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RECEIVED  
July 26, 2002

JUL 29 2002

CONNECTICUT  
SITING COUNCIL

Via Federal Express

Hon. Mortimer Gelston

Connecticut Siting Council

10 Franklin Square

New Britain, Connecticut 06051

Enclosed please find an original plus twenty four copies of the following application:

- Exempt Modification Application for 338 Oxford Road, Oxford, CT with the requisite \$500 filing fee check; and

Thank you in advance for your consideration of the enclosed applications.

Very truly yours,

*Lucia Chiorchio for*  
Christopher B. Fisher

CBF:dt  
Enclosures

**NOTICE OF INTENT TO MODIFY AN  
EXISTING TELECOMMUNICATIONS FACILITY AT  
338 OXFORD ROAD, OXFORD, CONNECTICUT**

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 338 Oxford Road, Oxford, Connecticut (the "Oxford Road Facility"), owned by Sprint PCS. AT&T Wireless and Sprint have agreed to share the use of the Oxford Road Facility, as detailed below.

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JUL 29 2002

**CONNECTICUT  
SITING COUNCIL**

**The Oxford Road Facility**

The Oxford Road Facility consists of an approximately one hundred and fifty (150) foot monopole (the "Tower") and associated equipment currently being used for wireless communications use by Sprint, Cingular, Verizon and Nextel. A chain link fence surrounds the Tower compound. The Tower is located on a semi- wooded parcel with a natural buffer and is setback approximately 800-1,000 feet from Oxford Road.

**AT&T Wireless' Facility**

As shown on the enclosed plans prepared by Scientel, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets at grade needed to provide personal communications services ("PCS"). AT&T Wireless will install 6 panel antennas at approximately the 100 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 within the existing fenced compound. As evidenced in the letter of structural integrity prepared by Scientel, 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 Oxford 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 Prabhakar Kumar Rughoobur, RF 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**

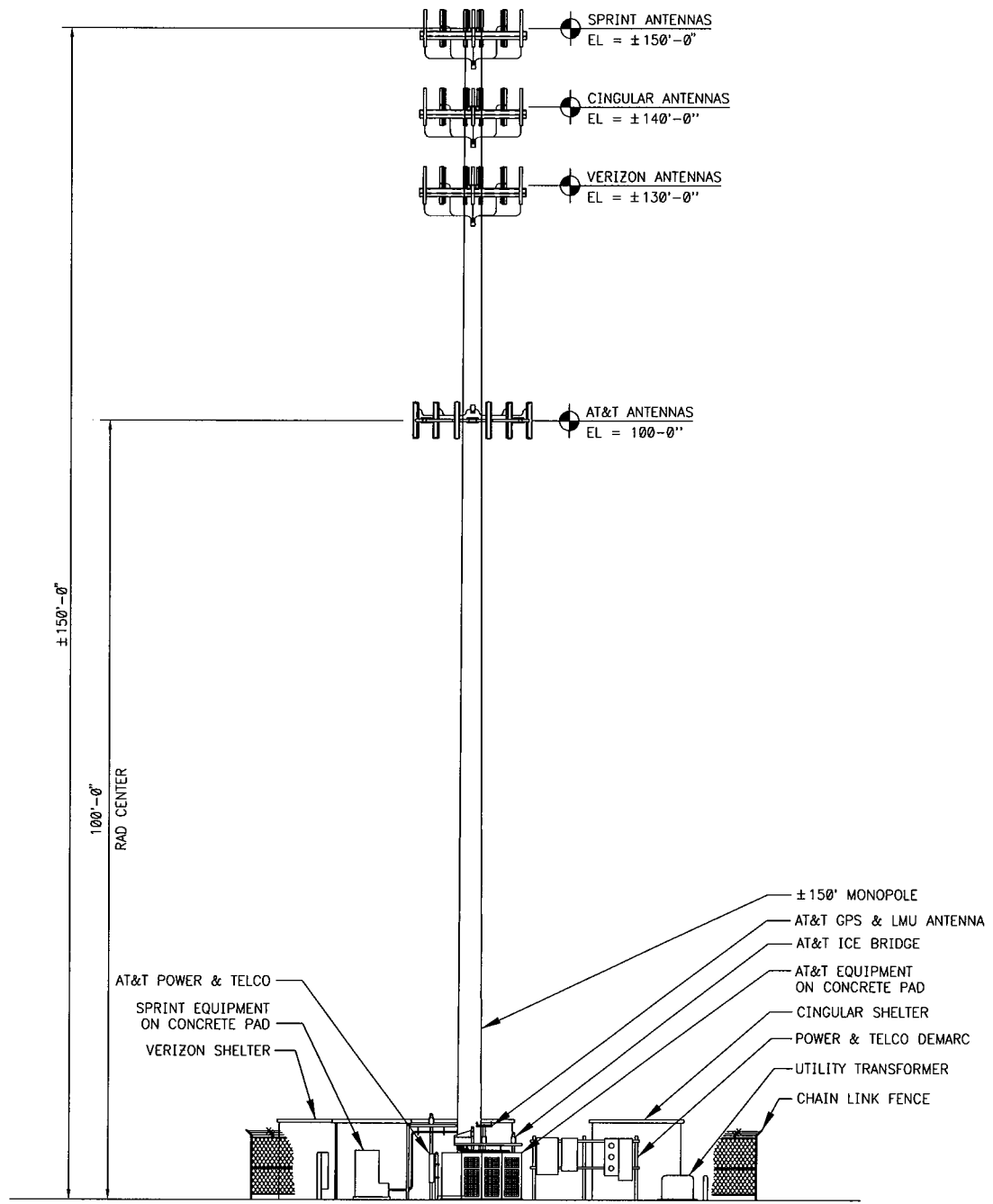
Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Oxford Road Facility meets the Council's exemption criteria.

