NIXON PEABODY

NIXON PEABODY LLP
ATTORNEYS AT LAW

NIXONPEABODY.COM
@NIXONPEABODYLLP

Jared C. Lusk
Partner
T 585-263-1140
F 866-402-1491
jlusk@nixonpeabody.com

1300 Clinton Square
Rochester, NY 14604-1792
585-263-1000

February 12, 2020

VIA HAND DELIVERY

Planning Board
Town of Thompson
4052 Route 42
Monticello, New York 12701
Attn: Heather Zangla, Planning Board Secretary

RE: Application by Tarpon Towers II, LLC ("Tarpon") and Bell Atlantic Mobile Systems of Allentown, Inc. d/b/a Verizon Wireless ("Verizon Wireless") for the approvals necessary to construct and operate a 184' wireless telecommunications tower (with 4' lightning rod) and associated improvements on land owned by Calcam Associates, Inc. located off Wurtsboro Mountain Road (S.B.L. # 35-1-34) in the Town of Thompson, Sullivan County, New York (Verizon Wireless' "Louise Marie" site)

Dear Members of the Planning Board:

By application dated January 24, 2019 and supplemental application materials dated February 28, March 27, April 24, May 22, June 20, September 20, 2019 and January 30, 2020 (collectively, the "Application"), Tarpon/Verizon Wireless applied to the Town of Thompson Planning Board for the approvals necessary to construct and operate the above-referenced project. Representatives of Tarpon/Verizon Wireless appeared before the Planning Board on February 13 and March 13 (for a public hearing), March 27, April 24, May 22, June 26, July 24 and September 25, 2019.

In furtherance of the Application, enclosed as Exhibit RR (lettered to follow Exhibits A-QQ previously submitted with the Application) is Verizon Wireless's Site Compliance Report (demonstrating Verizon Wireless' compliance with applicable federal standards).

If you have any questions or need anything further, please do not hesitate to contact me.

Very truly yours,

Jared C. Lusk

JCL/mkv
Enclosure
cc: Brett Buggeln
Kathy Pomponio
Michael Crosby
Sara Colman

Exhibit RR

SiteSafe
A QUALTEK Company

Verizon Wireless
Site Compliance Report

Site Name: Louise Marie
Site Address: Pine Tree Street
Thompson, NY 12775
Sullivan County
Structure Type: Self-Support

Report generated on: February 6, 2020
Report by: Nick Kutzke
Customer Contact: Naveen Gupta

Verizon Wireless will be compliant with the FCC Rules and Regulations in all publicly accessible areas.

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
New York License Number 101714
Expires July 31, 2022

Signed 06 February 2020

Site Safe, LLC
8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com

SiteSafe
A QualTek Company

Table of Contents

1 Executive Summary

Verizon Wireless has contracted with Site Safe, LLC (Sitesafe), an independent radiofrequency (RF) regulatory and engineering consulting firm, to determine if the proposed telecommunications facility is in compliance with the Federal Communications Commission (FCC) Rules and Regulations for RF emissions (see Appendix A of this report for further explanation of the FCC rules and regulations). This document and the conclusions herein are based on the information provided by representatives of Verizon Wireless which is assumed to be true and correct.

Verizon Wireless is proposing to install (6) antennas and (6) remote radio heads on a proposed 235 foot tall self-support structure. The proposed centerline of the antennas is 230 feet.

The analysis evaluates the telecommunications facility with respect to the General Public maximum permissible exposure (MPE) limits ("General Public" is also referred to as "Uncontrolled Environment"; see Appendix A for further explanation of this classification). Sitesafe has taken into consideration the proposed Verizon Wireless antenna system as well as any other collocated antenna systems at the subject location.

Based on the analysis, Sitesafe has determined that:

Verizon Wireless will comply in all publicly accessible areas with the FCC Rules and Regulations governing human exposure to RF electromagnetic fields as described in 47 CFR § 1.1307(b) and 1.1310 in accordance with the methods for evaluating compliance contained in OET Bulletin 65.

Furthermore, with the proposed Verizon Wireless antenna configuration in service, the composite exposure from this facility in all areas at ground level will be below 1% of the General Public MPE limit, or over 100 times less than the maximum allowed exposure in publicly accessible areas.

2 Analysis

In this analysis, Sitesafe has taken into consideration the existing/proposed Verizon Wireless antenna system as well as any other collocated antenna systems at the subject location. All existing and proposed licensees are listed in the antenna inventory table in Section 3 of this report. If specific antenna and operating parameter information for the other collocated licensees was not provided, typical assumptions were made based on Sitesafe experience and/or any available information.

