



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

August 16, 2002

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

RE: **TS-AT&T-076-020724** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 864 Opening Hill Road, Madison, Connecticut.

Dear Attorney Fisher:

At a public meeting held August 15, 2002, 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. 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.

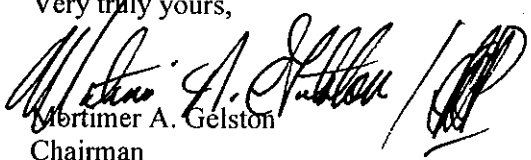
This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request 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 letter dated July 23, 2002.

Thank you for your attention and cooperation.

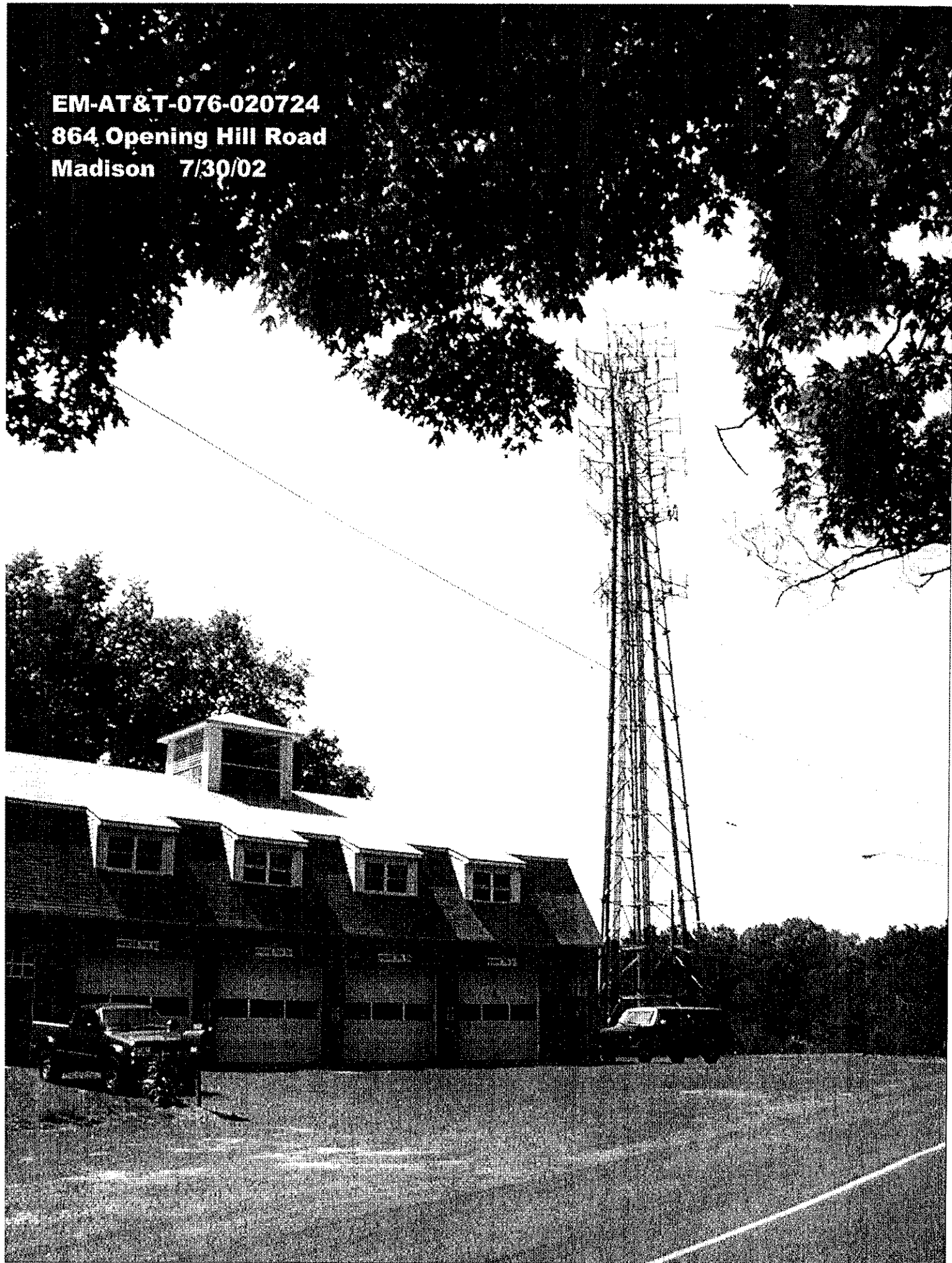
Very truly yours,


Mortimer A. Gelston
Chairman

MAG/laf

- c: Honorable Thomas S. Scarpati, First Selectman, Town of Madison
- Marilyn M. Ozols, Planning & Zoning Administrator, Town of Madison
- Sandy M. Carter, Verizon Wireless
- Thomas F. Flynn III, Nextel Communications
- Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC
- Michele G. Briggs, Southwestern Bell Mobile Systems
- Stephen J. Humes, Esq., LeBoeuf, Lamb, Greene & MacRae

EM-AT&T-076-020724
864 Opening Hill Road
Madison 7/30/02





STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

July 26, 2002

Honorable Thomas S. Scarpati
First Selectman
Town of Madison
Madison Town Campus
8 Campus Drive
Madison, CT 06443-2563

RE: **TS-AT&T-076-020724** - AT&T Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 864 Opening Hill Road, Madison, Connecticut.

Dear Mr. Scarpati:

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 August 15, 2002, at 1:30 p.m. in Hearing Room One, 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,

A handwritten signature in black ink that reads "SDP/rgg".

S. Derek Phelps
Executive Director

SDP/rgg

Enclosure: Notice of Tower Sharing

c: Marilyn M. Ozols, Planning & Zoning Administrator, Town of Madison

CUDD

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**STAMFORD, CONNECTICUT
NORWALK, CONNECTICUT**

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LOUIS R. TAFFERA**

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KENNETH F. JURIST
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JOSHUA E. KIMERLING (also CT)
DANIEL F. LEARY (also CT)
BARRY E. LONG

July 23, 2002

RECEIVED
JUL 24 2002
**CONNECTICUT
SITING COUNCIL**

VIA FEDERAL EXPRESS

**Hon. Mortimer Gelston, Chairman and Members
of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051**

**Re: Tower Sharing Request by AT&T Wireless
North Madison Fire Department Tower Facility at
864 Opening Hill Road, Madison, Connecticut**