Respectfully Submitted,



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

cc: Paul Schreiber, First Selectman, Town of Oxford  
Jaymar Joseph, American Tower



EAST ELEVATION

SCALE: 1" = 20'-0"

1  
SC2

**SCIENTEL**  
THE BLEACHERY  
143 WEST STREET  
NEW MILFORD, CT. 06776  
Tel: (860) 210-3020  
Fax: (860) 210-3047

**AT&T**  
**AT&T WIRELESS PCS, LLC**  
149 EAST WATER STREET  
SOUTH NORWALK, CT. 06855

**DRAWING TITLE:**  
SITING COUNCIL

**PROJECT INFORMATION:**  
SPRINT SPECTRUM  
CT-657.1  
338 OXFORD RD  
OXFORD, CT 06483

**PROPERTY OWNER:**  
WILLIAM & ELLEN FRITZ  
338 OXFORD ROAD  
OXFORD, CT 06483

**DRAWING NO.**

**SC2**

REVISION NO. 0 DRAWN BY: LMP

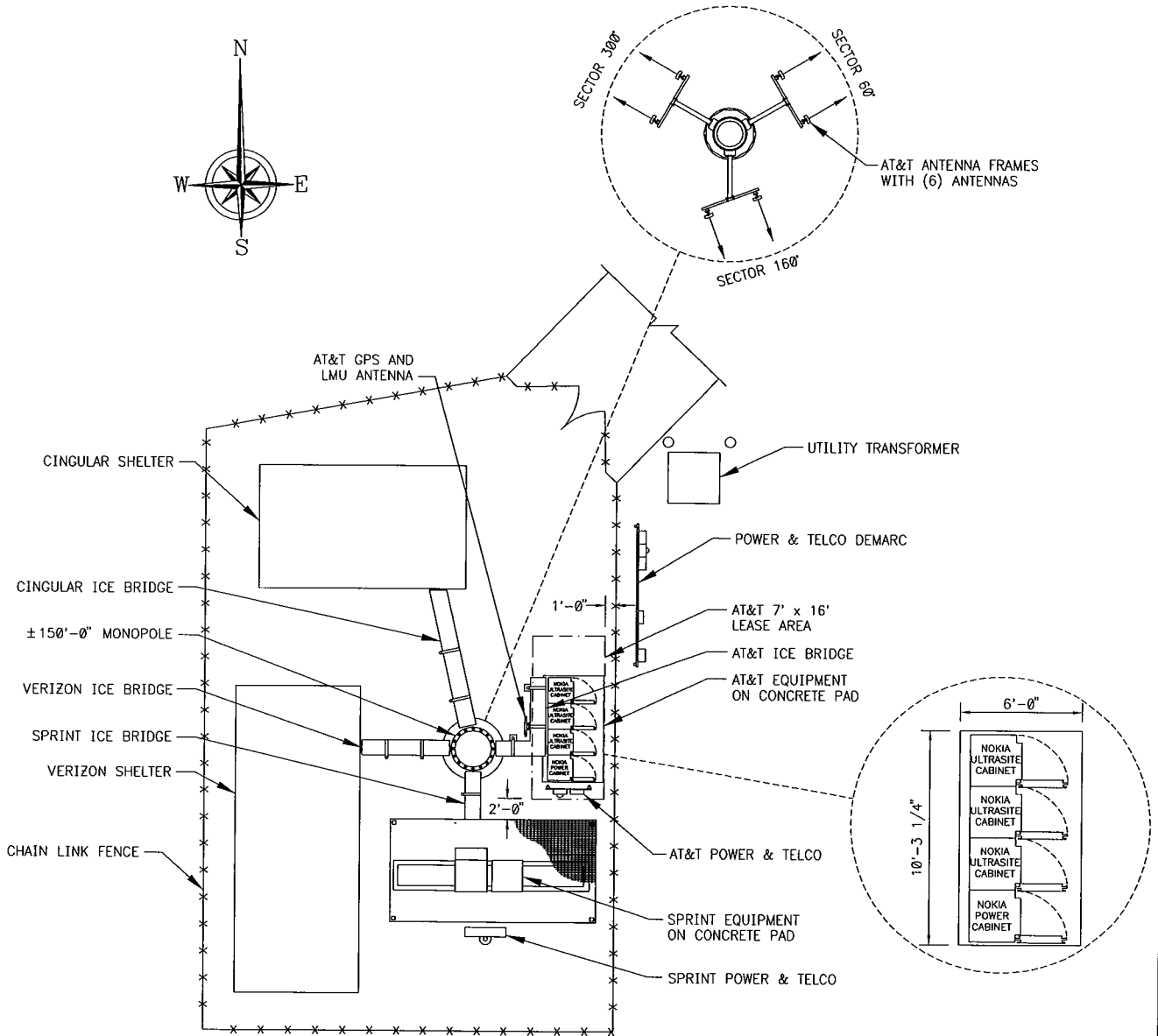
DATE ISSUED: 07/25/02 CHECKED BY: KW

SCALE: 1"=20'-0" APPROVED BY: SC

SHEET NO. 2 OF 2

A/E PROJECT NO: 17447-0009

NOTE:  
EXISTING ANTENNAS NOT  
SHOWN FOR CLARITY



# SITE PLAN

SCALE: 1" = 15'-0"

1  
SC1



THE BLEACHERY  
143 WEST STREET  
NEW MILFORD, CT. 06776  
Tel: (860) 210-3020  
Fax: (860) 210-3047



AT&T WIRELESS SERVICES, INC.  
149 EAST RIVER STREET  
SOUTH NORWALK, CT. 06855

**DRAWING TITLE:**

SITING COUNCIL

**PROJECT INFORMATION:**

SPRINT SPECTRUM  
CT-657.1  
338 OXFORD ROAD  
OXFORD, CT. 06483