Using this data, software modeling was performed for all transmitting antennas located at the site. Sitesafe has assumed a 100% duty cycle and maximum radiated power. The site has been modeled with these assumptions to determine the maximum potential RF energy density. Sitesafe believes this to be a worst-case analysis based on the best available data.

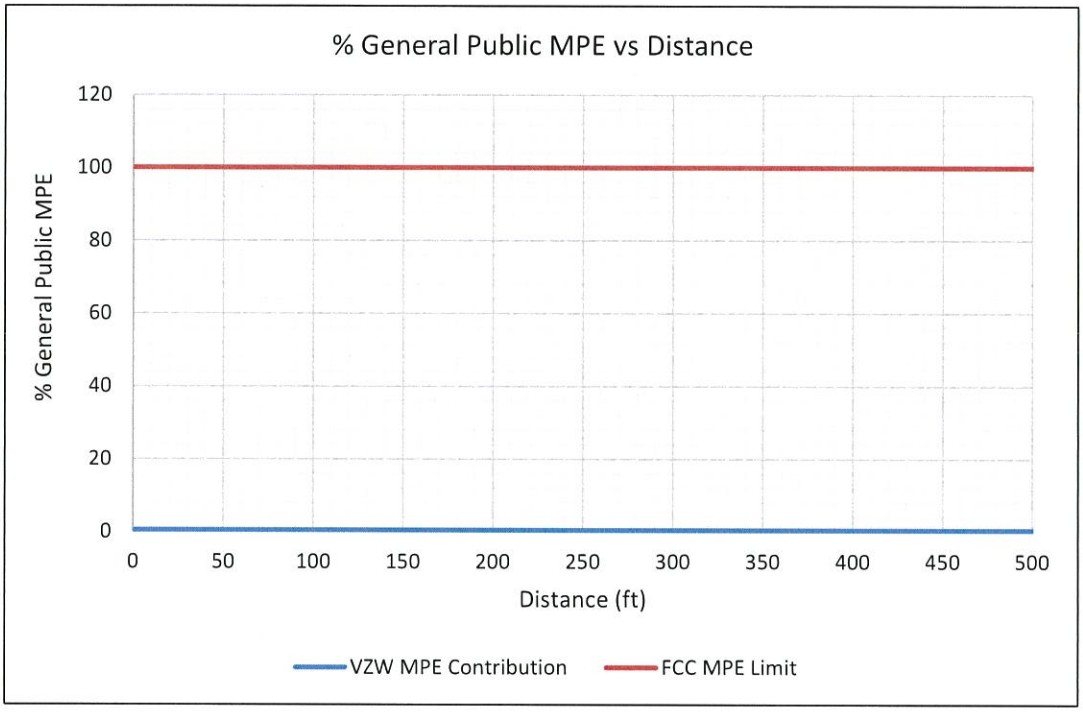
The power density calculations performed by the software tool use FCC prescribed methodologies as contained in OET Bulletin 65, which was compiled by the FCC to provide assistance in evaluating compliance with FCC guidelines for human exposure to electromagnetic fields.

As stated in Section 1, based on this analysis, the calculated ground level exposure from the Verizon Wireless antenna system alone as well as the composite exposure from all existing/proposed licensees will be below 1% of the General Public MPE limit.

Keep in mind that the FCC did not arbitrarily establish their own standards but rather adopted the recommendations of national and international organizations such as the National Council on Radiation Protection and Measurements (NCRP), the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). These recommendations were developed by expert scientists and engineers following extensive evaluation of the potential biological effects from RF exposure. The FCC MPE limits are based on thresholds for known adverse effects, and they were designed to provide a substantial margin of safety. There is a safety factor of 50 built into the General Public MPE limits, and the predicted Verizon Wireless exposure levels are over 100 times below these very conservative limits.

In cases where such compliance exists, the subject of electromagnetic field safety is preempted by the Telecommunications Act of 1996, which states: "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 (Federal Communication) Commission's regulations concerning such emissions."

Lastly, the graph below provides a visual depiction of the rather insignificant electromagnetic field exposure contribution from the Verizon Wireless antenna system at any distance from the base of the structure. This portrays how low the Verizon Wireless contribution is when compared to the General Public MPE limit.