Hon. Mortimer Gelston, Chairman and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, AT&T Wireless PCS LLC, by and through its agent AT&T Wireless Services, Inc., ("AT&T") hereby requests an order from the Connecticut Siting Council (the "Council") to approve the proposed shared use of a municipal communications tower, located at 864 Opening Hill Road in the Town of Madison (the "Volunteer Fire Department Tower Facility"), owned by the North Madison Volunteer Fire Department. The Tower owner and AT&T have agreed to AT&T's shared use of the facility as more fully set forth herein.

The Volunteer Fire Department Tower Facility

The Volunteer Fire Department Tower Facility consists of an approximately one hundred and eighty (180) foot monopole (the "Tower") and associated equipment, and is currently used for wireless communications by Verizon, Nextel, Sprint, SNET, VoiceStream and the fire

July 23, 2002

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department. Currently there are unused Metricom Antennas at the 110' foot level which will be removed and the mounting frame relocated to the 120' foot level for use by AT&T.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by Natcomm, LLC, including a compound plan and tower elevation of the Volunteer Fire Department Tower Facility, AT&T Wireless proposes shared use of the Facility to provide FCC licensed services. AT&T Wireless will install 6 panel antennas at approximately the 120 foot level of the Tower and associated equipment cabinets (2 proposed, 2 future, each 76"H x 30" W x 30" D) located in the existing equipment compound.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1).) Further, upon approval of such shared use, it is exclusive and no local zoning or land use approvals are required C.G.S. § 16-50x. Shared use of the Volunteer Fire Department Tower Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

- A. Technical Feasibility As evidenced in the structural report prepared by Manzi Engineering, annexed hereto as Exhibit A, AT&T has confirmed that the tower is structurally capable of supporting the addition of AT&T Wireless' antennas. The proposed shared use of this tower is therefore technically feasible.
- B. Legal Feasibility Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the existing Volunteer Fire Department Tower Facility. (C.G.S. § 16-50aa(c)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit AT&T to obtain a building permit for the proposed installation.
- C. Environmental Feasibility The proposed shared use would have a minimal environmental effect, for the following reasons:
 1. The proposed installation would have a de minimis visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing facility;

