

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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E-Mail: siting.council@po.state.ct.us

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

June 26, 2002

Christopher B. Fisher, Esq.
Cuddy & Feder & Worby LLP
90 Maple Avenue
White Plains, NY 10601-5196

RE: **EM-AT&T-028-020604** - AT&T Wireless notice of intent to modify an existing telecommunications facility located at 600 Old Hartford Road, Colchester, Connecticut.

Dear Attorney Fisher:

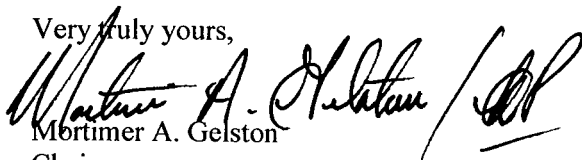
At a public meeting held on June 25, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice received June 4, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/laf

- c: Honorable Jenny Contois, First Selectman, Town of Colchester
Liz Rasmussen, Zoning Enforcement Officer, Town of Colchester
Robert Francis, Cordless Data Transfer, Inc.
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC
Michele G. Briggs, SNET Mobility LLC

AT&T 600 Old Hartford Road, Colchester 6-13-02



RECEIVED

JUN - 4 2002

**NOTICE OF INTENT TO MODIFY AN
EXISTING TELECOMMUNICATIONS FACILITY
600 OLD HARTFORD ROAD, COLCHESTER, CONNECTICUT**
**CONNECTICUT
SITING COUNCIL**

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. seq. ("PUESA"), and Sections 16-50j-72(b) of the Regulations of Connecticut State Agencies adopted pursuant to the PUESA, AT&T Wireless PCS, LLC d/b/a AT&T Wireless ("AT&T Wireless") hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 600 Old Hartford Road, Colchester, Connecticut (the "Old Hartford Road Facility"), owned by Cordless Data Transfer, Inc. ("CDC"). AT&T Wireless and the tower owner have agreed to share the use of the Old Hartford Road Facility, as detailed below.

The Old Hartford Road Facility

The Old Hartford Road Facility consists of an approximately one hundred eighty (180) foot guyed lattice tower (the "Tower") and associated equipment currently being used for wireless communications by Sprint and SNET. The surrounding land uses are primarily residential.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by SEA Consultants Inc., including a site plan and tower elevation of the Old Hartford Road Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets within the existing fenced compound needed to provide personal communications services ("PCS"). AT&T Wireless will install 6 panel antennas at approximately the 160 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) located on a concrete pad. As evidenced in the letter of structural integrity prepared by Fred A. Nudd Corporation, annexed hereto as Exhibit A, AT&T has confirmed that the tower is structurally capable of supporting the addition of AT&T Wireless' antennas.

AT&T Wireless' Facility Constitutes An Exempt Modification

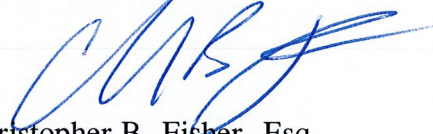
The proposed addition of AT&T Wireless' antennas and equipment to the Old Hartford Road Facility constitutes an exempt "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. Addition of AT&T Wireless' antennas and equipment to the Tower will not result in an increase of the Tower's height nor extend the site boundaries. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. As set forth in an Emissions Report prepared by Frank Wentink, Radio Frequency Engineer, annexed hereto as Exhibit B, the total radio frequency electromagnetic radiation power density at the Tower site's boundary will not be increased to or above the standard adopted by the Connecticut Department of

Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. For all the foregoing reasons, addition of AT&T Wireless' facility to the Tower constitutes an exempt modification which will not have a substantially adverse environmental effect.

Conclusion

Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Old Hartford Road Facility meets the Council's exemption criteria.