3 Antenna Inventory

The following antenna inventory contains data provided by the customer and/or gathered by Sitesafe personnel which was used to perform the analysis:

Ant #	Operator	Antenna Make/Model	TX Freq (MHz)	Tech.	Az (Deg)	ERP (Watts)	AGL (ft)	MDT	EDT
1	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	60	1941.3	230'	0	2
1	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	60	1986.5	230'	0	2
1	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	1900	LTE	60	5742.8	230'	0	1
2	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	60	1941.3	230'	0	2
2	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	60	1986.5	230'	0	2
2	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	LTE	60	3296.8	230'	0	1
2	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	AWS3	60	3296.8	230'	0	1
3	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	180	1941.3	230'	0	2
3	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	180	1986.5	230'	0	2
3	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	1900	LTE	180	5742.8	230'	0	1
4	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	180	1941.3	230'	0	2
4	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	180	1986.5	230'	0	2
4	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	LTE	180	3296.8	230'	0	1
4	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	AWS3	180	3296.8	230'	0	1
5	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	300	1941.3	230'	0	2
5	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	300	1986.5	230'	0	2
5	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	1900	LTE	300	5742.8	230'	0	1
6	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	751	LTE	300	1941.3	230'	0	2
6	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	850	LTE	300	1986.5	230'	0	2
6	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	LTE	300	3296.8	230'	0	1
6	VERIZON WIRELESS (Proposed)	Commscope NHH-65C-R2B	2100	AWS3	300	3296.8	230'	0	1

Notes: Each row with the same number in the *Ant #* column references the same physical antenna. Proposed equipment is tagged as *(Proposed)* under *Operator* or *Antenna Make and Model*. Power values provided by the client and used in the analysis may be greater than what is initially deployed. For additional modeling information, refer to Appendix B of this report.

4 Engineer Certification

The Professional engineer whose seal appears on the cover of this document herby certifies and affirms:

That I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specially as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke

February 6, 2020

Appendix A – Technical Framework: FCC Rules and Regulations

In 1996, the FCC adopted regulations for evaluating the effects of RF emissions in 47 CFR § 1.1307(b) and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (OET Bulletin 65), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996, the FCC periodically reviews these rules and regulations as per its congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled Environment" and General Public or "Uncontrolled Environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limits.

General Public or Uncontrolled limits apply to *accessible* areas where workers or the general public may be exposed to RF electromagnetic fields.

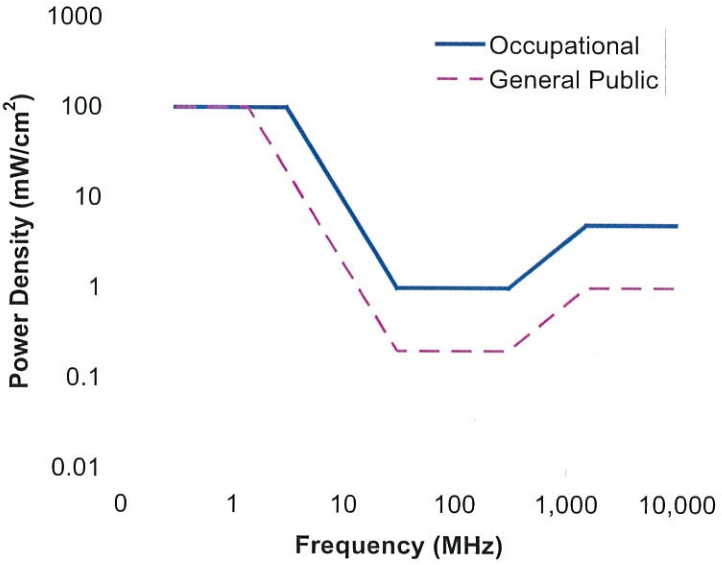
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (e.g. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage.

A site with Controlled environments is evaluated with Occupational limits. All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage, it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The MPE limits utilized in this analysis are outlined in the following diagram and table:

FCC Limits for Maximum Permissible Exposure (MPE)

Plane-wave Equivalent Power Density



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time |E|², |H|² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time |E|², |H|² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Appendix B – Definitions

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio, usually expressed in decibels, of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power density at the same distance. When not specified otherwise, the gain refers to the direction of maximum radiation. Gain may be considered for a specified polarization. Gain may be referenced to an isotropic antenna (dBi) or a half-wave dipole (dBd) antenna.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

Radio Frequency Exposure or Electromagnetic Fields – Electromagnetic waves that are propagated from antennas through space.

Appendix C – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions or information or data supplied by Verizon Wireless, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.