July 23, 2002

Page 3

2. The proposed installation by AT&T Wireless would not increase the height of the tower nor extend the site boundaries;
 3. The proposed installation would not increase the noise levels at the existing facility boundaries by six decibels or more;
 4. Operation of AT&T Wireless' antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. The "worst case" exposure calculated for the operation of this facility for all carriers, would be approximately 20.68% of the standard. See Maximum Permissible Exposure Report dated July 18, 2002, prepared By Prabhakar Kumar Rughoobur, RF Engineer, annexed hereto as Exhibit B;
 5. The proposed shared use of the Volunteer Fire Department Tower Facility would not require any water or sanitary facilities, or generate air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than for periodic maintenance visits.
- D. Economic Feasibility The Applicant and the North Madison Fire Department have entered into a mutual agreement to share use of the Volunteer Fire Department Tower Facility on terms agreeable to both parties including the removal of Metricom's unused antennas currently installed at 110'. See Exhibit C. The proposed tower sharing is therefore economically feasible.
- E. Public Safety As stated above and evidenced in the Maximum Permissible Exposure Report annexed hereto as Exhibit B, the operation of AT&T Wireless' antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. Further, the addition of AT&T Wireless' telecommunications service in the Madison area through shared use of the Volunteer Fire Department Tower Facility is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area of Madison.

Conclusion

CUDDY & FEDER & WORBY LLP

July 23, 2002

Page 4

As delineated above, the proposed shared use of the Volunteer Fire Department Tower Facility satisfies the criteria set forth 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 the State of Connecticut. AT&T Wireless therefore requests the Siting Council issue an order approving the proposed shared use of the Volunteer Fire Department Tower Facility.

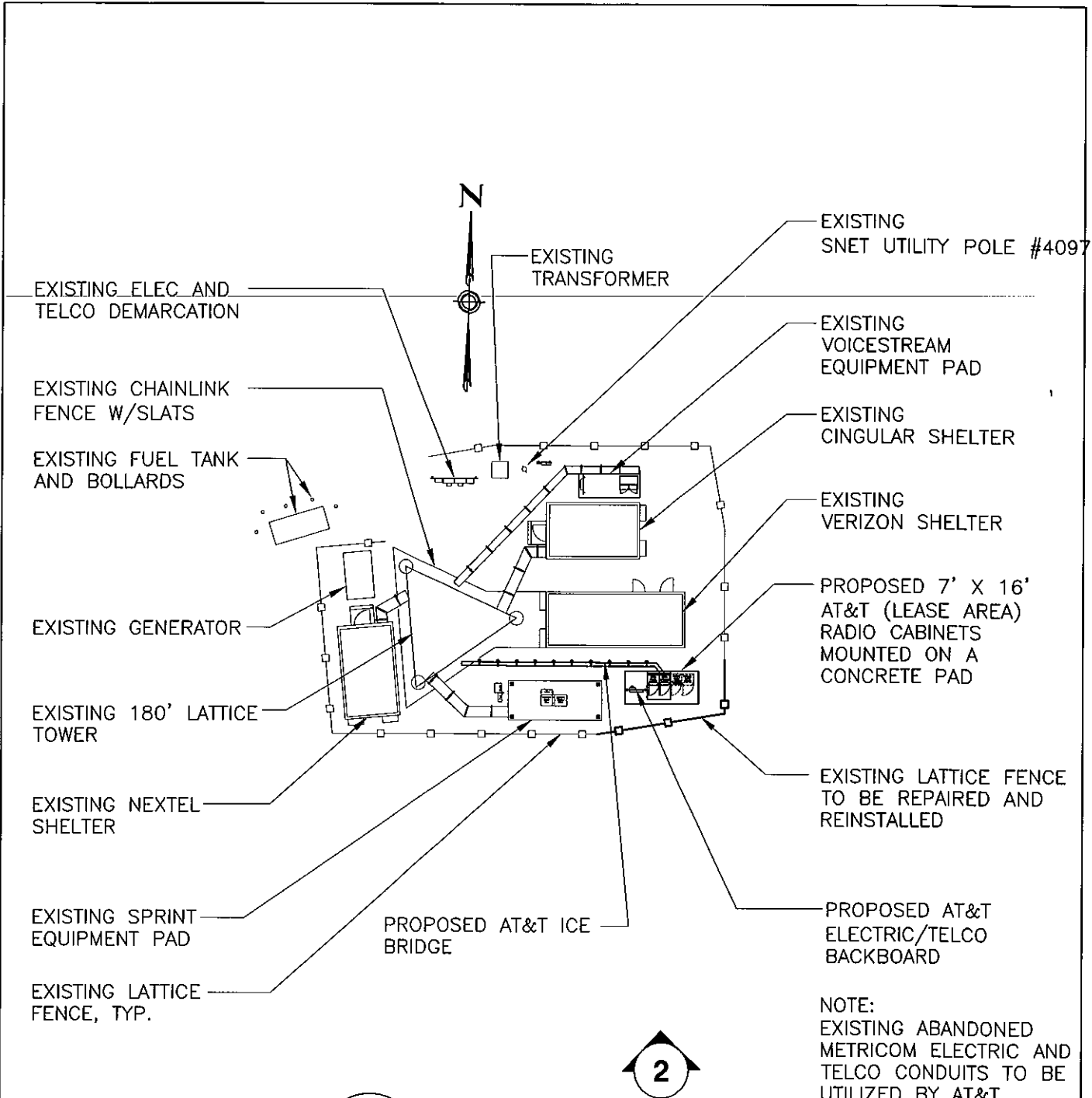
Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'C. Fisher', is written over the typed name.

