



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

September 14, 2001

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

RE: **TS-SPRINT-054-010820** - Sprint Spectrum, L.P. request for an order to approve tower sharing at an existing telecommunications facility located at 2577 Main Street, Glastonbury, Connecticut.

Dear Attorney Regan:

At a public meeting held September 12, 2001, 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 August 20, 2001.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/laf

c: Honorable Kurt P. Cavanaugh, Chairman Town Council, Town of Glastonbury
Richard J. Johnson, Town Manager, Town of Glastonbury
Kenith Leslie, Town Planner, Town of Glastonbury
Ronald C. Clark, Nextel Communications

THOMAS J. REGAN
ATTORNEY AT LAW

Direct Dial: 860.509.6522
E-Mail: tregan@brfg.com

<http://www.brownrudnick.com>

August 20, 2001

VIA HAND DELIVERY

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

RE: Tower Sharing Proposal

Dear Chairman Gelston:

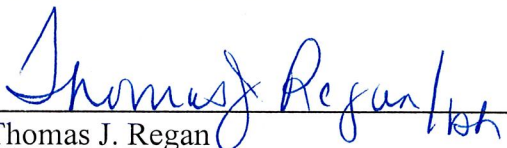
Enclosed please find an original and twenty-five copies of Sprint Spectrum, L.P.'s Tower Sharing Proposal to co-locate on the Nextel Communications existing tower at 2577 Main Street, Glastonbury, Connecticut. Also enclosed is a check for \$500.00 to cover the filing fee.

The Nextel tower received its original zoning approval from the Town of Glastonbury in September, 1999.

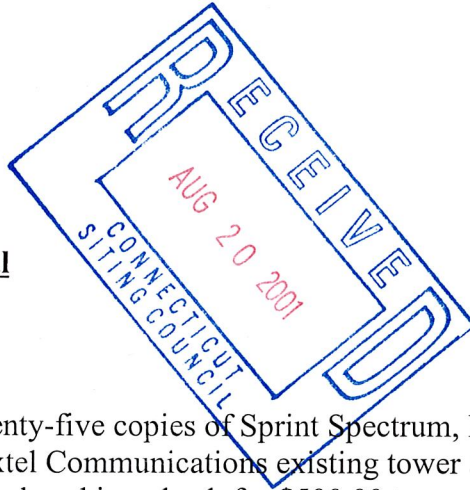
The Town Manager of Glastonbury was sent a complete copy of this Tower Sharing Proposal.

Very truly yours,

BROWN RUDNICK FREED & GESMER, P.C.

By: 
Thomas J. Regan

TJR/bh
Enclosures
cc: Richard J. Johnson, Town Manager



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 Telecommunications Facility Located at :
2577 Main Street in Glastonbury, Connecticut : August 20, 2001

TOWER SHARING PROPOSAL

Sprint proposes herein to share a telecommunications tower ("Tower") and associated compound located at 2577 Main Street in Glastonbury, Connecticut (collectively, the "Facility"). Pursuant to Connecticut General Statutes § 16-50aa (the "Statute"), Sprint requests a finding from the Connecticut Siting Council ("Council") that the shared use of this Facility is technically, legally, environmentally and economically feasible, and 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 Glastonbury area and to avoid the construction of an additional tower in Glastonbury.

A. Existing Facility

The Facility is located 2577 Main Street in Glastonbury and is owned by Nextel Communications of the Mid-Atlantic ("Nextel") (see Exhibit A - drawing number T-1 with vicinity map). The Facility currently consists of a one hundred thirty foot (130') lattice tower

and a one hundred feet by one hundred feet (100' x 100') compound area. At this time, one other carrier is present on the Tower.

B. Proposed Project

Sprint proposes the installation of nine (9) antennas mounted on antenna boom arms with three (3) antennas per sector, at the second position from the top of the Tower with the centerline at one hundred eighteen feet (118') (see Exhibit B - drawing number C-1, tower elevation).

