



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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

March 25, 2002

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

RE: **EM-AT&T-033-020313** - AT&T Wireless notice of intent to modify an existing telecommunications facility located at 201 Main Street, Cromwell, Connecticut.

Dear Attorney Fisher:

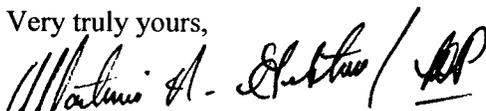
At a public meeting held on March 21, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice received March 13, 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/RM/laf

c: Honorable Stanley A. Terry, Jr., First Selectman, Town of Cromwell
Frederic Curtin, Zoning Enforcement Officer, Town of Cromwell
Sandy M. Carter, Verizon Wireless
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC

RECEIVED

MAR 13 2002

**NOTICE OF INTENT TO MODIFY AN
EXISTING TELECOMMUNICATIONS FACILITY AT
201 MAIN STREET, CROMWELL, 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 201 Main Street, Cromwell, Connecticut (the "Main Street Facility"). AT&T Wireless has agreed to share the use of the Main Street Facility with the tower owner, as detailed below.

The Main Street Facility

The Main Street Facility consists of an approximately one hundred twenty-five (125) foot monopole (the "Tower") and associated equipment currently being used and/or approved for wireless communications by Sprint and Verizon. A chain link fence surrounds the Tower compound. The current adjacent land uses are predominantly commercial.

AT&T Wireless' Facility

As shown on the enclosed plans prepared by SEA Consultants, Inc., including a site plan and tower elevation of the Main Street 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 panel antennas at approximately the 115 foot level of the Tower and associated equipment cabinets on a platform. As evidenced in the structural analysis prepared by Engineered Endeavors Incorporated, 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

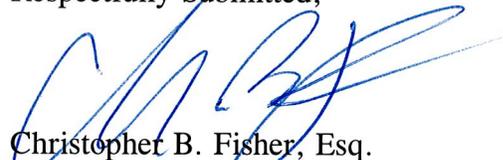
The proposed addition of AT&T Wireless' antennas and equipment to the Main Street Facility constitutes an exempt "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and Council regulations promulgated pursuant thereto. Addition of AT&T Wireless' antennas 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 Tarik Quazzani, 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

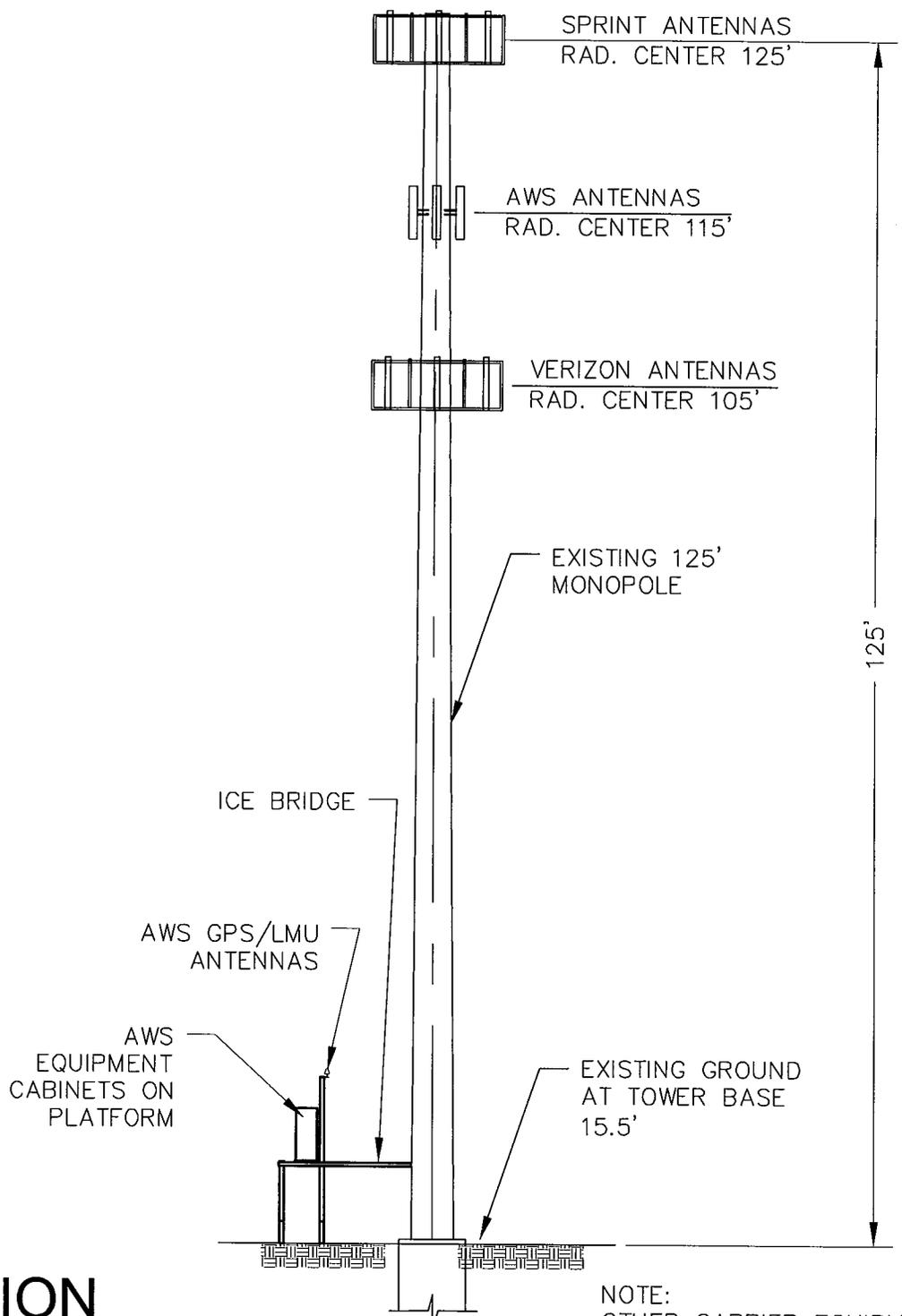
Accordingly, AT&T Wireless requests that the Connecticut Siting Council acknowledge that its proposed modification to the Main Street Facility meets the Council's exemption criteria.