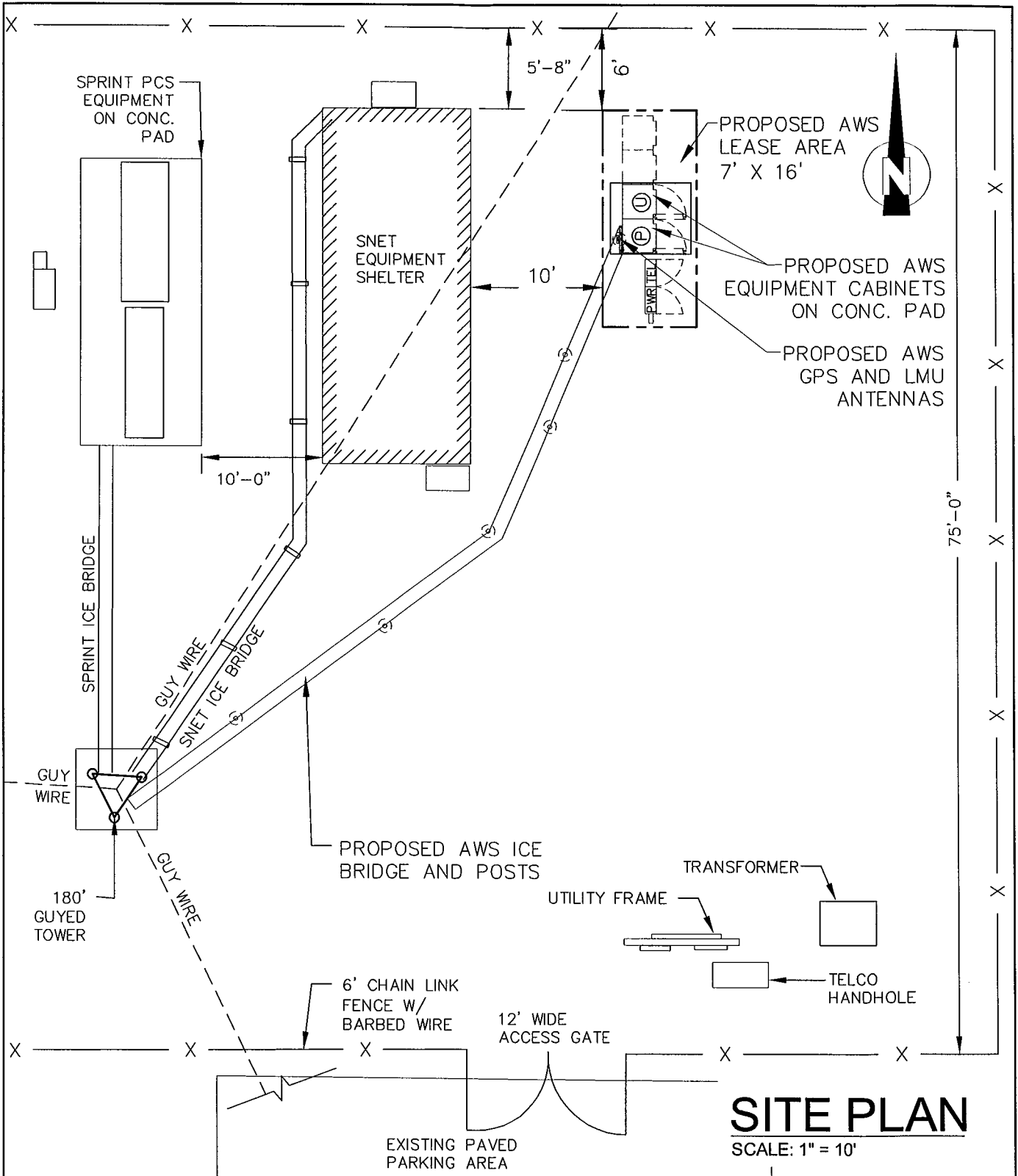
Respectfully Submitted,





Christopher B. Fisher, Esq.
On behalf of AT&T Wireless

cc: First Selectman, Town of Colchester
Harold Hewett, Bechtel

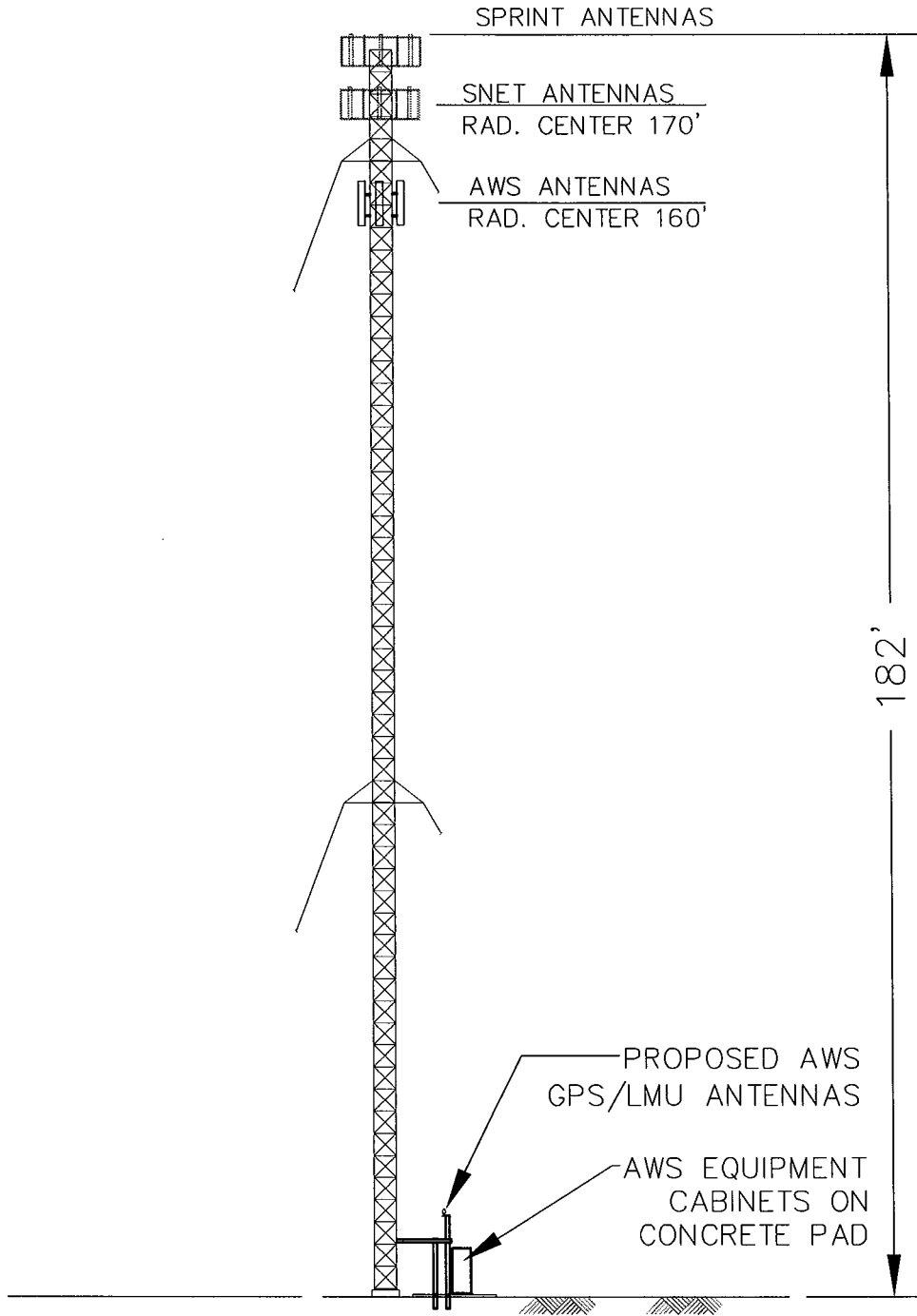
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SITE PLAN
SCALE: 1" = 10'

 <p>SEA Consultants Inc. Science/Engineering/Architecture 2080 SILAS DEANE HWY, SUITE 302 ROCKY HILL, CT 06067</p>	 <p>AT&T AT&T WIRELESS SERVICES, INC. 12 OMEGA DRIVE STAMFORD, CT 06907</p>	<p>DRAWING TITLE: SITE PLAN</p> <p>PROJECT INFORMATION: COLCHESTER CT345.1 600 OLD HARTFORD ROAD COLCHESTER CT</p> <p>PROPERTY OWNER: CORDLESS DATA TRANSFER, INC.</p>	<p>DRAWING NO. CT345.1-EXHIBIT 1</p> <table border="1"> <tr> <td>REVISION NO. 0</td> <td>DRAWN BY: SMB</td> </tr> <tr> <td>DATE ISSUED: 11/26/01</td> <td>CHECKED BY: WNH</td> </tr> <tr> <td>SCALE: AS NOTED</td> <td>APPROVED BY: WNH</td> </tr> <tr> <td colspan="2">SHEET NO. 1 OF 1</td> </tr> <tr> <td colspan="2">SEA PROJECT NO: 2001415.01-A</td> </tr> </table>	REVISION NO. 0	DRAWN BY: SMB	DATE ISSUED: 11/26/01	CHECKED BY: WNH	SCALE: AS NOTED	APPROVED BY: WNH	SHEET NO. 1 OF 1		SEA PROJECT NO: 2001415.01-A	
REVISION NO. 0	DRAWN BY: SMB												
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TOWER ELEVATION