Sprint also proposes the installation of a small global positioning system antenna at fifty feet (50') on the southwest side of the Tower. The base station equipment associated with the antennas will be on a concrete equipment pad which measures approximately eight feet and six inches by twenty feet (8'-6" x 20') and is equipped with an ice cover. There is also an ice bridge running from Sprint's equipment pad to the existing Tower.

C. Technical Feasibility

Consistent with the requirements of the Statute, it is technically feasible for Sprint to co-locate on this Tower. The existing lattice tower was designed and constructed to support two (2) carriers. Sprint will be the second carrier located on the Tower. The structural capability of the Tower is described in a Structural Tower Analysis from Natcomm, LLC dated August 10, 2001, which is attached hereto as Exhibit C.

Presently, there is one other carrier on the Tower and there are no issues associated with interference between Sprint's antennas and the antennas of the other carrier. Should any interference occur, Sprint will correct it after the antennas are installed.

D. Legal / Economic Feasibility

Sprint has entered into a lease agreement with Nextel Communications of the Mid-Atlantic, Inc. (the "Lease") for the purpose of locating Sprint's antennas and associated equipment at the Facility. The Council has the authority pursuant to the Statute to issue orders 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 Glastonbury will be decreased with the sharing of a singular 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 three 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 construction of the equipment building pad and 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 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. Attached as Exhibit D is the worst case power density analyses for Nextel and Sprint's antennas as well as the cumulative analysis, all of which were measured at the base of the Tower. The calculated power density for Sprint's antennas is 0.135201 mW/cm² and for Nextel's 0.019775 mW/cm². The cumulative maximum permissible exposure is 17.0058% based on the NCRP standard. These calculations show that Sprint will be well below the FCC mandated limits in all locations around the existing Tower, even with extremely conservative assumptions.

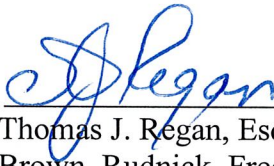
F. Public Safety Concerns / Benefits

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 area is mostly commercial in nature and contains roads with significant levels of traffic. By locating its antennas on this existing Tower, Sprint will be providing approximately two and six tenths (2.6) miles of coverage along Route 2, three and six tenths (3.6) miles along Main Street, one and three tenths (1.3) miles along Route 3 and one and a half (1.5) miles along Route 17. It is important to note that this Facility will cover the main business district of Glastonbury.

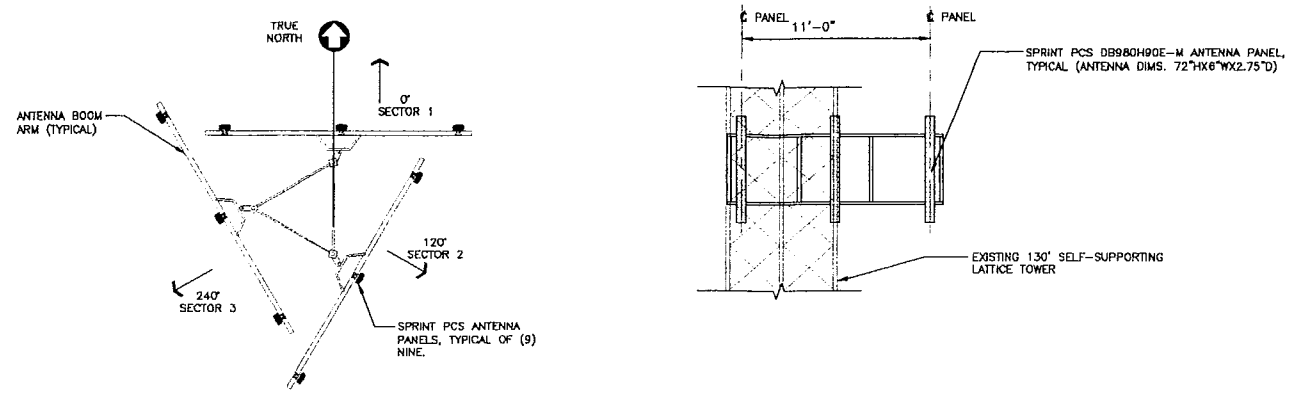
Conclusion

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 2577 Main Street in Glastonbury, Connecticut.

