ORIGINAL

DOCKET NO. 140 - An application of Metro Mobile CTS of New Haven, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of cellular telephone antennas and associated equipment in the City of New Haven, Connecticut.

Connecticut

Siting

Council

April 1, 1991

Findings of Fact

1. Metro Mobile CTS of New Haven, Inc., (Metro Mobile) in accordance with the provisions of Sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on November 13, 1990, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation, and maintenance of a telecommunications facility consisting of antennas and associated equipment to provide increased domestic public cellular radio telecommunications service (cellular service) in the City of New Haven, Connecticut, within the New Haven, Connecticut, New England County Metropolitan Area (NECMA). The facility would be located in and on the existing Gateway Center Building, 54 Meadow Street, New Haven, Connecticut. (Record)

2. The application was accompanied by proof of service as required by CGS Section 16-501. (Metro Mobile 1, Attachment 7)

3. Public Notice of the application, as required by CGS Section 16-501, was published in The New Haven Register on November 9 and November 10, 1990. (Metro Mobile 1, Attachment 8)

4. The Council and its staff made an inspection of the proposed New Haven site on January 28, 1991. The inspection was publicly noticed in The New Haven Register on December 19, 1990. (Record)

5. Pursuant to CGS Section 16-50m, the Council, after giving due notice thereof, held a public hearing for the proposed application on January 28, 1991, beginning at 3:30 p.m., and reconvening at 7:00 p.m., in the Public Hearing Room, New Haven Hall of Records, 200 Orange Street, New Haven, Connecticut. (Record)

6. The parties and intervenors to the proceeding are the applicant and the persons and organizations whose names are listed in the Decision and Order which accompany these Findings of Fact. (Record)

7. Pursuant to CGS 16-501(e), the applicant provided a technical report to and consulted with City of New Haven (City) officials regarding the development of the proposed facility. The City officials approved Metro Mobile's design for the proposed New Haven cell site and granted all the required local construction permits, including Metro Mobile's "Coastal Area Management (CAM) Plan." (Metro Mobile 1, p. 16; Metro Mobile 1, Attachment 10, p. 12 and Appendix A; Metro Mobile 4, Q-18; Tr. pp. 16, 17)

8. In 1981, the Federal Communications Commission (FCC) recognized the public need for technical improvement, wide-area coverage, high quality service, and establishing a competitive market for mobile telephone service. (Metro Mobile 1, p. 5; Docket 126, Finding of Fact 8)

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. 5)

10. The FCC has promulgated regulations for cellular service in the following areas: technical standards to assure technical integrity of systems for nationwide compatibility, competitive market structure, and state certifications prior to federal application for a construction permit. Such regulations pre-empt state regulations in such matters. (Metro Mobile 1, pp. 6-7)

11. The FCC has exercised its primary jurisdiction in determining need for the provision of cellular service, and the applicant is not required to demonstrate a public need for the service. (Metro Mobile 1, p. 6)

12. The FCC has determined that, for the public interest, two licenses would be granted to encourage competition in providing cellular service in each market area. One license is awarded to a wireline company, the other to a non-wireline company. In the New Haven NECMA, the FCC has authorized Metro Mobile to be the non-wireline service provider. (Metro Mobile 1, pp. 6-7; Attachment 4; Docket 126, Finding of Fact 10)

13. Cellular service consists of small overlapping broadcast regions. The coverage area of a cell site is limited by the location of the potential site within a cellular grid, its availability, its environmental compatibility, geographical terrain constraints, and antenna heights above ground. The system design provides for frequency reuse and handoff capability and must be able to accept orderly system expansion. (Metro Mobile 1, Attachment 10, pp. 2-5, 8-10; Docket 126 Finding of Fact 12)

14. Metro Mobile's cellular system design allows for frequency reuse and signal handoff, is capable of expansion, and is compatible with other cellular systems. Metro Mobile is aware of no workable alternative technology to its system design at this time. (Metro Mobile 1, pp. 11, 12, 16)

15. Metro Mobile currently operates cellular systems in the Bridgeport, New Haven, Hartford, and New London NECMA's in Connecticut. The system is designed and constructed to operate as one integrated continuous system. (Metro Mobile 1, p. 6)

16. The FCC authorized Metro Mobile to modify its system including the addition of new cell sites, providing that the New Haven NECMA service area is not geographically enlarged by overlapping coverage beyond the boundary lines into adjacent markets. The proposed New Haven cell site would be constructed to meet current and future call demand through cell splitting or interposing an additional facility between the existing Hamden, North Haven, West Haven, and Branford cell sites. The proposed facility would not enlarge the existing service area. (Metro Mobile 1, pp. 7-9; Metro Mobile 1, Attachment 4; Metro Mobile 1, Attachment 10, pp. 6,7)

