



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

Web Site: www.state.ct.us/csc/index.htm

May 10, 2002

Thomas J. Regan, Esq.
Brown, Rudnick, Freed & Gesmer, P.C.
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402

RE: **TS-SPRINT-008-020415** - Sprint PCS request for an order to approve tower sharing at an existing telecommunications facility located at the Bethany Highway Department, 719 Amity Road, Bethany, Connecticut.

Dear Attorney Regan:

At a public meeting held May 7, 2002, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. 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.

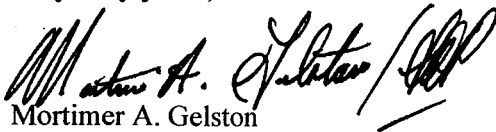
This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point 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.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated April 12, 2002.

Thank you for your attention and cooperation.

Very truly yours,



Mortimer A. Gelston
Chairman

MAG/DM/laf

c: Honorable Craig A. Stahl, First Selectman, Town of Bethany
Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany
Maureen Woodstrom, SpectraSite Communications
Michele G. Briggs, SNET Mobility LLC
Stephen J. Humes, Esq., LeBoeuf, Lamb, Greene & MacRae



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TOWN OF BETHANY

Office of the First Selectman
Town Hall - 40 Peck Road
Bethany, Connecticut 06524-3378
Telephone: (203) 393-2100 ext 100

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MAY - 6 2002

CONNECTICUT
SITING COUNCIL

May 2, 2002

State of Connecticut
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Your meeting of May 7, 2002
Item No. 16. **TS_SPRINT-008-020415**

Attention: Mortimer A. Gelston, Chairman

Dear Mr. Gelston,

I would like to go on record supporting the Sprint PCS request to share a tower at the existing telecommunications facility located at the Bethany Highway Department, 719 Amity Road, Bethany.

This location would have a minimal effect on the residents of Bethany, while providing for the public need for wireless communications.

Sincerely,

Craig A. Stahl
First Selectman



° Town of Bethany

Office of the First Selectman
Town of Bethany
Town Hall - 40 Peck Road
Bethany, Connecticut 06524-3338
Telephone: (203) 393-2100
Fax: (203) 393-0821



April 24, 2002

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

Re: TS-SPRINT-008-020415

Dear Chairman Gelston:

I am in receipt of a notification, from your office, dated April 18, 2002 concerning the proposed co-location of a Sprint Spectrum, L.P. d/b/a Sprint P.C.S. antenna array and G.P.S. antenna on an existing tower located on property owned by the Town of Bethany at 761 Amity Road (formerly 719 Amity Road) in Bethany.

I would like to voice my support of the concept of the proposed addition of antennae and related base station equipment at the existing SpectraSite Tower location.

Please contact me if you have any questions concerning the above.

Craig A. Stahl
First Selectman

cc: Robert H. Brinton, Land Use Administrator
Thomas J. Regan, Esq., Brown, Rudnick, Berlack, Israels, LLP



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

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Web Site: www.state.ct.us/csc/index.htm

April 18, 2002

Honorable Craig A. Stahl
First Selectman
Town of Bethany
Town Hall
40 Peck Road
Bethany, CT 06524-3338

RE: **TS-SPRINT-008-020415** – Sprint PCS request for an order to approve tower sharing at an existing telecommunications facility located at the Bethany Highway Department, 719 Amity Road, Bethany, Connecticut

Dear Mr. Stahl:

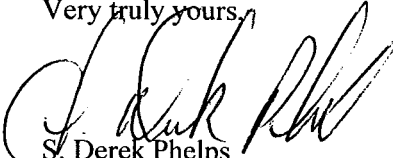
The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for May 7, 2002, at 1:30 p.m. in Hearing Room One, 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,



S. Derek Phelps
Executive Director

SDP/esc

Enclosure: Notice of Tower Sharing

c: Robert H. Brinton, Zoning Enforcement Officer, Town of Bethany

TS-SPRINT-008-020415
719 Amity Road
Bethany 04/19/02





TS-SPRINT-008-020415
719 Amity Road
Belhany 02119/02

Thomas J. Regan, Esq.
direct dial: 860.509.6522
tregan@brbilaw.com

April 12, 2002

1ST CLASS MAIL

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

RE: Tower Sharing Proposal

Dear Chairman Gelston:

Enclosed please find an original and twenty-five copies of Sprint Spectrum L.P.'s Tower Sharing Proposal to co-locate on the SpectraSite tower at 719 Amity Road in Bethany. Five full sized copies of the site plan have been bulk filed. Also enclosed is a check in the amount of \$500.00 as the filing fee.