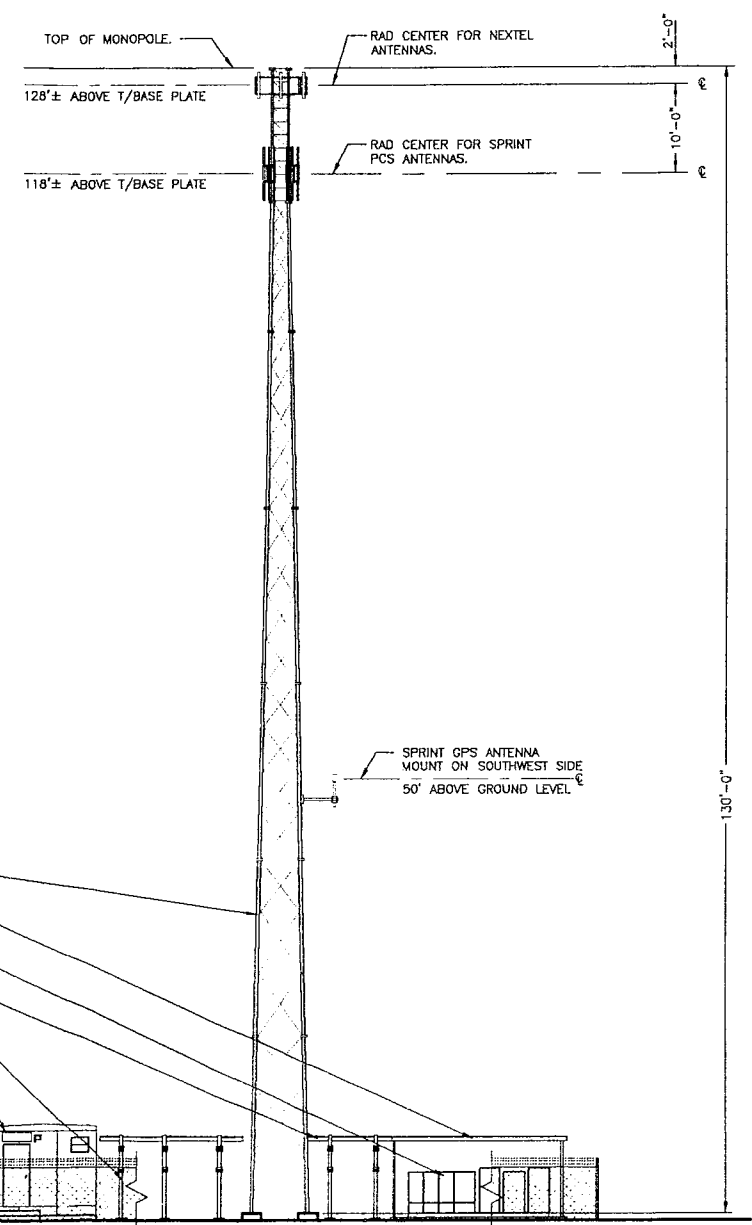
Sprint Spectrum, L.P.
d/b/a Sprint PCS

By: 
Thomas J. Regan, Esq.
Brown, Rudnick, Freed & Gesmer, P.C.
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402
Phone - (860) 509-6522
Fax - (860) 509-6501