**PROPERTY OWNER:**

WILLIAM & ELLEN FRITZ  
338 OXFORD ROAD  
OXFORD, CT. 06483

**DRAWING NO.**

SC1

|                 |             |              |        |
|-----------------|-------------|--------------|--------|
| REVISION NO.    | A           | DRAWN BY:    | LMP    |
| DATE ISSUED:    | 05/30/02    | CHECKED BY:  | KW     |
| SCALE:          | 1" = 15'-0" | APPROVED BY: | SC     |
|                 |             | SHEET NO.    | 1 OF 2 |
| A/E PROJECT NO: |             | 17447-0009   |        |



# SCIENTEL

A SCIENTECH, Inc., Company

July 16, 2002

Mr. Don Huntley  
 Bechtel Telecommunications  
 210 Pomeroy Avenue, Suite 201  
 Meriden, CT 06450

SUBJECT:      Site Name:                                  Oxford  
                  Street Address:                         338 Oxford Road  
    Oxford, CT 06478  
    CT-657.1  
                                  AT & T Site Number:  
                                  Sciencel Project Number:                        17447-0009

Dear Mr. Huntley:

The structural design calculations for the Oxford site have been prepared by me and/or under my direct supervision and are in compliance with the governing Building Codes for these jurisdictions, and with accepted recognized engineering design principles.

