736	1	1.0736%
1962.5	11	122	1342	150	200	0.007730	1	0.7730%
1962.5	11	122	1342	150	250	0.005684	1	0.5684%
1962.5	11	122	1342	150	300	0.004294	1	0.4294%
1962.5	11	122	1342	150	350	0.003332	1	0.3332%
1962.5	11	122	1342	150	400	0.002647	1	0.2647%
1962.5	11	122	1342	150	450	0.002147	1	0.2147%
1962.5	11	122	1342	150	500	0.001773	1	0.1773%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Bell Atlantic Mobile @ 120 ft (Antenna #2).
Worst Case Power Density Analysis of BAM Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
891.48	1	122.5	122.5	120	0	0.003063	0.59432	0.5153%
891.48	1	122.5	122.5	120	50	0.002609	0.59432	0.4391%
891.48	1	122.5	122.5	120	100	0.001807	0.59432	0.3041%
891.48	1	122.5	122.5	120	150	0.001195	0.59432	0.2011%
891.48	1	122.5	122.5	120	200	0.000811	0.59432	0.1364%
891.48	1	122.5	122.5	120	250	0.000573	0.59432	0.0965%
891.48	1	122.5	122.5	120	300	0.000422	0.59432	0.0711%
891.48	1	122.5	122.5	120	350	0.000322	0.59432	0.0542%
891.48	1	122.5	122.5	120	400	0.000253	0.59432	0.0425%
891.48	1	122.5	122.5	120	450	0.000203	0.59432	0.0342%
891.48	1	122.5	122.5	120	500	0.000167	0.59432	0.0281%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Bell Atlantic Mobile @ 120 ft (Antenna #1).
Worst Case Power Density Analysis of BAM Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
891.48	1	122.5	122.5	120	0	0.003063	0.59432	0.5153%
891.48	1	122.5	122.5	120	50	0.002609	0.59432	0.4391%
891.48	1	122.5	122.5	120	100	0.001807	0.59432	0.3041%
891.48	1	122.5	122.5	120	150	0.001195	0.59432	0.2011%
891.48	1	122.5	122.5	120	200	0.000811	0.59432	0.1364%
891.48	1	122.5	122.5	120	250	0.000573	0.59432	0.0965%
891.48	1	122.5	122.5	120	300	0.000422	0.59432	0.0711%
891.48	1	122.5	122.5	120	350	0.000322	0.59432	0.0542%
891.48	1	122.5	122.5	120	400	0.000253	0.59432	0.0425%
891.48	1	122.5	122.5	120	450	0.000203	0.59432	0.0342%
891.48	1	122.5	122.5	120	500	0.000167	0.59432	0.0281%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Bell Atlantic Mobile @ 120 ft (Microwave Dish)
Worst Case Power Density Analysis of BAM Microwave Dish Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%VPE
2128	1	93.3	93.3	110	0	0.002776	1	0.2776%
2128	1	93.3	93.3	110	50	0.002301	1	0.2301%
2128	1	93.3	93.3	110	100	0.001520	1	0.1520%
2128	1	93.3	93.3	110	150	0.000971	1	0.0971%
2128	1	93.3	93.3	110	200	0.000645	1	0.0645%
2128	1	93.3	93.3	110	250	0.000450	1	0.0450%
2128	1	93.3	93.3	110	300	0.000329	1	0.0329%
2128	1	93.3	93.3	110	350	0.000250	1	0.0250%
2128	1	93.3	93.3	110	400	0.000195	1	0.0195%
2128	1	93.3	93.3	110	450	0.000157	1	0.0157%
2128	1	93.3	93.3	110	500	0.000128	1	0.0128%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Bolton Radio Station @ 280 ft.
Worst Case Power Density Analysis of Bolton Radio Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Transmitters	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (feet)	Distance From Base of Tower (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MBE
97.5	1	10	10	280	0	0.000046	0.2	0.0230%
97.5	1	10	10	280	50	0.000044	0.2	0.0222%
97.5	1	10	10	280	100	0.000041	0.2	0.0204%
97.5	1	10	10	280	150	0.000036	0.2	0.0178%
97.5	1	10	10	280	200	0.000030	0.2	0.0152%
97.5	1	10	10	280	250	0.000026	0.2	0.0128%
97.5	1	10	10	280	300	0.000021	0.2	0.0107%
97.5	1	10	10	280	350	0.000018	0.2	0.0090%
97.5	1	10	10	280	400	0.000015	0.2	0.0076%
97.5	1	10	10	280	450	0.000013	0.2	0.0064%
97.5	1	10	10	280	500	0.000011	0.2	0.0055%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : Commsite international @ 285 ft.