Christopher B. Fisher, Esq.

On behalf of AT&T Wireless

cc: Thomas S. Scarpati, First Selectman, Town of Madison
Jaymar Joseph, American Tower





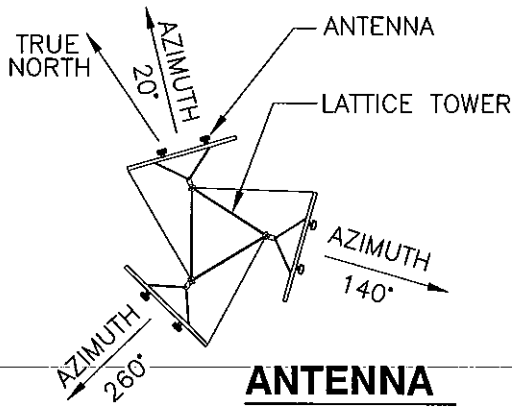
NOTE:
EXISTING ABANDONED
METRICOM ELECTRIC AND
TELCO CONDUITS TO BE
UTILIZED BY AT&T

1
2
COMPOUND PLAN
 SCALE: 1" = 10'-0"

NOTE:
LATITUDE: 41.3575°
LONGITUDE: 72.6389°

"ISSUED FOR SITING COUNCIL"

 <p>Natcomm, LLC 63-2 North Branford Road Branford, Connecticut 06405 Tel: (203) 488-0580 Fax: (203) 488-8587 Consulting Engineers - Project Management Civil - Structural - Mechanical - Electrical</p>	 <p>AT&T AT&T WIRELESS PCS LLC 12 OMEGA DRIVE STAMFORD, CONNECTICUT 06907</p>	<p>DRAWING TITLE: SITING COUNCIL</p> <p>PROJECT INFORMATION: MADISON CT-666 864 OPENING HILL ROAD MADISON, CT 06443</p> <p>LESSOR: NORTH MADISON VOLUNTEER FIRE DEPARTMENT 864 OPENING HILL ROAD MADISON, CT 06443</p>	<p style="text-align: right;">DRAWING NO. 913-008-666A-SC1</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>REVISION NO. 0</td> <td>DRAWN BY: CMS</td> </tr> <tr> <td>DATE ISSUED: 06/24/02</td> <td>CHECKED BY: JJP</td> </tr> <tr> <td>SCALE: AS NOTED</td> <td>APPROVED BY: CFC</td> </tr> <tr> <td colspan="2" style="text-align: right;">SHEET NO. 1 OF 2</td> </tr> <tr> <td colspan="2">A/E PROJECT NO: 542A</td> </tr> </table>	REVISION NO. 0	DRAWN BY: CMS	DATE ISSUED: 06/24/02	CHECKED BY: JJP	SCALE: AS NOTED	APPROVED BY: CFC	SHEET NO. 1 OF 2		A/E PROJECT NO: 542A	
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SHEET NO. 1 OF 2													
A/E PROJECT NO: 542A													