Appendix D – Additional Resources

Additional RF information is available at the following sites:
https://www.fcc.gov/general/radio-frequency-safety-0
https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety

verizon

Radio Frequency (RF) Emissions: Record of FCC Compliance

COMPLIANCE STATUS
Approved

Site Information

Site Name	Louise Marie - B	Site Type	Site	Struct. Type	Self Support
Address	Pine Tree Street	City	Thompson	State	NY
				Zip	12775
Engineer	Gupta,Naveen	Market	Mid Atlantic	Sub Market	Upstate NY
Co-Locators	NO	Fence Encl.	YES	Acc. Antenna	NO

Rave Tracker Information

Rave Tracker ID	1951	Tracker Name	Louise Marie	Tracker Type	RFE
Tracker Mode	Sandbox	Created By	guptana	Created Date	2/7/2020
Last Mod. By		Last Mod. Date	Invalid Date		

Service Antenna Data

*Note:'ACL' represents the Antenna centerline above ground-line

Sector Name	Band	Tech	Antenna Manfacturer	Antenna Model	Power/Channel(watts)	# Channels	Loss (dB)	ACL (ft)*
01	AWS3	LTE	COMMSCOPE	NHH-65C-R2B_PORT 3 +45_01	10	4	0.75	230
01	PCS	LTE	COMMSCOPE	NHH-65C-R2B_PORT 3 +45_01	40	4	0.75	230
01	AWS	LTE	COMMSCOPE	NHH-65C-R2B_PORT 3 +45_01	30	4	0.75	230
01	700	LTE	COMMSCOPE	NHH-65C-R2B_PORT 1 +45_02	40	4	0.5	230
01	CELLULAR	LTE	COMMSCOPE	NHH-65C-R2B_PORT 1 +45_02	20	4	0.5	230

Site Information

Site Name	Louise Marie - B	Site Type	Site	Struct. Type	Self Support
Address	Pine Tree Street	City	Thompson	State	NY
				Zip	12775
Engineer	Gupta,Naveen	Market	Mid Atlantic	Sub Market	Upstate NY
Co-Locators	NO	Fence Encl.	YES	Acc. Antenna	NO

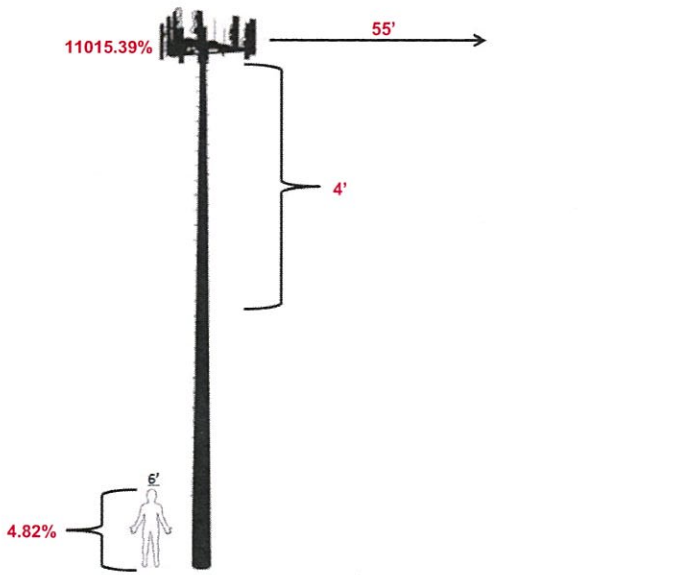
Analysis

Total % MPE (General Population): Service Antenna(s)

Walking Surface - Out of 100%:	4.82%
Antenna Elevation - Out of 100%:	11015.39%

Minimum Separation Distance: Service Antenna(s)

Horizontal - From Face of Antenna:	55'
Vertical - From Below of Antenna:	4'



Service Antenna Diagram (NOT to scale)

Site Information

Site Name	Louise Marie - B	Site Type	Site	Struct. Type	Self Support		
Address	Pine Tree Street	City	Thompson	State	NY	Zip	12775
Engineer	Gupta,Naveen	Market	Mid Atlantic	Sub Market	Upstate NY		
Co-Locators	NO	Fence Encl.	YES	Acc. Antenna	NO		

Outstanding Requirements - MUST Be Implemented PRIOR To Site Activation

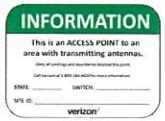
HOTSPOT

NOTICE

CAUTION

WARNING

RF GUIDELINES



INFORMATION

LL LETTER

Service							
Donor							
Access Point(s)							

Generated By: GUPTANA Date: 2/7/2020 Time: 9:22:50 AM