Worst Case Power Density Analysis of Motorola Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Transmitters	Bicubic Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MP66
929.1875	2	300	600	285	0	0.002659	0.619458333	0.4293%
929.1875	2	300	600	285	50	0.002580	0.619458333	0.4165%
929.1875	2	300	600	285	100	0.002368	0.619458333	0.3822%
929.1875	2	300	600	285	150	0.002082	0.619458333	0.3362%
929.1875	2	300	600	285	200	0.001782	0.619458333	0.2876%
929.1875	2	300	600	285	250	0.001503	0.619458333	0.2426%
929.1875	2	300	600	285	300	0.001261	0.619458333	0.2036%
929.1875	2	300	600	285	350	0.001060	0.619458333	0.1712%
929.1875	2	300	600	285	400	0.000895	0.619458333	0.1446%
929.1875	2	300	600	285	450	0.000761	0.619458333	0.1229%
929.1875	2	300	600	285	500	0.000652	0.619458333	0.1053%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : Metrocall @ 125ft.
Worst Case Power Density Analysis of Metrocall Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
929.5125	1	300	300	125	0	0.006912	0.619675	1.1154%
929.5125	1	300	300	125	50	0.005959	0.619675	0.9616%
929.5125	1	300	300	125	100	0.004215	0.619675	0.6801%
929.5125	1	300	300	125	150	0.002833	0.619675	0.4571%
929.5125	1	300	300	125	200	0.001942	0.619675	0.3133%
929.5125	1	300	300	125	250	0.001382	0.619675	0.2231%
929.5125	1	300	300	125	300	0.001022	0.619675	0.1650%
929.5125	1	300	300	125	350	0.000782	0.619675	0.1262%
929.5125	1	300	300	125	400	0.000615	0.619675	0.0992%
929.5125	1	300	300	125	450	0.000495	0.619675	0.0799%
929.5125	1	300	300	125	500	0.000407	0.619675	0.0656%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : Metrocall @ 290ft.
Worst Case Power Density Analysis of Metrocall Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
929.3875	1	300	300	290	0	0.001284	0.619591667	0.2073%
929.3875	1	300	300	290	50	0.001247	0.619591667	0.2013%
929.3875	1	300	300	290	100	0.001148	0.619591667	0.1852%
929.3875	1	300	300	290	150	0.001013	0.619591667	0.1635%
929.3875	1	300	300	290	200	0.000870	0.619591667	0.1405%
929.3875	1	300	300	290	250	0.000737	0.619591667	0.1189%
929.3875	1	300	300	290	300	0.000620	0.619591667	0.1001%
929.3875	1	300	300	290	350	0.000523	0.619591667	0.0844%
929.3875	1	300	300	290	400	0.000442	0.619591667	0.0714%
929.3875	1	300	300	290	450	0.000377	0.619591667	0.0608%
929.3875	1	300	300	290	500	0.000323	0.619591667	0.0522%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileComm @ 333.84 ft.(Antenna#1)
Worst Case Power Density Analysis of Mobile Comm Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
931.8125	1	1540.29	1540.29	333.84	0	0.004975	0.621208333	0.8009%
931.8125	1	1540.29	1540.29	333.84	50	0.004866	0.621208333	0.7834%
931.8125	1	1540.29	1540.29	333.84	100	0.004566	0.621208333	0.7350%
931.8125	1	1540.29	1540.29	333.84	150	0.004140	0.621208333	0.6664%
931.8125	1	1540.29	1540.29	333.84	200	0.003661	0.621208333	0.5894%
931.8125	1	1540.29	1540.29	333.84	250	0.003188	0.621208333	0.5132%
931.8125	1	1540.29	1540.29	333.84	300	0.002753	0.621208333	0.4431%
931.8125	1	1540.29	1540.29	333.84	350	0.002370	0.621208333	0.3815%
931.8125	1	1540.29	1540.29	333.84	400	0.002043	0.621208333	0.3288%
931.8125	1	1540.29	1540.29	333.84	450	0.001766	0.621208333	0.2843%
931.8125	1	1540.29	1540.29	333.84	500	0.001534	0.621208333	0.2470%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileComm @ 333.84 ft.(Antenna # 2)
