

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@po.state.ct.us](mailto:siting.council@po.state.ct.us)

Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

August 21, 2002

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

RE: **EM-AT&T-126-020701** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 14 Oxford Drive, Shelton, Connecticut.

Dear Attorney Fisher:

At a public meeting held on August 15, 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 with the condition that five existing AT&T parabolic antennas are removed and the new panel antennas and associated cables are installed according to the recommendations contained in a letter from James E. Boltz, P.E., dated June 19, 2002.

The proposed modifications are to be implemented as specified here and in your notice received in our office on July 1, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

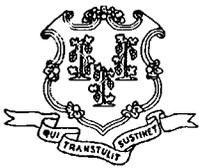
Thank you for your attention and cooperation.

Very truly yours,

  
Mortimer A. Gelston  
Chairman

MAG/laf

c: Honorable Mark A. Lauretti, Mayor, City of Shelton  
Richard Schultz, Planning Administrator, City of Shelton  
Jeremy McDavitt, American Tower Corporation  
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC  
Thomas F. Flynn III, Nextel Communications  
Brian Benito, Bureau of Police Support  
Sam D'Agostino, PageNet, Inc.



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Web Site: [www.state.ct.us/csc/index.htm](http://www.state.ct.us/csc/index.htm)

August 19, 2002

The Honorable Mark A. Lauretti  
City Hall  
54 Hill Street  
Shelton, CT 06484

Dear Mayor Lauretti:

Derek Phelps, our Executive Director, has passed along your request for more information about the notices of exempt modifications recently received by the Siting Council for telecommunications facilities in Shelton. In response to your request, I'm sending along copies of the filing materials we received.

If there is any additional information that would be helpful to the City, please don't hesitate to contact Mr. Phelps or myself.

Sincerely,

David Martin  
Siting Analyst I

C: S. Derek Phelps

CUDDY & FEDER & WORBY LLP

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WHITE PLAINS, NEW YORK 10601-5196

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ROBERT L. LORR

August 13, 2002

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CONNECTICUT  
SITING COUNCIL

Via First-class  
Mr. S. Derek Phelps, Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: AT&T Wireless PCS, LLC  
EM-AT&T-126-020701  
114 Oxford Drive, Shelton, Connecticut

Dear Mr. Phelps:

On June 28, 2002, AT&T Wireless PCS, LLC d/b/a AT&T Wireless ("AT&T"), notified the Connecticut Siting Council of its intent to modify the existing telecommunications facility located at 14 Oxford Drive, Shelton, Connecticut (the "Oxford Drive Facility"). This letter and its enclosure are submitted in response to Mayor Mark A. Lauretti's letter to you dated July 30, 2002. Apparently, the Mayor is concerned about emissions from the AT&T facility and has proposed a "condition of approval" with respect to AT&T's notice of an exempt modification.

Please be advised that in response to the Council's tabling of this matter at its August 1<sup>st</sup> meeting, we called the Mayor's office to discuss AT&T's notice and proposed wireless facility at the existing Oxford Drive Facility. We have not, however, had an opportunity to speak with the Mayor directly about the facility or his letter. In anticipation of the Council's consideration of AT&T's notice this Thursday, we are writing to you with respect to emissions from the facility and the Mayor's proposed condition related thereto.

We respectfully submit that the materials and documentation submitted in support of AT&T Wireless' exempt modification demonstrate that the addition of AT&T Wireless' facility to the existing Oxford Road Facility will not have a substantially adverse environmental effect as

CUDDY & FEDER & WORBY LLP

August 13, 2002  
Page 2

a matter of law. Indeed, a report detailing the Oxford Drive Facility's compliance with FCC MPE requirements was submitted as part of AT&T's notice and as required by Council regulations. That report is all that is required for the Council's acknowledgment of the exempt modification. Moreover, that same information was included in the Mayor's copy of AT&T's notice (provided by this office simultaneously with AT&T's Council filing) and should be used by the City of Shelton for distribution to any interested citizens.

Additionally and as you may be aware, state and local governments may not regulate the placement, construction or modification of personal wireless facilities on the basis of the environmental effects of radio frequency emissions. Indeed, the United States Court of Appeals for the Second Circuit in Cellular Phone Taskforce v. Federal Communications Commission (205 F.3d 82 (2000)) upheld the following actions and authority of the FCC: (1) the promulgation of guidelines for health and safety standards associated with radio frequency exposure, (2) the establishment of certain procedures for meeting requirements under the National Environmental Protection Act for FCC licensees and (3) the FCC's exclusive authority to regulate radio facility operations. In short, the Court expressly held in its decision that state and local governments may not regulate emissions from personal wireless service facilities provided they conform to FCC maximum permissible exposure standards. For your convenience a copy of the decision in Cellular Phone Taskforce v. Federal Communications Commission (205 F.3d 82) is attached hereto.

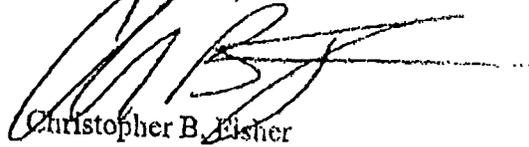
Given the foregoing and the ministerial nature of the Council's regulatory acknowledgment process in this matter, we respectfully submit that the Mayor's proposed condition that a consultant be hired to conduct testing and monitoring of the Oxford Road Facility is beyond the Council's jurisdiction to impose. Indeed, even if such a condition were within the Council's jurisdiction, it would be more appropriately directed to the Facility owner, not AT&T. As such, we respectfully submit that should the Mayor and his constituents have concerns regarding emissions from facilities in the area that can not be addressed by AT&T, the City can contact the FCC's Wireless Bureau to discuss the FCC's MPE standards and the enforcement mechanisms at the FCC's disposal.

CUDDY & FEDER & WORBY LLP

August 13, 2002  
Page 3

Thank you for your consideration of the foregoing.

Very truly yours,



Christopher B. Eisher

Enclosures

cc: Mark A. Laretti, Mayor of the City of Shelton  
Raymond Baldwin, First Selectman, Trumbull, Connecticut  
Alton Lenoco  
Tower Committee, City of Shelton

54 Hill Street  
Shelton, CT 06484  
Phone: 203-924-1555, Ext. 11  
Fax: 203-924-0185

**CITY OF SHELTON**

# Fax

**To:** S. Derek Phelps – CT Siting Council      **From:** Cyndee Burke

---

**Fax:** 860-827-2950      **Date:** July 31, 2002

---

**Phone:** 860-827-2935      **Pages:** 2

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**Re:**      **CC:**

---

**Urgent**     **For Review**     **Please Comment**     **Please Reply**     **Please Recycle**

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**•Comments:**

**Mr. Phelps:**

Mayor Lauretti asked me to fax to you the following letter from Mr. Michael Davis, a member of the City of Shelton's Tower Committee.

Cyndee

Nestlé USA

MFARITY:EW  
385 MAIN AVE. 5TH FLOOR  
NORWALK, CT 06851  
TEL (203) 729-7222  
FAX (203) 956-1445



MICHAEL J. DAVIS  
DIRECTOR OF TAXES  
NESTLÉ HOLDINGS INC

July 30, 2002

Mayor Mark Lauretti  
City of Shelton  
54 Hill Street  
Shelton, CT 06484

Dear Mayor Lauretti:

As you are aware, the Cellular Tower Committee was recently created to review access pertaining to existing cellular towers and to analyze the ramifications of erecting new cellular devices.

Last week, you forwarded to our committee the State Siting Committee's request for additional access on the Oxford and River Road cellular towers. As there is insufficient time to review these two properties prior to the Siting Committee's meeting on August 1<sup>st</sup>, it is our recommendation that the Council request an extension from them to provide us ample time to properly review these recommendations.

The Cellular Tower Committee is scheduled to meet at 6:00 p.m. today at City Hall, and we will commence the review process at that time. In addition, we will be discussing other issues, including development of a blueprint for a comprehensive review and recommendation process for future cell tower siting requests.

Sincerely,

Michael J. Davis

MJD:vlp

54 Hill Street  
Shelton, CT 06484  
Phone: 203-924-1555, Ext. 11  
Fax: 203-924-0185

**CITY OF SHELTON**

**RECEIVED**  
JUL 30 2002  
CONNECTICUT  
SITING COUNCIL

**Fax**

**To:** Mr. S. Derek Phelps – CT Siting Council **From:** Cyndee Burke

**Fax:** 860-827-2950 **Date:** July 30, 2002

**Phone:** 860-827-2935 **Pages:** 3 including cover

**Re:** **CC:**

**Urgent**     **For Review**     **Please Comment**     **Please Reply**     **Please Recycle**

**•Comments:**

**Mr. Phelps:**

Here is a letter that is being mailed certified to you today from Mayor Lauretti.

Cyndee

THE CITY OF  
**SHELTON**  
CONNECTICUT



Office of the Mayor

Mark A. Lauretti  
Mayor

July 30, 2002

**RECEIVED**

JUL 30 2002

**CERTIFIED MAIL**

Mr. S. Derek Phelps, Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

**CONNECTICUT  
SITING COUNCIL**

**Re: Siting Council Application: EM-AT&T-126-020701**

Dear Mr. Phelps:

Thank you for providing the City of Shelton with a copy of AT&T Wireless PC's application to modify an existing telecommunications facility. I have reviewed the above referenced application requesting tower sharing at the existing telecommunications tower located at 14 Oxford Drive. I understand that the Siting Council will be hearing this matter at its August 1<sup>st</sup> meeting and would like to take this opportunity to advise you of my concerns, objections and recommendations.

As reported to you on the Marcus Communications, LLC and WEDW-TV applications, local residents have been very vocal on how these facilities are processed at both the local and state levels. Municipal leaders and local planning board officials are very displeased over the recent court decisions giving exclusive control of towers over to the Siting Council.

Pertaining to the pending application of AT&T Wireless PCS, I have had an opportunity to discuss this matter with area residents and municipal officials from both Trumbull and Shelton. Just like the earlier applications, it is quite clear to me that the proposal will have a negative impact on both communities. I am aware that the existing tower currently has nine (9) co-existing antennas and an additional two (2) antennas which are scheduled for removal. While this particular tower does not have 80 antennas co-locating on it like its sister tower in Trumbull, they collectively could pose an adverse environmental effect on the residents of the City of Shelton and the Town of Trumbull. Again, both of these towers have more than served their original purpose.

Mr. S. Derek Phelps  
July 30, 2002  
Page 2

Based on the above and my own knowledge of the tower and its potential impact to the neighborhood, I oppose this new installation to the tower located at 14 Oxford Drive.

First and foremost, we should know the environmental impact, as well as the health risk associated with the entire tower complex. I strongly recommend that the Council require the applicant to hire a qualified, independent consultant to conduct testing and monitoring of the emissions emitted from this location for a minimum period of five years. All results must be reported to the City of Shelton and the Town of Trumbull. Appropriate departments will review the data to ensure full compliance with FCC standards and distribute all information to interested citizens.

Thank you for allowing me to share my thoughts and comments on this matter.

Sincerely,



Mark A. Laretti  
Mayor

cc: First Selectman Raymond Baldwin, Trumbull, CT  
Christopher Fisher, Esq.  
Tower Committee  
Alton Lenoce, 59 Spinning Wheel Road, Trumbull, CT

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90 MAPLE AVENUE  
WHITE PLAINS, NEW YORK 10601-5196

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NEW YORK, NEW YORK 10110  
(212) 944-2841  
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JOSHUA E. KIMERLING (also CT)  
DANIEL F. LEARY (also CT)  
BARRY E. LONG

August 13, 2002

**Via Facsimile**

Mr. S. Derek Phelps, Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: AT&T Wireless PCS, LLC  
EM-AT&T-126-020701  
114 Oxford Drive, Shelton, Connecticut

**RECEIVED**  
AUG 15 2002  
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SITING COUNCIL

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August 13, 2002

Page 2

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Given the foregoing and the ministerial nature of the Council's regulatory acknowledgment process in this matter, we respectfully submit that the Mayor's proposed condition that a consultant be hired to conduct testing and monitoring of the Oxford Road Facility is beyond the Council's jurisdiction to impose. Indeed, even if such a condition were within the Council's jurisdiction, it would be more appropriately directed to the Facility owner, not AT&T. As such, we respectfully submit that should the Mayor and his constituents have concerns regarding emissions from facilities in the area that can not be addressed by AT&T, the City can contact the FCC's Wireless Bureau to discuss the FCC's MPE standards and the enforcement mechanisms at the FCC's disposal.

CUDDY & FEDER & WORBY LLP

August 13, 2002

Page 3

Thank you for your consideration of the foregoing.

Very truly yours,



Christopher B. Fisher

Enclosures

cc: Mark A. Laretti, Mayor of the City of Shelton  
Raymond Baldwin, First Selectman, Trumbull, Connecticut  
Alton Lenoce  
Tower Committee, City of Shelton

205 F.3d 82  
 30 Env'tl. L. Rep. 20,402, 19 Communications Reg. (P&F) 578  
 (Cite as: 205 F.3d 82)

Page 1

▷

United States Court of Appeals,  
 Second Circuit.

CELLULAR PHONE TASKFORCE, et al.,  
 Petitioners,  
 Cellular Telecommunications Industry Association,  
 National Association of  
 Broadcasters, Association for Maximum Service  
 Television, Inc., Electromagnetic  
 Energy Association, and AT&T Wireless Services,  
 Inc., Intervenor,  
 v.  
 FEDERAL COMMUNICATIONS COMMISSION  
 and United States of America, Respondents.