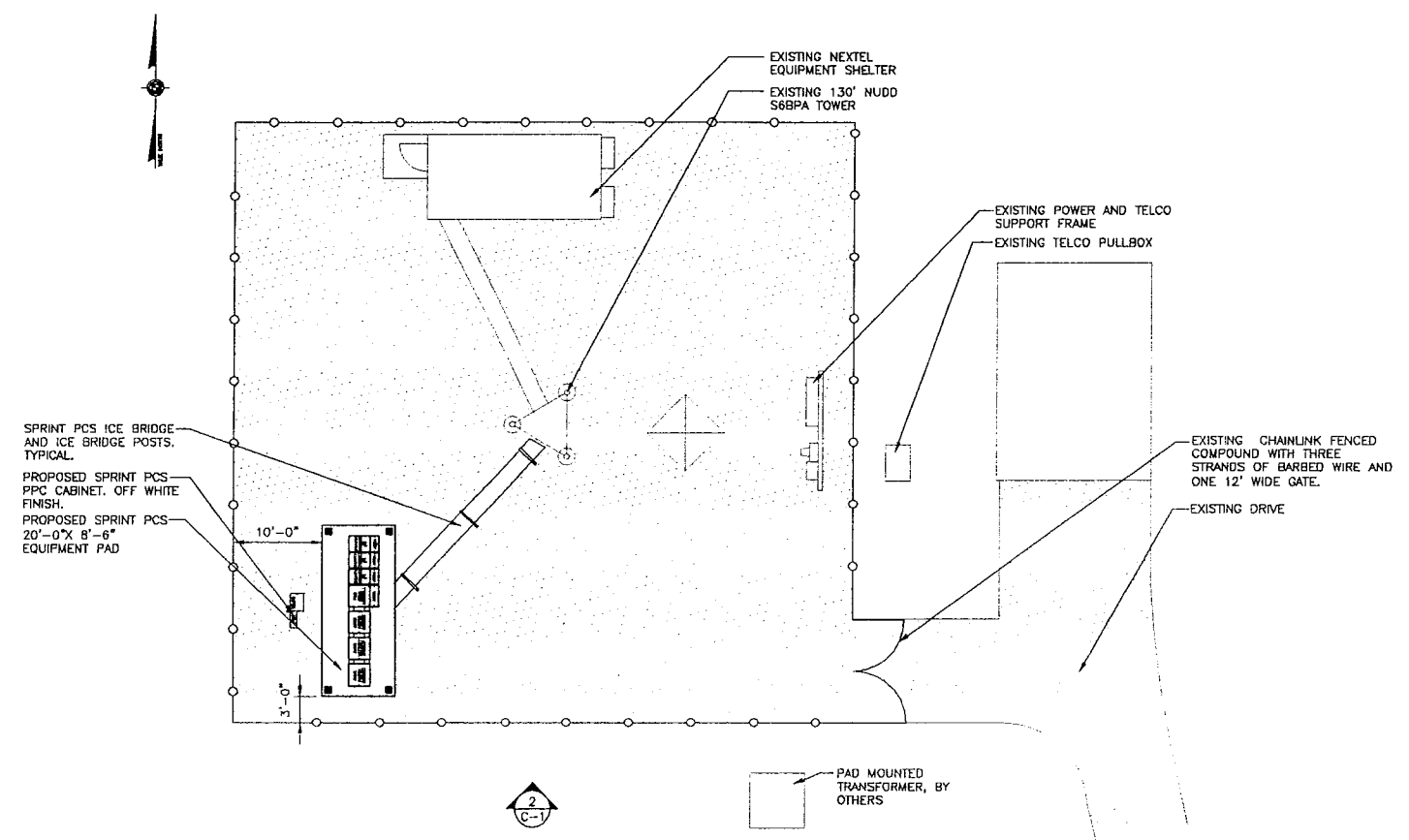
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3 TOWER ANTENNA MOUNT CONFIGURATION
C-1 SCALE: NONE



2 TOWER ELEVATION
C-1 SCALE: 1" = 10'-0"



1 COMPOUND PLAN
C-1 SCALE: 1" = 10'-0"

23BACCLDWG 11-15-00 11:41:26 am EST

Natcomm, L.L.C.
63-2 North Branford Road
Branford, Connecticut 06405
Tel: (203) 488-0580
Fax: (203) 488-5587
Consulting Engineers - Project Management
Civil - Structural - Mechanical - Electrical