Respectfully Submitted,



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

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



ELEVATION

NOT TO SCALE

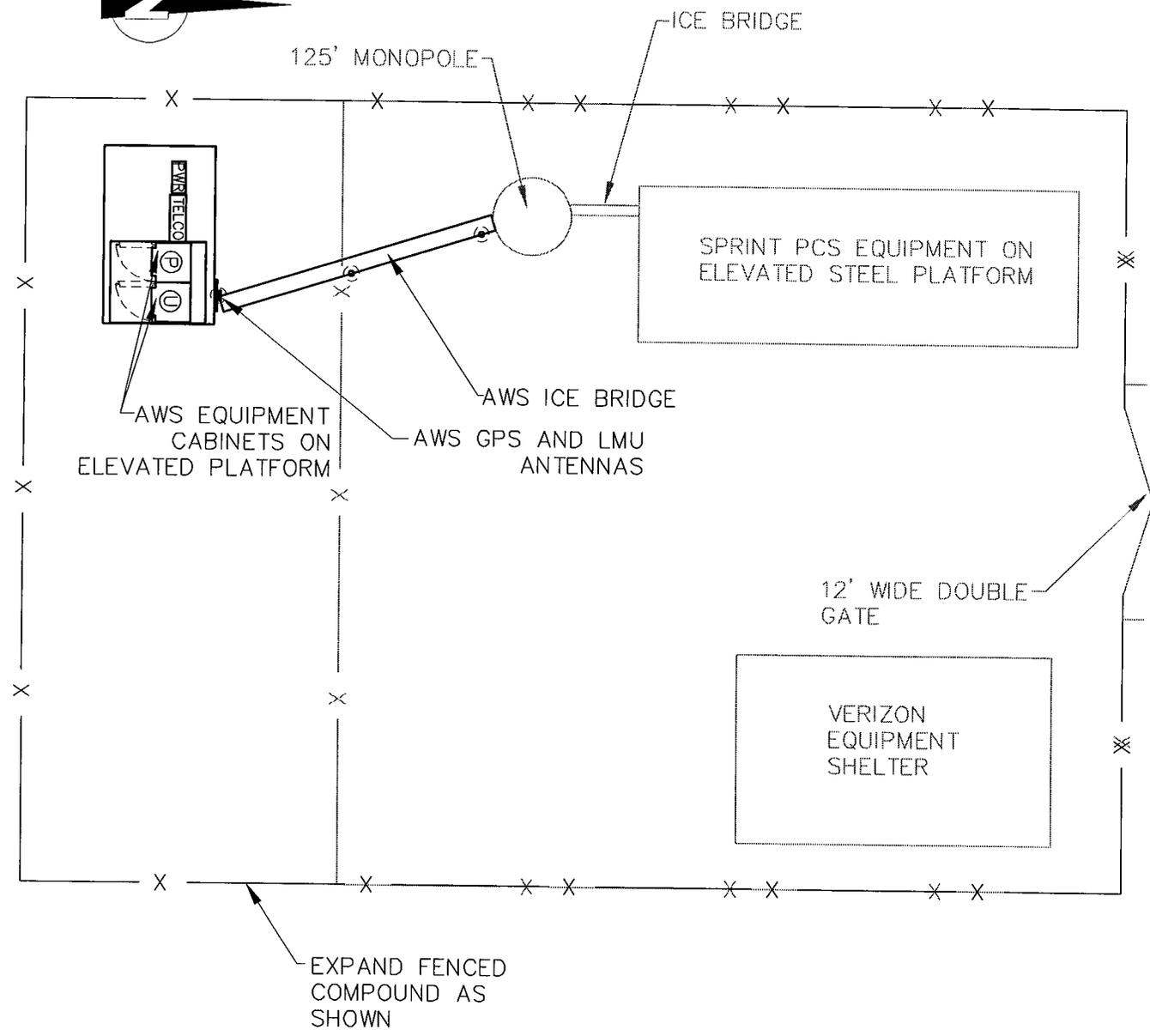
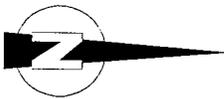
NOTE:
OTHER CARRIER EQUIPMENT
NOT SHOWN FOR CLARITY

