

SNET Mobility, Inc.
555 Long Wharf Drive
New Haven, Connecticut 06511
Phone (203) 553-7595



Ronald C. Clark
Manager-Real Estate

November 30, 1994

RECEIVED

DEC - 1 1994

**CONNECTICUT
SITING COUNCIL**

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
136 Main Street, Suite 401
New Britain, CT 06051-4225

Dear Mr. Gelston,

On August 30, 1994, the Siting Council approved Springwiche's notice of an exempt modification of an existing tower located at 10 Catoonah Avenue in Ridgefield.

We are writing to respectfully notify the Siting Council that all work at the site has been completed.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. C. Clark'.



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

September 7, 1994

Peter J. Tyrrell
Senior Attorney
Springwich Cellular Limited Partnership
227 Church Street
New Haven, CT 06510

RE: Springwich Cellular Limited Partnership notice of intent to modify an existing telecommunications facility and associated equipment located at 10 Catoonah Avenue in Ridgefield, Connecticut.

Dear Attorney Tyrrell:

At a meeting held August 30, 1994, the Connecticut Siting Council (Council) acknowledged your notice of an exempt modification at an existing tower site located at 10 Catoonah Avenue in Ridgefield, Connecticut, pursuant to section 16-50j-73 of the Regulations of State Agencies (RSA).

The proposed modification is to be implemented as specified in your notice dated August 17, 1994. The modification is in compliance with the exception criteria in RSA section 16-50j-72(b) (1) routine general maintenance and one-for-one replacement of facility components that is necessary for reliable operations, and (2) as changes to an existing facility that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by 6 decibels, and increase the total radio frequency 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 section 22a-162 of the Connecticut General Statutes.

This shared use of an existing tower protects the public interest by avoiding proliferation of additional unnecessary tower structures.

Please notify the Council when all work is complete.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/FOC/ss

cc: Honorable Sue W. Manning, First Selectman, Town of Ridgefield
830dec.doc



SNET Mobility, Inc.
555 Long Wharf Drive
8th Floor
New Haven, Connecticut 06511
Phone (203) 553-7601

Barry F. Burke
Vice President-Operations

August 17, 1994

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
136 Main Street, Suite 401
New Britain, CT 06051

RECEIVED
AUG 17 1994

CONNECTICUT
SITING COUNCIL

Dear Chairman Gelston:

Enclosed please find a Notice of Intent to Modify an Exempt Tower and Associated Equipment for facilities owned and operated by the Southern New England Telephone Company (SNET) located at 10 Catoonah Avenue in Ridgefield, Connecticut. The Springwch Cellular Limited Partnership (SCLP) proposes to replace the existing tower located at the rear of the building with one of the same height and diameter, install antennas on the new tower and install radio equipment inside the building. The site will be used to improve and expand cellular telephone service in the Ridgefield area.

The attached pages detail the required information. As is shown in the attachment, the proposed addition meets all the necessary criteria established in the Regulations of Connecticut State Agencies Section 16-50j-72 (b) (2), and is thus an exempt facility pursuant to Section 16-50j-73.

Please record Peter J. Tyrrell Esq. as counsel for SCLP in this matter and in all correspondence from the Council.

Thank you for your cooperation.

Very truly yours,

A handwritten signature in cursive script that reads "Barry F. Burke".

copy to: Honorable Sue W. Manning, First Selectman
Town of Ridgefield

Mr. James A. Van Der Beek, Southern New England Telephone

Ridgefield

Pursuant to Section 16-50i (a) (5) of the Connecticut General Statutes and Section 16-50j-72 (b) (2), as amended, of the Regulations of Connecticut State Agencies, the Springwiche Cellular Limited Partnership (SCLP) hereby notifies the Connecticut Siting Council that it intends to modify an existing telecommunications facility by replacing the existing tower with one of the same height and design and installing cellular service antennas to the new tower. The site is located at 10 Catoonah Avenue in Ridgefield, Connecticut.

Background

The proposed location is at the site of SNET's Ridgefield Central Office. This brick building contains equipment needed to provide local telephone exchange service in Ridgefield.