GLASTONBURY
2577 MAIN STREET
GLASTONBURY, CONNECTICUT 06033
SITE NO.: CT43XC822

Sprint Spectrum LP
1 International Blvd. ~ Suite 300
Mahwah, NJ 07495

NO.	DATE	REVISIONS	BY	CHK	APP
1	11/14/00	ISSUED FOR SITING COUNCIL	JBA	WJP	WJP
DRAWN BY: JBA CHECKED BY: WJP SCALE: AS NOTED DATE: 10/04/00 PROFESSIONAL ENGINEER 604					

Sprint Spectrum LP

COMPOUND PLAN AND ELEVATION

JOB NO.	DRAWING NUMBER	REV.
238A	C-1	0

Structural Tower Analysis

Existing Latticed Tower

*Type "Three-Sided Latticed Tower"
130' S6BPA CELLULAR TOWER
to Support Additional Antenna Loads*

*2577 Main Street
Glastonbury, Connecticut*

Natcomm Project No. 238a

Date: August 10th, 2001

*Client: Sprint Spectrum LP
1 International Blvd-Suite 300
Mahwah, New Jersey*

Introduction

The purpose of this report is to summarize the results of the structural analysis performed on the existing 130' latticed tower to determine the effects of adding the following antenna types to structure:

- Sprint: Twelve (12) DB980H90E antennas mounted to standoff arms at an elevation of 118'-0"(+/-).

Existing antenna configuration as follows:

- Nextel: Twelve (12) DB844H90 antennas mounted to standoff arms at an elevation of 130'-0"(+/-).

The tower carries the horizontal and vertical loads due to the weight of antennas, 1 ¼ inch coax cable, ice load and wind.

Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9th Edition.
- All tower members adequately galvanized to prevent corrosion of steel members
- All proposed antenna mounts 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 main legs joints, and the model assumes that the legs members are subjected to combined bending, axial, and shear stresses.

The tower analysis was based on the existing FRED A. NUDD Corporation design drawing project #6893 dated September 1999.

The existing tower was analyzed for 85mph basic wind speed with no ice and 75% wind load with ½ inch accumulative ice to determine stresses in members as per guidelines of TIA/EIA-222- F - 1996 edition.

Results

1- Tower's Members:

Based on our analysis and other checks, the tower's elements were found overstressed as described below:

- 2" Rod main leg member at an elevation 100 ft.
- 4" Schedule 40 pipe main leg member at an elevation 80 ft.
- The galvanized ½" bolt for diagonal member connections at an elevation 20 ft.

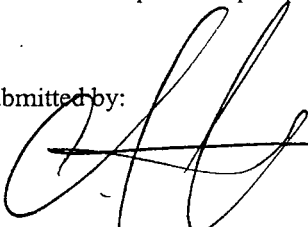
- The tower's foundation, anchor bolts, diagonal member were found satisfactory, and meet all structural requirements of EIA/TIA-222-F.

Conclusions

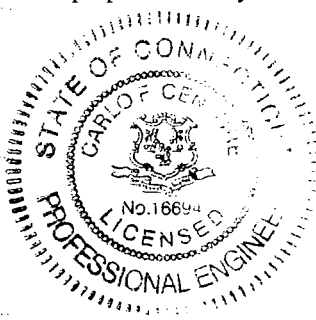
The existing 130 ft. latticed tower will require additional reinforcement or replacement of overstressed members and connections. No additional antennas shall be installed on this tower without a reinforcement design prepared by a licensed professional engineer experienced in tower structures.

This report is not intended to serve as a specification for remedial items that may be recommended herein. Additional details and/or specific repair procedures should be prepared for any remedial work.