This design provides for the installation of (6) antennas at a centerline height of 100' on the existing 150' Engineered Endeavors Inc. monopole tower. The tower structure was analyzed with the current antenna loadings. These include (9) Db980h90 antennas with a centerline height of 150', (3) Db846h90 antennas with a centerline height of 140', and (12) Db844h80 antennas with a centerline height of 130'.

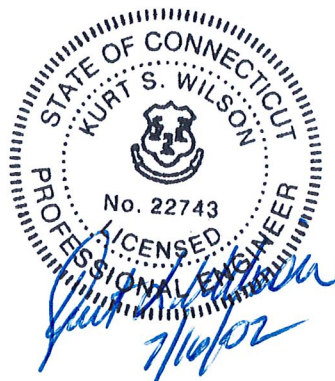
Please feel free to call me if you have any further questions or comments. I can be reached directly at 630-652-3833.

Sincerely,  
 Kurt S. Wilson, P.E.



Kurt S. Wilson, P.E.  
 Engineer

c:        S. Cook - Sciencel LLC, CT



JUL 17 2002



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

**SITE-ID : 913-008-657**

May 24, 2002

**Prepared by AT&T Wireless Services, Inc.  
Prabhakar Kumar 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 338 Oxford Road, Oxford CT. 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: <b>Oxford SW</b>                 |                |
| Number of simultaneously operating channels | 16             |
| Type of antenna                             | Allgon 7250.03 |
| Power per channel (Watts ERP)               | 250.0 Watts    |
| Height of antenna (feet AGL)                | 100 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 facility<sup>1</sup>:

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

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.

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

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

<sup>1</sup> RF exposure is measured and predicted in terms of power density in units of milliwatts (mW), a thousandth of a watt, or microwatts ( $\mu$  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.<sup>2</sup> 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 0.000674 mW/cm<sup>2</sup> which occurs at 200 feet from the antenna facility. The chart in exhibit A also shows that the power density is less than .0002 mW/cm<sup>2</sup> 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 <sup>2</sup>    | 2.9 mW/cm <sup>2</sup>         | 0.000674 mW/cm <sup>2</sup>                         |
| PCS              | 1 mW/cm <sup>2</sup>       | 5.0 mW/cm <sup>2</sup>         |   |

The maximum power density from AT&T's proposed system at the proposed facility represents only .07% of the public MPE limit for PCS frequencies. Since there are multiple transmitters at this site operating at different frequencies, the proper method for evaluating compliance with exposure limits is to find the percentage of MPE for each service, then sum the percentages to reach a total % of MPE for the site. (OET 65, pp 35-37)

From the last filing with the Connecticut Siting Council it is seen that the total exposure for this site was 15.50 % of MPE. Adding the energy from the proposed AT&T system brings the total exposure to 15.57% of MPE for uncontrolled (general public) exposure.