Nos. 97-4328(L), 98-4003(Con), 98-4005(Con),  
 98-4025(Con), 98-4122(Con).

Argued April 5, 1999.  
 Decided Feb. 18, 2000.

Associations challenged two final opinions and orders in which Federal Communications Commission (FCC) promulgated guidelines for health and safety standards of radio frequency (RF) radiation, established streamlined procedures for meeting requirements under National Environmental Policy Act (NEPA) for FCC licensees that comply with guidelines, and retained exclusive ability to regulate relevant radio facility operations. The Court of Appeals, John M. Walker, Jr., Circuit Judge, held that: (1) FCC acted reasonably in relying on health and safety standards for radio frequency radiation issued by American National Standards Institute (ANSI) and National Council on Radiation Protection and Measurements (NCRP) in setting its own guidelines; (2) it was within FCC's discretion not to require operators to submit type of information provided in environmental assessment; (3) maximum permitted exposure (MPE) levels selected by FCC were not arbitrary and capricious; (4) FCC's exemption of certain licensees from filing of routine environmental assessments was not arbitrary or capricious; (5) FCC was not required, under NEPA, to prepare environmental impact statement; (6) FCC reasonably interpreted preemption provision of Telecommunications Act of 1996; and (7) preemption provision of Telecommunications Act of 1996 did not violate Tenth Amendment.

Orders affirmed.

## West Headnotes

**[1] Environmental Law** ⚡665  
 149Ek665 Most Cited Cases  
 (Formerly 199k25.5(7) Health and Environment)

Novelty of claims that Federal Communications Commission's (FCC) guidelines for health and safety standards of radio frequency radiation violated Americans with Disabilities Act (ADA) and Rehabilitation Act made initial determination by FCC necessary and appropriate, precluding Court of Appeals' review of claims, which were not subject of final FCC order. 28 U.S.C.A. § 2342(a); Rehabilitation Act of 1973, § 2 et seq., 29 U.S.C.A. § 701 et seq.; Americans with Disabilities Act of 1990, § 2 et seq., 42 U.S.C.A. § 12101 et seq.; Communications Act of 1934, § 402(a), 47 U.S.C.A. § 402(a).

**[2] Administrative Law and Procedure** ⚡704  
 15Ak704 Most Cited Cases

Decisions of agency staff are not directly appealable final orders.

**[3] Telecommunications** ⚡11.1  
 372k11.1 Most Cited Cases

Court of Appeals' review is limited to final orders of the Federal Communications Commission (FCC). 28 U.S.C.A. § 2342(a); Communications Act of 1934, § 402(a), 47 U.S.C.A. § 402(a).

**[4] Telecommunications** ⚡14  
 372k14 Most Cited Cases

Court of Appeals generally does not permit petitioners challenging decision of Federal Communications Commission (FCC) to raise an issue for the first time on appeal without giving FCC an opportunity to address it, particularly where the issue is a novel one.

**[5] Administrative Law and Procedure** ⚡791  
 15Ak791 Most Cited Cases

An agency's factual findings must be supported by "substantial evidence," which has been construed to

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30 Envtl. L. Rep. 20,402, 19 Communications Reg. (P&F) 578  
(Cite as: 205 F.3d 82)

Page 2

mean less than a preponderance, but more than a scintilla; it means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.

**[6] Administrative Law and Procedure** ⚡791  
15Ak791 Most Cited Cases

When reviewing agency decision, court must take into account contradictory evidence in the record, but the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence.

**[7] Administrative Law and Procedure** ⚡792  
15Ak792 Most Cited Cases

When an agency makes a decision in the face of disputed technical facts, court must be reluctant to reverse results supported by weight of considered and carefully articulated expert opinion.

**[8] Administrative Law and Procedure** ⚡763  
15Ak763 Most Cited Cases

In evaluating agency reasoning, court must be satisfied that the agency examined the relevant data and established a rational connection between the facts found and the choice made.

**[9] Administrative Law and Procedure** ⚡763  
15Ak763 Most Cited Cases

Agency action should only be set aside when it relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the products of expertise.

**[10] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

Federal Communications Commission (FCC) acted reasonably in relying on health and safety standards for radio frequency radiation issued by American National Standards Institute (ANSI) and National Council on Radiation Protection and Measurements

(NCRP) in setting its own guidelines for FCC-regulated transmitters and facilities, despite contention that guidelines failed to account for non-thermal effect of such radiation, given that both ANSI and NCRP considered non-thermal effects, that evidence regarding existence of non-thermal effects was controversial and room existed for disagreement among experts in the field, and that FCC satisfied itself that mechanism existed for accommodating changes in scientific knowledge.

**[11] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

It was not arbitrary and capricious for Federal Communications Commission (FCC), in reconsidering its guidelines for health and safety standards of radio frequency radiation, to conclude that it did not need to supply new evidence regarding non-thermal effects of such radiation to other federal agencies with expertise in that area or to consult further with those agencies; FCC could reasonably expect those agencies to keep abreast of scientific developments in carrying out their missions.

**[12] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

Federal Communications Commission (FCC) did not act arbitrarily and capriciously when, in promulgating guidelines for health and safety standards of radio frequency radiation, it declined to adopt recommendations of National Council on Radiation Protection and Measurements (NCRP) for stricter standards in situations of exposure to deep modulated extremely low frequency (ELF) carrying waves; scientific data were inconclusive on dangers presented by such radiation, and thus did not mandate determination different than that reached by FCC.

**[13] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

In promulgating guidelines for health and safety standards of radio frequency radiation, Federal Communications Commission (FCC) was not required to adopt principles against uncertainties as

205 F.3d 82  
30 Envtl. L. Rep. 20,402, 19 Communications Reg. (P&F) 578  
(Cite as: 205 F.3d 82)

Page 3

adopted by Nuclear Regulatory Commission (NRC) to limit radiation to levels as low as was reasonably achievable; adoption of such approach raised policy question and FCC reasonably concluded that approach was inconsistent with its mandate to balance health and safety concerns with desire to allow industry to provide telecommunications services in most efficient and practical manner possible. 10 C.F.R. §§ 20.1003, 20.1101(b, d), 835.2(a)(2).

**[14] Administrative Law and Procedure** ⚡381  
15Ak381 Most Cited Cases

As a policy matter, an agency confronted with scientific uncertainty has some leeway to resolve that uncertainty by means of more regulation or less.

**[15] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

Federal Communications Commission (FCC) did not ignore or fail to follow expert recommendations when it promulgated guidelines for health and safety standards of radio frequency radiation, but rather provided reasoned response to each, and thus did not act arbitrarily and capriciously in violation of Administrative Procedure Act (APA). 5 U.S.C.A. § 551 et seq.

**[16] Administrative Law and Procedure** ⚡381  
15Ak381 Most Cited Cases

An agency is permitted to consider costs and benefits as well as enforcement issues when establishing rules and regulations.

**[17] Administrative Law and Procedure** ⚡381  
15Ak381 Most Cited Cases

Agencies need not deal in one fell swoop with the entire breadth of a novel development; instead, reform may take place one step at a time, addressing itself to the phase of the problem which seems most acute to the regulatory mind.

**[18] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

It was within discretion of Federal Communications

Commission (FCC), in promulgating guidelines for health and safety standards of radio frequency radiation, not to require operators to submit type of information that would be provided in environmental assessment, but rather FCC could conclude that its existing rules concerning licensee certification had worked in past and should be continued.

**[19] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

Maximum permitted exposure (MPE) levels selected by Federal Communications Commission (FCC) in promulgating guidelines for health and safety standards for radio frequency radiation were not arbitrary and capricious, notwithstanding contentions that exposure levels to hands and wrists were increased without explanation, that level set for general public did not consider individual vulnerabilities, and that key assumption pertaining to average exposure time used in setting occupational MPE levels was fatally flawed as a result of expert disagreement.

**[20] Environmental Law** ⚡489  
149Ek489 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

Federal Communications Commission (FCC) did not act arbitrarily and capriciously when, in promulgating guidelines for health and safety standards of radio frequency radiation, it exempted tower-mounted antennae placed more than 10 meters above ground and rooftop antennae transmitting at less than 1000 watts from requirement of filing routine environmental assessments; FCC considered effects of multiple antennas mounted on single tower and ensured that combined exposure would be considered by license applicants, licensees remained responsible for compliance with maximum permissible exposure (MPE) levels, and interested person could petition FCC for review of site believed to violate MPE levels. 47 C.F.R. § 1.1307(c).

**[21] Environmental Law** ⚡595(1)  
149Ek595(1) Most Cited Cases  
(Formerly 199k25.10(3) Health and Environment)

Federal Communications Commission (FCC) was

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not required, under NEPA, to prepare environmental impact statement (EIS) when it promulgated guidelines for health and safety standards of radio frequency radiation; FCC consulted with federal agencies with expertise in areas of environmental impact and considered environmental impact of its rulemaking, FCC's orders functionally satisfied requirements for environmental assessment (EA) and finding of no significant impact (FONSI), and FCC's relevant findings were not arbitrary or capricious. National Environmental Policy Act of 1969, § 102, 42 U.S.C.A. § 4332.

**[22] Environmental Law** ↪592  
149Ek592 Most Cited Cases  
(Formerly 199k25.10(1) Health and Environment)

Where an agency is engaged primarily in an examination of environmental questions, where substantive and procedural standards ensure full and adequate consideration of environmental issues, formal compliance with NEPA is not necessary; functional compliance is sufficient. National Environmental Policy Act of 1969, § 2 et seq., 42 U.S.C.A. § 4321 et seq.

**[23] Environmental Law** ↪571  
149Ek571 Most Cited Cases  
(Formerly 199k25.10(5) Health and Environment)

Federal Communications Commission (FCC) did not violate NEPA when it did not consider radio frequency (RF) interference with medical devices in promulgating guidelines for health and safety standards of RF radiation, even assuming that RF radiation could interfere with some medical devices such that human health would be proximately affected; only when individual RF facilities were constructed and operated would circumstances arise with sufficient specificity to permit meaningful evaluation. National Environmental Policy Act of 1969, § 2 et seq., 42 U.S.C.A. § 4321 et seq.

**[24] Environmental Law** ↪588  
149Ek588 Most Cited Cases  
(Formerly 199k25.10(5) Health and Environment)

**[24] Environmental Law** ↪600  
149Ek600 Most Cited Cases  
(Formerly 199k25.10(7) Health and Environment)

NEPA only requires agencies to consider environmental effects, i.e., alterations to the environment that have a proximate effect on human health. National Environmental Policy Act of 1969, § 2 et seq., 42 U.S.C.A. § 4321 et seq.

**[25] Environmental Law** ↪481  
149Ek481 Most Cited Cases  
(Formerly 199k25.5(7) Health and Environment)

**[25] States** ↪18.31  
360k18.31 Most Cited Cases

Federal Communications Commission (FCC) reasonably interpreted provision of Telecommunications Act of 1996 that preempted state and local governments from regulating "placement, construction, and modification" of personal wireless service facilities based on environmental effects of radio frequency (RF) emissions as preempting state and local governments from regulating operation of such facilities, given that provision circumscribing FCC's preemption powers did not preserve authority of state and local governments to regulate facilities' "operation"; therefore, FCC's interpretation warranted deference. Communications Act of 1934, § 332(c)(7)(A), (c)(7)(B)(iv), 47 U.S.C.A. § 332(c)(7)(A), (c)(7)(B)(iv).

**[26] Statutes** ↪219(2)  
361k219(2) Most Cited Cases

Court must defer to an agency's reasonable interpretation of statute that agency is charged with administering where the statute is silent or ambiguous with respect to a particular issue; if, however, the statutory language is clear, both the agency and the court must defer to Congress' intent.

**[27] Telecommunications** ↪6  
372k6 Most Cited Cases

Federal Communications Commission (FCC) has broad preemption authority under the Telecommunications Act of 1996. Communications Act of 1934, § 1 et seq., 47 U.S.C.A. § 151 et seq.

**[28] States** ↪4.16(3)  
360k4.16(3) Most Cited Cases  
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**[28] Telecommunications ¶461.5**  
 372k461.5 Most Cited Cases

Provision of Telecommunications Act of 1996 that preempted state and local governments from regulating, based on radio frequency emissions, placement, construction, and modification of personal wireless service facilities did not violate Tenth Amendment, facially or as applied; statute did not commandeer local authorities to administer federal program in violation with Amendment's federalism principles, and Congress had power under Commerce Clause to preempt state and local governments from regulating operation and construction of national telecommunications infrastructure. U.S.C.A. Const. Art. 1, § 8, cl. 3; Amend. 10; Communications Act of 1934, § 332(c)(7)(B)(iv), 47 U.S.C.A. § 332(c)(7)(B)(iv).  
 \*86 James R. Hobson, Esq., Donelan, Cleary, Wood & Maser, P.C., Washington, DC, (Mark F. Wilson, Esq., The Communications Workers of America, Washington, DC, on the brief), for Ad-Hoc Association, The Communications Workers of America, AFL-CIO, CLC and CWA Local 7810, Petitioners.