Very truly yours,

BROWN RUDNICK BERLACK ISRAELS LLP

By: Thomas J. Regan /s/
Thomas J. Regan

Encl.

cc: First Selectman, Town of Bethany

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ORIGINAL

CONNECTICUT SITING COUNCIL

In re:

Request of Sprint Spectrum, L.P. d/b/a Sprint :
PCS for the Approval of the Shared Use of the :
Existing SpectraSite Tower located at the :
Bethany Highway Department, 719 Amity Road :
in Bethany, Connecticut. : April 12, 2002

TOWER SHARING PROPOSAL

Sprint proposes herein to share an existing telecommunications tower (the "Tower") and associated compound located at the Bethany Highway Department at 719 Amity Road in Bethany, Connecticut (collectively, the "Facility"). Pursuant to Connecticut General Statutes § 16-50aa (the "Statute"), Sprint requests a finding from the Connecticut Siting Council (the "Council") that the shared use of this Facility is technically, legally, environmentally and economically feasible, will meet public safety concerns, will avoid the unnecessary proliferation of towers and is in the public interest. Sprint further requests an order approving the proposed shared use of this Facility.

The purpose of this request is to use an existing facility to meet Sprint's coverage needs in the Bethany area and to avoid the construction of an additional tower in Bethany.

A. Existing Facility

The existing Facility is owned by SpectraSite Communications. The Facility consists of a one hundred fifty-foot (150') monopole. SNET and Voicestream are currently located on the Tower at one hundred fifty feet (150') and one hundred forty feet (140'), respectively. (Exhibit A).

B. Proposed Project

Sprint proposes the installation of twelve (12) antennas mounted on a triangular platform with four (4) antennas per sector, with the centerline at one hundred thirty feet (130'). Sprint also proposes the installation of a small global positioning system antenna at fifty feet (50'). The base station equipment associated with the antennas will be located on a ten-foot by twenty-foot (10' x 20') concrete pad within Sprint's fifteen-foot by twenty-five-foot (12' x 25') lease area. (Exhibit A).

C. Technical Feasibility

Consistent with the requirements of the Statute, it is technically feasible for Sprint to co-locate on this Tower. The existing monopole was designed and constructed to support three (3) carriers. Sprint will be the third carrier located on the Tower. The structural capability of the Tower is described in a report prepared by Natcomm, LLC dated February 15, 2002, which is provided as Exhibit B.

D. Legal / Economic Feasibility

Sprint is a wireless telecommunications provider licensed by the Federal Communications Commission in 32 major United States trading areas, including Connecticut. Sprint has entered into a lease with SpectraSite Communications for the purpose of locating Sprint's antennas and associated equipment at the Facility to provide wireless telecommunications service to this area of Bethany, Connecticut.

The Council has the authority, pursuant to the Statute, to issue an order approving the shared use of the Facility. Therefore, consistent with the Statute, the proposal is both economically and legally feasible.

E. Environmental Feasibility

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:

- The overall impact on the Town of Bethany will be decreased with the sharing of a single tower versus the proliferation of many towers.
- The proposal will not increase the height of the Tower or the size of the compound.
- The proposal will have an insignificant visual impact with the addition of four (4) panel antennas per sector.
- There will be no increased impact on any wetlands or water resources.
- There will be no increased impact on air quality because no air pollutants will be generated during the normal operation of the Facility.
- There will only be a brief, slight increase in noise pollution during the attachment of the antennas.
- During construction, the proposed project will generate a small amount of traffic as workers arrive and depart and materials are delivered. Upon completion, traffic will be limited to an average of one (1) monthly maintenance and inspection visit.