17. The Hamden, North Haven, West Haven, and Branford sites are expected to reach and exceed the limits of their call handling capacity during 1991. The Hamden facility's sector 3, aimed to the southeast, and the West Haven facility's sector 2, to the northeast, at times have exceeded their design capacity. The proposed facility would offload calls directly from these two sectors. The overflow of calls from these sites are now being forwarded to the Branford and North Haven sites at a reduced quality of service including blocked calls. (Metro Mobile 1, pp. 8-9; Metro Mobile 1, Attachment 10, p. 10; Metro Mobile 4, Q-11)

18. Calls have been lost during times of high demand when channels have not been available for a necessary signal hand-off or when a customer is traveling beyond a site's service area and no nearby cell is capable of accepting the hand off. (Metro Mobile 4, Q-17; Tr. pp. 33-39)

19. The proposed New Haven cell site would allow for frequency reuse and maximum call handling capacity within areas of New Haven, West Haven, East Haven, and Hamden. The proposed site would provide additional channels to improve cellular traffic along sections of Interstate 91; Interstate 95; the Merritt Parkway; Routes 1, 34, and 10; and to the secondary roads and streets of the area. (Metro Mobile 1, pp. 1, 7-9, 13; Metro Mobile 1, Attachment 1, pp. 12, 13; Metro Mobile 1, Attachment 10, pp. 9, 10; Metro Mobile 4, Q. 9, Q. 10)

20. Within the next year and a half, Metro Mobile projects it would need another cell site in the North Haven, Hamden, and New Haven area to provide additional channel capacity and to provide a site to enable improved frequency reuse in the lower New Haven County area. (Metro Mobile 4, Q. 12; Tr. pp. 26, 27)

21. Of the 11 existing Metro Mobile cellular facilities in the New Haven NECMA, the Hamden, Milford, West Haven, Meriden, North Haven, and Branford cells are sectorized facilities. The Guilford, Naugatuck, North Haven, Branford, Southbury, and Wolcott site are omnidirectional facilities. (Metro Mobile 4, Q-10)

22. The proposed New Haven facility would be a sectorized facility by dividing the geographic service area into six zones or sectors. Each of the six sectors would have a maximum capacity of 12-15 channels, with the capability of handling about 600 calls during a peak hour. The maximum 90 channels would carry a maximum of 3600 calls during a peak hour. (Metro Mobile 4, Q-9)

23. With all 90 channels operating simultaneously at the maximum power of 100 watts, the worst case electromagnetic radio frequency power density level is calculated to be 0.0536 millwatts per square centimeter (mW/cm^2) as measured at the center of the antennas. The American National Standards Institute (ANSI) safety standard for the proposed frequency level at 870-880 MH, as adopted by the State of Connecticut pursuant to DEP regulations, is 2.92 mW/cm^2. At street level directly beneath the antennas, the power density is calculated at 0.0000053 mW/cm^2. (Metro Mobile 1, Attachment 2, p. 1; Metro Mobile 4, Q-6; Tr. pp. 46, 47)

24. The existing facilities that would surround the proposed New Haven site have experienced the following number of calls over the business day (7.00 a.m. to 7:00 p.m.); peak and average calls, for the least busy sector to the busiest sector.

		Least Busy	Most Busy
Hamden -	Peak:	50 to 700 calls per hour (CPH)	
	Average:	30 to 250 CPH	
North Haven	Peak:	50 to 200 CPH	
	Average	20 to 110 CPH	
Branford -	Peak:	25 to 200 CPH	
	Average:	15 to 110 CPH	
West Haven -	Peak:	20 to 650 CPH	
	Average	15 to 450 CPH	

(Metro Mobile 1, Attachment 5; Metro Mobile 4, Q-10; Tr. p. 14)

25. Metro Mobile investigated 12 sites within or near to the 0.6 mile in diameter theoretical search area, rejecting 11 of those sites for reasons including: lack of equipment room space, owner unwilling to negotiate a lease, location outside search area, potential interference from taller nearby buildings, necessary additional structural reinforcements, and building too tall for the recommended facility antenna height. Three existing towers are located within or near to the search area but were judged to be inadequate for a cellular facility for varying reasons. (Metro Mobile 1, Attachment 1, p. 12; Metro Mobile 1, Attachment 3; Metro Mobile 4, Q-3, Attachment 2)