John E. Schulz, Esq., San Rafael, CA, for Cellular Phone Taskforce, Petitioners, Joel Marcus, Counsel, Federal Communications Commission, Washington, DC, (Joel I. Klein, Assistant Attorney General, Catherine G. O'Sullivan, Andrea Limmer, United States Attorneys, Christopher J. Wright, General Counsel, Daniel M. Armstrong, Associate General Counsel, C. Grey Pash, Jr., Counsel for the FCC, \*87 Washington, DC, on the brief), for Respondents.

Howard J. Symons, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Washington, DC, (Bruce D. Sokler, Esq., Sara F. Seidman, Michelle M. Mundt, on the brief; Douglas I. Brandon, Esq., AT & T Wireless Services, Inc., Michael F. Altschul, Cellular Telecommunications Industry Association, Washington, DC), for AT&T Wireless Services, Inc., and Cellular Telecommunications Industry Association, Intervenor, John I. Stewart, Jr., Esq. and William D. Wallace, Esq., Crowell & Moring, LLP, Washington, D.C., submitted a brief for Electromagnetic Energy Association, National Association of Broadcasters, and Association for Maximum Service Television, Inc., Intervenor

Peter James Clines, Esq., New York, NY,

submitted a brief for Gabriel Seymour, First Selectman, Town of Canaan, Connecticut, et al., Amici Curiae on behalf of Petitioners.

Before: WALKER, NEWMAN, and SACK,  
 Circuit Judges.

JOHN M. WALKER, Circuit Judge:

Petitioners Cellular Phone Taskforce ("CPT") and Ad-Hoc Association of Parties Concerned About the Federal Communications Commission Radio Frequency Health and Safety Rules ("AHA"), joined by numerous other individuals and groups, appeal from two final opinions and orders in which the Federal Communications Commission (the "FCC") promulgated guidelines for health and safety standards of radio frequency ("RF") radiation, established streamlined procedures for meeting requirements under the National Environmental Policy Act for FCC licensees that are in compliance with the guidelines, and retained the exclusive ability to regulate the relevant radio facility operations. *See Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, 11 F.C.C. Rcd. 15123, 1996 WL 926565 (1996) ("First Order"); *Procedures for Reviewing Requests for Relief from State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934*, 12 F.C.C. Rcd. 13494, 1997 WL 522796 (1997) ("Second Order").

Affirmed.

#### BACKGROUND

In 1985, after seeking consensus among participating experts and after public notice and comment, the FCC adopted guidelines for human exposure to RF radiation from FCC-regulated transmitters and facilities. The guidelines were required by the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321 *et seq.*, and the Council on Environmental Quality ("CEQ") regulations promulgated thereunder, *see* 40 C.F.R. § 1500.1 *et seq.* In promulgating its rules, the FCC adopted the guidelines issued in 1982 by the American National Standards Institute ("ANSI"), a recognized standard-setting organization. *See*

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*Biological effects of radiofrequency radiation*, 100 F.C.C.2d 543, 1985 WL 260091 (1985).

In November 1992, ANSI issued a more restrictive health standard for RF exposure [FN1] than its 1982 standard. The new ANSI standard prompted the FCC to propose updating its existing guidelines. See *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, 8 F.C.C. Rcd. 2849, 1993 WL 757412 (1993). In the 1993 proposal that was sent out for notice and comment, the FCC noted that the 1992 ANSI standard was less restrictive than two other standards: those issued by the congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"), and \*88 those proposed by the International Radiation Protection Association.

FN1. This standard was originally developed by the Institute of Electrical and Electronic Engineering ("IEEE"), and a subgroup within the IEEE monitors the continued validity of the standard. For convenience, we will not discuss how the responsibilities are divided between ANSI and IEEE, but refer to both as ANSI throughout this opinion.

During the comment period, the FCC received submissions from, *inter alia*, the Environmental Protection Agency ("EPA"), the Food and Drug Administration ("FDA"), the Occupational Safety and Health Administration ("OSHA"), and the National Institute for Occupational Safety and Health ("NIOSH"). Ultimately, the FCC adopted guidelines that combined the NCRP standard with the ANSI standard (the "Guidelines"). These Guidelines--part of the First Order that petitioners challenge in this case--mostly incorporate the maximum permitted exposure ("MPE") limits suggested by the NCRP, together with certain other features of the ANSI standard. In particular, the FCC accepted ANSI's suggestion to exempt certain classes of facilities from having to file routine Environmental Assessments ("EAs") setting forth their compliance with the MPE limits in the Guidelines. The exempt category consists of tower-mounted telecommunications antennae 10 meters or higher above ground and rooftop antennae emitting less than 1000 watts of power.

The FCC elected to exempt such facilities after determining that they pose no risk of exposing humans to RF radiation in excess of MPE levels.

Several parties filed petitions for reconsideration of the FCC's First Order. Some sought slightly stricter standards, and others sought to persuade the FCC to adopt the more restrictive ANSI standard wholesale. The FCC granted the petition for rehearing but declined to adopt an unmodified ANSI standard or to tighten its own guidelines, except in minor respects.

While the FCC was considering the proposed guidelines, Congress passed the Telecommunications Act of 1996, Pub.L. No. 104-104, 110 Stat. 56 (the "Act"), several provisions of which affected the FCC's ongoing proceedings. In particular, the Act preempted state and local governments from regulating the placement, construction or modification of personal wireless service facilities on the basis of the health effects of RF radiation where the facilities would operate within levels determined by the FCC to be safe. See 47 U.S.C. § 332(c)(7)(B)(iv). In the Second Order that is at issue in this case, the FCC announced, *inter alia*, a rule that prohibited state and local governments from regulating any personal wireless service facilities based upon perceived health risks posed by RF emissions as long as the facilities conformed to the FCC Guidelines regarding such emissions.

Petitioners' appeal raises a plethora of claims that can be grouped into five categories: Petitioner Cellular Phone Taskforce ("CPT") argues (1) that the Guidelines violate the Americans with Disabilities Act and the Rehabilitation Act; and both petitioners argue that (2) the FCC was arbitrary and capricious in enacting the Guidelines in violation of the Administrative Procedure Act, specifically 5 U.S.C. § 706(2)(A); (3) the FCC violated NEPA by failing to prepare an environmental impact statement; (4) the FCC exceeded its powers when it prohibited state and local governments from regulating the operation of personal wireless service facilities that conformed to the FCC's RF standards; and (5) the same prohibition, found at 47 U.S.C. § 332(c)(7)(B)(iv), is unconstitutional both on its face and as applied. We will consider each group of claims in turn.

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## DISCUSSION

### I. Americans With Disabilities Act and Rehabilitation Act Claims

[1][2][3] Petitioner CPT's claims that the Guidelines violate the Americans with Disabilities Act ("ADA"), *see* 42 U.S.C. § 12101 *et seq.*, and Rehabilitation Act, 29 U.S.C. § 701 *et seq.*, were not the subject of a final order by the FCC. While they were raised before a staff member, the Chief of the Office of Engineering and \*89 Technology, they were not presented to the Commission. Decisions of agency staff are not directly appealable final orders. Our review is limited to final orders of the FCC pursuant to 47 U.S.C. § 402(a) and 28 U.S.C. § 2342(a). *See American Broad. Cos. v. FCC*, 682 F.2d 25, 30 (2d Cir.1982); *see also* 47 U.S.C. § 155(c)(7) ("The filing of an application for review under this subsection shall be a condition precedent to judicial review of any order, decision, report, or action made or taken pursuant to a delegation under paragraph (1) of this subsection."); *International Telecard Assoc. v. FCC*, 166 F.3d 387, 387-88 (D.C.Cir.1999) (*per curiam*).

[4] While we have said that the foregoing exhaustion requirement is not inflexible, we generally do not permit petitioners to raise an issue for the first time on appeal without giving the Commission an opportunity to address it, particularly where the issue is a novel one. *See National Black Media Coalition v. FCC*, 791 F.2d 1016, 1021 (2d Cir.1986). The novelty of the claim raised here, that the Guidelines impermissibly discriminate against handicapped persons in violation of the ADA and the Rehabilitation Act, makes initial Commission determination both necessary and appropriate. We therefore dismiss that part of the appeal relating to petitioner CPT's ADA and Rehabilitation Act claims.

The remaining claims were the subject of a final order by the Commission and thus are properly before us.

### II. The Administrative Procedure Act Claims

Petitioners claim that the FCC in adopting the Guidelines violated the Administrative Procedure Act ("APA"), 5 U.S.C. § 500 *et seq.*, when it arbitrarily and capriciously (1) failed adequately to consider the evidence of harmful effects from

non-thermal levels of radiation; (2) ignored expert recommendations that would restrict the regulatory regime; (3) ignored critical factors bearing upon MPE levels; and (4) failed to account for the cumulative effects of radiation in creating categorical exemptions for certain facilities from routine environmental assessment. We disagree.

[5][6][7][8][9] We may reverse an agency decision and informal rulemaking only if it was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *see, e.g., National Black Media Coalition v. FCC*, 822 F.2d 277, 280 (2d Cir.1987). An agency's factual findings must be supported by substantial evidence which "has been construed to mean less than a preponderance, but more than a scintilla." *Cellular Tel. Co. v. Town of Oyster Bay*, 166 F.3d 490, 494 (2d Cir.1999). "It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 477, 71 S.Ct. 456, 95 L.Ed. 456 (1951) (internal quotation marks omitted). "The reviewing court must take into account contradictory evidence in the record, but the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence." *American Textile Mfr. Inst., Inc. v. Donovan*, 452 U.S. 490, 523, 101 S.Ct. 2478, 69 L.Ed.2d 185 (1981) (internal citations and quotation marks omitted). When an agency makes a decision in the face of disputed technical facts, "[a] court must be reluctant to reverse results supported by ... a weight of considered and carefully articulated expert opinion." *Federal Power Comm'n v. Florida Power & Light Co.*, 404 U.S. 453, 463, 92 S.Ct. 637, 30 L.Ed.2d 600 (1972). In evaluating agency reasoning, we must be satisfied that the agency examined the relevant data and established a "rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n v. State Farm Auto. Ins. Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983) (internal quotation marks omitted). The \*90 agency's action should only be set aside where it

relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so

implausible that it could not be ascribed to a difference in view or the products of expertise.

*Id.* With these general principles in mind, we turn to petitioners' specific claims under the APA.

#### *A. Non-Thermal Effects of Radiation*

[10] The parties do not dispute that RF radiation at excessive levels has thermal effects and that the ANSI and NCRP standards and thus the Guidelines are premised on such effects. Petitioners claim that the Guidelines are arbitrary and capricious because they fail to account for *non-thermal* effects of RF radiation. In support of their claim, petitioners argue that (1) neither the ANSI nor the NCRP sufficiently considered evidence of non-thermal effects and it was therefore arbitrary and capricious for the FCC to rely on the ANSI and NCRP standards; (2) the FCC did not fulfill its duty independently to evaluate new evidence filed during the reconsideration round; (3) the FCC failed to elicit expert testimony during the reconsideration round; and (4) the FCC's decision not to lower the MPE levels below the maximum permitted thermal levels failed to account for the scientific uncertainty surrounding RF harm. These arguments are unavailing.

In basing its guidelines on a combination of the ANSI and the NCRP standards, the FCC stated that:

[The] guidelines are based on recommendations of expert organizations and federal agencies with responsibilities for health and safety. It would be impracticable for us to independently evaluate the significance of studies purporting to show biological effects, determine if such effects constitute a safety hazard, and th[en] adopt stricter standards than those advocated by federal health and safety agencies. This is especially true for such controversial issues as non-thermal effects and whether certain individuals might be "hypersensitive" or "electrosensitive."

Second Order, 12 F.C.C. Rcd. 13494 at ¶ 31, 1997 WL 522796. This decision was not arbitrary and capricious. In promulgating their standards, both the ANSI and the NCRP considered non-thermal effects. The ANSI found that "no reliable scientific data exist indicating that [n]onthermal ... exposure may be meaningfully related to human health" and concluded that its exposure standard "should be safe for all." The NCRP found that the existence of non-thermal

effects "is clouded by a host of conflicting reports and opinions." In the face of conflicting evidence at the frontiers of science, courts' deference to expert determinations should be at its greatest. *See Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983). All of the expert agencies consulted were aware of the FCC's reliance on the ANSI and NCRP standards. Each had been advised of such evidence of non-thermal health effects as may have existed and still found the FCC's approach to be satisfactory.

Under those circumstances it was reasonable for the FCC to continue to rely on the ANSI and NCRP standards absent new evidence indicating that the fundamental scientific understanding underlying the ANSI and NCRP standards was no longer valid. At most, the newly submitted evidence established that the existence of non-thermal effects is "controversial," and that room for disagreement exists among experts in the field. After examining the evidence, the FCC was justified in continuing to rely on the ANSI and NCRP standards.

Furthermore, the FCC satisfied itself that there was a mechanism in place for \*91 accommodating changes in scientific knowledge. It found that both the ANSI and the NCRP had "committees that are working on revisions of their respective exposure guidelines," and that "ongoing research in a number of areas may ultimately result in changes in the fundamental understandings upon which [the ANSI] and the NCRP [standards] are based," and that it would "consider amending [its] rules at any appropriate time if these groups conclude that such action is desirable." Because the new evidence consisted of publicly available scientific papers, the FCC could reasonably expect it to be considered by the ANSI and the NCRP standing committees that were working on revising their standards.

