



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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

August 6, 2002

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

RE: **EM-AT&T-011-049-148-155-020703** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify existing telecommunications facilities located in Bloomfield, Enfield, Wallingford, and West Hartford, Connecticut.

Dear Attorney Fisher:

At a public meeting held on August 1, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, 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 dated July 2, 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 sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to these facilities 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: See attached list

List Attachment

- c: Honorable Faith McMahon, Mayor, Town of Bloomfield
- Thomas B. Hooper, Director of Planning, Town of Bloomfield
- Honorable Mary Lou Strom, Mayor, Town of Enfield
- Jose Giner, Director of Planning and Community Development, Town of Enfield
- Scott A. Shanley, Town Manager, Town of Enfield
- Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford
- Linda Bush, Town Planner, Town of Wallingford
- Barry M. Feldman, Town Manager, Town of West Hartford
- Mila Limson, Senior Planner, Town of West Hartford



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July 25, 2002

Mr. Barry M. Feldman  
Town Manager  
Town of West Hartford  
Town Hall  
50 South Main Street, Room 313  
West Hartford, CT 06107-2431

RE: **EM-AT&T-011-049-148-155-020703** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify existing telecommunications facilities located in Bloomfield, Enfield, Wallingford, and West Hartford, Connecticut.

Dear Mr. Feldman:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for August 1, 2002, at 2:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

*SDP/rlc*

S. Derek Phelps  
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Mila Limson, Senior Planner, Town of West Hartford



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
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July 25, 2002

Honorable Mary Lou Strom  
Mayor  
Town of Enfield  
820 Enfield Street  
Enfield, CT 06082

RE: **EM-AT&T-011-049-148-155-020703** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify existing telecommunications facilities located in Bloomfield, Enfield, Wallingford, and West Hartford, Connecticut.

Dear Mayor Strom:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for August 1, 2002, at 2:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

*SDP/laf*

S. Derek Phelps  
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Jose Giner, Director of Planning and Community Development, Town of Enfield  
Scott A. Shanley, Town Manager, Town of Enfield



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
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July 25, 2002

Honorable William W. Dickinson, Jr.  
Mayor  
Town of Wallingford  
Municipal Building  
45 South Main Street  
P. O. Box 427  
Wallingford, CT 06492

RE: **EM-AT&T-011-049-148-155-020703** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify existing telecommunications facilities located in Bloomfield, Enfield, Wallingford, and West Hartford, Connecticut.

Dear Mayor Dickinson:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for August 1, 2002, at 2:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

*SDP/RKE*

S. Derek Phelps  
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Linda Bush, Town Planner, Town of Wallingford



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square  
New Britain, Connecticut 06051  
Phone: (860) 827-2935  
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July 25, 2002

Honorable Faith McMahon  
Mayor  
Town of Bloomfield  
Town Hall  
800 Bloomfield Avenue  
P. O. Box 337  
Bloomfield, CT 06002-0337

RE: **EM-AT&T-011-049-148-155-020703** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify existing telecommunications facilities located in Bloomfield, Enfield, Wallingford, and West Hartford, Connecticut.

Dear Mayor McMahon:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for August 1, 2002, at 2:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

*SDP/RKE*

S. Derek Phelps  
Executive Director

SDP/laf

Enclosure: Notice of Intent

c: Thomas B. Hooper, Director of Planning, Town of Bloomfield  
Louie Chapman, Jr., Town Manager, Town of Bloomfield

EM-AT&T-011-049 148-155-020703

**CUDDY & FEDER & WORBY LLP**

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July 2, 2002

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**CONNECTICUT  
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VIA FEDERAL EXPRESS

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

Connecticut Siting Council

10 Franklin Square

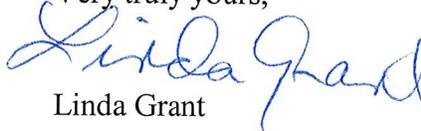
New Britain, Connecticut 06051

Re: AT&T Wireless Notice of Exempt Modification  
1021 Blue Hills Avenue, Bloomfield, Connecticut  
4 Oliver Road, Enfield, Connecticut  
1605 Durham Road, Wallingford, Connecticut  
457-471 South Quaker Lane, West Hartford, Connecticut

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

On behalf of AT&T Wireless, we respectfully enclose an original and twenty-five copies of its notice of exempt modification with respect to the above mentioned facilities together with a check in the amount of \$500.00. We would appreciate it if these matters were placed on the next available agenda for acknowledgment by the Council. Should the Council or staff have any questions regarding this matter, please do not hesitate to contact us.