Located directly behind the Central Office is an existing 65 foot free standing wooden monopole with a yagi antenna installed at the 63 foot level. This facility was built in the mid - 1960's and pre-dates the Siting Council's tower formal site list. The existing antenna is used as a satellite receiver station for mobile (non-cellular) communications on the Ridgefield area.

Discussion

SCLP proposes to replace the existing tower with a new one of the same dimensions and install two, eight foot omnidirectional whip antennas on the new tower in order to supplement and improve cellular coverage in the Ridgefield area.

The cellular equipment required to operate the antennas will be installed inside the existing building, thus completely hidden from public view.

Power density calculations and related information are provided on Attachment A. This clearly shows power density levels fall well below current Connecticut and ANSI Standards.

Conclusion

The proposed addition does not constitute a "modification" of an existing facility as defined in Connecticut General Statutes Section 16-50i (d). This is because there is no change in the tower's height. There is no extension of the boundaries of the site. There will be no increase in noise levels at the site's boundary by six decibels or more, and the total radio frequency electromagnetic radiation is not at or above the standard set forth in Section 22 (a) - 162 of the Connecticut General Statutes. This addition will not have a substantially adverse environmental effect.

For the reasons discussed above, SCLP requests that the Council acknowledge that this Notice of Modification meets the Council's exemption criteria.

RIDGEFIELD

All power density figures are calculated following the IEEE C95.1-1991 standard.

The following three assumptions are applied for a worst-case approximation where the specific make and model of the antenna are unknown, and thus the antenna transmission pattern (main beam and secondary lobes) cannot be determined:

- 1) All antennas are omni-directional in both the horizontal and vertical plane.
- 2) All transmitters are activated simultaneously at full power.
- 3) There is 100% ground reflection of the signal, which results in doubling the signal strength and increasing the power density by a factor of four.

When the specific antenna type and transmission pattern are known, as in the case with the cellular antennas to be used in Ridgefield, SCLP uses a method of calculation which considers the type of antenna and the power that is emitted from the nearest lobe instead of the main horizontal beam. This results in a more realistic representation of the antennas radiating pattern and its orientation relative to a specific target location.

The formula for power density is:

$$S = \text{EIRP} / \pi R^2$$

where: S = power density.
EIRP = equivalent (or effective) isotropic radiated power.
R = distance to the center of radiation (antenna).

The cellular power density calculation is based on fifty-six channels emitting 100 Watts ERP each.

Since power density is expressed in milliwatts per square centimeter, the following conversions must be made:

- 1 foot = 30.5 centimeters
- 1 Watt = 1,000 milliwatts (abbreviated as mW)
- 1 Watt ERP = 1.64 Watts EIRP (this is the gain of a half-wave dipole relative to an isotropic radiator)

Using the cellular omni-directional Austin 7.5 dB gain antenna, the gain of the lobe nearest to the target location is 10.5 dB down from the main horizontal lobe or main beam (see attached sketch). While the main horizontal lobe emits the full 100 Watts ERP, the nearest secondary lobe emits only 8.91 Watts ERP. 8.91 Watts equals 8910 milliwatts, and is used in the power density formula.

Based on the location and orientation of the cellular antenna (63 feet above the tower base), the nearest lobe is directed at a point 31 feet away from the base of the tower. This location is 70 feet away from the antenna, or 2133.5 centimeters (R).

Substituting all these values into the power density formula, we get:

$$S = ((1.64)(56)(8910))/((\pi)(2133.5)^2) = 0.057 \text{ mW/cm}^2, \text{ or } 9.72 \% \text{ of the ANSI and Connecticut Standard.}$$

The power density at the nearest site boundary of the Ridgefield site (approximately five feet from the tower) is actually lower as it is within the "null" between the main beam and secondary antenna lobe. Catoonah Street is approximately one hundred and thirty feet from the base of the tower, and for the same reason, the power density would be lower than above.

As explained in the body of the Exempt Modification filing, there are no transmit antennas at this location and thus no power density calculations.

APC-8065

06-17-1994 09:48:28

Freq = 850 MHz