[11] Moreover, it was not arbitrary and capricious for the FCC to conclude that it need not supply the new evidence to the other federal agencies with expertise in the area. It could reasonably expect those agencies to keep abreast of scientific developments in carrying out their missions. For instance, the EPA had participated not only in the hearings and comments leading to the promulgation of the Guidelines, but also had been on the verge of releasing its own draft guidelines pertaining to the

health effects of RF radiation in 1996. It was fully reasonable for the FCC to expect the agency with primacy in evaluating environmental impacts to monitor all relevant scientific input into the FCC's reconsideration, particularly because the EPA had been assigned the lead role in RF radiation health effects since 1970. *See* 42 U.S.C. § 2021(h). Because the newly submitted material consisted of publicly available scientific articles of the type monitored by the EPA and other agencies and such material was insufficient to invalidate the assumptions underlying the Guidelines, it was not arbitrary and capricious for the FCC to conclude that further consultation with the expert agencies was unnecessary.

[12] Petitioners criticize the FCC for not adopting the NCRP's recommendations for stricter standards in situations of exposure to deep modulated extremely low frequency ("ELF") carrying waves. The NCRP had recommended that the exposure criteria in such situations be the same for occupational exposures as for the general population in order to provide for an additional safety margin. It was not arbitrary and capricious for the FCC to reject the NCRP recommendation. The scientific data were inconclusive on the dangers presented by such radiation, and thus did not mandate a determination different from that reached by the FCC. The NCRP itself had concluded that the existence of modulation effects was unclear. The EPA had recommended that "[w]hile studies continue to be published describing biological responses to nonthermal ELF-modulated RF radiation, the effects information is not yet sufficient to be used as a basis for exposure criteria to protect the public against adverse human health effects." ANSI had likewise found that "no reliable scientific data exist indicating that ... modulation-specific [disease-related conditions] of exposure may be meaningfully related to human health."

[13] Also unavailing is petitioners' argument that the FCC is required to apply the principle against uncertainties as adopted by the Nuclear Regulatory Commission to limit radiation to levels "as low as is reasonably achievable." *See, e.g.,* Nuclear Regulatory Commission, 10 C.F.R. §§ 20.1003, 20.1101(b),(d); Department of Energy, 10 C.F.R. § 835.2(a)(2).

[14] The argument that the FCC should create greater safety margins in its guidelines to account for uncertain data is a policy question, not a legal one. As a policy matter, an agency confronted with scientific uncertainty has some leeway to resolve that uncertainty by means of more regulation or less. *Compare, e.g., American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 528, 101 S.Ct. 2478, 69 L.Ed.2d 185 (1981) (approving more stringent regulation when agency "could not obtain the \*92 more detailed confidential industry data it thought essential to further precision"), *with, e.g., Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 51, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983) ("[A]n agency reasonably may decline to issue a safety standard if it is uncertain about its efficacy"). *See also Center for Auto Safety v. Federal Highway Admin.*, 956 F.2d 309, 316 (D.C.Cir.1992). The FCC concluded that requiring exposure to be kept as low as reasonably achievable in the face of scientific uncertainty would be inconsistent with its mandate to "balance between the need to protect the public and workers from exposure to potentially harmful RF electromagnetic fields and the requirement that industry be allowed to provide telecommunications services to the public in the most efficient and practical manner possible." This policy conclusion is neither irrational, arbitrary nor capricious and we decline to disturb it.

#### *B. Other Expert Recommendations*

[15] Petitioners argue that the Commission arbitrarily ignored or failed to follow expert recommendations that would tighten the standard. Specifically they fault the FCC for (1) adopting a two-tiered MPE level system allowing for higher exposure in "occupational/controlled" situations than in "general population/uncontrolled" situations despite expressions of concern with these definitions by EPA, NIOSH and OSHA; (2) refusing to adopt ANSI's recommendations on induced and contact currents; (3) ignoring the FDA's request that the FCC consider interference with medical devices; and (4) rejecting NIOSH's objection to undocumented self-certification of compliance by license applicants. We disagree.

The record shows that the FCC did not ignore any of these substantial comments, but instead provided a reasoned response to each. The FCC found that

applying the general-population limits to all situations "would impose significant and unnecessary economic and technical burdens for which adequate justification has not been presented." The FCC elected instead to clarify the differentiation between occupational and general population circumstances. It was not arbitrary and capricious to do so.

[16] With respect to induced contact currents, the FCC concluded that "[b]ecause of the many possible types and configurations of metallic objects that may be near a transmitter," it would be impracticable to demonstrate compliance. And "in view of the continuing questions and difficulties relating to evaluation of induced and contact currents, especially with regard to measurements ... we see no practical way to require compliance" with any limits suggested by the parties. However, the FCC "recognize[d] the desirability for limits to be adopted in the future," and promised to "monitor the issues raised ... [and] revisit this issue" as measuring technology improves. An agency is permitted to consider costs and benefits as well as enforcement issues when establishing rules and regulations. See *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 54, 103 S.Ct. 2856. The FCC reached a reasoned conclusion to a difficult problem, and was not arbitrary or capricious.

[17] The FCC also did not ignore the FDA's request for rules dealing with interference with medical devices. The object of the rulemaking was to address biological effects of RF radiation. The FDA acknowledged that interference with medical devices was outside the scope of current rulemaking by "encourag[ing]" the FCC "to continue to work with [the FDA] to address separately this issue." The FCC was justified in limiting its current rules in this way because "agencies ... need not deal in one fell swoop with the entire breadth of a novel development; instead, reform may take place one step at a time, addressing itself to the phase of the problem which seems most acute to the regulatory mind." \*93*National Ass'n of Broadcasters v. FCC*, 740 F.2d 1190, 1207 (D.C.Cir. 1984) (quotation marks, citation and alteration omitted).

[18] As for NIOSH's objections to undocumented self-certification of compliance, it was entirely within the FCC's discretion not to require operators to submit the type of information that would be

provided in an EA. Cf. *Black Citizens for a Fair Media v. FCC*, 719 F.2d 407, 411-12 (D.C.Cir.1983) (permitting the FCC discretion to determine what information to request in renewal applications for a broadcast license). "Ample sanctions exist for false statements ... and licensees are well aware of their duty ... to be scrupulous in providing complete and meaningful information." *Bilingual Bicultural Coalition on Mass Media, Inc. v. FCC*, 595 F.2d 621, 635 (D.C.Cir.1978) (quotation marks and citation omitted). The FCC's conclusion that its existing rules concerning licensee certification "have worked adequately in the past and should be continued" was therefore not arbitrary and capricious.

### C. Maximum Permitted Exposure Levels

[19] In addition to arguing that the MPE levels do not account for non-thermal effects, petitioners argue that the MPE levels are arbitrary and capricious because (1) the exposure levels to hands and wrists were increased without explanation; (2) in setting the MPE level for the general public at one-fifth of the occupational MPE level, the NCRP did not consider individual vulnerabilities among members of the public; and (3) the key assumption pertaining to average exposure time used in establishing the occupational MPEs was fatally flawed because experts within the ANSI standard-setting body disagreed on its validity. These are unavailing arguments.

The increased exposure levels to hands and feet were, in fact, explained by the ANSI: "Considerations that mitigate these higher permitted local [MPE levels] include relatively high surface-to-volume ratios for these parts of the body, the common experience of relatively large temperature excursions of these parts that normally occur without apparent adverse effects, and the lack of critical function when compared to vital organs."

In establishing the general population MPE level, the NCRP based the lowered MPE level, and thus the increased safety-margin above and beyond the occupational level, on the differences between the two groups. It pointed to the presence among the public of "debilitated or otherwise potentially vulnerable individuals for whom there is presently inadequate knowledge to set firm standards," and the greater risk of harm to the general population

due to its higher numbers. The one-fifth level was considered adequate to accommodate these factors, and petitioners have presented no evidence that would render the NCRP's conclusion arbitrary and capricious.

Finally, petitioners challenge the FCC's reliance on experts' divergent assumptions regarding average exposure time. As long as all of the evidence has been considered, as was the case here, a factual finding that is supported by more than a scintilla of evidence is not arbitrary and capricious simply because there is conflicting evidence. See *American Textile Mfr. Inst.*, 452 U.S. at 523, 101 S.Ct. 2478.

#### D. Categorical Exclusions

[20] The Commission concluded that tower-mounted antennae placed more than 10 meters above ground and rooftop antennae transmitting at less than 1000 watts would "offer little or no potential for exposure in excess of the specified guidelines" and that it would not be cost-effective to require routine environmental evaluation of such facilities. First Order, 11 F.C.C. Rcd. 15123, at ¶ 86, 1996 WL 926565. Petitioners argue that these categorical exemptions from having to file routine EAs are arbitrary and capricious because (1) there may be situations where radiation \*94 from such facilities can lead to overexposure behind walls in nearby buildings; and (2) the categorical exemptions ignore constructive interference stemming from multiple antennas or reflections from conductive surfaces, creating "hot spots" where RF radiation levels exceed MPE levels. Missing from the exemption rules, petitioners argue, are rules for when an owner must consider other nearby sources of radiation and rules establishing a public database to facilitate public monitoring. We disagree.

In establishing the categorical exemptions, the Commission conducted a worst-case analysis that considered the effects of multiple antennas mounted on a single tower, and determined that radiation levels in publicly available areas will be many times below MPE levels. The Commission also ensured that combined exposure from multiple towers would be considered by license applicants by charging them with the responsibility of ensuring that their facilities would comply with the MPE rules

anywhere their emissions are at least 5% of MPE levels. The FCC's approach was rational. Agencies are permitted to promulgate rules based on cost/benefit analysis. See *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 54, 103 S.Ct. 2856. In light of the low probability of excluded facilities violating MPE levels, it was reasonable to conclude that there was no need for increased compliance monitoring devices such as a central database. Moreover, the licensees are still responsible for compliance, and an interested person can petition the FCC for review of a site believed to violate the MPE levels. See 47 C.F.R. § 1.1307(c).

#### III. The NEPA Claims

[21] Both the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, and regulations promulgated thereunder by the Council on Environmental Quality ("CEQ"), generally require agencies subject to NEPA that are about to commit resources in a federally significant action, including rulemaking, to consider the environmental effects of their actions by preparing either an Environmental Impact Statement ("EIS"), or an Environmental Assessment ("EA") followed by a finding of no significant impact ("FONSI") or an EIS as appropriate. See *City of New York v. Slater*, 145 F.3d 568, 571 (2d Cir.1998) (per curiam). In promulgating its standards, the FCC admittedly did not complete either a formal EIS or an EA. Petitioners argue that the FCC was required to prepare an EIS in conjunction with its rulemaking. We disagree.

[22] "[W]here an agency is engaged primarily in an examination of environmental questions, where substantive and procedural standards ensure full and adequate consideration of environmental issues, then formal compliance with NEPA is not necessary, but functional compliance is sufficient." *Environmental Defense Fund v. EPA*, 489 F.2d 1247, 1257 (D.C.Cir.1973).

The procedures followed by the FCC in the instant rulemaking satisfy the functional compliance test. In considering the environmental impact of its guidelines, the FCC "consult[ed] with and obtain[ed] the comments of any Federal agency which has jurisdiction by law or special expertise with respect to [the] environmental impact involved." 42 U.S.C. § 4332. Both the FCC's First

Order and Second Order functionally satisfy the CEQ's requirements for an EA [FN2] and a \*95 FONSI [FN3] both in form and substance. The FCC considered the environmental impact of its rulemaking, including cumulative effects of radiation from multiple towers. And as discussed above, the findings that radiation at MPE levels would be safe and that some RF facilities could be categorically excluded from routine evaluation (findings akin to a FONSI) were not arbitrary or capricious. Thus, no EIS was required. See *Friends of the Ompompanoosuc v. FERC*, 968 F.2d 1549, 1556 (2d Cir.1992).

FN2. "*Environmental Assessment*":

(a) Means a concise public document for which a federal agency is responsible that serves to: (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. (2) Aid an agency's compliance with the Act when no environmental impact statement is necessary. (3) Facilitate preparation of a statement when one is necessary. (b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.  
 40 C.F.R. § 1508.9.

FN3. "*Finding of No Significant Impact*" means a document by a Federal agency briefly presenting the reasons why an action ... will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. It shall include the environmental assessment or a summary of it and shall note any other environmental documents related to it.  
 40 C.F.R. § 1508.13.

[23] We also reject petitioners' argument that by not considering RF interference with medical

devices, the FCC has failed to take the required hard look at the environmental consequences of its actions in violation of NEPA.

[24] NEPA only requires agencies to consider environmental effects, *i.e.*, alterations to the environment that have a proximate effect on human health. See *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774, 103 S.Ct. 1556, 75 L.Ed.2d 534 (1983) (psychological harm resulting from fear that relatives may be subjected to radiation too removed to be environmental harm). Assuming *arguendo* that RF radiation may in certain circumstances interfere with some medical devices in such a way that human health is proximately affected, thereby rendering interference with medical devices a cognizable environmental harm, the FCC still was not required to consider those environmental effects at this time. Only when individual RF facilities are constructed and operated will the circumstances arise with sufficient specificity to permit meaningful evaluation. As long as all the significant potential environmental impacts are considered in a combination of general and site-specific assessments at the time the facilities are constructed, the requirements of NEPA and the CEQ have been satisfied. Cf. *Environmental Coalition of Ojai v. Brown*, 72 F.3d 1411, 1418 (9th Cir.1995) (government preparing site-specific EAs did not have to revisit health effects of RF radiation from radar installation considered on a programmatic level).

