

DOCKET NO. 120 - An application of Metro Mobile CTS of Fairfield County, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, operation, and maintenance of cellular telephone antennas and associated equipment located in the Town of Greenwich, Connecticut.

CONNECTICUT

SITING

COUNCIL

FEBRUARY 26, 1990

ORIGINAL

Findings of Fact

1. Metro Mobile CTS of Fairfield County, Inc., in accordance with the provisions of Section 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on September 25, 1989, for the installation, maintenance and operation of a telecommunications facility, consisting of antennas and associated equipment to provide increased domestic public cellular radio telecommunications service (cellular services) in the Town of Greenwich within the Bridgeport, Connecticut, New England County Metropolitan Area (Bridgeport NECMA). The facility, proposed as the Greenwich (East) facility, would be located in and on the Wind Building, 1111 East Putnam Avenue, Greenwich, Connecticut. (Record)
2. The application was accompanied by proof of service as required by Section 16-501 of the CGS. (Metro Mobile 1, Exhibit 5; Record)
3. Public notice of the application, as required by Section 16-501, was published in The Advocate and Greenwich Time on September 19 and 20, 1989. (Metro Mobile 1, Exhibit 4)
4. The Council and its staff made an inspection of the proposed Greenwich (East) site on November 15, 1989. The inspection was publicly noticed in the The Advocate and Greenwich Time, on October 23, 1989. (Record)
5. Pursuant to Section 16-50m of the CGS, the Council after giving due notice thereof, held a public hearing on the proposed tower site on November 15, 1989, beginning at 7:00 p.m., in the auditorium of the Eastern Middle School, 51 Hendrie Avenue, Greenwich, Connecticut. (Record)
6. The parties in the proceeding are the applicant and those persons and organizations whose names are listed in the Decision and Order, which accompanies these Findings of Fact. (Record)

7. The Department of Environmental Protection (DEP) filed written comments with the Council pursuant to Section 16-50j of the CGS in a letter dated October 31, 1989. (Record)
8. In 1981, the Federal Communications Commission (FCC) recognized a national need for technical improvements, wide area coverage, high quality service, and competitive pricing in mobile telephone service. (Metro Mobile 1, pp. 6, 9)
9. Conventional mobile telephone service has been limited by insufficient frequency availability, inefficient frequency use, and poor quality of service. These limitations have resulted in call congestion, transmission blocking, interference, lack of coverage, and high costs. (Metro Mobile 1, p. 6)
10. The FCC has promulgated regulations for cellular service in the following areas: technical standards to assure technical integrity of systems for nationwide compatibility, market structure, and state certifications prior to federal application for a construction permit. (Metro Mobile 1, pp. 6-7)
11. The FCC has pre-empted state regulations in determining that a public need currently exists for cellular service, setting technical standards for that service, and establishing a competitive market. Applicants for FCC cellular system authorizations are not required to demonstrate a public need for the service. (Metro Mobile 1, pp. 6-7)
12. The FCC has determined that the public interest requires two licenses for cellular service be made available in each market area, or NECMA, to provide competition. One license is awarded to a wireline company, the other to a non-wireline company. In the Bridgeport NECMA, the FCC has authorized Metro Mobile to be the non-wireline service provider. (Metro Mobile 1, pp. 3, 6, 9; Metro Mobile 1, Exhibit 6)
13. Metro Mobile currently operates cellular systems in the Bridgeport, New Haven, Hartford, and New London NECMA's in Connecticut. The FCC's Rules permit a cellular licensee to modify its system, including the addition of new cell sites, as long as the licensee's authorized service area is not enlarged. The proposed facility would not enlarge Metro Mobile's authorized service area. (Metro Mobile 1, pp. 7-8)
14. Cellular service consists of small, overlapping broadcast regions. These regions or cells are limited in coverage by the FCC's technical standards governing

transmitting power. The maximum effective radiated power allowed is 100 watts per channel, as measured at the tower site, and assuming all allocated channels are operating simultaneously, The transmitting power cannot be increased to improve geographical coverage. The system design provides coverages for frequency reuse and call transfer, orderly expansion, and compatibility with other cellular systems. (Metro Mobile 1, Exhibit 9, pp. 4, 7; Docket 107, Finding of Fact, Number 13)