ANTENNA CONFIGURATION

- 170'± ABOVE BASE PLATE
- 160'± ABOVE BASE PLATE
- 150'± ABOVE BASE PLATE
- 140'± ABOVE BASE PLATE
- 130'± ABOVE BASE PLATE
- 120'± ABOVE BASE PLATE
- 110'± ABOVE BASE PLATE

EXISTING LATTICE TOWER

AT&T 7' X 16' (LEASE AREA)
RADIO CABINETS ON A CONCRETE
PAD, ICE BRIDGE AND UTILITY
SUPPORT FRAME

EXISTING SPRINT PCS
EQUIPMENT

EXISTING NEXTEL EQUIPMENT
SHELTER

EXISTING LATTICE
FENCE

EXISTING TOWN ANTENNAS
TOP OF TOWER

- RAD CENTER EXISTING
- VERIZON ANTENNAS
- RAD CENTER EXISTING
- NEXTEL ANTENNAS
- RAD CENTER EXISTING
- SPRINT ANTENNAS
- RAD CENTER EXISTING
- SNET ANTENNAS
- RAD CENTER EXISTING
- VOICESTREAM ANTENNAS
- RAD CENTER
- AT&T ANTENNAS
- RAD CENTER EXISTING
- METRICOM ANTENNAS

EXISTING METRICOM
ANTENNAS TO BE
REMOVED, FRAME TO BE
REUSED FOR AT&T
ANTENNAS

EXISTING VERIZON
EQUIPMENT SHELTER

180'-0"

2

TOWER ELEVATION

SCALE: 1" = 40'-0"

NOTE:
STRUCTURAL ANALYSIS BY MANZI ENGINEERING OF A
180' ROHN LATTICE TOWER MADISON-OPENING HILL
ROAD, 864 OPENING HILL ROAD, MADISON, CT 06443
(CT-666) DATED JUNE 18, 2002 BY ANTHONY P.
MANZI, LICENSE NUMBER 14291.

"ISSUED FOR SITING COUNCIL"



Natcomm, LLC

63-2 North Branford Road
Branford, Connecticut 06406

Tel: (203) 488-0580
Fax: (203) 488-8587

Consulting Engineers - Project Management
Civil - Structural - Mechanical - Electrical



AT&T

AT&T WIRELESS PCS LLC
12 OMEGA DRIVE
STAMFORD, CONNECTICUT 06907

DRAWING TITLE:

SITING COUNCIL

PROJECT INFORMATION:

MADISON
CT-666
864 OPENING HILL ROAD
MADISON, CT 06443

LESSOR:

NORTH MADISON VOLUNTEER
FIRE DEPARTMENT
864 OPENING HILL ROAD
MADISON, CT 06443

DRAWING NO.

913-008-666A-SC2

REVISION NO. 0	DRAWN BY: CWS
DATE ISSUED: 06/24/02	CHECKED BY: JJP
SCALE: AS NOTED	APPROVED BY: CFC
SHEET NO. 2 OF 2	
A/E PROJECT NO:	542A

CT-666

MANZI ENGINEERING

3 CIFRE LANE
PLAISTOW, NH 03865
(603) 382-6219
(603) 475-1394 cell
(603) 382-3727 (fax)

SCANNED

SPECIALIZING IN TELECOMMUNICATIONS
RELATED STRUCTURAL ENGINEERING

June 18, 2002

Natcomm, L.L.C.
63-2 North Branford Road
Branford, CT 06405
Attn: Jason Pintek

Dear Jason,

Per your recent request I am providing you with this analysis of the existing 180 ft "ROHN" tower located in Madison, CT. This analysis considers the addition of 6 Allgon 7250.03 panels mounted 120 ft agl on a relocated mounting frame from the 110' level with the associated coax run down the outside of the tower on an existing coax ladder.