SEA
S E A 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:
CROMWELL
CT 272
201 MAIN STREET
CROMWELL, CT
PROPERTY OWNER:
SPRINT

DRAWING NO. CT272.1-EXHIBIT2	
REVISION NO. 0	DRAWN BY: KL
DATE ISSUED: 2/5/02	CHECKED BY: SMB
SCALE: AS NOTED	APPROVED BY: SMB
	SHEET NO. 1 OF 1
SEA PROJECT NO: 2001419.01-A	



SITE PLAN

SCALE: 1" = 10'



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

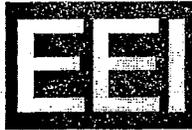
DRAWING TITLE: SITE PLAN

PROJECT INFORMATION:
CROMWELL
CT272.01
201 MAIN STREET
CROMWELL, CT

PROPERTY OWNER: SPRINT

DRAWING NO.
CT272.1-EXHIBIT 1

REVISION NO. 0	DRAWN BY: KL
DATE ISSUED: 2/5/02	CHECKED BY: SMB
SCALE: AS NOTED	APPROVED BY: SMB
SHEET NO. 1 OF 1	
SEA PROJECT NO: 2001419.01-A	



**ENGINEERED
ENDEAVORS
INCORPORATED**
The Experienced Point of View



February 25, 2002

SEA Consultants, Inc.
2080 Silas Deane Highway, Suite 302
Rocky Hill, CT 06067

Reference: Structural analysis of the existing 125-ft monopole in Middlesex Co., CT.
EEI Project No.10554. Original design No. 6464/GS52064.
SEA Project No. CT272-Cromwell

Engineered Endeavors Incorporated (EEI) has evaluated the existing 125-ft monopole located in Middlesex Co., CT for the loads presented by SEA Consultants, Inc. The objective of the analysis was to determine if the monopole and foundation could structurally support the proposed antenna loading and meet the requirements of the TIA/EIA-222F, ASD Manual of Steel Construction, and American Concrete Institute Standard ACI 318-98.

The monopole was designed EEI in February of 2000 and depicted in drawing GS52064. The foundation was also designed by EEI and is depicted in the drawing S6464-125.

Monopole. The monopole was evaluated for the following design load:

- (6) DB980H65 and (3) DB980H90 antennas a low profile platform @ 125'
- (6) Allgon 7250 antennas on a 4-ft T-arm array @115'
- (12) DB844 antennas on a low profile platform @105'

The monopole was evaluated per TIA/EIA-222F for wind velocity pressure of 90 *mph* as the original design. The list with the existing and proposed antenna loading is included in the Appendix. For more information on the loading refer to the EEI analysis cover page and calculations.

Results of the analysis.

Monopole. The results of the structural analysis demonstrate that the existing monopole, including the base plate and anchor bolts, is capable of supporting all referenced above antenna loading.

If any of the antenna loadings are to be changed by either increasing the quantity of antennas, or antenna elevation, or installation of the additional appurtenances, or different antennas are currently installed on the pole, EEI has to notified in order to evaluate the structural integrity of the monopole.

Foundation. The foundation for this pole was designed by EEI in March of 2000. the drawing of the foundation is attached in the Appendix. Table I provides the original (as designed) and new loads for comparison.

Table I.

	Initial loading	New loading
Moment, <i>ft-kip</i>	1575.1	1062.8
Horizont. force, <i>kips</i>	17.3	12.8
Vertical load, <i>kips</i>	18.6	16.5

Engineered Endeavors Incorporated
7610 Jenther Drive, Mentor OH 44060
Ph.(440)918-1101*Fax(440)918-1108*www.engend.com

SITE LOCATION: MIDDLESEX COUNTY, CT
SITE NAME: CT272-CROMWELL

STRUCTURAL ANALYSIS
EEI ORIGINAL #6464/GS52064

ANTENNA LOADING:

EXISTING LOADING (SPRINT PCS)

(6) DB980H65 & (3) DB980H90 ANTENNAS
ON A LOW PROFILE PLATFORM @ 125'