Very truly yours,

  
Linda Grant

cc: Christopher B. Fisher, Esq.

**CUDDY & FEDER & WORBY LLP**

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July 1, 2002

VIA FEDERAL EXPRESS

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

Re: AT&T Wireless - TS-AT&T-011-010321  
1021 Blue Hills Avenue, Bloomfield, Connecticut  
Notice of Exempt Modification

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

On March 28, 2001 the Council ruled that AT&T's proposed shared use of the existing facility complied with Section 16-50aa of the Regulations of Connecticut State Agencies (TS-AT&T-011-010321) permitting AT&T to install up to twelve (12) panel antennas at the 108' level on the existing tower, with associated equipment cabinets located on a concrete pad within the fenced compound.

This notice of exempt modification is being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be installing an additional equipment cabinet (approximately 76"H x 76"W x 30"D) on the existing platform at the facility. There will be no other material infrastructure changes to AT&T's facility.

July 1, 2002

Page 2

The proposed addition of equipment to AT&T Wireless' facility does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the Tower's height or extend the boundaries of the existing fenced area surrounding the Tower. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has made measurements of the existing facility to confirm compliance with MPE limits and as set forth in a report prepared by Wireless Facilities, Inc., annexed hereto, 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. For all the foregoing reasons, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the Blue Hills Avenue Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,



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

cc: Mayor, Town of Bloomfield  
Darryl Hendrickson, Bechtel Telecommunications



Wireless Facilities, Inc.  
 1840 Michael Faraday Drive  
 Suite 200  
 Reston, VA 20190

June 6, 2002

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

**RE: FCC Compliance Statement for AT&T Site CT-248 (Bloomfield)**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed office analyses for the above referenced site to determine compliance with FCC mandated Maximum Permissible Exposure (MPE) limits as defined in 47 CFR § 1.1310.

The table below gives a brief summary of the site location, its configuration and associated technical parameters.

<u><i>Summary of Site Parameters</i></u>	
Site ID	CT-248
Site Name	Bloomfield
Latitude	41.820100
Longitude	-72.696500
Address of Structure	1021 Blue Hills Avenue Bloomfield, CT 06002
Type of Structure	Lattice Tower
FCC Class and Type of Service	PCS TDMA (IS-136) PCS GSM
Operating Frequency	PCS Band
Azimuths (deg.)	30, 150, 270
Antenna Radiation Center, AGL	108 ft.
Antenna Configuration	4 Antenna per Sector
Antenna Type	Panel

The mathematical equations used in evaluating the power density values are exactly as outlined in the Office of Engineering & Technology (OET) Bulletin Number 65, which contains the FCC guidelines for evaluating human exposure to radio-frequency electromagnetic fields.

In the case of a single radiating antenna, a prediction for power density in the far field of the antenna can be written as:

$$S = \frac{EIRP}{4\pi D^2} = \frac{1.64 * ERP}{4\pi D^2}$$

Where: S = Power density in W/m<sup>2</sup>  
EIRP = Effective isotropic radiated power (W)  
ERP = Effective radiated power (W)  
D = Distance in meters

Using the EPA's recommended factor of 1.6 for 100 % reflection, the worst-case power density can be obtained by incorporating this factor into the above equation. If the distance, D, is in centimeters, the ERP is in Watts, then the worst case power density in mW/cm<sup>2</sup> is given by:

$$S = \frac{(1.64)(.64)(ERP)(1000 \text{ mW / W})}{\pi D^2}$$

Where: S = Power density in mW/cm<sup>2</sup>  
ERP = Effective radiated power in Watts (# of channels x ERP/channel)  
D = Distance in centimeters

The results presented in this analysis are based on the following:

- ◆ WFI's analysis considered the transmit parameters for AT&T's existing TDMA system, for the future GSM deployment they are proposing, and of all other existing carriers.
- ◆ The formula utilized for the calculation is taken directly from the FCC OET Bulletin 65 as shown above.
- ◆ A 100% duty cycle with maximum power and the maximum number of channels for each system was assumed.
- ◆ A worst-case scenario was assumed with all of the antennas for the existing and future installations pointing directly to the base of the tower. No antenna discrimination was considered.