IV. The FCC's Preemption of Certain State Regulation

[25] As noted earlier, while the rulemaking process was underway, Congress passed the Telecommunications Act of 1996, providing, *inter alia*, that

No 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.

47 U.S.C. § 332(c)(7)(B)(iv).

The FCC, as part of its rulemaking, issued a comparable interpretive ruling preempting state and

local governments from regulating, based on RF emissions, the operation of personal wireless service facilities that are in compliance with the FCC regulations concerning such emissions. Petitioners claim that the FCC's interpretation is contrary to plain congressional intent. In support of their argument, petitioners point to the deliberate absence of the word "operation" from the statutory language as evidenced by earlier drafts containing the word.

\*96 [26] It is now "well settled that we review deferentially an agency's construction of the statute that it is charged with administering." *Linea Nacional de Chile S.A. v. Meissner*, 65 F.3d 1034, 1039 (2d Cir.1995) (citing *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 843 n. 11, 844, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984)). We must defer to an agency's reasonable interpretation where the statute is silent or ambiguous with respect to a particular issue. See *Chevron*, 467 U.S. at 842-43, 104 S.Ct. 2778; *Fulani v. FCC*, 49 F.3d 904, 910 (2d Cir.1995). However, "[i]f the statutory language is clear, both the agency and the court must defer to Congress's intent." *Linea Area Nacional*, 65 F.3d at 1039; see *Chevron*, 467 U.S. at 842, 104 S.Ct. 2778.

[27] The FCC has broad preemption authority under the Telecommunications Act. See *City of New York v. FCC*, 486 U.S. 57, 63-64, 108 S.Ct. 1637, 100 L.Ed.2d 48 (1988); *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691, 698-700, 104 S.Ct. 2694, 81 L.Ed.2d 580 (1984). Congress has circumscribed this authority somewhat, removing from the FCC the power to "limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction and modification of personal wireless service facilities." 47 U.S.C. § 332(c)(7)(A) (emphasis added). States and local governments, therefore, retain these powers subject to explicit limitations described in subsection (B). Appellants argue that the absence of the word "operation" from subsection (B)(iv) preserves for the states the right to regulate operations of wireless service facilities as well. Subsection (A) does not, however, preserve their authority to regulate such facilities' operations. Therefore, the absence of the word "operation" from the subsequent limitation on their authority under subsection (B)(iv) does not grant such power.

Section 332(c)(7)(B)(iv) does not amount to clear congressional intent to permit state and local governments to regulate the operation of such facilities. The FCC's interpretation is therefore entitled to deference and, because the FCC's interpretation is reasonable, we are bound to accept it.

#### V. Constitutional Challenges

[28] Finally, we reject petitioners' argument that 47 U.S.C. § 332(c)(7)(B)(iv) facially and as applied violates the Tenth Amendment. The statute does not commandeer local authorities to administer a federal program in violation of the federalism principles embodied in the Tenth Amendment and set forth in *New York v. United States*, 505 U.S. 144, 112 S.Ct. 2408, 120 L.Ed.2d 120 (1992) and *Printz v. United States*, 521 U.S. 898, 117 S.Ct. 2365, 138 L.Ed.2d 914 (1997). State and local governments are not required to approve or prohibit anything. The only onus placed on state and local governments exercising their local power is that they may not regulate personal wireless service facilities that conform to the FCC Guidelines on the basis of environmental effects of RF radiation. "[W]here Congress has the authority to regulate private activity under the Commerce Clause, we have recognized Congress' power to offer States the choice of regulating that activity according to federal standards or having state law pre-empted by federal regulation." *New York*, 505 U.S. at 167, 112 S.Ct. 2408; see *City of New York v. United States*, 179 F.3d 29, 35 (2d Cir.1999). We have no doubt that Congress may preempt state and local governments from regulating the operation and construction of a national telecommunications infrastructure, including construction and operation of personal wireless communications facilities. See *City of New York*, 486 U.S. at 63-64, 108 S.Ct. 1637; *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. at 698-700, 104 S.Ct. 2694. The statute therefore does not violate the Tenth Amendment either facially or as applied. We have considered petitioners' \*97 remaining constitutional arguments and find them to be without merit.

#### Conclusion

The FCC orders are affirmed with costs to be borne by petitioners.

205 F.3d 82, 30 Envtl. L. Rep. 20,402, 19

205 F.3d 82  
30 Envtl. L. Rep. 20,402, 19 Communications Reg. (P&F) 578  
(Cite as: 205 F.3d 82)

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Communications Reg. (P&F) 578

END OF DOCUMENT

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STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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

July 23, 2002

Honorable Mark A. Laretti  
Mayor  
City of Shelton  
54 Hill Street  
P. O. Box 364  
Shelton, CT 06484

RE: **EM-AT&T-126-020701** - AT&T Wireless PCS, LLC d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 114 Oxford Drive, Shelton, Connecticut.

Dear Mayor Laretti:

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/RKS*

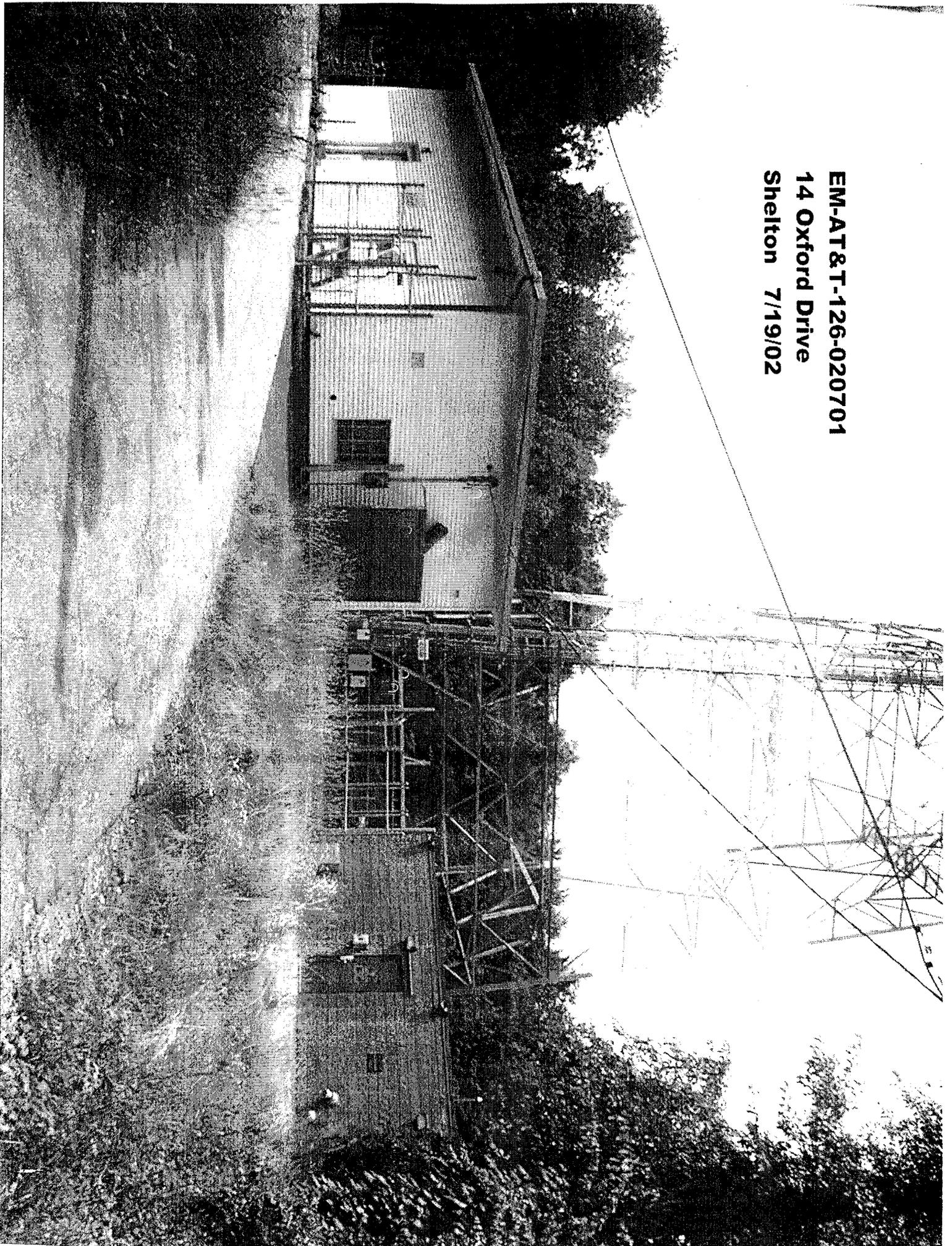
S. Derek Phelps  
Executive Director

SDP/laf

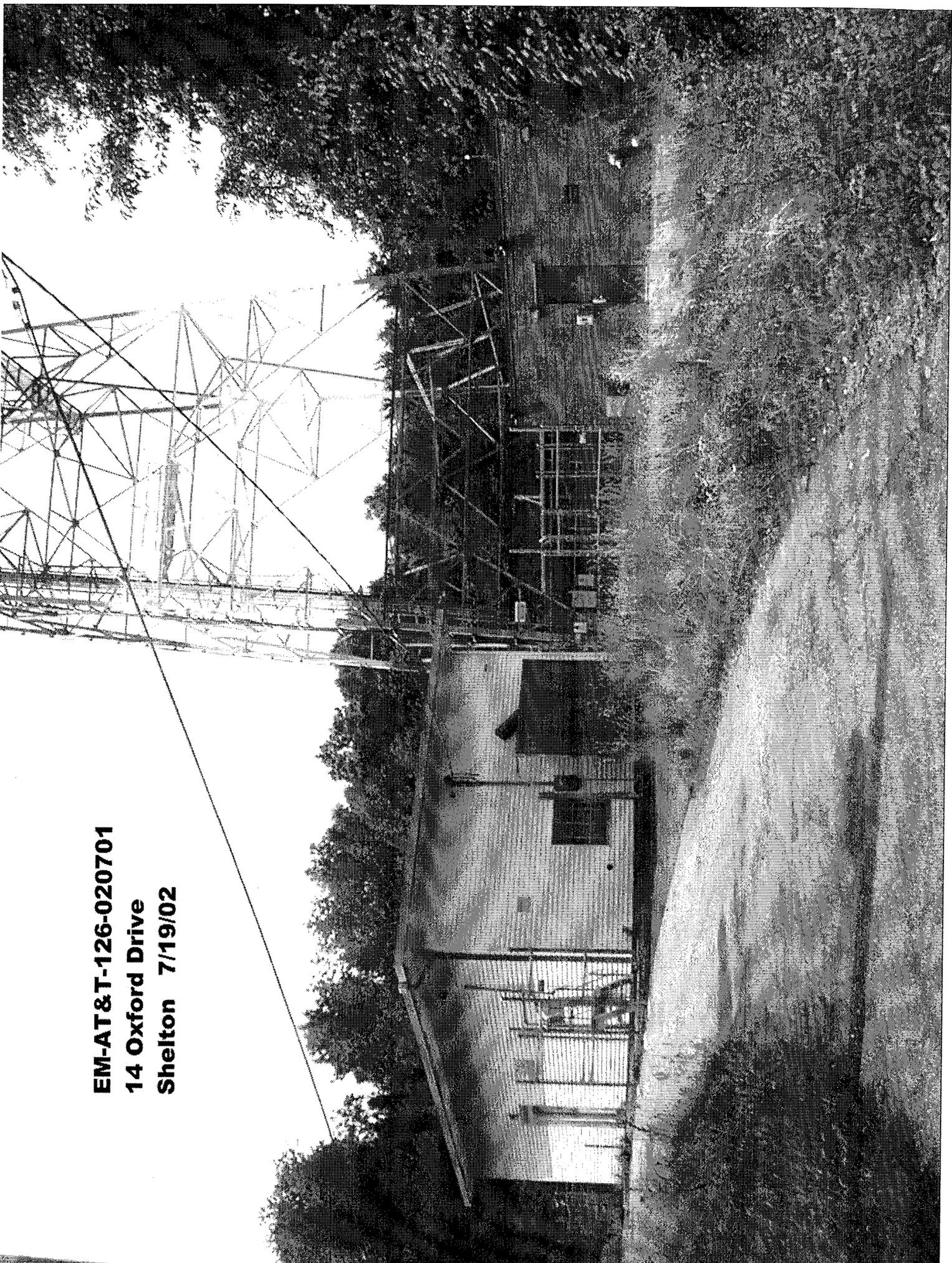
Enclosure: Notice of Intent

c: Richard Schultz, Planning Administrator, City of Shelton

**EM-AT&T-126-020701**  
**14 Oxford Drive**  
**Shelton 7/19/02**



**EM-AT&T-126-020701**  
**14 Oxford Drive**  
**Shelton 7/19/02**



**NOTICE OF INTENT TO MODIFY AN  
EXISTING TELECOMMUNICATIONS FACILITY AT  
114 OXFORD DRIVE, SHELTON, CONNECTICUT**

**RECEIVED**  
JUL 04 2002  
SHELTON, CT  
SHELTON 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 the 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 14 Oxford Drive, Shelton, Connecticut (the "Oxford Drive Facility"), owned by American Tower Corporation. AT&T Wireless and American Tower Corporation have agreed to share the use of the Oxford Drive Facility, as detailed below.