- The total frequency electromagnetic radiation of the power density measured at the site will not be at or above the standard adopted by the Federal Communications Commission (the “FCC”). Attached as Exhibit C is a worst case power density analysis for the operation of Sprint’s antennas at the Facility as measured at the base of the Tower and a cumulative analysis for the Facility with the Fire Department’s, Highway Department’s, Sprint’s, SNET’s and Voicestream’s antennas. The cumulative power density is 12.1706 % of the maximum permissible exposure based on the NCRP standard. These calculations show that the Facility will be well below the FCC mandated limits in all locations around the existing Tower, even with extremely conservative assumptions.

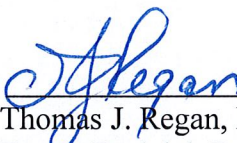
F. Public Safety Concerns / Benefits

In accordance with the Statute, there are no known public safety concerns associated with this proposal. Moreover, Sprint will be enhancing the communication needs of the citizens of the community. This Facility will cover an approximate 2 mile coverage gap along Route 63 and an approximate 1.2 mile coverage gap along Route 42. Therefore, not only will this Facility will be an essential part of Sprint’s telecommunications network throughout Connecticut, it will facilitate wireless communications for emergency services, businesses and residents in and around this area of Bethany.

Conclusion

For the reasons stated above, the attachment of Sprint's antennas to this Tower would meet all the requirements set forth in the Statute. This proposal is technically, legally, environmentally and economically feasible and meets all public safety concerns. Therefore, Sprint respectfully requests that the Council approve this request for the shared use of the existing telecommunications facility located at 716 Amity Road in Bethany, Connecticut.

Sprint Spectrum, L.P.
d/b/a Sprint PCS

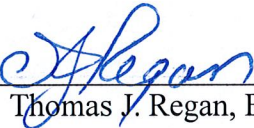
By: 
Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402
Phone - (860) 509-6522
Fax - (860) 509-6501

Certificate of Service

This is to certify that on this 12th day of April, the foregoing Tower Sharing Proposal was delivered, via first class mail, to the following:

SpectraSite Communications
100 Regency Forest
Suite 400
Cary, NC 27511

Craig A. Stahl, First Selectman
Town of Bethany
Town Hall
40 Peck Road
Bethany, CT 06524-3338

By: 
Thomas J. Regan, Esq.

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Introduction

The purpose of this report is to summarize the results of the structural analysis performed on the existing 150' monopole tower to determine the effects of adding the following antenna types to the structure:

- Sprint: Twelve (12) DB980F90 antennas mounted to low profile platform at an elevation of 130'-0" (+/-).

The existing antenna configuration provided by Spectra Site Communication, Inc. are as follows:

- SNET: One (1) 8' Omni on platform mounted at an elevation of 158'-0" (+/-).
 Nine (9) ALP 11011-N mounted on platform at an elevation of 151'-0" (+/-).
- Voice Stream: Six (6) EMS RR90-17-02DP DB208 antennas mounted to T arm at an elevation of 140'-0" (+/-).

The tower carries the horizontal and vertical loads due to the weight of antennas, transmissions lines, ice load and wind.

Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9th Edition.
- Ultimate strength of anchor bolts is assumed to be 125 ksi.
- Yield strength of base plate steel is assumed to be 50 ksi.
- All tower members adequately galvanized to prevent corrosion of steel members
- All proposed antenna mount are modeled as listed above.
- No residual stresses due to incorrect tower erection.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds conform to the requirements of AWS D1.1.
- Any deviation from the analyzed antenna loading will require a tower analysis for verification of structural integrity.

Analysis

The existing tower was analyzed using a comprehensive computer program entitled "SAFI". The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the centerline of the monopole mast the model assumes that the tower sections are subjected to bending, axial, and shear forces.

The tower analysis was based on the existing VALMONT design drawing #DC25777 dated August 10, 1995.

The existing tower was analyzed for 85mph basic wind speed with no ice and 75% of the 85mph wind load with ice to determine stresses in members as per guidelines of TIA/EIA-222- F - 1996 edition.

Results

1- Tower members:

- Based on our analysis and other checks, the stresses of the tower's sections meet all the requirements per TIA/EIA-222-F standards.