The following transmission parameters were used throughout this analysis.

Carrier / Agency	Operating Frequency (MHz)	Maximum ERP/Ch (Watts)	Maximum No. of Xmtrs per Sector	Maximum ERP per Sector (Watts)	Antenna Centerline (ft.)
AT&T, Current	1900	125.7	8	1005.6	108
AT&T, Future	1900	275	4	1100	108
Voicestream	1900	202.29	8	1618.32	125
Sprint	1900	568.36	11	6251.96	87
SCLP	825	100	19	1900	100
Nextel	851	100	9	900	120
XM Satellite Radio	2330	321.78	2	643.56	125
Page Net	900	Not Available	Not Available	150	110
Blue Hills Fire Dept.	452	Not Available	Not Available	75	140
Blue Hills Fire Dept.	452	Not Available	Not Available	75	110
Blue Hills Fire Dept.	33	Not Available	Not Available	250	60
Blue Hills Fire Dept.	173	Not Available	Not Available	5	40

The maximum worst-case values of the power density for this analysis are outlined below:

Carrier / Agency	Point of Worst Case Predicted Level	Predicted Value ( $\mu\text{W}/\text{cm}^2$ )	Maximum Limit for Uncontrolled Environment Set by FCC ( $\mu\text{W}/\text{cm}^2$ )	% of the Standard
<b>AT&amp;T, Current PCS TDMA</b>	Base of the tower	34.73	1000	3.473
<b>AT&amp;T, Future PCS GSM</b>	Base of the tower	38.748	1000	3.875
<b>Voicestream, PCS</b>	Base of the tower	41.064	1000	4.106
<b>Sprint, PCS</b>	Base of the tower	342.405	1000	34.241
<b>SCLP, Cellular</b>	Base of the tower	77.267	550	14.048
<b>Nextel, ESMR</b>	Base of the tower	24.884	567.3	4.386
<b>XM Satellite Radio, 2.3 GHz</b>	Base of the tower	16.330	1000	1.633
<b>Page Net, 900 MHz</b>	Base of the tower	4.983	600	0.831
<b>Blue Hills Fire Dept., 452 MHz</b>	Base of the tower	1.501	301.3	0.498
<b>Blue Hills Fire Dept., 452 MHz</b>	Base of the tower	2.492	301.3	0.827
<b>Blue Hills Fire Dept., 33 MHz</b>	Base of the tower	30.807	200	15.403
<b>Blue Hills Fire Dept., 173 MHz</b>	Base of the tower	1.554	200	0.777
<b>Total % of Standard</b>				<b>84.023</b>

The results of these analyses indicate that output power levels for the AT&T owned equipment deployed at the above referenced facility meet FCC approved exposure limits for all uncontrolled areas where general population exposure may exist. Thus, the maximum level of RF radiation contributed by AT&T in all uncontrolled areas, assuming a worst case scenario and a 100% duty cycle for all transmitters, is equal to or less than 7.358% (3.473+3.875) of the maximum permissible exposure limit mandated by the FCC and endorsed by the NCRP and ANSI/IEEE.

Based on the transmit parameters indicated on the table above, the worst-case composite level of RF radiation in all uncontrolled areas for all identified systems operating at this facility is equal to or less than 84.023% of the FCC maximum permissible exposure limit.

To the best of my knowledge, the statements made and information disclosed in this study are complete and accurate.

Sincerely,  
Wireless Facilities, Inc.

A handwritten signature in cursive script that reads "Dan Hardiman".