26. The parcel on which the proposed site would be located is zoned as a Wholesale and Distribution (BE) District with a variance permitting Business General offices in a Central Business (CB) District. Land uses within 1/4 mile of the proposed site include a planned development district, a high to middle density residential district, light industrial and commercial districts, governmental buildings, and the New Haven train station. (Metro Mobile 1, Attachment 1, pp. 7-8)

27. The proposed New Haven cell site would consist of a 480 square foot equipment room on the 11th floor of the Gateway Center building (Gateway) at 54 Meadow Street, New Haven, Connecticut. Two 76-inch tall by two-inch in diameter omnidirectional whip antennas would be installed about 12 feet apart on the penthouse (smoke tower) roof approximately 157 feet above ground level. The whips would be placed away from the edge of the penthouse roof to reduce visibility. Six approximately one-foot wide by three-foot tall, radome transit/receive antennas would be mounted on the outside of the penthouse walls with the antenna tops placed flush or below the parapet. The antennas would be painted to match the color of the walls to reduce visibility. (Metro Mobile 1, Attachment 2, pp. 1, Metro Mobile 1, Attachment 10, Appendix A; Metro Mobile 4, Attachment 5)

28. The height of the Gateway building is 157 feet above ground level (AGL). The topographic elevation of the proposed site is 10 feet above mean sea level (AMSL). The proposed antennas would be at 167 feet AMSL. (Metro Mobile 1, Attachment 1, p. 7; Metro Mobile 4, Q-6; Tr. pp. 46, 47)

29. The Kathrein directional radome antennas would be suitable to operate in a band width of 790-960 MHz, and would have simultaneous transmitting and receiving capabilities within that band width. The antennas would have a windloading capability of 140 mile per hour (mph) without ice and 125 mph windload capability with 1/2 inch radial ice. The antenna mounting brackets would be capable of sustaining a minimum 90 mph windload. (Metro Mobile 1, Attachment 11; Metro Mobile 4, Attachment 5; Tr. pp. 17-19)

30. In developing the proposed cellular site, Metro Mobile examined potential coverages and antenna visibility to determine the minimum antenna visibility and height needed to provide the necessary coverage over the designated area. The minimum antenna height for the proposed New Haven cell site would be 132 feet AMSL, and the maximum allowable height would be 185 feet AMSL. (Metro Mobile 1, Attachment 1, p. 7; Metro Mobile 1, Attachment 10, pp. 9, 11; Metro Mobile 4, Q-14)

31. Metro Mobile would expect no adverse effect on cell reception or call handling capability resulting from the presence of the Knights of Columbus building and other nearby tall New Haven buildings. (Metro Mobile 4, Q-16)

32. Utilities for the proposed cell site would be provided from the Gateway Building. Automatic heating and cooling equipment and intrusion alarm systems would be installed in the equipment room. The facility would be unmanned except as required for maintenance. No emergency generator would be installed in the facility. Emergency power would come from a built-in battery system or from the building's stand-by generator. No sanitary facilities would be constructed for the site. (Metro Mobile 1, pp. 7, 8, 10; Tr p. 16)

33. The facility's equipment would be modular in nature and able to be disassembled into components that would be transported internally to the equipment room via an elevator and two flights of stairs. (Tr. pp. 37-38)

34. No changes to air quality, water quality, water flow, noise levels, or surrounding land uses would be expected from the proposed facility. (Metro Mobile 1, p. 10)

35. Due to the location inside an existing commercial office building, the proposed facility would have no adverse effect on the scenic, natural, historic, or recreational characteristics of the area. (Metro Mobile 1, Attachment 2, p. 2).

36. There are 759 residences within a 1000-foot radius of the proposed facility. The nearest residence is 240 feet from the Gateway building. The power density at the nearest residence is calculated to be 0.0219 mW/CM^2 for 90 channels operating at 100 watts, below the 2.92 mW/CM^2 ANSI standard for cellular communications. (Metro Mobile 4, Q-3 Attachment 3, Q-4, Q-5)

37. If the 11th floor is subdivided into offices not occupied by Metro Mobile personnel, the power density for the center of area is calculated to be 0.0002 MW/CM^2. (Metro Mobile 4, Q-7)

38. The total estimated costs to construct the proposed facility would be estimated as follows:

Radio equipment	$ 672,400
Antenna	12,800
Power systems	18,000
Building renovation	10,000
Miscellaneous costs (Including site preparation and installation)	50,200
Total	$ 763,400

(Metro Mobile 1, p. 15)

39. Approximately six weeks would be needed to prepare the site, construct, install, and test the system. Commercial operation would commence in June 1991. (Metro Mobile 1, Attachment 1, p. 11)

40. Metro Mobile has executed options to lease the property for the proposed cell site. (Metro Mobile 1, p. 14)

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