Worst Case Power Density Analysis of Mobile Comm Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
931.9875	1	1540.29	1540.29	333.84	0	0.004975	0.621325	0.8008%
931.9875	1	1540.29	1540.29	333.84	50	0.004866	0.621325	0.7832%
931.9875	1	1540.29	1540.29	333.84	100	0.004566	0.621325	0.7348%
931.9875	1	1540.29	1540.29	333.84	150	0.004140	0.621325	0.6663%
931.9875	1	1540.29	1540.29	333.84	200	0.003661	0.621325	0.5893%
931.9875	1	1540.29	1540.29	333.84	250	0.003188	0.621325	0.5131%
931.9875	1	1540.29	1540.29	333.84	300	0.002753	0.621325	0.4430%
931.9875	1	1540.29	1540.29	333.84	350	0.002370	0.621325	0.3815%
931.9875	1	1540.29	1540.29	333.84	400	0.002043	0.621325	0.3288%
931.9875	1	1540.29	1540.29	333.84	450	0.001766	0.621325	0.2843%
931.9875	1	1540.29	1540.29	333.84	500	0.001534	0.621325	0.2469%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileComm @ 333.66 ft.(Antenna # 3)
Worst Case Power Density Analysis of Mobile Comm Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
931.8875	1	1024	1024	333.66	0	0.003311	0.621258333	0.5330%
931.8875	1	1024	1024	333.66	50	0.003239	0.621258333	0.5213%
931.8875	1	1024	1024	333.66	100	0.003038	0.621258333	0.4891%
931.8875	1	1024	1024	333.66	150	0.002755	0.621258333	0.4434%
931.8875	1	1024	1024	333.66	200	0.002436	0.621258333	0.3921%
931.8875	1	1024	1024	333.66	250	0.002121	0.621258333	0.3414%
931.8875	1	1024	1024	333.66	300	0.001831	0.621258333	0.2947%
931.8875	1	1024	1024	333.66	350	0.001577	0.621258333	0.2538%
931.8875	1	1024	1024	333.66	400	0.001359	0.621258333	0.2187%
931.8875	1	1024	1024	333.66	450	0.001175	0.621258333	0.1891%
931.8875	1	1024	1024	333.66	500	0.001020	0.621258333	0.1642%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileMedia @ 328 ft.(Antenna # 1)
Worst Case Power Density Analysis of Mobile Media Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
931.8375	1	2111.01	2111.01	328	0	0.007064	0.621225	1.1371%
931.8375	1	2111.01	2111.01	328	50	0.006903	0.621225	1.1113%
931.8375	1	2111.01	2111.01	328	100	0.006463	0.621225	1.0404%
931.8375	1	2111.01	2111.01	328	150	0.005842	0.621225	0.9404%
931.8375	1	2111.01	2111.01	328	200	0.005149	0.621225	0.8289%
931.8375	1	2111.01	2111.01	328	250	0.004468	0.621225	0.7193%
931.8375	1	2111.01	2111.01	328	300	0.003846	0.621225	0.6191%
931.8375	1	2111.01	2111.01	328	350	0.003303	0.621225	0.5317%
931.8375	1	2111.01	2111.01	328	400	0.002840	0.621225	0.4572%
931.8375	1	2111.01	2111.01	328	450	0.002451	0.621225	0.3945%
931.8375	1	2111.01	2111.01	328	500	0.002125	0.621225	0.3421%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileMedia @ 333.82 ft.(Antenna # 2)
Worst Case Power Density Analysis of Mobile Media Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
931.8625	1	327.13	327.13	333.82	0	0.001057	0.621241667	0.1701%
931.8625	1	327.13	327.13	333.82	50	0.001034	0.621241667	0.1664%
931.8625	1	327.13	327.13	333.82	100	0.000970	0.621241667	0.1561%
931.8625	1	327.13	327.13	333.82	150	0.000879	0.621241667	0.1415%
931.8625	1	327.13	327.13	333.82	200	0.000778	0.621241667	0.1252%
931.8625	1	327.13	327.13	333.82	250	0.000677	0.621241667	0.1090%
931.8625	1	327.13	327.13	333.82	300	0.000585	0.621241667	0.0941%
931.8625	1	327.13	327.13	333.82	350	0.000503	0.621241667	0.0810%