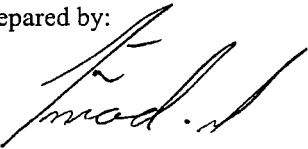
Submitted by:



Carlo F. Centore, P.E.



Prepared by:



Emad M. Mourad, P.E.

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feedline loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of *Natcomm, LLC* or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to *Natcomm, LLC* and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. *Natcomm, LLC* is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

Structural Analysis for Frame Installation (SAFI), is an integrated structural analysis and design software package for buildings, bridges, tower structures, and more.

General Features:

- 2D/3D analysis based on matrix method to handle large structural models.
- Non-linear analysis with automatic load and stiffness correction. Multiple analysis within the same run. Account for internal and external load balance.
- Beams, trusses, plates and shells, springs, pre-stressed cables.
- Finite element plates with or without transverse shear.
- Full/Partial end releases.
- Fixed, pinned and spring supports with releases.
- Standard sections (CISC, AISC and European)
- Customized section libraries
- Tubular sections with variable inertia: 4, 6, 8, 10, 12, 16 sided sections and circular sections.
- Automatic detection of unstable degrees of freedom.
- Extensive verification commands filter the user input.
- No limit for problem size, joints, members and loads. Only the computer's memory limits the solution of very large structures.
- Metric, Imperial and mixed units system which can be modified at any time before or after the solution. Reports can be printed in any unit system following the solution of the problem.
- Supports the American standards ASD and LRFD.
- Optimization and verification of standard steel sections:
 - AISC standard sections
 - Graphical assignment of steel design parameters.
 - Color chart presentation of limit states for any or all combined loads.

CT43XC822 - 2577 Main St., Glastonbury, CT
 Cumulative Worst Case Power Density Analysis of Sprint PCS and Nextel 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>Sprint</i>	1962.5	118	0.135201	1.0000	13.5201%
<i>Nextel</i>	851	128	0.019775	0.56733	3.4857%
Total Percentage of Maximum Permissible Exposure					17.0058%

Power Density Analysis Table

Site Name: CT43XC822 - 2577 Main St., Glastonbury, CT
 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 ¹	%MPE
1962.5	11	475.39	5229.29	118	0	0.135201	1	13.5201%
1962.5	11	475.39	5229.29	118	50	0.114622	1	11.4622%
1962.5	11	475.39	5229.29	118	100	0.078689	1	7.8689%
1962.5	11	475.39	5229.29	118	150	0.051684	1	5.1684%
1962.5	11	475.39	5229.29	118	200	0.034911	1	3.4911%
1962.5	11	475.39	5229.29	118	250	0.024633	1	2.4633%
1962.5	11	475.39	5229.29	118	300	0.018115	1	1.8115%
1962.5	11	475.39	5229.29	118	350	0.013799	1	1.3799%
1962.5	11	475.39	5229.29	118	400	0.010824	1	1.0824%
1962.5	11	475.39	5229.29	118	450	0.008698	1	0.8698%
1962.5	11	475.39	5229.29	118	500	0.007133	1	0.7133%

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

Power Density Analysis Table

Nextel Tower, 2577 Main St., Glastonbury, CT
 Worst Case Power Density Analysis of Nextel's 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
851	9	100	900	128	0	0.019775	0.56733	3.4857%
851	9	100	900	128	50	0.017157	0.56733	3.0242%
851	9	100	900	128	100	0.012280	0.56733	2.1646%
851	9	100	900	128	150	0.008332	0.56733	1.4687%
851	9	100	900	128	200	0.005746	0.56733	1.0129%
851	9	100	900	128	250	0.004107	0.56733	0.7240%
851	9	100	900	128	300	0.003046	0.56733	0.5368%
851	9	100	900	128	350	0.002333	0.56733	0.4112%
851	9	100	900	128	400	0.001837	0.56733	0.3238%
851	9	100	900	128	450	0.001480	0.56733	0.2609%
851	9	100	900	128	500	0.001216	0.56733	0.2144%

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