NOT TO SCALE

NOTE:
OTHER CARRIER
EQUIPMENT NOT SHOWN
FOR CLARITY

SEA Consultants Inc.
Science/Engineering/Architecture
2080 SILAS DEANE HWY, SUITE 302
ROCKY HILL, CT 06067

AT&T
AT&T WIRELESS SERVICES, INC.
12 OMEGA DRIVE
STAMFORD, CT 06907

DRAWING TITLE: ELEVATION

PROJECT INFORMATION:
COLCHESTER
CT345.1
600 OLD HARTFORD ROAD
COLCHESTER CT

PROPERTY OWNER:
CORDLESS DATA TRANSFER, INC.

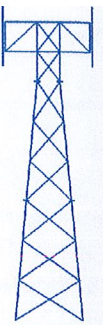
DRAWING NO.
CT345.1-EXHIBIT 2

REVISION NO. 0	DRAWN BY: SMB
DATE ISSUED: 11/28/01	CHECKED BY: WNH
SCALE: AS NOTED	APPROVED BY: WNH
	SHEET NO. 1 OF 1
SEA PROJECT NO: 2001415.01-A	



FRED A. NUDD CORPORATION

1743 ROUTE 104, BOX 577
ONTARIO, NY 14519
(315) 524-2531 FAX (315) 524-4249
www.nuddtowers.com



March 21, 2002

Bob Francis
CDT, Inc
Box 363
Marlborough, CT 06447

Bob,

In consideration of AT&T's proposed co-location on your Colchester tower, the following is submitted.

The subject tower is a 180' Nudd G42WPAR guyed tower that was designed to support the following antenna loading:

QTY	Description	Elevation
10	PD10017	180
9	ALP9212 on (3) 12' Booms	178, 170, 160, 150
1	6' MHP dish	140, 130, 120

All with 1-5/8" Heliac transmission lines

The propose antenna configuration is as follows:

QTY	Description	Elevation	Status
6	DAPA58000 (1-1/4") on (3) 12' Booms	182	(E) Sprint
9	Panel antennas (1-1/4") on (3) 12' Booms	170	(E) Cingular
6	Allgon antenna (1-1/4") on (3) 8' booms	160	(P) AT&T

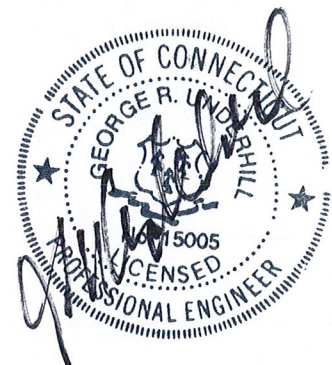
It can be shown that the proposed antenna loading is less than the design loading and is therefore an acceptable antenna loading for the tower.

If you have any questions concerning this, please contact me.

Sincerely,

Fred A. Nudd Corporation

Patrick Botimer
Engineer





**RF Exposure Analysis for Proposed
AT&T Wireless Antenna Facility**

907-009-345

03/20/02

**Prepared by AT&T Wireless Services, Inc.
Frank Wentink RF Engineer**

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1. Introduction

This report constitutes an RF exposure analysis for the proposed AT&T Wireless antenna facility to be located at 600 Old Hartford Road; Colchester, CT 06415. This analysis uses site-specific engineering data to determine the predicted levels of radio frequency (RF) electromagnetic energy in the vicinity of the proposed facility and compares those levels with the Maximum Permissible Exposure (MPE) limits established by the Federal Communications Commission.