931.8625	1	327.13	327.13	333.82	400	0.000434	0.621241667	0.0698%
931.8625	1	327.13	327.13	333.82	450	0.000375	0.621241667	0.0604%
931.8625	1	327.13	327.13	333.82	500	0.000326	0.621241667	0.0524%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: MobileMedia @ 333.82 ft.(Antenna#3)
Worst Case Power Density Analysis of Mobile Media Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
930.4625	1	708.71	708.71	333.82	0	0.002290	0.620308333	0.3691%
930.4625	1	708.71	708.71	333.82	50	0.002239	0.620308333	0.3610%
930.4625	1	708.71	708.71	333.82	100	0.002101	0.620308333	0.3387%
930.4625	1	708.71	708.71	333.82	150	0.001905	0.620308333	0.3071%
930.4625	1	708.71	708.71	333.82	200	0.001685	0.620308333	0.2716%
930.4625	1	708.71	708.71	333.82	250	0.001467	0.620308333	0.2365%
930.4625	1	708.71	708.71	333.82	300	0.001267	0.620308333	0.2042%
930.4625	1	708.71	708.71	333.82	350	0.001091	0.620308333	0.1758%
930.4625	1	708.71	708.71	333.82	400	0.000940	0.620308333	0.1515%
930.4625	1	708.71	708.71	333.82	450	0.000813	0.620308333	0.1310%
930.4625	1	708.71	708.71	333.82	500	0.000706	0.620308333	0.1138%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANS/IEEE C95.1-1992

**Bolton Road Tower: MobileMedia @ 333.82 ft.(Antenna # 4)
Worst Case Power Density Analysis of Mobile Media Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
929.5375	1	708.71	708.71	333.82	0	0.002290	0.619691667	0.3695%
929.5375	1	708.71	708.71	333.82	50	0.002239	0.619691667	0.3614%
929.5375	1	708.71	708.71	333.82	100	0.002101	0.619691667	0.3390%
929.5375	1	708.71	708.71	333.82	150	0.001905	0.619691667	0.3074%
929.5375	1	708.71	708.71	333.82	200	0.001685	0.619691667	0.2719%
929.5375	1	708.71	708.71	333.82	250	0.001467	0.619691667	0.2367%
929.5375	1	708.71	708.71	333.82	300	0.001267	0.619691667	0.2044%
929.5375	1	708.71	708.71	333.82	350	0.001091	0.619691667	0.1760%
929.5375	1	708.71	708.71	333.82	400	0.000940	0.619691667	0.1517%
929.5375	1	708.71	708.71	333.82	450	0.000813	0.619691667	0.1311%
929.5375	1	708.71	708.71	333.82	500	0.000706	0.619691667	0.1139%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Motorola @ 100 ft. - Pagemart
Worst Case Power Density Analysis of Motorola Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
929.7125	1	3500	3500	100	0	0.126000	0.619808333	20.3289%
929.7125	1	3500	3500	100	50	0.100800	0.619808333	16.2631%
929.7125	1	3500	3500	100	100	0.063000	0.619808333	10.1644%
929.7125	1	3500	3500	100	150	0.038769	0.619808333	6.2550%
929.7125	1	3500	3500	100	200	0.025200	0.619808333	4.0658%
929.7125	1	3500	3500	100	250	0.017379	0.619808333	2.8040%
929.7125	1	3500	3500	100	300	0.012600	0.619808333	2.0329%
929.7125	1	3500	3500	100	350	0.009509	0.619808333	1.5343%
929.7125	1	3500	3500	100	400	0.007412	0.619808333	1.1958%
929.7125	1	3500	3500	100	450	0.005929	0.619808333	0.9567%
929.7125	1	3500	3500	100	500	0.004846	0.619808333	0.7819%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Motorola @ 120 ft. - Airtouch
Worst Case Power Density Analysis of Motorola Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
158.1	1	452	452	120	0	0.011300	0.2	5.6500%
158.1	1	452	452	120	50	0.009628	0.2	4.8142%
158.1	1	452	452	120	100	0.006669	0.2	3.3344%
158.1	1	452	452	120	150	0.004410	0.2	2.2049%
158.1	1	452	452	120	200	0.002991	0.2	1.4956%
