



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@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

September 13, 2019

Luzmaria Guzman
Zoning and Permitting Specialist
SAC Wireless
540 W. Madison, 9th Floor
Chicago, IL 60661

RE: **EM-SPRINT-064-190705** – Sprint notice of intent to modify an existing telecommunications facility located at 99 Meadow Street, Hartford, Connecticut.

Dear Ms. Guzman:

The Connecticut Siting Council (Council) is in receipt of your correspondence of September 5, 2019 submitted in response to the Council's July 9, 2019 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/emr



Robidoux, Evan

From: Luzmaria Guzman <luzmaria.guzman@sacw.com>
Sent: Thursday, September 05, 2019 5:24 PM
To: CSC-DL Siting Council
Cc: Robidoux, Evan
Subject: EM-SPRINT-064-190705 - Radiofrequency Report Attached
Attachments: CT43XC806 - Extension - em-sprint-064-190705_extltr_MeadowSt.pdf; CT43XC806 - RF Report.pdf



Thursday, September 5, 2019

ATTN: Melanie Bachman
Connecticut Siting Council
Executive Director / Staff Attorney
10 Franklin Square
New Britain, CT 06051

Notice of Exempt Modification —99 Meadow St., Hartford, CT 06114 — SITE ID: CT43XC806

To Whom It May Concern:

SAC Wireless, on behalf of Sprint, is requesting the necessary approvals from Connecticut Siting Council (CSC) our scope of work for an existing Sprint facility located at – **99 Meadow St.** Scope of work is as follows:

- Sprint is proposing to remove three (3) radios and swap three (3) existing antennas with three (3) new antennas and associated cabling. Install an equipment cabinet within Sprints existing leased space. Please see construction drawings for in-depth scope of work.
- Site is located at the coordinates (Lat/Long): 41.74319722, -72.66753888
- The underlying property owner of the site is Meadow Street Realty Inc.

Per notice from the Council, **a radiofrequency report was request for review of this work.** Attached is the documentation to complete this request. Please let me know if this is suffice and review will continue. If an hard-copies are required, please let me know the quantity needed. In addition, an approximate date of when review may be completed is appreciated. If any questions or concerns arise, please contact me at 312-858-3641. We greatly appreciate your help with this proposed Sprint facility upgrade.

Best regards,

Luz Guzman

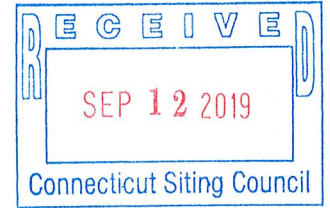
Luzmaria Guzman | Zoning and Permitting Specialist | O: (312) 858-3641

SAC Wireless, 540 W. Madison, 9th Floor, Chicago, IL 60661

luzmaria.guzman@sacw.com | www.sacw.com

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On-Sprint-064-190705



Thursday, September 5, 2019

ATTN: Melanie Bachman
Connecticut Siting Council
Executive Director / Staff Attorney
10 Franklin Square
New Britain, CT 06051

**Notice of Exempt Modification —99 Meadow St., Hartford, CT 06114 — SITE ID:
CT43XC806**

To Whom It May Concern:

SAC Wireless, on behalf of Sprint, is requesting the necessary approvals from Connecticut Siting Council (CSC) our scope of work for an existing Sprint facility located at – **99 Meadow St.** Scope of work is as follows:

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- Site is located at the coordinates (Lat/Long): 41.74319722, -72.66753888
- The underlying property owner of the site is Meadow Street Realty Inc.

Per notice from the Council, **a radiofrequency report was request for review of this review.** Included in this package is (1) RF report to complete this request.

If any questions or concerns arise, please contact me at 312-858-3641. We greatly appreciate your help with this proposed Sprint facility upgrade.

Best Regards,

Luz Guzman

Luzmaria Guzman | Zoning and Permitting Specialist | O: (312) 858-3641
SAC Wireless, 540 W. Madison, 9th Floor, Chicago, IL 60661
luzmaria.guzman@sacw.com | www.sacw.com



WATERFORD

Radio Frequency Emissions Compliance Report For Sprint

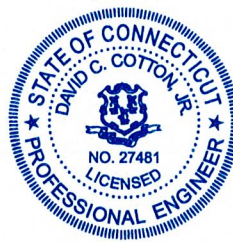
Site Name: Petro Lock	Site Structure Type: Monopole
Address: 99 Meadow Street Hartford, CT	Latitude: 41.74319722
Report Date: August 26, 2019	Longitude: -72.66753888
	Project: Modification

Compliance Statement

Based on information provided by Sprint and predictive modeling, the Petro Lock installation proposed by Sprint will be compliant with Radiofrequency Radiation Exposure Limits of 47 C.F.R. §§ 1.1307(b)(3) and 1.1310. RF alerting signage and restricting access to the Monopole to authorized climbers that have completed RF safety training is required for Occupational environment compliance. The proposed operation will not expose members of the General Public to hazardous levels of RF energy at ground level or in adjacent buildings.