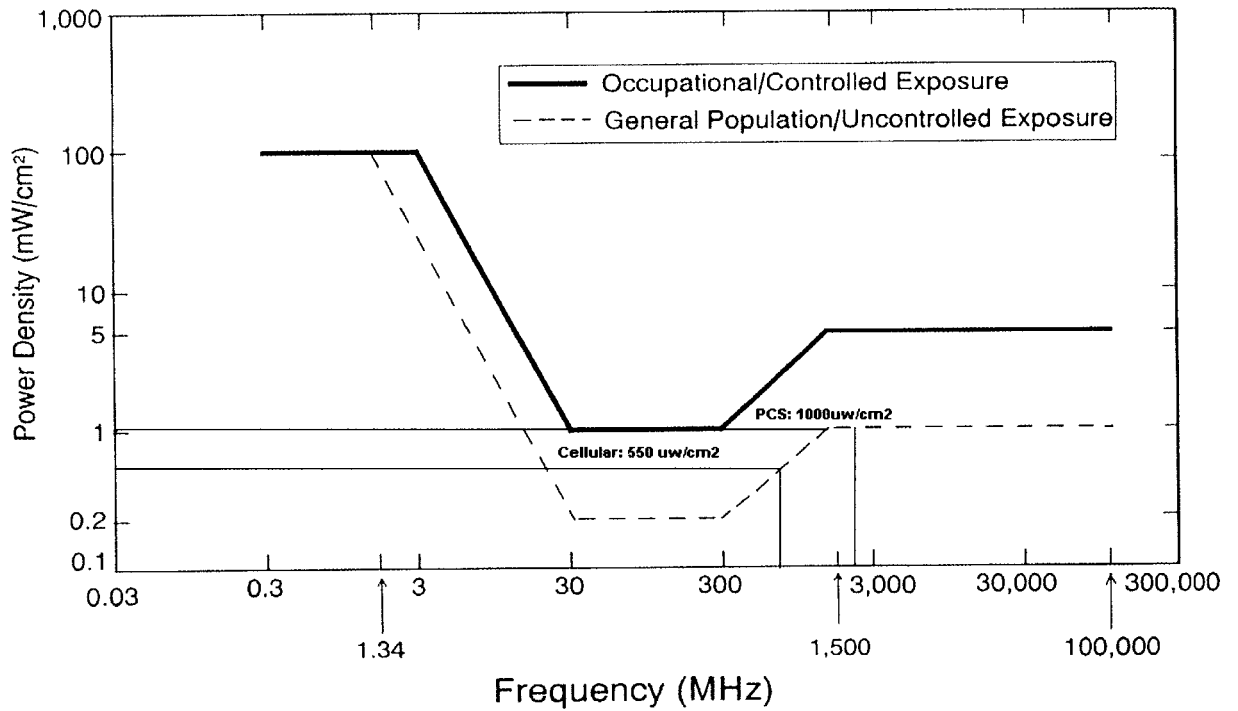
#### 6. Conclusion

This analysis show that the maximum power density in accessible areas at this location will be 15.57% of MPE, a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

<sup>2</sup> 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

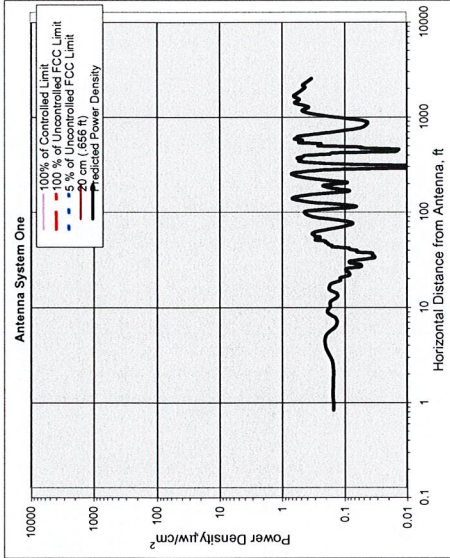
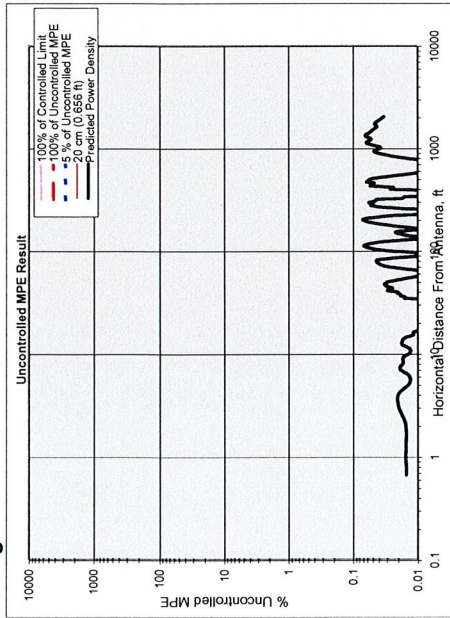
FCC Limits for Maximum Permissible Exposure (MPE)  
*Plane-wave Equivalent Power Density*



*AT&T Wireless Services, Inc.*

**8. Exhibit A**

**Heading**



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 Maximum Permissible Exposure (MPE) Analysis Required.

|  |            |                        |
|--|------------|------------------------|
| Power Density<br>mW/cm <sup>2</sup>                                  | % of limit | @ Horiz. Dist.<br>feet |
| Maximum Power Density = 0.0006744255                                 | 0.07       | 200.00                 |
| 1,482.74 times lower than the MPE limit for uncontrolled environment |            |                        |
| Composite Power (ERP) =  | 22,000.00  | Watts                  |