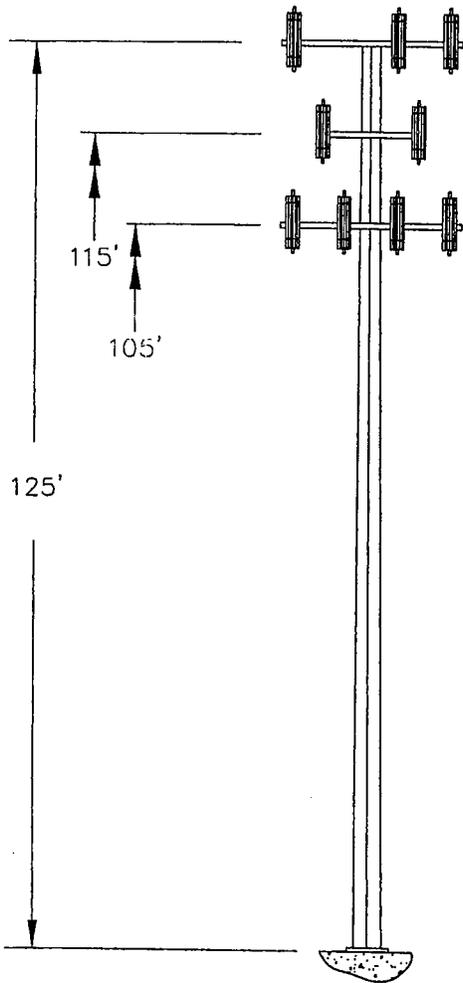
PROPOSED CO-LOCATION:

AT&T:

(6) Allgon 7250 ANTENNAS ON T-ARM @ 115'

VERIZON:

(12) DB844 PANEL ANTENNAS
ON A LOW PROFILE PLATFORM @ 105'



DESIGN NOTES:

DESIGNED IN ACCORDANCE WITH TIA/EIA 222-F
90 MPH BASIC WIND SPEED
1/2" RADIAL ICE

*NOTE: IT IS THE RESPONSIBILITY
OF THE PURCHASER TO VERIFY
THAT THE WIND LOADS AND DESIGN
CRITERIA SPECIFIED MEET THE REQUIREMENTS
OF ALL LOCAL BUILDING CODES*

LOAD CASE 1

DESIGN WIND LOADING

DEAD LOAD FACTOR 1.00 WIND PSF REDUCTION 1.00 RADIAL ICE 0.00 IN.

WIND VELOCITY 90 BOTTOM 20.91 PSF TOP 30.24 PSF
 MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
DB 980H	125.00	0.077	1.569
LOW PROF. PLATF.	125.00	2.100	1.038
7250.00	115.00	0.120	1.125
T-ARM W/4' SEPARATION	115.00	0.200	0.216
DB 844H	105.00	0.020	0.124
LOW PROF. PLATF.	105.00	2.100	0.732

TUBE PROPERTIES			MEMBER FORCES			STRESSES			STRESS	TOTAL	
ELEV FT	DIAM IN	WALL IN	SHEAR K	BENDING K-FT	AXIAL K	AXIAL KSI	BEND. KSI	ALLOW KSI	RATIOS	DEFL IN	TILT DEG
125.00	18.50	0.1875	3.00	0.00	2.18	0.20	0.00	50.98	0.00	52.2	3.75
115.00	20.65	0.1875	3.00	29.95	2.18	0.18	5.88	49.46	0.12	44.5	3.67
105.00	22.80	0.1875	4.89	78.79	2.80	0.21	12.66	48.23	0.27	37.0	3.47
96.00	24.74	0.1875	6.41	136.37	5.29	0.37	18.58	47.30	0.40	30.7	3.20
87.00	26.67	0.1875	6.93	198.64	5.74	0.37	23.24	46.51	0.51	25.0	2.86
TYPE OF JOINT: SLIP JOINT											
87.00	26.17	0.2500	7.54	198.64	6.66	0.33	18.24	50.14	0.37	25.0	2.86
76.00	28.53	0.2500	7.54	281.53	6.66	0.30	21.69	49.00	0.45	18.8	2.48
65.00	30.90	0.2500	8.23	371.94	7.52	0.31	24.39	48.04	0.51	13.5	2.09
54.00	33.26	0.2500	8.92	470.00	8.46	0.33	26.55	47.21	0.57	9.2	1.69
43.00	35.63	0.2500	9.62	575.79	9.73	0.35	28.31	46.49	0.62	5.7	1.28
TYPE OF JOINT: SLIP JOINT											
43.00	35.01	0.3125	10.38	575.79	11.60	0.34	23.60	49.24	0.49	5.7	1.28
30.00	37.80	0.3125	10.38	710.72	11.60	0.32	24.93	48.29	0.52	2.8	0.88
20.00	39.95	0.3125	11.09	821.62	13.04	0.34	25.77	47.65	0.55	1.2	0.58
10.00	42.10	0.3125	11.73	938.91	14.37	0.35	26.48	47.08	0.57	0.3	0.29
0.00	44.25	0.3125	12.77	1062.84	16.49	0.38	27.11	46.56	0.59	0.0	0.00

REACTION COMPONENTS (KIPS AND FT-KIPS)

TRANSVERSE SHEAR	VERTICAL FORCE	WIND SHEAR	MOMENT ABOUT TRANSVERSE	MOMENT ABOUT VERTICAL	MOMENT ABOUT WIND AXIS
0.000	16.494	-12.770	1062.842	0.000	0.000