158.1	1	452	452	120	250	0.002116	0.2	1.0580%
158.1	1	452	452	120	300	0.001559	0.2	0.7793%
158.1	1	452	452	120	350	0.001189	0.2	0.5943%
158.1	1	452	452	120	400	0.000933	0.2	0.4665%
158.1	1	452	452	120	450	0.000750	0.2	0.3751%
158.1	1	452	452	120	500	0.000615	0.2	0.3077%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Motorola @ 120 ft. - Connecticut Radio
Worst Case Power Density Analysis of Motorola Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
462.15	1	258	258	120	0	0.006450	0.3081	2.0935%
462.15	1	258	258	120	50	0.005496	0.3081	1.7838%
462.15	1	258	258	120	100	0.003807	0.3081	1.2355%
462.15	1	258	258	120	150	0.002517	0.3081	0.8170%
462.15	1	258	258	120	200	0.001707	0.3081	0.5542%
462.15	1	258	258	120	250	0.001208	0.3081	0.3920%
462.15	1	258	258	120	300	0.000890	0.3081	0.2888%
462.15	1	258	258	120	350	0.000678	0.3081	0.2202%
462.15	1	258	258	120	400	0.000533	0.3081	0.1729%
462.15	1	258	258	120	450	0.000428	0.3081	0.1390%
462.15	1	258	258	120	500	0.000351	0.3081	0.1140%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Nextel @ 223ft.
Worst Case Power Density Analysis of Nextel Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Transmitters	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
869	24	100	2400	223	0	0.017374	0.579333333	2.9990%
869	24	100	2400	223	50	0.016543	0.579333333	2.8554%
869	24	100	2400	223	100	0.014465	0.579333333	2.4969%
869	24	100	2400	223	150	0.011962	0.579333333	2.0648%
869	24	100	2400	223	200	0.009629	0.579333333	1.6621%
869	24	100	2400	223	250	0.007699	0.579333333	1.3289%
869	24	100	2400	223	300	0.006183	0.579333333	1.0673%
869	24	100	2400	223	350	0.005017	0.579333333	0.8659%
869	24	100	2400	223	400	0.004120	0.579333333	0.7111%
869	24	100	2400	223	450	0.003425	0.579333333	0.5913%
869	24	100	2400	223	500	0.002883	0.579333333	0.4976%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : North Utilities @ 100 ft.
Worst Case Power Density Analysis of NorthEast Utilities Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
6785	1	65.4	65.4	100	0	0.002354	1	0.2354%
6785	1	65.4	65.4	100	50	0.001884	1	0.1884%
6785	1	65.4	65.4	100	100	0.001177	1	0.1177%
6785	1	65.4	65.4	100	150	0.000724	1	0.0724%
6785	1	65.4	65.4	100	200	0.000471	1	0.0471%
6785	1	65.4	65.4	100	250	0.000325	1	0.0325%
6785	1	65.4	65.4	100	300	0.000235	1	0.0235%
6785	1	65.4	65.4	100	350	0.000178	1	0.0178%
6785	1	65.4	65.4	100	400	0.000138	1	0.0138%
6785	1	65.4	65.4	100	450	0.000111	1	0.0111%
6785	1	65.4	65.4	100	500	0.000091	1	0.0091%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : North Utilities @ 190 ft.
Worst Case Power Density Analysis of NorthEast Utilities Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure ¹	%MPE
6685	1	63.9	63.9	190	0	0.000637	1	0.0637%
6685	1	63.9	63.9	190	50	0.000596	1	0.0596%
6685	1	63.9	63.9	190	100	0.000499	1	0.0499%
6685	1	63.9	63.9	190	150	0.000393	1	0.0393%
6685	1	63.9	63.9	190	200	0.000302	1	0.0302%
6685	1	63.9	63.9	190	250	0.000233	1	0.0233%
6685	1	63.9	63.9	190	300	0.000182	1	0.0182%
6685	1	63.9	63.9	190	350	0.000145	1	0.0145%
6685	1	63.9	63.9	190	400	0.000117	1	0.0117%
6685	1	63.9	63.9	190	450	0.000096	1	0.0096%
6685	1	63.9	63.9	190	500	0.000080	1	0.0080%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : North Utilities @ 200 ft(ANTENNA #1).