2. Site Data

Site Name: Colchester Central	
Number of simultaneously operating channels	16
Type of antenna	Allgon 7250.02
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	160 feet
Antenna Aperture Length	5 feet

3. RF Exposure Prediction

The following equations established by the FCC, in conjunction with the site data, were used to determine the levels of RF electromagnetic energy present in the vicinity of the proposed facility¹:

$$PowerDensity = \frac{0.64 * N * EIRP(\theta)}{\pi * R^2} (mw/cm^2) \qquad \text{Eq. 1-Far-field}$$

Where, *N*= Number of channels, *R*= distance in cm from the RC (Radiation Center) of antenna, and *EIRP(θ)* = The isotropic power expressed in milliwatts in the direction of prediction point.

$$PowerDensity = \frac{P_{in} / ch * N * 10^3}{2 * \pi * R * h * \alpha / 360} (mw/cm^2) \qquad \text{Eq. 2-Near-field}$$

Where *P_{in}/ch* = Input power to antenna terminals in watts/ch, *R* = distance to center of radiation, *h* = aperture height in meters, *α* = 3 dB band-width of horizontal pattern.

¹ RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts (μW), a millionth of a watt, per square centimeter (cm²). Data comparing predictive analysis with on site measurements has demonstrated that power density can be effectively predicted at given locations in the vicinity of a wireless antenna facility.

4. FCC Guidelines for Evaluating the Environmental Effects of RF Radiation

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by a Second Memorandum Opinion and Order. These new rules represent a consensus of the federal agencies responsible for the protection of public health and the environment, including the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Health and Safety (NIOSH), and the Occupational Safety and Health Administration (OSHA).

Under the laws that govern the delivery of wireless communications services in the United States, as amended by the Telecommunications Act of 1996, the FCC has exclusive jurisdiction over RF emissions from personal wireless antenna facilities, which include cellular, PCS, messaging and aviation sites.² Pursuant to its authority under federal law, the FCC has established rules to regulate the safety of emissions from these facilities.

5. Comparison with Standards

Exhibit A shows the levels of RF electromagnetic energy as one moves away from the antenna facility. As shown in Exhibit A, the maximum power density is $0.60 \mu\text{W}/\text{cm}^2$ which occurs at 1000 feet from the antenna facility. The chart in exhibit A also shows that the power density is only $0.03 \mu\text{W}/\text{cm}^2$ at a distance of 4 feet. Table 1 below shows the Maximum Permissible Exposure (MPE) limits established by the FCC. There are different MPE limits for public/uncontrolled and occupational/controlled environments.

Table 1: Maximum Permissible Exposure limits for RF radiation

<i>Frequency</i>	<i>Public/Uncontrolled</i>	<i>Occupational/controlled</i>	<i>Maximum power density at Accessible location</i>
Cellular	$580 \mu\text{W}/\text{cm}^2$	$2,900 \mu\text{W}/\text{cm}^2$	$0.60 \mu\text{W}/\text{cm}^2$
PCS	$1000 \mu\text{W}/\text{cm}^2$	$5,000 \mu\text{W}/\text{cm}^2$	

The maximum power density at the proposed facility represents only 0.10% of the public MPE limit.