Performed By: bhakar K Rughobur

Site ID: 913-008-657

Site Name: Oxford SW

Site Location: 338 Oxford Rd, Oxford CT

Date: 5/25/02

**Antenna System One**

|  |         |                |
|--|---------|----------------|
| Frequency  | MHz     | Value          |
| # of Channels  | #       | 16             |
| Max ERP/Ch   | Watts   | 250.00         |
| Max Pwr/Ch Into Ant.<br>(Center of Radiator)           | Watts   | 5.86           |
| Calculation Point<br>(above ground or<br>roof surface) | feet    | 0.00           |
| Antenna Model No.                                      |         | Alpoon 7250.03 |
| Max Ant Gain   | dBd     | 16.30          |
| Down tilt  | degrees | 0.00           |
| Miscellaneous Att.                                     | dB      | 0.00           |
| Height of aperture                                     | feet    | 5.11           |
| Ant HBW  | degrees | 65.00          |
| Distance to Ant <sub>beam</sub>                        | feet    | 97.45          |
| WOS?   | Y/N?    | n              |

Ant System ONE Owner: AT&T

Sector: 3

Azimuth: 60/160/300

## 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.

C. Environmental Feasibility. The proposed shared use would have a minimal environmental effect, for the following reasons:

1. The proposed installations 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. The addition of the proposed antennas would not increase the height of the tower, and the proposed installation would not extend the boundaries of the tower site, including the placement of the equipment building near the base of the existing tower.

2. The proposed installation would not increase the noise levels at the existing facility by six decibels or more. The only additional noise will occur during emergency use or periodic exercising of the generator.

3. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base to a level at or above the applicable standard. "Worst-case" exposure calculation for a point at the base of the tower in relation to the operation of Verizon Wireless's and other existing antenna arrays are as follows:

|                  | <u>Applicable<br/>ANSI Stnd</u> | <u>Calculated<br/>"Worst-Case"</u> | <u>Percentage<br/>of Stnd.</u> |
|------------------|---------------------------------|------------------------------------|--------------------------------|
| Verizon Wireless | 0.583 mW/cm <sup>2</sup>        | 0.0404 mW/cm <sup>2</sup>          | 6.93%                          |
| Sprint PCS       | 1.000 mW/cm <sup>2</sup>        | 0.0214 mW/cm <sup>2</sup>          | 2.14%                          |
|                  |                                 | Total                              | 9.07%                          |

The "worst-case" exposure would be only 9.07 % of the ANSI standard, as calculated for mixed frequency sites. Power density levels from shared use of the tower facility would thus be well below applicable ANSI standards

tower currently supports PCS antennas belonging to Sprint at 150 feet above ground level ("AGL"). In addition, on December 19, 2000 the Council approved a Verizon Wireless ("Verizon") tower sharing application for installation of cellular antennas at the 130 foot level of this facility (TS-Verizon-108-001214).

As shown on the attached drawings and as further described below, SCLP proposes to install up to twelve (12) DB846H80 panel antennas, approximately 72 inches in height, on a platform with the center of radiation approximately 140 feet AGL. SCLP also proposes to place associated telecommunications equipment in a new 11' 6" x 20' equipment shelter at the base of the tower. All construction will take place within the existing fenced compound.

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

1. The height of the overall structure will be unaffected.
2. The proposed changes will not affect the property boundaries. All new construction will take place within the existing fenced compound.
3. The proposed additions will not increase the noise level at the existing facility by six decibels or more. Except for noise resulting from construction, the only additional sound will be from equipment cooling systems.
4. The proposed antennas will not operate with a total radio frequency electromagnetic radiation power density, measured at the tower base, at or above the standard adopted by the State of Connecticut and the FCC. The "worst-case" exposure calculation in accordance with FCC OET Bulletin No. 65 (1997) for a point of interest at the base of the replacement tower in relation to the operation of the currently proposed antenna array is as follows:

| Company      | Centerline Height (feet) | Power Density (mW/cm <sup>2</sup> ) | Standard Limits (mW/cm <sup>2</sup> ) | % of Standard |
|--------------|--------------------------|-------------------------------------|---------------------------------------|---------------|
| Sprint *     | 150                      | 0.0214                              | 1.0000                                | 2.1           |
| SCLP         | 140                      | 0.0384                              | 0.5867                                | 6.5           |
| Verizon *    | 130                      | 0.0404                              | 0.5833                                | 6.9           |
| <b>Total</b> |                          |                                     |                                       | <b>15.5%</b>  |

\* Power density taken from Verizon's notice to the Council in TS-Verizon-108-001214.



**EM-AT&T-108-020729**  
**338 Oxford Road**  
**Oxford 8/13/02**