SUMMARY TABLE

ELEV	STRESS RATIO	AXIAL	BENDING	LOADING
125.00	0.01	3.55	0.0	2 DESIGN WIND W/ICE
115.00	0.12	2.18	30.0	1 DESIGN WIND LOADING
105.00	0.27	2.80	78.8	1 DESIGN WIND LOADING
96.00	0.40	5.29	136.4	1 DESIGN WIND LOADING
87.00	0.51	5.74	198.6	1 DESIGN WIND LOADING
76.00	0.45	6.66	281.5	1 DESIGN WIND LOADING
65.00	0.51	7.52	371.9	1 DESIGN WIND LOADING
54.00	0.57	8.46	470.0	1 DESIGN WIND LOADING
43.00	0.62	9.73	575.8	1 DESIGN WIND LOADING
30.00	0.52	11.60	710.7	1 DESIGN WIND LOADING
20.00	0.55	13.04	821.6	1 DESIGN WIND LOADING
10.00	0.57	14.37	938.9	1 DESIGN WIND LOADING
0.00	0.59	16.49	1062.8	1 DESIGN WIND LOADING

MAXIMUM SUPPORT MOMENT K-FT	1062.84
CORRESPONDING AXIAL FORCE KIPS	16.49
CORRESPONDING SHEAR FORCE KIPS	12.77

BASE PLATE AT ELEVATION 0.00 FEET

TUBE DIAMETER 44.25 INCHES
 DESIGN MOMENT 1062.8 KIP FT
 DESIGN MOMENT IS 0. DEGREES FROM THE WIND DIRECTION
 BOLTS ARE ON THE KNUCKLES OF THE TUBE

APPLIED AXIAL FORCE 16.5 KIPS
 APPLIED SHEAR 12.77 KIPS

BOLT DATA

BOLT TYPE A615 GR75
 BOLTS ARE EVENLY SPACED
 DIAMETER 2.250 INCHES
 EFFECTIVE AREA 3.250 SQ IN
 TOTAL LENGTH 6.0 FEET
 BOTTOM TEMPLATE MUST BE BOLTED ON

MINIMUM EMBEDMENT 4.2 FEET
 NUMBER OF BOLTS 12
 BOLT CIRCLE DIAMETER 53.00 INCHES
 ALLOWABLE STRESS 60.0 KSI
 APPLIED AXIAL STRESS 25.1 KSI
 MAX BOLT FORCE 81.6 KIPS
 BOLT BENDING STRESS 1.5 KSI
 COMBINED BOLT STRESS 26.7 KSI
 CLEARANCE UNDER PLATE 3.25 INCHES
 BOLT WEIGHT 1015.2 POUNDS

PLATE DATA

DIAMETER OF PLATE 59.00 INCHES
 MATERIAL A572 GR60
 PROVIDED THICKNESS 1.500 INCHES
 REQUIRED THICKNESS 1.164 INCHES
 BOLT HOLE DIAMETER 2.625 INCHES
 CENTER HOLE SIZE 34.25 INCHES
 NET WEIGHT 741.9 POUNDS
 RAW STOCK WEIGHT 1477.7 POUNDS
 SURFACE AREA 24.27 SQ FT
 ALLOWABLE STRESS 59.99 KSI
 MAX APPLIED STRESS 36.14 KSI

CONCRETE STRENGTH 3000. PSI

Base Plate - use 59.00 inch ROUND x 1.500 inch A572 GR60
 with (12) 2.250 diameter x 6.00 foot caged A615 GR75 bolts
 on a 53.00 inch bolt circle.

LOAD CASE 2

DESIGN WIND W/ICE

DEAD LOAD FACTOR 1.00 WIND PSF REDUCTION 0.75 RADIAL ICE 0.50 IN.

WIND VELOCITY 90 BOTTOM 15.68 PSF TOP 22.68 PSF
 MAX BASE ROTATION 0.00 DEG

APPLIED APPURTENANCE FORCES

	ELEVATION FT	WEIGHT KIPS	WIND KIPS
DB 980H	125.00	0.257	1.412
LOW PROF. PLATF. 7250.00	125.00	3.250	0.969
T-ARM W/4' SEPARATION	115.00	0.240	1.072
DB 844H	115.00	0.300	0.219
LOW PROF. PLATF.	105.00	0.040	0.117
	105.00	3.250	0.659