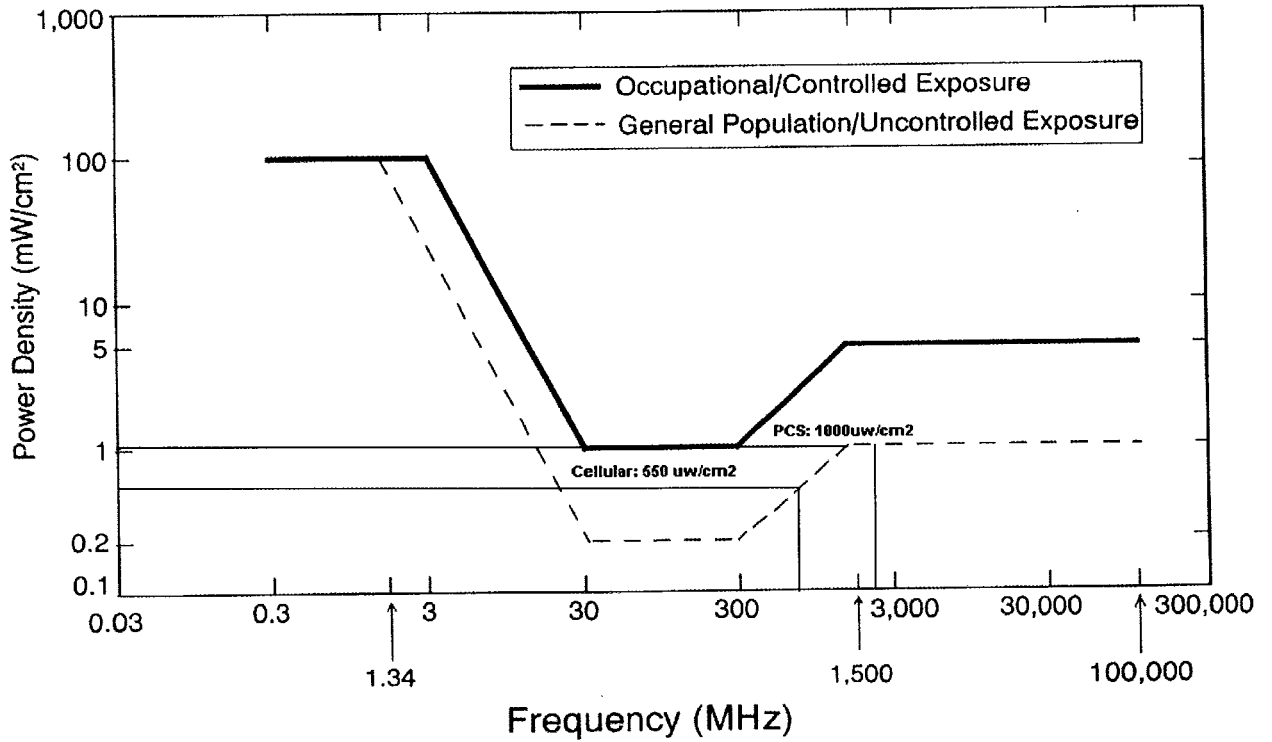
6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is $0.60 \mu\text{W}/\text{cm}^2$, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

² 47 U.S. C. Section 332 (c) (7)(B)(iv) states that “[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission’s regulations concerning such emissions.”

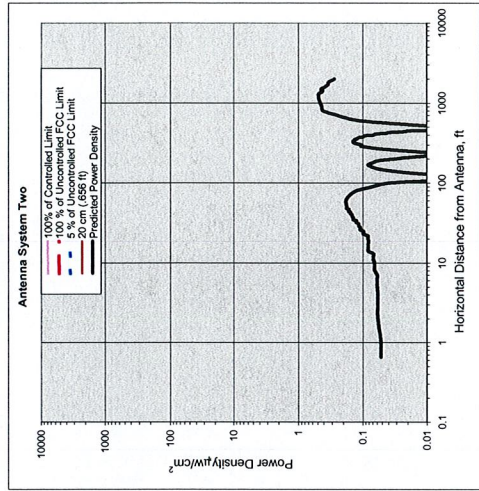
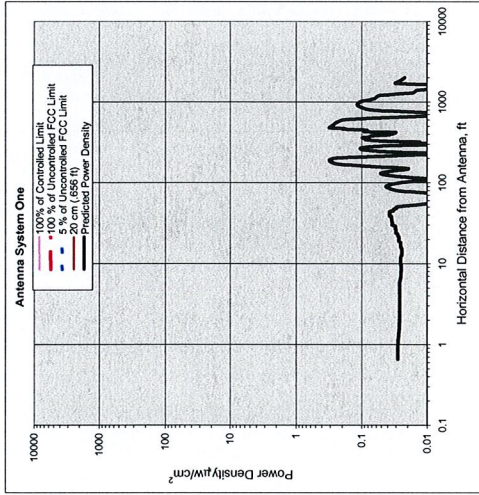
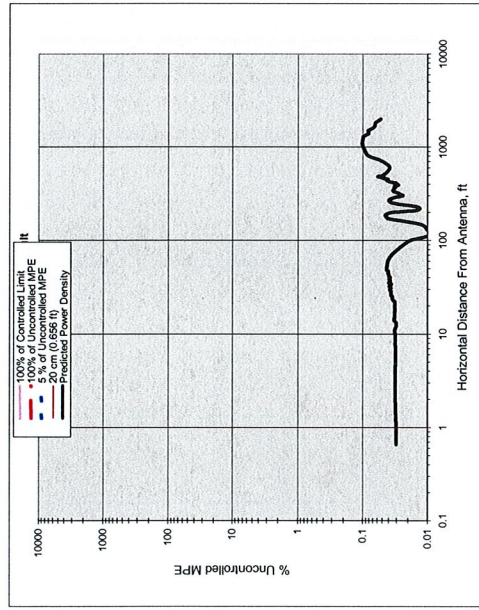
7. FCC Limits for Maximum Permissible Exposure

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



8. Exhibit A

Heading



Number of Antenna Systems: 3

Meets FCC Controlled Limits for The Antenna Systems.