**The Oxford Drive Facility**

The Oxford Drive Facility consists of an approximately two hundred (200) foot Lattice tower (the "Tower") and associated equipment currently being used for wireless communications by Sprint, Nextel, the Connecticut State Police, Skytel and Pagenet. A chain link fence surrounds the Tower compound. The current surrounding land uses are predominantly residential and the site is buffered by natural vegetation.

**AT&T Wireless' Facility**

As shown on the enclosed plans prepared by Tectonic/Keyes Associates, including a site plan and tower elevation of the Oxford Drive Facility, AT&T Wireless proposes shared use of the Facility by placing antennas on the Tower and equipment cabinets needed to provide personal communications services ("PCS") within the existing fenced compound. AT&T Wireless will install 6 panel antennas at approximately the 144 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 fenced compound. As evidenced in the structural report prepared by Communication Structures Engineering, Inc., annexed hereto as Exhibit A, AT&T has confirmed that the tower is structurally capable of supporting the addition of AT&T Wireless' antennas upon the removal of existing parabolic antennas owned by AT&T Corporation.<sup>1</sup>

**AT&T Wireless' Facility Constitutes An Exempt Modification**

The proposed addition of AT&T Wireless' antennas and equipment to the Oxford Drive 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

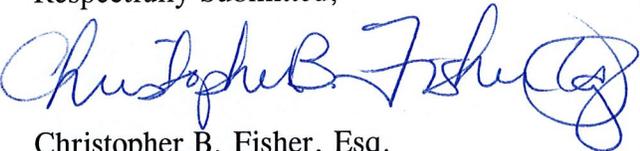
<sup>1</sup> Also, as noted in the attached correspondence from American Tower, Metricom never obtained a lease for the 140' level of the Facility and has abandoned its prior approval, such that the structural excludes their prior proposal.

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 Vishal Kataria, 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 Oxford Drive Facility meets the Council's exemption criteria.

Respectfully Submitted,

A handwritten signature in blue ink, reading "Christopher B. Fisher, Esq.", with a stylized flourish at the end.

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

cc: Mayor, City of Shelton  
RJ Wetzel, Bechtel



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

RE: CSC Filing – Shelton/Trumbell, CT (CT-542)

Dear Joanne:

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

Please note that American Tower did not proceed forward with subleasing the above referenced tower to Metricom Corporation for the height of 140 feet. In addition, please note that American Tower will remove the five existing AT&T Parabolic Antennas and associated wave-guide at a height of 200 feet and 192 feet respectively.

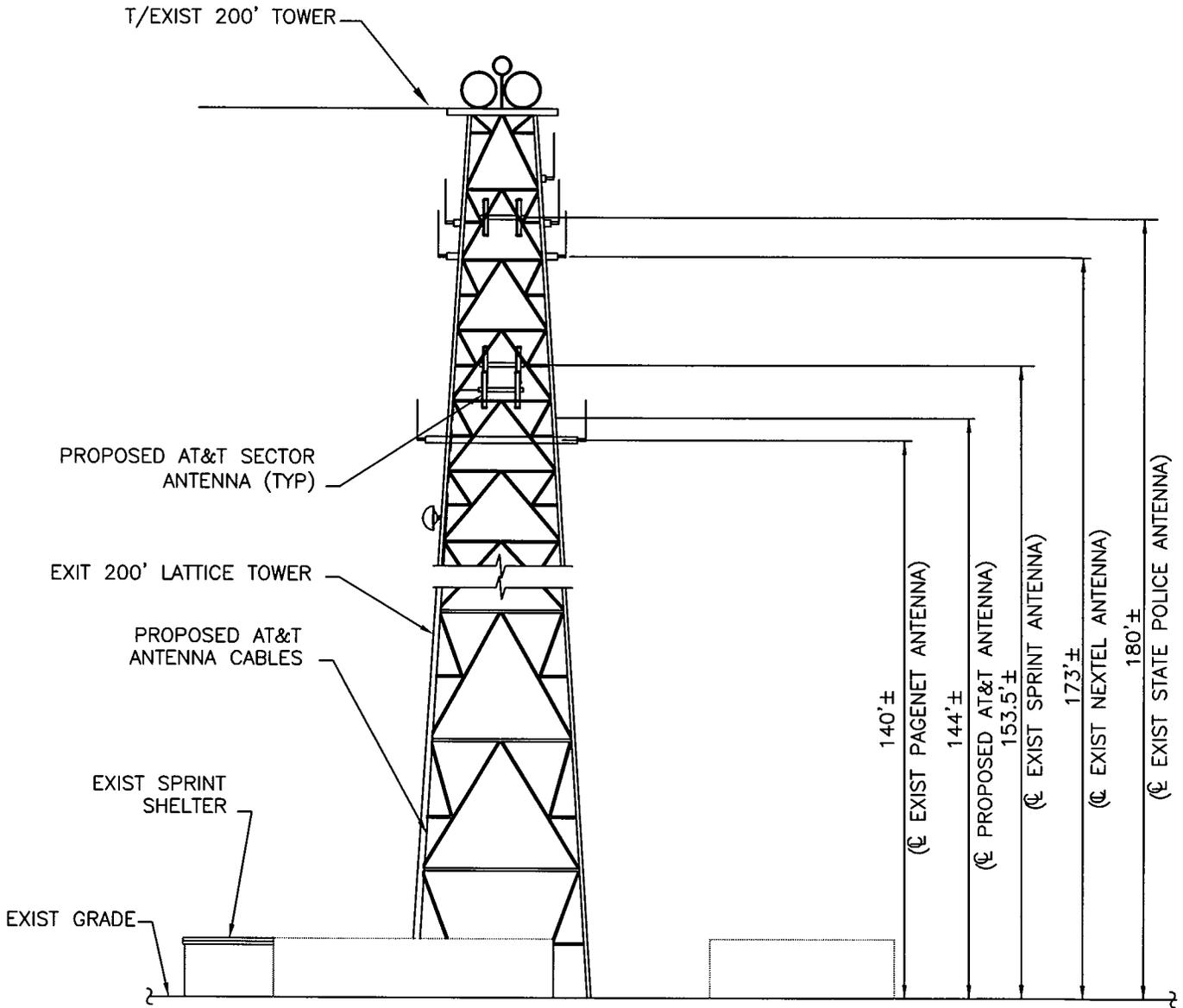
Should you have any questions please contact me at the number listed below.

Thank you,

Brad Weltman  
Area Development Manager – New England  
American Tower Corporation  
(203) 759-1234 ext. 267



**NOTE:**  
 THE HEIGHT OF EXIST TOWER & ANTENNAS  
 IS BASED ON INFORMATION PROVIDED BY  
 AMERICAN TOWER



NOTE: EXIST FENCE NOT SHOWN FOR CLARITY

**TECTONIC/KEYES ASSOCIATES**  
 1344 BLAIR DEANE HIGHWAY, SUITE 300  
 ROCKY HILL, CT 06067-1340

OFFICE: (860)863-3341  
 FAX: (860)897-6988



**AT&T**

AT&T WIRELESS SERVICES, INC.  
 12 Orange Drive, Second Floor  
 Stamford, Connecticut 06902

DRAWING TITLE:  
 ELEVATION  
 PROJECT INFORMATION:  
 SHELTON/TRUMBLE  
 CT-542  
 14 OXFORD DRIVE  
 SHELTON, CT 06611

PROPERTY OWNER:  
 AMERICAN TOWER CORPORATION  
 562 CAPTAIN NEVILLE DRIVE  
 WATERBURY, CT 06705

DRAWING NO.  
**SC-2**

REVISION NO. 2	DRAWN BY: KBF
DATE: 6/24/02	CHECKED BY: MS
SCALE: 1"=30'	APPROVED BY: JDF
ISSUED FOR COMMENT	SHEET NO. 2 of 2
WORK ORDER #: 3133.CT542	



Communication Structures Engineering, Inc.

Mr. Steve Schamberg
American Tower Corporation
10 Presidential Way, Woburn, MA 01801

June 19, 2002

Re: Structural Review of ATC's Shelton/Trumble, CT Lattice Tower
American Tower Site No: 88017, Fairfield County, CT
Location: 14 Oxford Drive (off of Booth Hill Road)

Dear Mr. Schamberg,

Communication Structures Engineering, Inc. (CSEI) has completed a structural review of the existing 200-ft Modified Type 'A' tower located at this American Tower Corporation (ATC) site known as Shelton/Trumble, CT. In accordance with ATC's request, we performed a structural analysis of this tower to check its capability to support the existing tower, antenna and equipment loads as well as the new loads from the AT&T Wireless Services (ATTWS) proposed antenna and transmission line additions.

EXISTING TOWER INFORMATION & HISTORY

The 200-ft Type 'A' tower at this site was originally built in 1958 for AT&T by Blaw Knox Company to support four AT&T Delay Lens Antennas. The tower was strengthened & modified in 1979 when the Delay Lens Antennas were replaced with 10-ft parabolic antennas. Additional parabolic antennas were added by AT&T in 1980, 1987 and 1989. The CT State Police added three 6-ft parabolic antennas in 1993. Skytel added one omni-directional antenna in 1994. Sprint PCS added six panel antennas 1996. Nextel added three omni antennas in 1997. Paging Network added three omni-directional antennas in 1998.

CSEI utilized the original 1958 tower design drawings as well as later tower modification drawings to conduct our structural review of this tower. A CSEI engineer visited this site in 1997. At that time, CSEI climbed, photographed & reviewed the condition of the existing tower structure and confirmed equipment locations. Recent photos of this structure were used to confirm the current antenna & equipment configuration for this structure. The tower loading list, provided by ATC, was also used to determine the existing and proposed customer antenna & cable requirements.

DESIGN CRITERIA

See the attached page for the applicable Design Criteria and Antenna Configuration that were used for this structural analysis.

STRUCTURAL ANALYSIS PROCEDURE

The referenced design criteria combined with wind tunnel test data from tests conducted on AT&T towers, antennas and antenna platforms were utilized to determine the applicable loads for this structure. A frame analysis was performed utilizing the stated wind loads and a computer model of the tower framing modeled on STAAD III software. The load carrying frame members of this structure were then reviewed to check their compliance with the AISC 1989 ASD "Specification for Structural Steel Buildings".

RESULTS OF STRUCTURAL ANALYSIS

Our initial analysis determined that the main diagonal face bracing members between 25-ft AGL and 75-ft AGL were overstressed when loaded with all of the existing and proposed antennas and transmission lines. We repeated our analysis with the assumption that the five existing AT&T Parabolic Antennas and associated waveguide could be removed from the tower, and that the new ATTWS coaxial cables would be stacked in two rows. After these changes, our analysis found that all of the existing tower members had maximum stress levels that were less than the allowable stresses permitted by the AISC Specification. Therefore it is our finding that his tower will not require any structural modifications or changes to support the proposed equipment provided that the following conditions are satisfied. If any of these conditions are not upheld, the results of our structural analysis will be invalid.

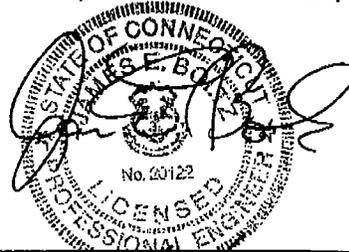
- 1.) All Five AT&T Parabolic Antennas located on this tower & all associated waveguide runs are to be removed from the tower.
2.) The twelve new AT&T Wireless Services coaxial cables are to be installed on a face with no other existing coaxial cables.
3.) The twelve new ATTWS 1-1/4" diameter coaxial cables are to be stacked in two rows, with one row directly behind the other, so that a maximum of six new coaxial cables are exposed and six new coaxial cables are shielded from wind loading.
4.) All new antenna & cable mounts are to be properly engineered & installed by the firms responsible for that work scope.

If any co-location customers add any future additional antennas or equipment to this tower, this structure should be re-analyzed at that time. CSEI would be happy to respond to any questions regarding this structural analysis.

Sincerely,

James E. Boltz, P.E. (CT P.E. #20122)

attachment: Design Criteria for Shelton/Trumble, CT



6/19/2002

# DESIGN CRITERIA

June 19, 2002

**American Tower Site: SHELTON/TRUMBLE, CT**

**ATC Site No. 88017**

**LOCATION: 14 Oxford Drive (off of Booth Hill Road) Fairfield County, CT  
Latitude N 41° 16' 46" / Longitude W 73° 11' 06"**

In addition to the loads from the existing tower framing and platforms the loads from the following antennas and their associated transmission lines were considered in the analysis.

## **ANTENNA CONFIGURATION ( Used for Structural Analysis)**

### **Existing Antennas - To be Removed**

- 1.) (AT&T Corporate) Four 10-ft diameter Gabriel USR10P-3J39 parabolic antennas at centerline of 208-ft above tower base plate and four associated waveguide runs.
- 2.) (AT&T Corporate) One 10-ft diameter Gabriel USR10P-3J39 parabolic antenna at a centerline of 192-ft above tower base plate and one associated waveguide run.