TUBE PROPERTIES			MEMBER FORCES			STRESSES			STRESS	TOTAL	
ELEV FT	DIAM IN	WALL IN	SHEAR K	BENDING K-FT	AXIAL K	AXIAL KSI	BEND. KSI	ALLOW KSI	RATIOS	DEFL IN	TILT DEG
125.00	18.50	0.1875	2.79	0.00	3.55	0.33	0.00	50.98	0.00	46.6	3.37
115.00	20.65	0.1875	2.79	27.83	3.55	0.29	5.46	49.46	0.12	39.6	3.30
105.00	22.80	0.1875	4.53	73.01	4.41	0.33	11.73	48.23	0.25	32.8	3.12
96.00	24.74	0.1875	5.89	125.91	8.08	0.56	17.16	47.30	0.37	27.2	2.86
87.00	26.67	0.1875	6.28	182.34	8.54	0.55	21.34	46.51	0.47	22.1	2.55
TYPE OF JOINT: SLIP JOINT											
87.00	26.17	0.2500	6.74	182.34	9.45	0.46	16.74	50.14	0.34	22.1	2.55
76.00	28.53	0.2500	6.74	256.41	9.45	0.43	19.76	49.00	0.41	16.6	2.21
65.00	30.90	0.2500	7.25	336.11	10.31	0.43	22.04	48.04	0.47	11.9	1.85
54.00	33.26	0.2500	7.77	421.54	11.47	0.44	23.81	47.21	0.51	8.0	1.49
43.00	35.63	0.2500	8.29	512.66	12.45	0.45	25.21	46.49	0.55	5.0	1.13
TYPE OF JOINT: SLIP JOINT											
43.00	35.01	0.3125	8.85	512.66	14.32	0.42	21.01	49.24	0.43	5.0	1.13
30.00	37.80	0.3125	8.85	627.70	14.32	0.39	22.02	48.29	0.46	2.4	0.77
20.00	39.95	0.3125	9.38	721.45	15.76	0.41	22.63	47.65	0.48	1.1	0.51
10.00	42.10	0.3125	9.85	819.93	17.09	0.42	23.13	47.08	0.50	0.3	0.25
0.00	44.25	0.3125	10.63	923.32	19.21	0.45	23.55	46.56	0.51	0.0	0.00

REACTION COMPONENTS (KIPS AND FT-KIPS)						
TRANSVERSE SHEAR	VERTICAL FORCE	WIND SHEAR	MOMENT ABOUT TRANSVERSE	MOMENT ABOUT VERTICAL	MOMENT ABOUT WIND AXIS	MOMENT ABOUT WIND AXIS
0.000	19.215	-10.627	923.317	0.000		0.000

Engineered Endeavors Inc.

7610 Jenther Drive
Mentor, Ohio 44060
Tel (440) 918-1101 Fax (440) 918-1108

Communications Structure Nonlinear Analysis and Design Program

11:59:17 02-25-2002
Revision 1.3 - 1/22/01
Engineer: BSF

Customer **SEA CONSULTANTS**
Job Name **10554-ANALYSIS**
Structure **125' MONOPOLE**
Location **MIDDLESEX CO., CT**
Site **CT272-CROMWELL**

OD BOT	OD TOP	NUM. SIDES	THICK INCH	TAPER IN/FT	LENGTH FT	JOINT INCH	JOINT TYPE	YIELD KSI	WEIGHT LBS	JOINT HEIGHT
27.09	18.50	18	0.1875	0.215	39.96	47.00	SLIP	65.0	1807.	87.00
36.18	25.75	18	0.2500	0.215	48.50	61.00	SLIP	65.0	3973.	43.00
44.25	34.46	18	0.3125	0.215	45.54	0.00	BASEPL	65.0	5928.	-0.00
TOTAL TUBE WEIGHT							11708.	POUNDS		
POLE SHAFT LENGTH							125.00	FEET		

E = 29600.0 KSI
UNIT WGT = 0.283 LBS/CU IN
AISC constants are used for stress reductions.
TUBE SECTIONS HAVE 18 SIDES AND ARE TREATED AS ROUND
Internal bend radius = 3 X T
Tube diameters are measured flat to flat.
Tube diameters are increased by 1.020 for wind across points.
Drag coefficients are increase by 1.300 for steps on the pole.
AISC Tube Shape Coefficient of 1.000 is applied.
REVISED DATA FILE NAME 10554-12

APPURTENANCES

DESCRIPTION	NUM.	ELEV.	Kz	< WITHOUT ICE >		< WITH ICE >		Ca	FACTOR
				AREA	WGT	AREA	WGT		
DB 980H	9	125.	1.463	2.50	9.	3.00	29.	1.6000	0.85
LOW PROF. PLATF.	1	125.	1.463	11.25	2100.	14.00	3250.	1.8000	1.00
7250.00	6	115.	1.429	2.76	20.	3.50	40.	1.6000	0.85
T-ARM W/4 ' SEPARATI	1	115.	1.429	3.00	200.	4.05	300.	1.8000	0.80
DB 844H	1	105.	1.392	2.00	20.	2.50	40.	1.5000	0.85
LOW PROF. PLATF.	1	105.	1.392	7.50	2100.	9.00	3250.	2.0000	1.00

As the Table 1 shows, the new base reactions are less than the initial base loading.

Engineered Endeavors assumed that the existing foundation was built in accordance to the design drawing and specifications, is in good conditions, and, therefore, should be capable of supporting the monopole with the referenced above antenna loading.