This analysis was done in accordance with the EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures". Wind loads were generated for a basic design wind speed of 85 mph and a loading combination that included 1/2" of radial ice as is required for New Haven, County.

All pertinent tower information was taken from the June 13, 2000 "Structural Analysis Report", MEI Project #00-538, by Malouf Engineering as supplied by you and are assumed to be correct. This report identifies the tower to be per Rohn file #35130AE and drwg # A982923 dated 11/25/98. It also refers to the original Rohn foundation drawing # A982942-1 dated 11/30/98.

All tower existing and proposed loadings, structural properties and existing foundation information are as supplied by NATCOMM LLC.

PROPOSED FINAL CONFIGURATION:

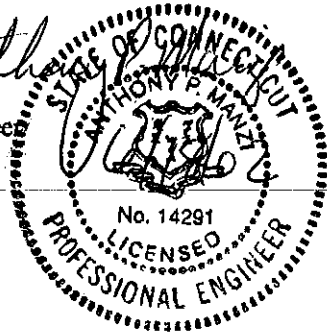
- 3 top mounted whips
- 12 ALP 9212 panels at 170'-0" AGL on 15' frame mounts
- 12 Andrews SMR08-09011 panels at 160'-0" AGL on 15' frame mounts
- 9 DB 980H panels @ 150'-0" AGL on 15' frame mounts
- 9 Allgon 7120.16 panels at 140'-0" AGL on 15' frame mounts
- 12 EMS RR90-17 panels at 130'-0" AGL on 15' frame mounts
- 6 Allgon 7250.03 panels at 120'-0" AGL on 15' frame mounts
- All associated coax evenly distributed on 3 faces in existing support ladders

Based on my investigation your addition of 6 Allgon 7250.03 panels, the relocation of the frame mount from the 110' level to the 120' level and associated coax will meet all the structural requirements of the EIA/TIA-222 -F "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures".

Any changes in antenna type, platform type or routing of coax could affect the validity of this analysis and should be reevaluated.

I appreciate this opportunity to assist you and look forward to working with you in the future. If you have any questions please call me at (603) 382-6219.

Sincerely
Anthony P. Manzi
Professional Engineer





RF Exposure Analysis for Proposed AT&T Wireless Antenna Facility

SITE ID: 913-008-666

July 18, 2002

**Prepared by AT&T Wireless Services, Inc.
Prabhakar K. Rughoobur 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 864 Opening Hill Rd, Madison, CT 06443. 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: Madison	
Number of simultaneously operating channels	12
Type of antenna	Allgon 7250.03
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	120.00 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:

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

Where, N = Number of channels, R = distance in cm from the RC (Radiation Center) of antenna, and $EIRP(\theta)$ = The isotropic power expressed in milliwatts in the direction of prediction point. This is the correct equation for antennas which have their gain expressed in dBi, which is the usual case for the PCS bands.

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

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 beam-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 (μ W), a millionth of a watt, per square centimeter (cm^2). 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 0.000353 mW/cm² which occurs at 130 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.000101 mW/cm² 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 mW/cm ²	2.9 mW/cm ²	0.000353 mW/cm ²
PCS	1 mW/cm ²	5 mW/cm ²	