### **Existing Antennas - To Remain on Tower**

- 1.) (Skytel) One omni antenna at centerline of 208-ft above tower base plate and one associated coaxial cable run.
- 2.) (CT State Police) Two Cablewave PA6-65 parabolic antennas at centerline of 205-ft above tower base plate and two associated waveguide runs.
- 3.) (CT State Police) Two 6-ft Scala panel antennas at centerline of 180-ft above tower base plate and two associated coaxial cable runs.
- 4.) (CT State Police) Three 8-ft omni (whip) antennas two at centerline of 179-ft above and one at centerline of 187-ft above tower base plate and three associated coaxial cable runs.
- 5.) (CT State Police) One Cablewave PA6-65 parabolic antennas at centerline of 126-ft above tower base plate and one associated waveguide run.
- 6.) (Nextel Communications) Three Decibel DB810 omni antennas at centerline of 173-ft above tower base plate and three associated runs of 1.625 inch diameter coaxial cable.
- 7.) (Sprint PCS) Six Decibel DB980H90 panel antenna at centerline of 153.5-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
- 8.) (Pagenet) Three Andrew PG1-NOF-0091 omni antennas at centerline of 140-ft above tower base plate and three associated runs of 0.875 inch diameter coaxial cable.
- 9.) (Sprint PCS) One GPS antenna at centerline of 56-ft with one run of .5 inch diameter coaxial cable.

### **New (Proposed) Antennas - To Be Added on Tower**

- 1.) (AT&T Wireless Services ) Six Allgon 7250.03 panel antennas at centerline of 144-ft above tower base plate and twelve associated runs of 1.25 inch diameter coaxial cable.

### **Design Assumptions for ATTWS Cables (Used for Structural Analysis)**

In order to complete our analysis and to minimize the wind loads on this structure, several important condition relating to the installation & stacking of the ATTWS transmission lines were assumed. If these cables are not located and installed as specified in this report the results of our structural analysis will be invalid.



## **Customer Antenna & Cable Mounts and Their Connections to Tower**

The loads stated above include the applicable overall tower dead and wind loads from the listed customer antennas and transmission lines that were provided to CSEI. CSEI's structural analysis applies these loads at the tower truss panel points (joints where tower braces connect) that are closest to the customer equipment location. CSEI's structural analysis of this overall tower structure does not include tower stresses that could occur from improper customer equipment attachments that may locally stress individual tower braces. The attachment of the individual customer's equipment is not a part of CSEI's scope of work. CSEI assumes that these attachments, in accordance with good engineering practice, will be designed and installed to properly connect close to the tower panel points in such a manner as to not introduce significant local stresses to the existing tower bracing members. Improperly connected customer equipment can significantly stress individual tower members and consequently reduce the overall load capacity of the entire tower structure.

**The design and installation of all customers' antenna & cable mounts and their proper connections to this tower are the responsibility of the individual customers and their engineers, suppliers and contractors.**

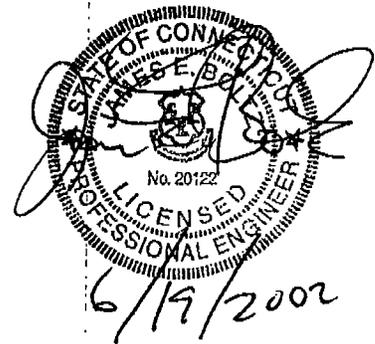




COMMUNICATION STRUCTURES ENGINEERING, INC.  
2430 HERODIAN WAY, SUITE 102  
SMYRNA, GA 30080  
(770) 951-8080

**STRUCTURAL CALCULATIONS**  
**FOR**  
**200-ft MODIFIED TYPE 'A' TOWER**  
**SHELTON/TRUMBLE, CT**  
**FAIRFIELD COUNTY, CT**  
**ATC SITE #88017**

**Issue Date: June 19, 2002**



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## **DESIGN CRITERIA**

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**ATC Site No. 88017**

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- 7.) (Sprint PCS) Six Decibel DB980H90 panel antenna at centerline of 153.5-ft above tower base plate and six associated runs of 1.625 inch diameter coaxial cable.
- 8.) (Pagenet) Three Andrew PG1-NOF-0091 omni antennas at centerline of 140-ft above tower base plate and three associated runs of 0.875 inch diameter coaxial cable.
9. (Sprint PCS) One GPS antenna at centerline of 56-ft with one run of .5 inch diameter coaxial cable.

#### **New (Proposed) Antennas - To Be Added on Tower**

- 1.) (AT&T Wireless Services ) Six Allgon 7250.03 panel antennas at centerline of 144-ft above tower base plate and twelve associated runs of 1.25 inch diameter coaxial cable.

#### **Design Assumptions for ATTWS Cables (Used for Structural Analysis)**

In order to complete our analysis and to minimize the wind loads on this structure, several important condition relating to the installation & stacking of the ATTWS transmission lines were assumed. If these cables are not located and installed as specified in this report the results of our structural analysis will be invalid.



AROA NET & AROA GROSS

0'-0" LEVEL (200'-0" AUL)

AROA GROSS

2597

AROA NET

747

25'-0" LEVEL (175'-0" AUL)

AROA GROSS

4077

AROA NET

757

50'-0" LEVEL (150'-0" AUL)

AROA GROSS

5007

AROA NET

687

75'-0" LEVEL (125'-0" AUL)

AROA GROSS

5947

AROA NET

657



\_\_\_\_\_  
SHELTON / TRUMBLE  
\_\_\_\_\_

SHEET NO. 3  
JOB NO. \_\_\_\_\_  
BY \_\_\_\_\_

100'-0" LEVEL (100'-0" AUL)

AREA GROSS

[688<sup>sq</sup>ft]

AREA NET

[84<sup>sq</sup>ft]

125'-0" LEVEL (75'-0" AUL)

AREA GROSS

[781<sup>sq</sup>ft]

AREA NET

[70<sup>sq</sup>ft]

150'-0" LEVEL (50'-0" AUL)

AREA GROSS

[875<sup>sq</sup>ft]

AREA NET

[80<sup>sq</sup>ft]

175'-0" LEVEL (25'-0" AUL)

AREA GROSS

[969<sup>sq</sup>ft]

AREA NET

[96<sup>sq</sup>ft]



DISCRETE APPURTENANCES

NOTES: LOADS DUE TO EXISTING AT&T PARABOLIC ANTENNAS ARE CALCULATED SEPARATELY.

0'-0" LEVEL (200'-0" AGL)

- 1) ONE OMNI ANT & MOUNT = 15<sup>#</sup> CAC
  - 2) TWO 6'-0" DIA. PARABOLIC ANT AND MOUNT (CT POLICE) = 90<sup>#</sup> CAC
- 105<sup>#</sup> CAC**

25'-0" LEVEL (175'-0" AGL)

- 1) TWO PAROL ANTEN & MOUNTS = 24<sup>#</sup> CAC (CT POLICE)
  - 2) TWO OMNI ANTEN & MOUNTS = 20<sup>#</sup> CAC (CT POLICE)
  - 3) THREE SAS-62 C MOUNTS AND THREE OMNI ANTENNAS =  $3 \times 20^{\#} = \frac{60^{\#} \text{ CAC}}{2} = 30^{\#} \text{ CAC (NEXTEL)}$
- 74<sup>#</sup> CAC**

50'-0" LEVEL (150'-0" AGL)

- 1) NEXTEL MOUNTS & OMNI ANTENNAS = 30<sup>#</sup> CAC (NEXTEL)
  - 2) NINE FMP-31 MOUNTS =  $9 \times 5^{\#} = 45^{\#} \text{ CAC (SPRINT)}$
  - 3) SIX DECEMBER 2000 PAROL ANTENNAS =  $6 \times 5^{\#} = 30^{\#} \text{ CAC (SPRINT)}$
  - 4) PROPOSED AT&T PAROL ANTENNAS & MOUNTS
  - 1) THREE MOUNTS =  $3 \times 15^{\#} = 45^{\#} \text{ CAC}$
  - 2) SIX ALLIUM 7250-03 PAROL ANTENNAS =  $6 \times 5^{\#} = 30^{\#} \text{ CAC}$
- 180<sup>#</sup> CAC**



SHELTON TRUMBLE

SHEET NO. 5  
JOB NO.  
BY

75'-0" LEVEL (125'-0" AUL)

1) THREE SAS-62C MOUNTS @ OMNI ANTENNAS (PARADIGM)

$$= 3 \times 20' = 60' \text{ (CAC)}$$

2) ONE 6'-0" PARABOLIC ANTENNA (CT. POLICE)

$$= 33' \text{ (CAC)}$$

$$\boxed{93' \text{ (CAC)}}$$

LINEAR APPURTENANCES0'-0" LEVEL (200'-0" AGL)

- 1) CLIMBING LADDER =  $12.5' (1") = 12.5 \uparrow \text{cAA}$
- 2) ONE COAXIAL RUN =  $18.5' \left( \frac{1.55"}{12} \right) (1.2) = 2.87 \uparrow \text{cAA}$
- 3) TWO WAVEGUIDE RUNS =  $2 (17.5') \left( \frac{2"}{12} \right) (1.2) = 7.0 \uparrow \text{cAA}$

22.37  $\uparrow$  cAA

25'-0" LEVEL (175'-0" AGL)

- 1) CLIMBING LADDER =  $25'-0' (1") = 25.0 \uparrow \text{cAA}$
- 2) ONE COAXIAL RUN =  $25' \left( \frac{1.55"}{12} \right) (1.2) = 3.88 \uparrow \text{cAA}$
- 3) TWO WAVEGUIDE RUNS =  $2 (25') \left( \frac{2"}{12} \right) (1.2) = 10.0 \uparrow \text{cAA}$
- 4) FOUR COAXIAL RUNS =  $4 (18.5') \left( \frac{1.55"}{12} \right) (1.2) = 11.47 \uparrow \text{cAA}$
- 5) THREE COAXIAL RUNS =  $3 (10.5') \left( \frac{2"}{12} \right) (1.2) = 6.3 \uparrow \text{cAA}$

56.65  $\uparrow$  cAA

50'-0" LEVEL (150'-0" AGL)

- 1) CLIMBING LADDER =  $25.0 \uparrow \text{cAA}$
- 2) ONE COAXIAL RUN =  $3.88 \uparrow \text{cAA}$
- 3) TWO WAVEGUIDE RUNS =  $10.0 \uparrow \text{cAA}$
- 4) FOUR COAXIAL RUNS =  $2 (25') \left( \frac{1.55"}{12} \right) (1.2) = 15.0 \uparrow \text{cAA}$
- 5) THREE COAXIAL RUNS =  $3 (25') \left( \frac{2"}{12} \right) (1.2) = 15.0 \uparrow \text{cAA}$
- 6) TWELVE AT&T WIRELESS 11.9"  $\phi$  COAXIAL RUNS BUNDLED.  
=  $6 (6.5') \left( \frac{1.55"}{12} \right) (1.2) = 6.05 \uparrow \text{cAA}$
- 7) SIX SPRINT COAXIAL RUNS =  $6 (12.5') \left( \frac{2"}{12} \right) (1.2) = 15.0 \uparrow \text{cAA}$

89.93  $\uparrow$  cAA

75'-0" LEVEL (125'-0" AUL)

- 1) CLIMBING LADDER = 25-0' # Coax
- 2) ONE COAXIAL RUN = 3-88' # Coax
- 3) TWO WAVEGUIDE RUNS = 10-0' # Coax
- 4) FOUR COAXIAL RUNS = 15-0' # Coax
- 5) THREE COAXIAL RUNS = 15-0' # Coax
- 6) SPRINT PCS COAX =  $6(25') \left( \frac{2''}{12} \right) (1.2) = 30-0' \# \text{ Coax}$
- 7) AT&T WIRELESS COAX =  $6(25') \left( \frac{1.55''}{12} \right) (1.2) = 23-25' \# \text{ Coax}$
- 8) THREE 7/8"  $\phi$  COAX =  $3(27') \left( \frac{1.09''}{12} \right) (1.2) = 8-83' \# \text{ Coax}$
- 9) ONE WAVEGUIDE RUN =  $12.5' \left( \frac{2''}{12} \right) (1.2) = 2-5' \# \text{ Coax}$