Closure. Based on the results of the analysis the existing monopole and foundation are considered to be capable of supporting the antenna configuration as depicted in this analysis. It is the responsibility of SEA Consultants, Inc. to verify that the monopole and foundation modeled and analyzed are the correct structures that exist and are in a good condition.

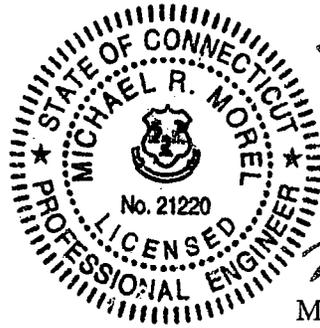
This report is intended for use with regard to this specific structure discussed in general herein and any changes in antenna loading shall be brought to EEI's attention so we may determine how this may effect our conclusions and recommendations.

Yours truly,
Engineered Endeavors, Inc.



Boris S. Fayman, P.E.
Project Engineer

Enclosure



2/25/02



Michael R. Morel, P.E.
Vice-President

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

Site ID: 907-007-272

February 11, 2002

**Prepared by AT&T Wireless Services, Inc.
Tarik Ouazzani 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 201 Main Street, Cromwell, CT 06416. 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: <i>Cromwell SE</i>	
Number of simultaneously operating channels	16
Type of antenna	Allgon 7250.02
Power per channel (Watts ERP)	250 Watts
Height of antenna (feet AGL)	115 feet
Antenna Aperture Length	5.11 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.

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

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 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 (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 0.89 μ W/cm² which occurs at 350 feet from the antenna facility. The chart in exhibit A also shows that the power density is only 0.08 μ W/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 μ W/cm ²	2,900 μ W/cm ²	0.89 μ W/cm ²
PCS	1000 μ W/cm ²	5,000 μ W/cm ²	

The maximum power density at the proposed facility represents only 0.09% of the public MPE limit.

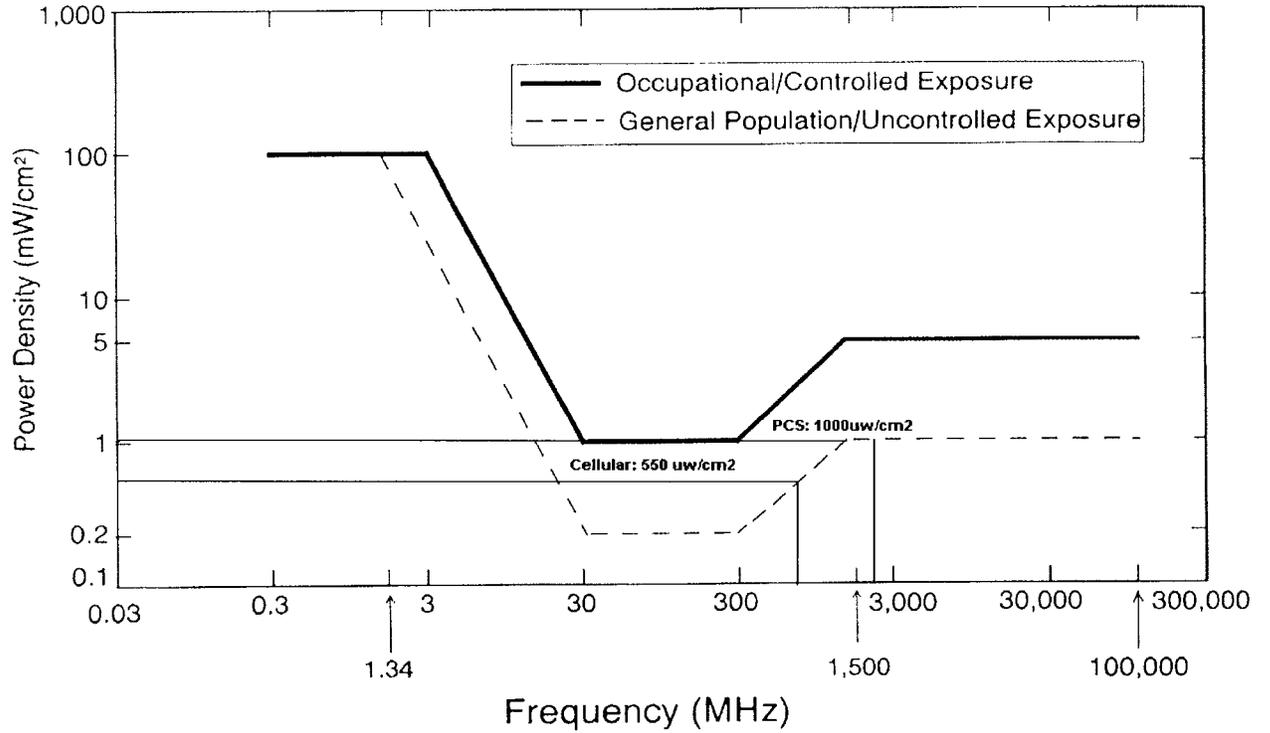
6. Conclusion

This analysis show that the maximum power density in accessible areas at this location is 0.89 μ W/cm², a level of RF energy that is well below the Maximum Permissible Exposure limit established by the FCC.