Meets FCC Uncontrolled Limits for The Antenna Systems.

Meets 5% of FCC Uncontrolled Limits for The Antenna Systems.

No Further Maximum Permissible Exposure (MPE) Analysis Required.

Power Density	@Horiz. Dist.
$\mu\text{W}/\text{cm}^2$	feet
0.60	1000.00
0.10	10000.00
977.66 times lower than the MPE limit for uncontrolled environment	
Composite Power (ERP) = 12,000.00 Watts	

Site ID: 907-009-345
 Site Name: Colchester Central
 Site Location: 600 Old Hartford Road
 Colchester, CT 06415

Ant System ONE Owner: AT&T
 Sector: 1
 Azimuth: 0

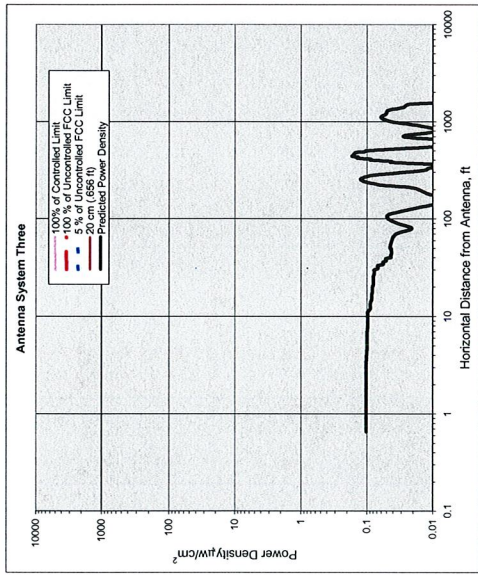
Ant System TWO Owner: SNET
 Sector: 1
 Azimuth: 0

Antenna System One

units	Value
Frequency	1945
# of Channels	16
Max ERP/Ch	250
Max Pwr/Ch Into Ant.	5.59680285
(Center of Calculation Point	160
feet	0
or	0
roof surface)	0
No.	Allgon 7250.02
Max Ant Gain	16.5
Down tilt	0
degrees	0
Miscellaneous Att.	0
dB	0
Height of aperture	5.11
feet	5.11
Ant HBW	65
degrees	65
Distance to Ant _{system}	157.445
feet	157.445
WOST?	n

Antenna System Two

units	Value
Frequency	835
# of Channels	16
Max ERP/Ch	250
Max Pwr/Ch Into Ant.	18.110899
(Center of Point	170
feet	0
or	0
roof surface)	0
No.	Allgon 7120.16
Max Ant Gain	11.4
Down tilt	0
degrees	0
Miscellaneous Att.	0
dB	0
Height of aperture	5.11
feet	5.11
Ant HBW	110
degrees	110
Distance to Ant _{system}	167.445
feet	167.445
WOST?	n



Antenna System Three

	units	Value
Frequency	MHz	1945
# of Channels	#	16
Max ERP/Ch	Watts	250
Max Pwr/Ch Into Ant.	Watts	7.725738581
(Center of Radiator)	feet	180
Calculation Point	feet	0
(above ground or		
roof surface)		0
Antenna Model No.		DB980G80
Max Ant Gain	dBd	15.1
Down tilt	degrees	0
Miscellaneous Att	dB	0
Height of aperture	feet	5
Ant HBW	degrees	90
Distance to Ant _{location}	feet	177.5
WOS?	Y/N?	n

Ant System Three Owner: Sprint

Sector: 1

Azimuth 0

9. For Further Information

Additional information about the environmental impact of RF energy from personal wireless antenna facilities can be obtained from the Federal Communications Commission:

Dr. Robert Cleveland
Federal Communications Commission
Office of Engineering and Technology
Washington, DC 20554

RF Safety Program: 202-418-2464
Internet address: rfsafety@fcc.gov
RF Safety Web Site: www.fcc.gov/oet/rfsafety

10. References

- [1] The Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).
- [2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).
- [3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).
- [4] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.
- [5] *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields*, OET Bulletin 65, August, 1997.