

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

IN RE:

APPLICATION OF MCF
COMMUNICATIONS bg, INC. AND
OMNIPOINT COMMUNICATIONS, INC.
FOR A CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AND PUBLIC NEED FOR
THE CONSTRUCTION, MAINTENANCE AND
OPERATION OF A TELECOMMUNICATIONS
FACILITY AT 237 SANDY HOLLOW ROAD IN THE
TOWN OF GROTON, CONNECTICUT

DOCKET NO. 343

DATE: OCTOBER 23, 2007

PRE-FILED TESTIMONY OF SCOTT HEFFERNAN

Q.1. Please summarize your professional background in telecommunications.

A. My career in the wireless industry has spanned the past 11 years. For the past two years, my responsibilities as a contractor for T-Mobile have included the design and integration of the T-Mobile wireless network. Prior to this period, I was responsible for the design, integration, optimization and management of network buildouts for commercial wireless carriers, including Nextel, AT&T Wireless, Cingular, and Voicestream (T-Mobile's predecessor). Additionally, I have been involved in network design for government entities such as the Department of Homeland Security, Department of the Army, Department of the Navy, and the United States Marine Corps.

Q.2. What does your testimony address?

A. The purpose of my testimony is to provide information relating to T-Mobile's existing network in this area of the state and to describe the need for a proposed facility in the area. This includes information on the general design of T-Mobile's network and the technical constraints in selecting proposed facilities.

Q.3. Please describe T-Mobile's wireless network in Connecticut.

A. T-Mobile's predecessor entities began building a wireless network to provide PCS service in Connecticut in the mid 1990s. T-Mobile is licensed by the Federal Communications Commission to provide PCS service using frequencies in the 1900 MHz range. T-Mobile operates approximately 550 sites in Connecticut. Current efforts are directed to providing signal to areas without coverage and meeting demand for additional capacity within areas already served. Each new site must be chosen to meet the need for coverage and/or capacity without creating RF interference among sites.

Q.4. What requirements does the nature of wireless technology place on T-Mobile's selection of cell site locations?

A: Like all personal communications service providers, T-Mobile's wireless network is based on the principle of frequency re-use. Cell site locations must be chosen to provide for sufficient signal strength overlap to allow call hand-off between cells without creating unnecessary duplicative coverage and frequency interference. Terrain variations and local land use policies and development further limit cell site locations.

Technological advances in service, such as the availability of data and video services through customer handsets, are also significant factors in system development. Increased customer demand and expectations resulting from those advances drive the need for additional sites.

T-Mobile's required lower limit threshold is -84 dBm, which is expected to provide reliable in-vehicle coverage. A higher threshold level of -76 dBm is the minimum required to provide reliable in-building coverage. At levels below the -84 dBm threshold, signal degradation would be expected to result in areas of unreliable service to T-Mobile customers for voice and data services. In addition, levels below -84 dBm would adversely affect T-Mobile's ability to provide reliable E-911 services as mandated by the federal government.

Q.5. Please describe T-Mobile's need for the proposed site.

A. The interrelationship between the proposed site and T-Mobile's existing system (including recently approved but not yet on-air sites) is depicted in the propagation plots included in Exhibit F of the Application as well as attached as Exhibits 9 and 10 of the Co-Applicants' Interrogatory Responses dated October 10, 2007. As shown, this proposed site is needed primarily to provide new coverage along Interstate I-95 for a distance of approximately 1.37 miles. The proposed site will also provide new coverage along Allyn Street and the surrounding areas.

Q.6. How did T-Mobile analyze the proposed site?

A. T-Mobile's RF engineers first utilized propagation prediction tools to determine the potential effectiveness of the proposed locations in meeting the identified coverage need. That analysis confirmed that a site at the proposed location would provide signal within the coverage gap along I-95, Allyn Street and would improve service generally within the area. The results of that initial prediction indicated that T-Mobile required a minimum height of 117 feet AGL at the proposed Site.

In order to confirm the minimum height required to achieve the coverage objective, T-Mobile then conducted a drive test. The drive test allowed T-Mobile to gather accurate signal strength measurements along the target routes at various heights.

The drive test revealed that an antenna center line of 127 feet would allow T-Mobile to achieve the coverage objective levels in this area. The drive test results did increase the height from the initial prediction by 10 feet AGL. At heights below 127 feet, as can be seen the propagation maps attached to the Co-Applicants' Interrogatory Responses at Exhibit 10, areas along I-95 within the targeted area falls below the -84 dBm threshold requirement of T-Mobile's design criteria. In addition, at heights below 127 feet, T-Mobile would lose the ability to effectively hand off its signal from the proposed Facility to T-Mobile's existing site to the west (CT 11044E).

Q.7. Please summarize the results of your analysis.

A. Based upon the results of the analysis conducted at the proposed T-Mobile Groton Facility, the minimum height required to fully cover the intended coverage objective is 127 feet AGL. At heights below 127 feet AGL, the coverage within the target area, starts to fall below the required minimum T-Mobile coverage threshold of -84 dBm. In addition, at heights below 127 feet AGL, T-Mobile loses its hand-off ability to its existing on-air site to the west. Finally, at heights below 127 feet, T-Mobile loses the ability to reliably provide E-911 coverage along I-95.

An antenna array 127 feet in height at the Site will allow T-Mobile to provide adequate coverage within the targeted portion of I-95 and the surrounding area.

The statements above are true and complete to the best of my knowledge.

10/21/07

Date



Scott Heffernan

Subscribed and sworn before me this 23RD day of October, 2007.

By:



Notary

TINA CODELLA
NOTARY PUBLIC
My Comm. Expires 12/31/07