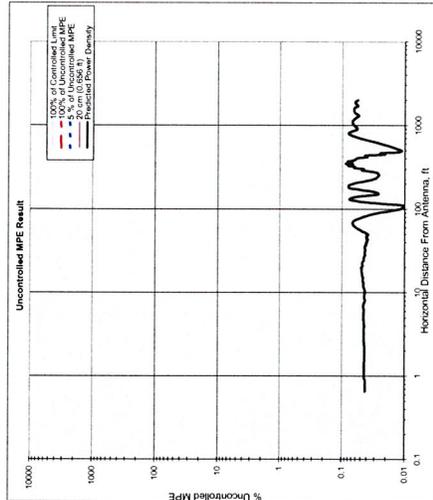
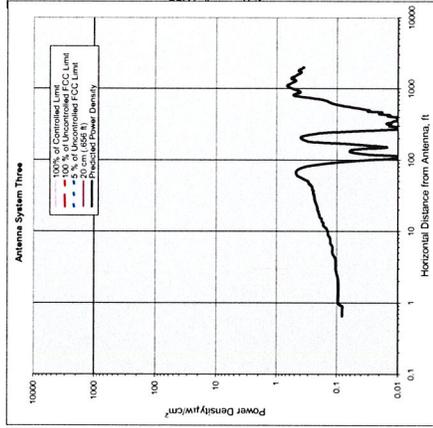
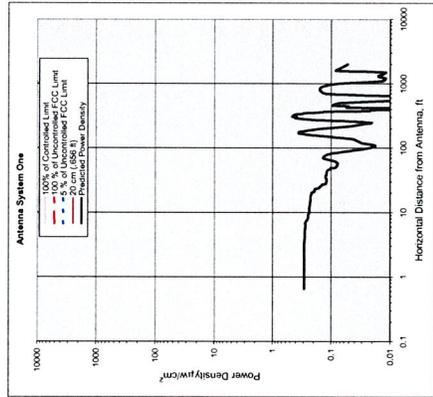
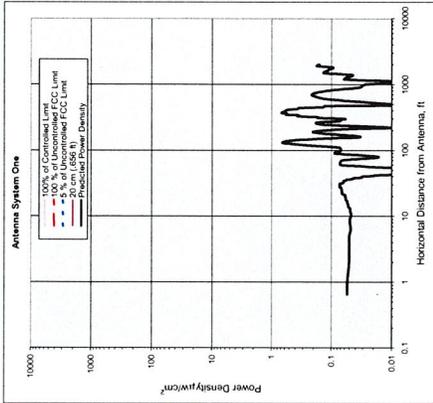
² 47 U.S. C. Section 332 (c) (7)(B)(iv) states that “[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such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



Antenna System One

Antenna System Two

Antenna System Three

Parameter	Value
Frequency	1845
# of Channels	16
Max ERP/Ch	250
Max Pwr/Ch into Ant. (Center of Radiation)	5,597
BS Height (above ground or roof surface)	115
Calculation Point (feet)	0
Antenna Model No.	Align 7250.02
Max Ant Gain	16.5
Down tilt	0
Miscellaneous Att.	0
Height of aperture	5.11
Ant Beam	85
Distance to Antenna	112,445
WGS84	N

Ant System ONE Owner: AT&T
Sector: 3
Azimuth: 0/120/230

Parameter	Value
Frequency	1900
# of Channels	20
Max ERP/Ch	275
Max Pwr/Ch into Ant. (Center of Radiation)	8,498
BS Height (above ground or roof surface)	125
Calculation Point (feet)	0
Antenna Model No.	DBB0550
Max Ant Gain	15.1
Down tilt	0
Miscellaneous Att.	0
Height of aperture	6
Ant Beam	90
Distance to Antenna	722
WGS84	N

Ant System TWO Owner: Sprint
Sector: 3
Azimuth: 30/150/270

Number of Antenna Systems: 3

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.

Parameter	Value
Maximum Power Density	0.89 µW/cm²
1,127.65 times lower than the MPE limit for uncontrolled environment	0.09 % of limit
Composite Power (ERP)	14,500.00 Watts

Site ID: 907-007-272
Site Name: Cromwell-SE
Site Location: 201 Main Street, Cromwell, CT 06416
Performed By: Tarik Ouazzani
Contact Number: 201-755-2154
Date: 2/11/2002

Parameter	Value
Frequency	836
# of Channels	20
Max ERP/Ch	250
Max Pwr/Ch into Ant. (Center of Radiation)	10,913
BS Height (above ground or roof surface)	105
Calculation Point (feet)	0
Antenna Model No.	ALP9214
Max Ant Gain	13.6
Down tilt	0
Miscellaneous Att.	0
Height of aperture	8.5
Ant Beam	95
Distance to Antenna	100.75
WGS84	N

Ant System Three Owner: Verizon
Sector: 3
Azimuth: 30/150/270

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.