15. The proposed cellular facility would operate in the 870-890 megahertz (MHz) frequency range with a maximum of 90 channels. Metro Mobile uses a maximum of 312 channels throughout its service area. (Metro Mobile 1, p. 14; Metro Mobile 1, Exhibit 1, p. 13; Tr. pp. 24, 42-43)
16. The electromagnetic power density emissions at the proposed site, assuming all 90 channels are operating simultaneously at maximum allowable power of 100 watts per channel, would be 0.752 milliwatts per square centimeter (mW/cm^2). This was calculated for a distance of 41 feet from the center of the antenna. This would be below the American National Standards Institute (ANSI) standard of $2.92 \text{ mW}/\text{cm}^2$ as adopted by the State in CGS 22a-162a, for frequency ranges to be used in the proposed cellular system. (Metro Mobile 1, pp. 11-12; Metro Mobile 1, Exhibit 9, p. 1; Docket 107, Finding of Fact No. 13; Tr. pp. 27-28, 65)
17. Cell sites require a 10 percent to 20 percent overlap of coverage between adjacent cell sites. This overlap allows an uninterrupted transfer, or hand off of calls in progress from one frequency to another and from one cell to another cell. (Metro Mobile 1, Exhibit 9, p. 7; Metro Mobile 1, Exhibit 12, pp. 6-7)
18. Cell site call handling capability can be increased by adding more channels until the maximum is reached, or by reassigning frequencies to new facilities within existing cells or in adjoining areas. (Metro Mobile 1, Exhibit 9, pp. 1-11)
19. As part of Metro Mobile's overall system, the proposed Greenwich (East) facility is planned to overlap existing cellular coverage from presently operating sites in Stamford and Greenwich. The proposed site would provide additional channels to transfer or off load calls from the Stamford and Greenwich cell sites which would begin to exceed their call carrying capabilities during 1990. (Metro Mobile 1, p. 9; Metro Mobile 1, Exhibit 1, p. 12; Metro Mobile 3, Q-10)
20. During business hours, (7:00 a.m. to 7:00 p.m.) the existing Greenwich and Stamford facilities' call

handling experience has been as follows:

- Greenwich - 1475 calls/peak hour;
 - 930 calls/average hour;
- Stamford - 525 calls/peak hour;
 - 430 calls/average hours.

(Metro Mobile 2, Q-7, Q-8)

21. The maximum number of calls that could be handled by the existing Greenwich and Stamford facilities when both are sectorized in 1990, would be 3,600 calls per site during a peak hour or 600 calls for each of six sectors.
(Metro Mobile 2, Q-7, Q-8)
22. The proposed Greenwich (East) site would be a sectorized facility. This would allow 90 additional simultaneous calls within the Greenwich (East) service area above what is currently provided by the existing Stamford and Greenwich facilities. The Greenwich (East) facility would have six sectors with 12-15 channels per sector and would have a capability of handling 3,600 calls per hour or 600 calls per hour for each of the six sectors. In 1990, when the facility would become operational, it would handle 1000 calls during the peak hour and 750 calls per average hour over the business day. (Metro Mobile 2, Q-8; Tr. pp. 20-23)
23. The combined service areas that the two existing Greenwich and Stamford facilities and the proposed Greenwich (East) facility would cover, includes Interstate 95 (I-95) and U.S. Route 1, (East Putnam Avenue). The proposed facility would provide additional channels to these heavily traveled routes. Metro Mobile has experienced dropped and blocked calls from certain coverage areas of the existing cellular sites during peak hour demand when channels were unavailable for the completion of a hand-off signal. (Metro Mobile 1, Exhibit 9, p. 10; Metro Mobile 2, Q-1; Metro Mobile 3, Q-12; Tr. pp. 45-47)
24. The proposed Greenwich (East) site would enable more calls to be simultaneously handled within the Greenwich and Stamford areas, thereby providing additional cellular traffic handling capability. The proposed cell site was chosen to limit the need for additional cell sites when expanding future service. (Metro Mobile 1, p. 10; Metro Mobile 1, Exhibit 9, p. 10)
25. To date, the proposed cellular facility would represent state-of-the-art technology, and Metro Mobile is aware of no technically viable alternatives to its system design. There is no licensed or experimental mobile satellite telephone service. (Metro Mobile 1, pp. 16-17)

26. Metro Mobile considered five sites within the search area for the proposed facility, rejecting four. Actual site selection was based on several factors including availability, area coverage, environmental impact, technical compatibility, site access, and reasonable leasing or purchase terms. (Metro Mobile 1, Exhibit 9 p. 9, Attachment A, Attachment B)
27. Each of the rejected sites was not acceptable for one or more of the following reasons; residential development and visibility, the need for a new tower, interfering vegetation requiring a tower on an existing building, and unavailability of State of Connecticut property. (Metro Mobile 1, Exhibit 9, Attachment A; Tr. pp. 43-45)
28. No alternate site was proposed by Metro Mobile because the proposed site would provide the necessary coverage without constructing a new tower and equipment building. (Metro Mobile 1, Exhibit 9, pp. 11, 12)
29. There are no towers located within the 0.3 mile search area. (Metro Mobile 1, Exhibit 1, pp. 2, 11)
30. Metro Mobile would install a total of eight cellular telecommunications antennas, consisting of six directional 20-inch by 11-inch panel-type receive/transmit antennas, and two omnidirectional six and one-half feet tall by two inches in diameter whip-type antennas on a steel facade surrounding the rooftop air-conditioning units located on the Wind Building. The facade is recessed 13 feet from the outer edge of the rooftop. (Metro Mobile 1, Exhibit 1, p. 2; Metro Mobile 1, Exhibit 4; Metro Mobile 1, Exhibit 8, p. 1; Metro Mobile 1, Exhibit 10; Tr. pp. 38-40)
31. Preliminary structural examination indicates the steel framing surrounding the rooftop facade would support the proposed antennas with little or no modification of the structure. The antennas would be painted to match the color of the facade. (Metro Mobile 1, Exhibit 8, p. 2; Metro Mobile 1, Exhibit 9, p. 11; Metro Mobile 2, Q. 14)
32. The proposed antennas would be designed to withstand wind velocities in excess of 125 miles per hour, with a 1/2 inch solid ice surface accumulation. Metro Mobile does not expect the antenna panels would create any additional noise from wind. (Metro Mobile 1, Exhibit 10; Tr. pp. 35-39, 66)
33. The equipment would be placed in a 20-foot by 30-foot area in the northeast corner of the first floor of the Wind Building. (Metro Mobile 1, Exhibit 1, pp. 1, 8)