Certification

I, David C. Cotton, am the reviewer and approver of this report and am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation, specifically in accordance with FCC's OET Bulletin 65. I have reviewed this Radio Frequency Exposure Assessment report and believe it to be both true and accurate to the best of my knowledge.



David C. Cotton, Jr.
Licensed Professional Engineer (Electrical)
State of Connecticut, PEN.0027481
Date: 2019-August-29

General Summary

The compliance framework is derived from the Federal Communications Commission (FCC) Rules and Regulations for preventing human exposure in excess of the applicable Maximum Permissible Exposure ("MPE") limits. At any location at this site, the power density resulting from each transmitter may be expressed as a percentage of the frequency-specific limits and added to determine if 100% of the exposure limit has been exceeded. The FCC Rules define two tiers of permissible exposure differentiated by the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. General Population / Uncontrolled exposure limits apply to those situations in which persons may not be aware of the presence of electromagnetic energy, where exposure is not employment-related, or where persons cannot exercise control over their exposure. Occupational / Controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment, have been made fully aware of the potential for exposure, and can exercise control over their exposure. Based on the criteria for these classifications, the FCC General Population limit is considered to be a level that is safe for continuous exposure time. The FCC General Population limit is 5 times more restrictive than the Occupational limits.

Table 1: FCC Limits

Frequency (MHz)	Limits for General Population/ Uncontrolled Exposure		Limits for Occupational/ Controlled Exposure	
	Power Density (mW/cm ²)	Averaging Time (minutes)	Power Density (mW/cm ²)	Averaging Time (minutes)
30-300	0.2	30	1	6
300-1500	f/1500	30	f/300	6
1500-100,000	1.0	30	5.0	6

f=Frequency (MHz)

In situations where the predicted MPE exceeds the General Population threshold in an accessible area as a result of emissions from multiple transmitters, FCC licensees that contribute greater than 5% of the aggregate MPE share responsibility for mitigation.

Based on the computational guidelines set forth in FCC OET Bulletin 65, Waterford Consultants, LLC has developed software to predict the overall Maximum Permissible Exposure possible at any location given the spatial orientation and operating parameters of multiple RF sources. The power density in the Far Field of an RF source is specified by OET-65 Equation 5 as follows:

$$S = \frac{EIRP}{4 \cdot \pi \cdot R^2} \text{ (mW/cm}^2\text{)}$$

where EIRP is the Effective Radiated Power relative to an isotropic antenna and R is the distance between the antenna and point of study. Additionally, consideration is given to the manufacturers' horizontal and vertical antenna patterns as well as radiation reflection. At any location, the predicted power density in the Far Field is the spatial average of points within a 0 to 6-foot vertical profile that a person would occupy. Near field power density is based on OET-65 Equation 20 stated as

$$S = \left(\frac{180}{\theta_{BW}} \right) \cdot \frac{100 \cdot P_{in}}{\pi \cdot R \cdot h} \text{ (mW/cm}^2\text{)}$$

where P_{in} is the power input to the antenna, θ_{BW} is the horizontal pattern beamwidth and h is the aperture length.

Some antennas employ beamforming technology where RF energy allocated to each customer device is dynamically directed toward their location. In the analysis presented herein, predicted exposure levels are based on all beams at full utilization (i.e. full power) simultaneously focused in any direction. As this condition is unlikely to occur, the actual power density levels at ground and at adjacent structures are expected to be less than the levels reported below. These theoretical results represent worst-case predictions as all RF emitters are assumed to be operating at 100% duty cycle.

For any area in excess of 100% General Population MPE, access controls with appropriate RF alerting signage must be put in place and maintained to restrict access to authorized personnel. Signage must be posted to be visible upon approach from any direction to provide notification of potential conditions within these areas. Subject to other site security requirements, occupational personnel should be trained in RF safety and equipped with personal protective equipment (e.g. RF personal monitor) designed for safe work in the vicinity of RF emitters. Controls such as physical barriers to entry imposed by locked doors, hatches and ladders or other access control mechanisms may be supplemented by alarms that alert the individual and notify site management of a breach in access control. Waterford Consultants, LLC recommends that any work activity in these designated areas or in front of any transmitting antennas be coordinated with all wireless tenants.

is 7.1988% of the FCC General Population limits. The proposed operation will not expose members of the General Public to hazardous levels of RF energy at ground level or in adjacent buildings.

Waterford Consultants, LLC recommends posting RF alerting signage with contact information (Caution) near the antennas at the Monopole to inform authorized climbers of potential conditions near the antennas. These recommendations are depicted in Figure 2.



Figure 2: Mitigation Recommendations
Caution posted at base of monopole

 Caution