Dan Hardiman  
Senior Engineer II  
Fixed Network Engineering

**CUDDY & FEDER & WORBY LLP**

90 MAPLE AVENUE  
WHITE PLAINS, NEW YORK 10601-5196

**CUDDY & FEDER**  
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**CONNECTICUT  
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July 1, 2002

VIA FEDERAL EXPRESS

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

Re: AT&T Wireless - EM-CROWN-049-000228  
4 Oliver Road, Enfield, Connecticut  
Notice of Further Exempt Modification

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

Crown Atlantic Company LLC ("Crown") holds the Siting Council certificate for the existing communications tower and related facility located at 4 Oliver Road, Enfield, Connecticut (Docket No. 139). Crown, on behalf of AT&T Wireless ("AT&T"), received the Council's acknowledgement of a notice to modify the existing facility pursuant to Section 16-50j-72 of the Regulations of Connecticut State Agencies (EM-CROWN-049-000228) permitting AT&T to install antennas on the tower, with associated equipment on a platform located within the fenced compound.

This notice of further exempt modification is also being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be installing an additional equipment cabinet (approximately 76"H x 76"W x 30"D) on the existing platform at the facility. There will be no other material infrastructure changes to AT&T's facility.

CUDDY & FEDER & WORBY LLP

July 1, 2002

Page 2

The proposed addition of equipment to AT&T Wireless' facility does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the Tower's height or extend the boundaries of the existing fenced area surrounding the Tower. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has made measurements of the existing facility to confirm compliance with MPE limits and as set forth in a report prepared by Wireless Facilities, Inc., annexed hereto, 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. For all the foregoing reasons, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the Oliver Road Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,



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

cc: Mayor, Town of Enfield  
Darryl Hendrickson, Bechtel Telecommunications



Wireless Facilities, Inc.  
 1840 Michael Faraday Drive  
 Suite 200  
 Reston, VA 20190

May 28, 2002

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

**RE: FCC Compliance Statement for AT&T Site CT-154 (Enfield West-Crown Atlantic Monopole)**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed office analyses for the above referenced site to determine compliance with FCC mandated Maximum Permissible Exposure (MPE) limits as defined in 47 CFR § 1.1310.

The table below gives a brief summary of the site location, its configuration and associated technical parameters.

<i><u>Summary of Site Parameters</u></i>	
Site ID	CT-154
Site Name	Enfield West-Crown Atlantic Monopole
Latitude	41.96
Longitude	-72.59277
Address of Structure	4 Oliver Road Enfield, CT 06082
Type of Structure	Monopole
FCC Class and Type of Service	PCS TDMA (IS-136) PCS GSM
Operating Frequency	PCS Band
Azimuths (deg.)	20, 140, 260
Antenna Radiation Center, AGL	160 ft.
Antenna Configuration	1 Antenna per Sector
Antenna Type	Panel

The mathematical equations used in evaluating the power density values are exactly as outlined in the Office of Engineering & Technology (OET) Bulletin Number 65, which contains the FCC guidelines for evaluating human exposure to radio-frequency electromagnetic fields.

In the case of a single radiating antenna, a prediction for power density in the far field of the antenna can be written as:

$$S = \frac{EIRP}{4\pi D^2} = \frac{1.64 * ERP}{4\pi D^2}$$

Where: S = Power density in  $W/m^2$   
EIRP = Effective isotropic radiated power (W)  
ERP = Effective radiated power (W)  
D = Distance in meters

Using the EPA's recommended factor of 1.6 for 100 % reflection, the worst-case power density can be obtained by incorporating this factor into the above equation. If the distance, D, is in centimeters, the ERP is in Watts, then the worst case power density in  $mW/cm^2$  is given by:

$$S = \frac{(1.64)(.64)(ERP)(1000 \text{ mW / W})}{\pi D^2}$$

Where: S = Power density in  $mW/cm^2$   
ERP = Effective radiated power in *Watts* (# of channels x ERP/channel)  
D = Distance in *centimeters*

The results presented in this analysis are based on the following:

- WFI's analysis considered the transmit parameters for AT&T's existing TDMA system, for the future GSM deployment they are proposing, and for all other existing carriers.
- The formula utilized for the calculations is taken directly from the FCC OET Bulletin 65 as shown above.
- A 100% duty cycle with maximum power and the maximum number of channels for each system was assumed.
- A worst-case scenario was assumed with all antennas for the existing and future installations pointing directly at the base of the tower. No antenna discrimination was considered.