34. Utilities would be provided from existing connections within the Wind Building. The facility would be equipped with an intrusion and alarm system. (Metro Mobile 1, p. 9; Metro Mobile 1, Exhibit 1, p. 7)
35. Access to the proposed cell site would be over an existing driveway and parking lot. The existing driveway and parking lot would remain unchanged by construction of the proposed facility. (Metro Mobile 1, Exhibit 1, p. 1; Metro Mobile 1, Exhibit 4; Metro Mobile 1, Exhibit 8, p. 1)
36. The parcel on which the proposed facility would be located is used for commercial purposes. The Wind Building was constructed in 1968 and is 42 feet high above ground level excluding the facade structure. (AGL). The antennas would be placed 49 feet AGL, or 95 feet above mean sea level. (Metro Mobile 1, Exhibit 1, pp. 2, 8, 9; Metro Mobile 2, Q-13)
37. Metro Mobile determined that the proposed rooftop antennas would be located at a sufficient height above ground to improve the coverage in the area. (Tr. pp. 45-47)
38. The site of the proposed facility is located in an area zoned LB (Local Business). The surrounding areas within a one quarter mile radius around the site, are zoned LB (Local Business); LBR (Local Business Retail); R-6, R-7, and R-R (Residential), and R-C7 (Conservation). (Metro Mobile 1, Exhibit 1, p. 7)
39. The distance from the proposed antennas to the nearest residences (three units), would be 180 feet. The power density at this distance would be 0.039 mW/cm^2 . This would be 80 times below the ANSI standard of 2.92 mW/cm^2 . (Metro Mobile 2, Q-3; Tr. p. 65)
40. The power density level for occupants on the top floor of the Wind Building below the antennas, would be 0.002 mW/cm^2 . (Tr. pp. 64-65)
41. Following regulatory approval, approximately six weeks would be needed for site preparation, engineering, system construction, and testing. The completed system would be available for commercial operation after April 8, 1990. (Metro Mobile 1, Exhibit 1, p. 10)
42. The proposed facility would not use water or generate any air or water pollutants. The proposed facility's operating equipment would emit no noise except for a high volume air conditioning (HVAC) unit. Some noise would be anticipated during cell site construction. (Metro Mobile 1, pp. 11, 17; Metro Mobile 1, Exhibit 8, p. 1)

43. The proposed cell site would create no threat to endangered or threatened species or their habitat nor effectuate the destruction of vegetation or wildlife. (Metro Mobile 1, Exhibit 8, p. 2)
44. The proposed cell site contains no known unique historical, cultural, or recreational attributes. (Metro Mobile 1, Exhibit 8, p. 2)
45. Metro Mobile consulted with Town of Greenwich officials to discuss the project, search area, site search summary, and proposed location. No alternate sites were proposed by the Greenwich officials. (Metro Mobile 1, Exhibit 9, p. 12; Metro Mobile 2, Q-15; Tr. p. 9)
46. The Planning and Zoning Commission of the Town of Greenwich, found that the installation of the proposed facility would be a positive situation. (Tr. p. 10)
47. The Department of Environmental Protection stated that the project site does not contain wetlands, critical habitats, federally-listed endangered or threatened species nor Connecticut species of special concern. Also, that development of the cellular facility should not pose significant visual impacts upon users of DEP properties located between 1000 and 3200 feet southwest of the site, adjoining the Mianus River. DEP's review has not identified any specific areas of concern related to its regulatory and resource management responsibilities. (Record, DEP letter, October 31, 1989)
48. Metro Mobile has executed options to lease space in the Wind Building for the proposed facility. (Metro Mobile 1, p. 15)
49. The estimated construction costs of the proposed facility are as follows:

Radio equipment	\$467,000
Antenna	10,400
Standby power system	12,000
Building Renovations	10,000
Miscellaneous	<u>39,000</u>
Total Equipment and Construction	\$538,400

(Metro Mobile 1, Exhibit 1, p. 9)

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