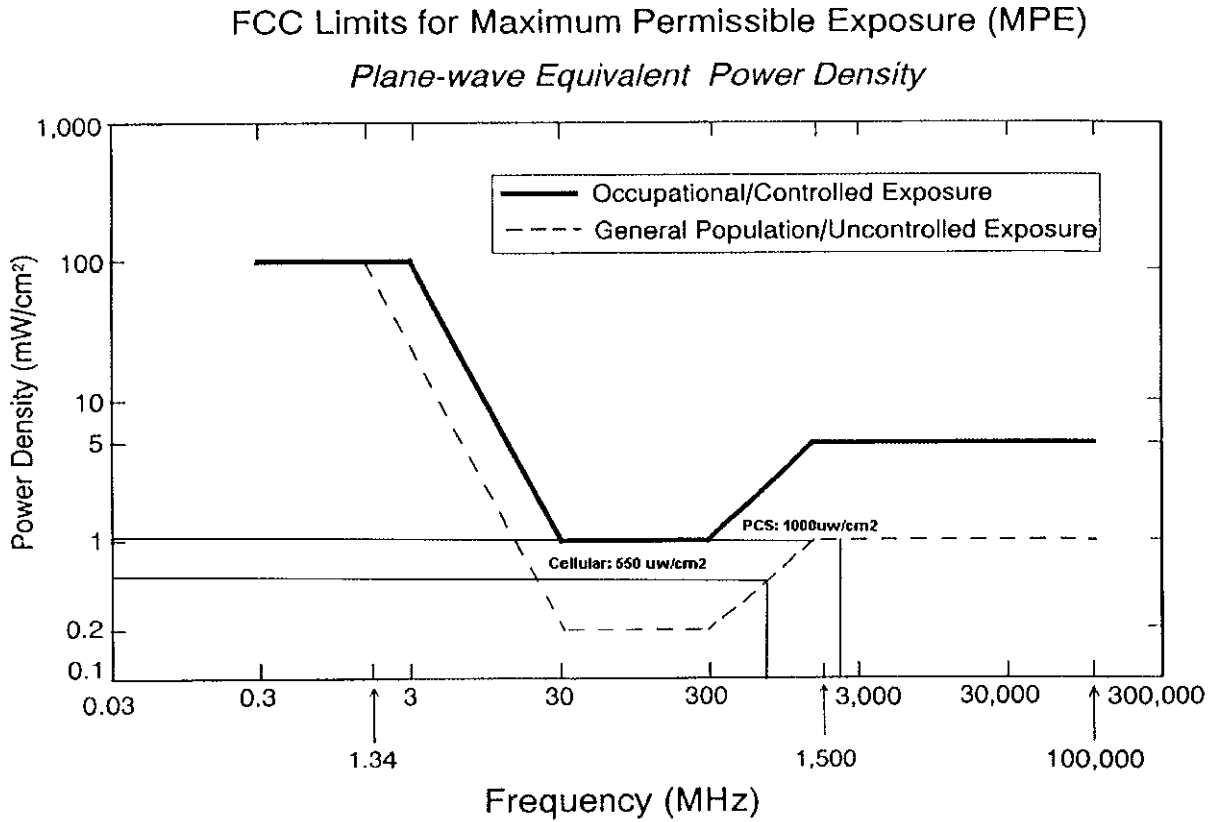
The maximum power density from AT&T's proposed system represents only 0.0353% of the public MPE limit for PCS frequencies. As other transmitters are also located at this site, I have taken the findings of the most recent Siting Council filing on this site, and added that exposure to ours. I find that the combined exposures are 20.68% of the Maximum Permissible Exposure for uncontrolled populations.

6. Conclusion

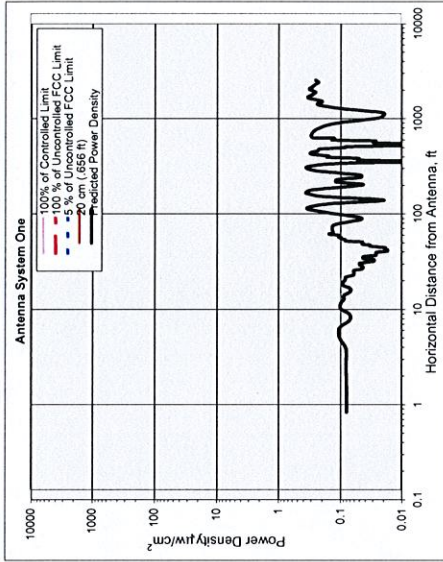
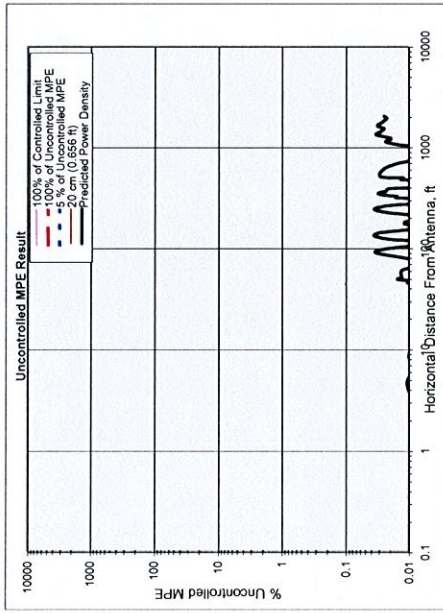
This analysis show that the maximum power density in accessible areas at this location is 20.68% of Maximum Permissible Exposure, a level of RF energy that is well below the limit established by the FCC.