The following transmission parameters were used throughout this analysis.

Carrier / Agency	Operating Frequency (MHz)	Maximum ERP/Ch (Watts)	Maximum No. of Xmtrs per Sector	Maximum ERP per Sector (Watts)	Antenna Centerline (ft.)
AT&T, Current	1900	111.6	8	892.6	160
AT&T, Future	1900	275	4	1100	160
Bell Atlantic Mobile	825	Not Available	Not Available	1980.88	150
Sprint	1900	Not Available	Not Available	1447.31	140
Nextel	851	Not Available	Not Available	541.67	130
Omnipoint	1900	Not Available	Not Available	1062	120
XM Satellite Radio	2330	292.72	1	292.72	95
Pagenet	930	Not Available	Not Available	510.47	110

The maximum worst-case values for power density calculated in this analysis are outlined below:

Carrier / Agency	Point of Worst Case Predicted Level	Predicted Value ( $\mu\text{W}/\text{cm}^2$ )	Maximum Limit for Uncontrolled Environment Set by FCC ( $\mu\text{W}/\text{cm}^2$ )	% of the Standard
AT&T, Current PCS TDMA	Base of the tower	13.527	1000	1.353
AT&T, Future PCS GSM	Base of the tower	16.667	1000	1.667
Bell Atlantic Mobile, Cellular	Base of the tower	34.326	550	6.241
Sprint, PCS	Base of the tower	28.963	1000	2.896
Nextel, ESMR	Base of the tower	12.659	567.33	2.231
Omnipoint, PCS	Base of the tower	29.364	1000	2.936
XM Satellite Radio, 2.3 GHz	Base of the tower	13.279	1000	1.328
Pagenet, 930 MHz	Base of the tower	16.959	620	2.735
<b>Total % of Standard</b>				<b>21.388</b>

The results of these analyses indicate that output power levels for the AT&T owned equipment deployed at the above referenced facility meet FCC approved exposure limits for all uncontrolled areas where general population exposure may exist. Thus, the maximum level of RF radiation contributed by AT&T in all uncontrolled areas, assuming a worst case scenario and a 100% duty cycle for all transmitters, is equal to or less than 3.02% (1.353 +1.667) of the maximum permissible exposure limit mandated by the FCC and endorsed by the NCRP and ANSI/IEEE.

Based on the transmit parameters indicated on the table above, the worst-case composite level of RF radiation in all uncontrolled areas for all identified systems operating at this facility is equal to or less than 21.388% of the FCC maximum permissible exposure limit.

To the best of my knowledge, the statements made and information disclosed in this study are complete and accurate.

Sincerely,  
Wireless Facilities, Inc.,

A handwritten signature in cursive script that reads "Dan Hardiman". The signature is written in black ink and is positioned above the printed name.

Dan Hardiman  
Senior Engineer II  
Fixed Network Engineering

**CUDDY & FEDER & WORBY LLP**

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July 1, 2002

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**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: AT&T Wireless - TS-AT&T-148-010430  
1605 Durham Road, Wallingford, Connecticut  
Notice of Exempt Modification

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

On May 10, 2001 the Council ruled that AT&T's proposed shared use of the existing facility complied with Section 16-50aa of the Regulations of Connecticut State Agencies (TS-AT&T-148-010430) permitting AT&T to install panel antennas at the antennas at the 108' level on the existing tower, with an associated equipment shelter located within the fenced compound.

This notice of exempt modification is being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be installing additional equipment within the existing shelter at the facility. There will be no other material infrastructure changes to AT&T's facility.