Worst Case Power Density Analysis of NorthEast Utilities Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance from Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
6765	1	63.9	63.9	200	0	0.000575	1	0.0575%
6765	1	63.9	63.9	200	50	0.000541	1	0.0541%
6765	1	63.9	63.9	200	100	0.000460	1	0.0460%
6765	1	63.9	63.9	200	150	0.000368	1	0.0368%
6765	1	63.9	63.9	200	200	0.000288	1	0.0288%
6765	1	63.9	63.9	200	250	0.000224	1	0.0224%
6765	1	63.9	63.9	200	300	0.000177	1	0.0177%
6765	1	63.9	63.9	200	350	0.000142	1	0.0142%
6765	1	63.9	63.9	200	400	0.000115	1	0.0115%
6765	1	63.9	63.9	200	450	0.000095	1	0.0095%
6765	1	63.9	63.9	200	500	0.000079	1	0.0079%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: Omni Point @ 134ft.
Worst Case Power Density Analysis of OmniPoint Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Efficacy Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (feet)	Distance From Base of Tower (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	% MPE
1945	1	72	72	134	0	0.001444	1	0.1444%
1945	1	72	72	134	50	0.001267	1	0.1267%
1945	1	72	72	134	100	0.000927	1	0.0927%
1945	1	72	72	134	150	0.000641	1	0.0641%
1945	1	72	72	134	200	0.000447	1	0.0447%
1945	1	72	72	134	250	0.000322	1	0.0322%
1945	1	72	72	134	300	0.000240	1	0.0240%
1945	1	72	72	134	350	0.000185	1	0.0185%
1945	1	72	72	134	400	0.000146	1	0.0146%
1945	1	72	72	134	450	0.000118	1	0.0118%
1945	1	72	72	134	500	0.000097	1	0.0097%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower: SNET mobility @ 165ft.
Worst Case Power Density Analysis of SNET Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (feet)	Distance From Base of Tower (feet)	Calculated Power Density (mV/cm ²)	Maximum Permissible Exposure	% MPE
894	19	100	1900	165	0	0.025124	0.596	4.2154%
894	19	100	1900	165	50	0.023011	0.596	3.8609%
894	19	100	1900	165	100	0.018375	0.596	3.0830%
894	19	100	1900	165	150	0.013756	0.596	2.3080%
894	19	100	1900	165	200	0.010175	0.596	1.7072%
894	19	100	1900	165	250	0.007623	0.596	1.2791%
894	19	100	1900	165	300	0.005835	0.596	0.9790%
894	19	100	1900	165	350	0.004568	0.596	0.7665%
894	19	100	1900	165	400	0.003653	0.596	0.6130%
894	19	100	1900	165	450	0.002977	0.596	0.4996%
894	19	100	1900	165	500	0.002467	0.596	0.4140%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992

**Bolton Road Tower : North Utilities @ 200 ft. (Antenna #2)
Worst Case Power Density Analysis of NorthEast Utilities Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment**

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure	%MPE
6705	1	52.4	52.4	200	0	0.000472	1	0.0472%
6705	1	52.4	52.4	200	50	0.000444	1	0.0444%
6705	1	52.4	52.4	200	100	0.000377	1	0.0377%
6705	1	52.4	52.4	200	150	0.000302	1	0.0302%
6705	1	52.4	52.4	200	200	0.000236	1	0.0236%
6705	1	52.4	52.4	200	250	0.000184	1	0.0184%
6705	1	52.4	52.4	200	300	0.000145	1	0.0145%
6705	1	52.4	52.4	200	350	0.000116	1	0.0116%
6705	1	52.4	52.4	200	400	0.000094	1	0.0094%
6705	1	52.4	52.4	200	450	0.000078	1	0.0078%
6705	1	52.4	52.4	200	500	0.000065	1	0.0065%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992