2- Tower's Foundation:

- When considering shear plane cone type soil overburden and passive soil pressure, the factor of safety for overturning is 1.31 which is below the allowable value of 1.50 per TIA/EIA-222-F standards.
- The soil is adequate to support the proposed load.
- Existing base plate and anchor bolts are adequate to support the proposed load.

Conclusions

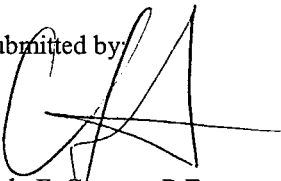
The existing foundation will require additional mass to compensate for the additional loads imposed on the existing 150 ft. monopole located at 719 Amity Road in Bethany, Connecticut.

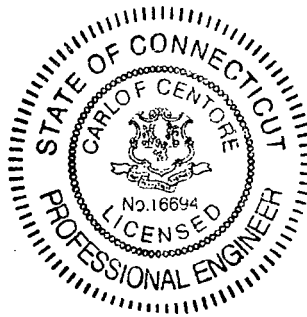
Recommendations

A preliminary assessment of the required tower foundation modification is as follows:

- Drill and insert #6 x 2'-*" long @ 18" o.c. top and bottom all around to side of existing footing with minimum embedment of 16".
- Drill and insert #4 x 2'-0" long (L-shape) @ 18" O.c. each way to the top of the existing footing with minimum 12" of embedment.
- Cast concrete strip 18" wide x height to match existing footing all around with 2 - #5 longitudinal top and bottom bars.
- Cast 9" concrete footing cap contiguous with the above strip.

Submitted by:


Carlo F. Centore, P.E.
Senior Project Manger



Prepared by:

Emad M. Mourad, P.E.
Structural Engineer

Power Density Analysis Table

Site Cascade: CT33XC515 - Bethany

SpectraSite tower, Bethany Highway Dept, 719 Amity Road, Bethany CT 06524

Worst Case Power Density Analysis of Sprint PCS Antennas @ Base of Tower. Assumes Max ERP & No Antenna Pattern Adjustment.

Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Total ERP (Watts)	Antenna Height (Feet)	Distance From Base of Tower (Feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure*	%MPE
1962.5	11	357.77	3935.47	130	0	0.083832	1	8.3832%
1962.5	11	357.77	3935.47	130	50	0.073029	1	7.3029%
1962.5	11	357.77	3935.47	130	100	0.052668	1	5.2668%
1962.5	11	357.77	3935.47	130	150	0.035959	1	3.5959%
1962.5	11	357.77	3935.47	130	200	0.024899	1	2.4899%
1962.5	11	357.77	3935.47	130	250	0.017843	1	1.7843%
1962.5	11	357.77	3935.47	130	300	0.013253	1	1.3253%
1962.5	11	357.77	3935.47	130	350	0.010163	1	1.0163%
1962.5	11	357.77	3935.47	130	400	0.008009	1	0.8009%
1962.5	11	357.77	3935.47	130	450	0.006457	1	0.6457%
1962.5	11	357.77	3935.47	130	500	0.005308	1	0.5308%

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992.

Cumulative Power Density Analysis Table

Site Cascade: CT33XC515 - Bethany						
SpectraSite tower, Bethany Highway Dept, 719 Amity Road, Bethany CT 06524						
Cumulative Power Density Analysis of Sprint PCS & Other Co-location Antennas						
Operator	Operating Frequency (MHz)	Distance to Target (ft)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE	
<i>Fire Dept¹</i>	33.54	160.0	0.000844	0.2000	0.4220%	
<i>Highway Dept¹</i>	155.835	160.0	0.001406	0.2000	0.7030%	
<i>Cingular¹</i>	880-890	150.0	0.019200	1.0000	1.9200%	
<i>Voicestream¹</i>	1930	140.0	0.007424	1.0000	0.7424%	
<i>Sprint</i>	1962.5	130.0	0.083832	1.0000	8.3832%	
Total Percentage of Maximum Permissible Exposure					12.1706%	

¹ Power Density calculations based on Information provided by Fire Dept, Highway Dept, Cingular and Voicestream.

*Requirements set forth in OET Bulletin 65. Based on NCRP Report No. 86 and ANSI/IEEE C95.1-1992