The proposed addition of equipment to AT&T Wireless' facility does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the

July 1, 2002

Page 2

Tower's height or extend the boundaries of the existing fenced area surrounding the Tower. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has made measurements of the existing facility to confirm compliance with MPE limits and as set forth in a report prepared by Wireless Facilities, Inc., annexed hereto, 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. For all the foregoing reasons, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the Durham Road Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,



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

cc: Mayor, Town of Wallingford  
Darryl Hendrickson, Bechtel Telecommunications



Wireless Facilities, Inc.  
1840 Michael Faraday Drive  
Suite 200  
Reston, VA 20190

June 5, 2002

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

**RE: FCC Compliance Statement for AT&T Site CT-274 (Wallingford Rt. 68 Quarries)**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities Inc. has performed office analyses for the above referenced site to determine compliance with FCC mandated Maximum Permissible Exposure (MPE) limits as defined in 47 CFR § 1.1310.

The table below gives a brief summary of the site location, its configuration and associated technical parameters.

<u><i>Summary of Site Parameters</i></u>	
Site ID	CT-274
Site Name	Wallingford Rt. 68 Quarries
Latitude	41.4695
Longitude	-72.7422
Address of Structure	1605 Durham Road Wallingford, CT 06492
Type of Structure	Monopole
FCC Class and Type of Service	PCS TDMA (IS-136) PCS GSM
Operating Frequency	PCS Band
Azimuths (deg.)	30, 150, 270
Antenna Radiation Center, AGL	108 ft.
Antenna Configuration	3 Antennas per Sector
Antenna Type	Panel

The mathematical equations used in evaluating the power density values are exactly as outlined in the Office of Engineering & Technology (OET) Bulletin Number 65, which contains the FCC guidelines for evaluating human exposure to radio-frequency electromagnetic fields.

In the case of a single radiating antenna, a prediction for power density in the far field of the antenna can be written as:

$$S = \frac{EIRP}{4\pi D^2} = \frac{1.64 * ERP}{4\pi D^2}$$

Where: S = Power density in W/m<sup>2</sup>  
 EIRP = Effective isotropic radiated power (W)  
 ERP = Effective radiated power (W)  
 D = Distance in meters

Using the EPA's recommended factor of 1.6 for 100 % reflection, the worst-case power density can be obtained by incorporating this factor into the above equation. If the distance, D, is in centimeters, the ERP is in Watts, then the worst case power density in mW/cm<sup>2</sup> is given by:

$$S = \frac{(1.64)(.64)(ERP)(1000 \text{ mW / W})}{\pi D^2}$$

Where: S = Power density in mW/cm<sup>2</sup>  
 ERP = Effective radiated power in Watts (# of channels x ERP/channel)  
 D = Distance in centimeters

The results presented in this analysis are based on the following:

- WFI's analysis considered the transmit parameters for AT&T's existing TDMA system, for the future GSM deployment they are proposing, and for all other existing carriers.
- The formula utilized for the calculations is taken directly from the FCC OET Bulletin 65 as shown above.
- A 100% duty cycle with maximum power and the maximum number of channels for each system was assumed.
- A worst-case scenario was assumed with all antennas for the existing and future installations pointing directly at the base of the tower. No antenna discrimination was considered.

The following transmission parameters were used throughout this analysis.

Description	AT&T PCS		Voicestream PCS	Verizon Cellular	Sprint PCS	Nextel ESMR	SNET Cellular
	Current	Future					
Max. ERP/Ch, Watts	125.7	275	125.89	100	125.89	100	100
Max. No. of Ch/Sector	8	4	8	19	11	9	19
Max. ERP/Sector, Watts	1005.6	1100	1007.14	1900	1384.82	900	1900
Antenna Centerline, ft.	108	108	154	135	162	145	118

The maximum worst-case values for power density calculated in this analysis are outlined below:

Provider/Carrier		Point of Worst Case Predicted Level	Predicted Value ( $\mu\text{W}/\text{cm}^2$ )	MPE Limit for Uncontrolled Environment Set by FCC ( $\mu\text{W}/\text{cm}^2$ )	% of the Standard
AT&T	Current PCS TDMA	Base of the tower	34.73	1000	3.47
	Future PCS GSM	Base of the tower	38.00	1000	3.80
Voicestream, PCS		Base of the tower	16.52	1000	1.65
Verizon, Cellular		Base of the tower	41.03	550	7.46
Sprint, PCS		Base of the tower	20.45	1000	2.04
Nextel, ESMR		Base of the tower	16.74	567.3	2.95
SNET, Cellular		Base of the tower	54.43	550	9.90
<b>Total % of Standard</b>					<b>31.27</b>

The results of these analyses indicate that output power levels for the AT&T owned equipment deployed at the above referenced facility meet FCC approved exposure limits for all uncontrolled areas where general population exposure may exist. Thus, the maximum level of RF radiation contributed by AT&T in all uncontrolled areas, assuming a worst case scenario and a 100% duty cycle for all transmitters, is equal to or less than 7.27% (3.47 + 3.80) of the maximum permissible exposure limit mandated by the FCC and endorsed by the NCRP and ANSI/IEEE.

Based on the transmit parameters indicated on the table above, the worst-case composite level of RF radiation in all uncontrolled areas for all identified systems operating at this facility is equal to or less than 31.27 % of the FCC maximum permissible exposure limit.

To the best of my knowledge, the statements made and information disclosed in this study are complete and accurate.

Sincerely,  
Wireless Facilities, Inc.



Dan Hardiman  
Senior Engineer II  
Fixed Network Engineering

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July 1, 2002

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**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: AT&T Wireless - TS-VER-155-010417  
457-471 South Quaker Lane, West Hartford, Connecticut  
Notice of Exempt Modification

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

On April 26, 2001 the Council ruled that AT&T's proposed shared use of the existing VoiceStream facility complied with Section 16-50aa of the Regulations of Connecticut State Agencies (TS-VER-155-010417) permitting AT&T to install panel antennas at the 107' level on the existing tower, with an associated equipment shelter located within the fenced compound.

This notice of exempt modification is being provided pursuant to Section 16-50j-72 of the Council's regulations. AT&T will be installing additional equipment within the existing shelter at the facility. There will be no other material infrastructure changes to AT&T's facility.

The proposed addition of equipment to AT&T Wireless' facility does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i(d). The proposed addition to AT&T Wireless' facility will not result in an increase in the Tower's height or extend the boundaries of the existing fenced area surrounding the Tower. Further, there will be no increase in noise levels by six (6) decibels or more at the Tower site's boundary. AT&T has made measurements of the existing facility to confirm compliance with

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July 1, 2002

Page 2

MPE limits and as set forth in a report prepared by Wireless Facilities, Inc., annexed hereto, 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. For all the foregoing reasons, addition of AT&T Wireless' equipment to its existing facility constitutes an exempt modification which will not have a substantially adverse environmental effect.

AT&T Wireless respectfully submits that the proposed addition of equipment to the South Quaker Lane Facility meets the Council's exemption criteria and requests an acknowledgment of same.

Respectfully Submitted,



Christopher B. Fisher, Esq.

On behalf of AT&T Wireless

cc: Mayor, Town of West Hartford  
Darryl Hendrickson, Bechtel Telecommunications  
Brendan Sharkey, VoiceStream



Wireless Facilities, Inc.  
 1840 Michael Faraday Drive  
 Suite 200  
 Reston, VA 20190

June 5, 2002

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

**RE: FCC Compliance Statement for AT&T Site CT-258 (West Hartford)**

Dear Mr. Gelston:

On behalf of AT&T Wireless, Wireless Facilities, Inc. has performed office analyses for the above referenced site to determine compliance with FCC mandated Maximum Permissible Exposure (MPE) limits as defined in 47 CFR § 1.1310.

The table below gives a brief summary of the site location, its configuration and associated technical parameters.