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



8. Exhibit A



Number of Antenna Systems: 1
Meets FCC Controlled Limits for The Antennas Systems.

Meets FCC Uncontrolled Limits for The Antenna Systems.

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

No Further Analysis Required.

Power Density	Power Density	@Horiz. Dist.
nmW/cm ²	% of limit	feet
Maximum Power Density =	0.000353	0.04
2.835.17 times lower than the MPE limit for uncontrolled environment	0.04	130.00
Composite Power (ERP) =	3.000.00	Watts

Site ID: 913-005-666
 Site Name: Madison
 Site Location: 864 Opening Hill Rd
 Madison, CT 06443

Ant System ONE Owner: AT&T
 Sector: 3
 Azimuth: 20/140/260

The most recent Siting Council filing reflects that the combined % MPE at this site is: 20.6462

The combined % MPE when adding AT&T Wireless' antennas will therefore be: 20.66147126

Antenna System One

units	Value
Frequency	1945.00
# of Channels	12
Max ERP/Ch	250.00
Max Pwr/Ch Into Ant.	5.96
(Center of Radiator)	120.00
Calculation Point	0.00
(above ground or	0.00
roof surface)	0.00
Antenna Model No.	Alipon 7250.03
Max Ant Gain	16.30
Down tilt	0.00
Miscellaneous Att	0.00
Height of aperture	5.11
Ant HBW	65.00
Distance to Ant _{base}	117.45
WOS?	Y/N?
	n

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.



100 Filley St., Bloomfield, CT 06002
 Phone: (860) 892 - 7129
 Fax: (860) 892 - 7159

Technical Memo

To: Dennis Brown
 From: Chetan Dhaduk (Radio Engineering Consultant)
 cc: Mike Fulton
 Subject: Power Density Report for CT11394A
 Date: 9/22/00

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the proposed VoiceStream Wireless PCS antenna installation on Fire Dept. Tower at 864 Opening Hill Road, North Madison 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:

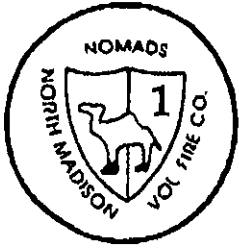
- 1) The emissions from the VSW transmitters are in the 1930-1945 MHz frequency band.
- 2) The antenna cluster consists of three sectors, with up to four antennas per sector. The model number for each antenna is EMS RR90-17-02 DP.
- 3) The EMS antenna height is 130' centerline.
- 4) The maximum transmit power from each sector is 3232.36 Watts Effective Isotropic Radiated Power (EIRP).
- 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 antenna installation at Fire Dept. Tower is 0.041962 mW/cm². This value represents only 4.1962% of the Maximum Permissible Emission (MPE) standard of 1000 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) set forth in the FCC/ANSI/IEEE C95.1-1991.

The collective "worst-case" exposure would be only 20.6462% of ANSI/IEE Standard, as calculated for mixed frequency sites. Details are shown in the attachment. Furthermore, the proposed antenna locations for VoiceStream Wireless on Fire Dept. Tower at 864 Opening Hill Road, North Madison 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.



North Madison Volunteer Fire Company

INCORPORATED

864 Opening Hill Road
Madison, Connecticut 06443

July 1, 2002

Joanne Desjardins
AT&T Wireless
Bechtel Telecommunications
210 Pomeroy Avenue
Meriden, CT 06450

RE: CSC Filing – Madison, CT (CT-666)

Dear Joanne:

As you requested, this letter is intended for Bechtel's use on behalf of AT&T Wireless for filing with the Connecticut Siting Council and serves to clarify the availability of the height on the site referenced above.

Please note that the North Madison Volunteer Fire Company has given AT&T authority to remove Metricom Corporation's antennas on the above referenced tower. Should you have any questions please contact me at the number listed below.

Thank you,

Eric Alletzhauser
President