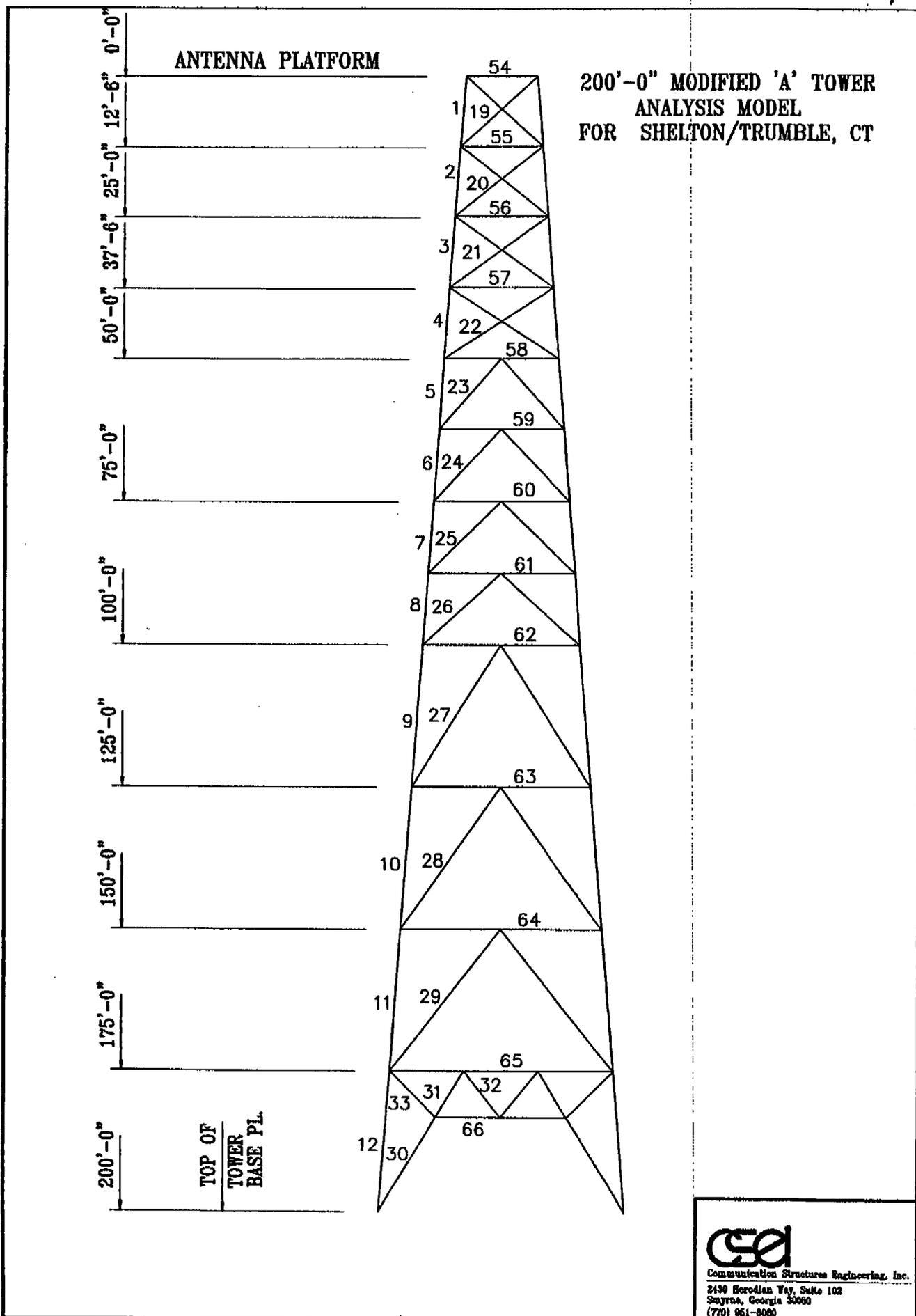
133-46' # Coax

100'-0" LEVEL TO 175'-0" LEVEL (25'-0" PANOLS)100'-0" AUL TO 25'-0" AUL

- 1) CLIMBING LADDER = 25-0' # Coax
- 2) ONE COAXIAL RUN = 3-88' # Coax (W/IF @ TOP)
- 3) THREE WAVEGUIDE RUNS = 15-0' # Coax (3 DISH, CT POLICE)
- 4) FOUR COAXIAL RUNS = 15-0' # Coax (CT POLICE)
- 5) THREE COAXIAL RUNS = 15-0' # Coax (NG & TEL)
- 6) SIX COAXIAL RUNS = 30-0' # Coax (SPRINT)
- 7) TWELVE COAXIAL RUNS (BUNDLED) = 23-25' # Coax (AT&T WIRELESS)
- 8) THREE 7/8"  $\phi$  COAX. RUNS =  $3(25') \left( \frac{1.09''}{12} \right) (1.2) = 8-18' \# \text{ Coax}$   
(PAGE NT)

135-31' # Coax





ANTENNA PLATFORM

200'-0" MODIFIED 'A' TOWER  
ANALYSIS MODEL  
FOR SHELTON/TRUMBLE, CT

0'-0"  
12'-6"  
25'-0"  
37'-6"  
50'-0"  
75'-0"  
100'-0"  
125'-0"  
150'-0"  
175'-0"  
200'-0"

TOP OF  
TOWER  
BASE PL.



Communication Structures Engineering, Inc.  
2430 Herodian Way, Suite 102  
Smyrna, Georgia 30080  
(770) 951-8000







## FOUNDATION LOAD COMPARISON

COMPARISON OF MAXIMUM LEG LOAD FROM PRESENT ANALYSIS  
WITH MAXIMUM LEG LOAD FROM ORIGINAL TOWER DESIGN.

### PRESENT CSEI ANALYSIS WITHOUT ONE THIRD REDUCTION

MAXIMUM LEG LOAD = 187.05 KIPS

### ORIGINAL TOWER DESIGN WITHOUT ONE THIRD REDUCTION

MAXIMUM LEG LOAD = 240.7 KIPS

### CONCLUSION

ASSUMING THE ORIGINAL FOUNDATION WAS DESIGNED PROPERLY,  
FOUNDATION WILL BE ADEQUATE FOR CURRENT LOADS.



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

SITE ID:913-010-542

June 19,2002

**Prepared by AT&T Wireless Services, Inc.  
Vishal Kataria 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 14 Oxford Road, Shelton, CT-06611. 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>Shelton-Booth-Hill</b>	
Number of simultaneously operating channels	12
Type of antenna	Allgon 7250.03
Power per channel (Watts ERP)	250.0 Watts
Height of antenna (feet AGL)	144 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 .000468 mW/cm<sup>2</sup> which occurs at 1300 feet from the antenna facility. 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>	.000468 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 .05% 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 (Edwards & Kelcy, Oct 27,2000) it is seen that the total exposure for this site was 05.8 % of MPE which Includes 4.6% from Actual On-site Measurements and 1.26 from pagenet antennas. Adding the energy from the proposed AT&T system brings the total exposure to 5.85 % of MPE for uncontrolled (general public) exposure.

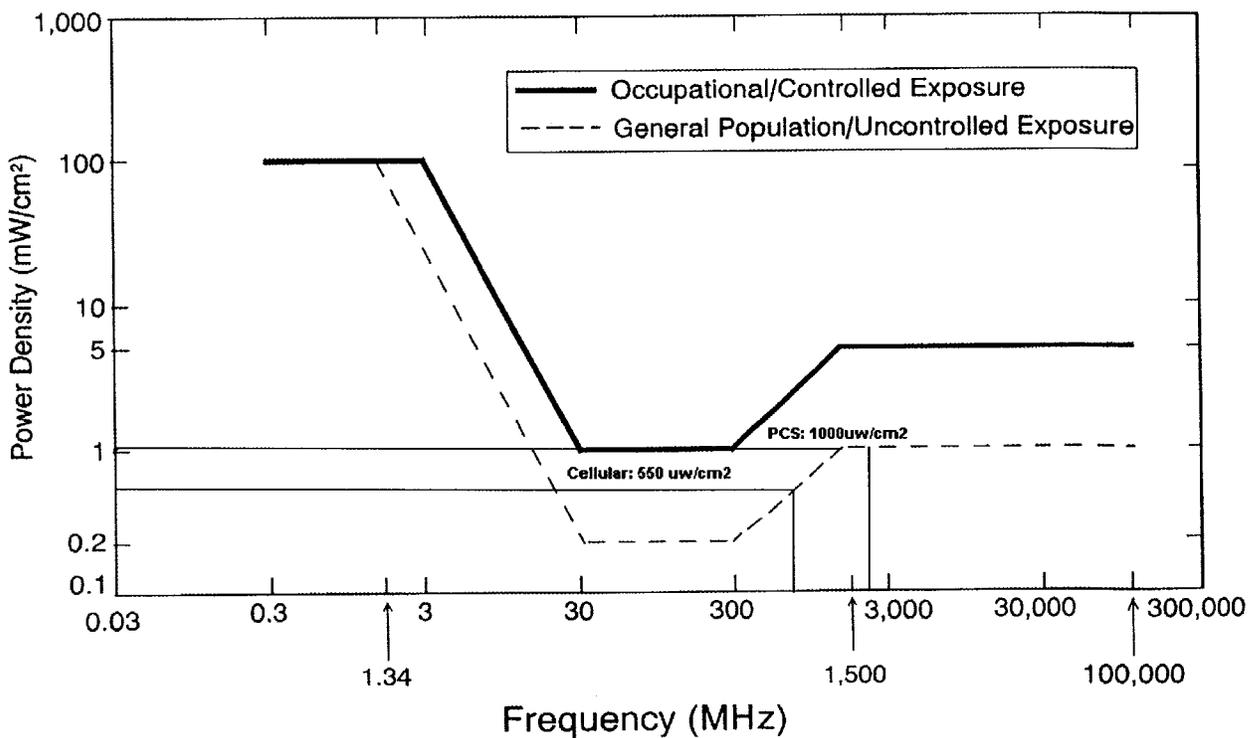
#### 6. Conclusion

This analysis show that the maximum power density in accessible areas at this location will be 05.85 % 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."

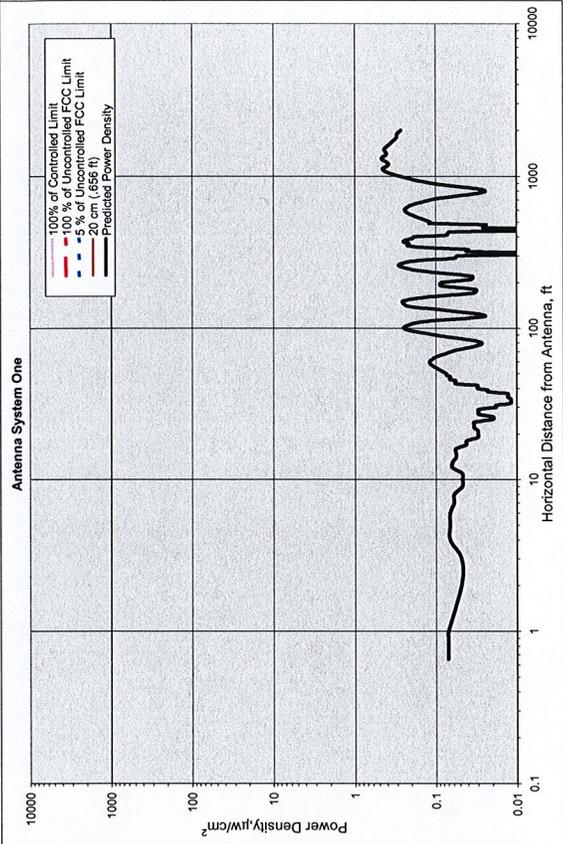
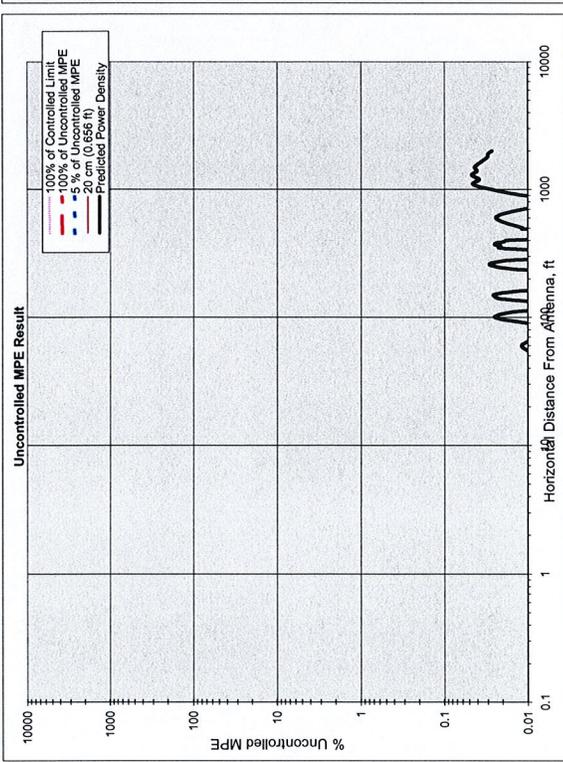
### 7. FCC Limits for Maximum Permissible Exposure

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



**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		@Horiz. Dist. feet
	mW/cm <sup>2</sup>	% of limit	
Maximum Power Density =	0.000468	0.05	1300.00
2,139.03 times lower than the MPE limit for uncontrolled environment			
Composite Power (ERP) =	3,000.00	Watts	

Site ID: 907-010-542  
 Site Name: Shelton-Booth Hill  
 Site Location: 14,Oxford Drive  
 Shelton, CT 06611

Performed By: Vishal Kataria  
 Date: 6/19/02

## Antenna System One

	units	Value
Frequency	MHz	1965.00
# of Channels	#	12
Max ERP/Ch	Watts	250.00
Max Pwr/Ch Into Ant.	Watts	5.86
(Center of Radiator)	feet	144.00
Calculation Point	feet	0.00
(above ground or	feet	0.00
roof surface)	feet	0.00
Antenna Model No.		Allgon 7250.03
Max Ant Gain	dBd	16.30
Down tilt	degrees	2.00
Miscellaneous Att.	dB	0.00
Height of aperture	feet	5.11
Ant HBW	degrees	65.00
Distance to Ant <sub>system</sub>	feet	141.45
WOS?	Y/N?	n

Ant System ONE Owner: AT&T  
 Sector: 3  
 Azimuth: 0/120/240

## 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](mailto:rfsafety@fcc.gov)  
RF Safety Web Site: [www.fcc.gov/oet/rfsafety](http://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.