<i><b>Summary of Site Parameters</b></i>	
<b>Site ID</b>	CT-258
<b>Site Name</b>	West Hartford
<b>Latitude</b>	41.748800
<b>Longitude</b>	-72.731300
<b>Address of Structure</b>	471 South Quaker Lane West Hartford, CT 06110
<b>Type of Structure</b>	Monopole
<b>FCC Class and Type of Service</b>	PCS TDMA (IS-136) PCS GSM
<b>Operating Frequency</b>	PCS Band
<b>Azimuths (deg.)</b>	80, 210, 330
<b>Antenna Radiation Center, AGL</b>	107 ft.
<b>Antenna Configuration</b>	4 Antennas per Sector
<b>Antenna Type</b>	Panel

The mathematical equations used in evaluating the power density values are exactly as outlined in the Office of Engineering & Technology (OET) Bulletin Number 65, which contains the FCC guidelines for evaluating human exposure to radio-frequency electromagnetic fields.

In the case of a single radiating antenna, a prediction for power density in the far field of the antenna can be written as:

$$S = \frac{EIRP}{4\pi D^2} = \frac{1.64 * ERP}{4\pi D^2}$$

Where: S = Power density in  $W/m^2$   
 EIRP = Effective isotropic radiated power (W)  
 ERP = Effective radiated power (W)  
 D = Distance in meters

Using the EPA's recommended factor of 1.6 for 100 % reflection, the worst-case power density can be obtained by incorporating this factor into the above equation. If the distance, D, is in centimeters, the ERP is in Watts, then the worst case power density in  $mW/cm^2$  is given by:

$$S = \frac{(1.64)(.64)(ERP)(1000 \text{ mW/W})}{\pi D^2}$$

Where: S = Power density in  $mW/cm^2$   
 ERP = Effective radiated power in *Watts* (# of channels x ERP/channel)  
 D = Distance in *centimeters*

The results presented in this analysis are based on the following:

- WFI's analysis considered the transmit parameters for AT&T's existing TDMA system, for the future GSM deployment they are proposing, and for all other existing carriers.
- The formula utilized for the calculations is taken directly from the FCC OET Bulletin 65 as shown above.
- A 100% duty cycle with maximum power and the maximum number of channels for each system was assumed.
- A worst-case scenario was assumed with all antennas for the existing and future installations pointing directly at the base of the tower. No antenna discrimination was considered.

The following transmission parameters were used throughout this analysis.

Description	AT&T PCS		Voicestream PCS	Verizon Cellular
	Current	Future		
Max. ERP/Ch, Watts	126.6	275	205.015	100
Max. No. of Ch/Sector	8	4	8	19
Max. ERP/Sector, Watts	1012.7	1100	1640.12	1900
Antenna Centerline, ft.	107	107	120	96

The maximum worst-case values for power density calculated in this analysis are outlined below:

Provider/Carrier		Point of Worst Case Predicted Level	Predicted Value ( $\mu\text{W}/\text{cm}^2$ )	Maximum Limit for Uncontrolled Environment Set by FCC ( $\mu\text{W}/\text{cm}^2$ )	% of the Standard
AT&T	Current PCS TDMA	Base of the tower	35.68	1000	3.57
	Future PCS GSM	Base of the tower	38.75	1000	3.88
Voicestream, PCS		Base of the tower	45.35	1000	4.54
Verizon, Cellular		Base of the tower	84.29	550	15.32
<b>Total % of Standard</b>					<b>27.31</b>

The results of these analyses indicate that output power levels for the AT&T owned equipment deployed at the above referenced facility meet FCC approved exposure limits for all uncontrolled areas where general population exposure may exist. Thus, the maximum level of RF radiation contributed by AT&T in all uncontrolled areas, assuming a worst case scenario and a 100% duty cycle for all the transmitters, is equal to or less than 7.45% (3.57 + 3.88) of the maximum permissible exposure limit mandated by the FCC and endorsed by the NCRP and ANSI/IEEE.

Based on the transmit parameters indicated on the table above, the worst-case composite level of RF radiation in all uncontrolled areas for all identified systems operating at this facility is equal to or less than 27.31% of the FCC maximum permissible exposure limit.

To the best of my knowledge, the statements made and information disclosed in this study are complete and accurate.

Sincerely,  
Wireless Facilities, Inc.



Dan Hardiman  
Senior Engineer II  
Fixed Network Engineering