DOCKET NO. 73

AN APPLICATION OF METRO MOBILE CTS OF FAIRFIELD COUNTY, INC., FOR CERTIFICATES OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF THREE FACILITIES CONSISTING OF TELECOMMUNICATIONS TOWERS AND ASSOCIATED EQUIPMENT FOR THE PURPOSE OF PROVIDING DOMESTIC PUBLIC CELLULAR RADIO TELECOMMUNICATIONS SERVICE IN THE TOWN OF GREENWICH AND IN THE CITIES OF NORWALK AND STAMFORD, CONNECTICUT.	:	CONNECTICUT SITING COUNCIL
	:	April 1, 1987

F I N D I N G S O F F A C T

1. Metro Mobile CTS of Fairfield County, Inc., (Metro Mobile), in accordance with provisions of sections 16-50g to 16-50z of the Connecticut General Statutes (CGS), applied to the Connecticut Siting Council (Council) on October 20, 1986, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of telecommunications towers and associated equipment in the towns of Greenwich, Newtown, and Fairfield, and the cities of Norwalk and Stamford, Connecticut, to provide domestic public cellular radio telecommunications service (cellular service) in the Bridgeport-Stamford-Norwalk-Danbury, Connecticut, New England County Metropolitan Area (Bridgeport NECMA). (Record)
2. The fees as prescribed by section 16-50v-1 of the Regulations of State Agencies (RSA) accompanied the application. (Record)
3. On January 12, 1987, Metro Mobile withdrew from consideration its sites proposed for Fairfield and Newtown, and one of its proposed Greenwich sites. (Record)

4. The Council and its staff made an inspection of the proposed Greenwich, Norwalk, and Stamford sites on February 26, 1987. (Record)

5. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing on this application in the auditorium of the Norwalk Board of Education in Norwalk, beginning at 3:00 P.M. on February 26, 1987, and continuing at 7:00 P.M. on the same day. (Record)

6. The parties to the proceeding are the applicant and those persons and organizations whose names are listed in the Decision and Order which accompanies these findings. (Record)

7. The following state agency filed written comments with the Council pursuant to section 16-50j of the CGS: the Department of Environmental Protection (DEP). (Record)

8. The Council took administrative notice of its record in dockets 40, 44, 45, 50, 56, 58, and 69. (Tr., 3:00 P.M., p. 29)

9. Cellular service consists of small overlapping broadcast regions, two to ten miles in diameter, known as cells. Each cell is served by a transmitter limited by the Federal Communications Commission (FCC) to no more than 100 watts effective radiated power per channel. Each cell has a central switching point containing electronic apparatus uniting the cells into a system. Mobile units are limited by the FCC to a maximum of seven watts of transmitted power. (Docket 69, Finding 8)

10. The FCC requires that a licensee serve at least 75 percent of its licensed service area within three years of obtaining an operating license or risk losing the license. (Docket 69, Finding 10)

11. Cellular service is an improved mobile telephone service. To date, the Department of Public Utility Control (DPUC) has regulated mobile telephone service. Eventually, cellular service could replace the existing simplex mobile service. The FCC has classified cellular service as a form of basic local exchange service, which also would be subject to DPUC regulation. (Docket 69, Finding 11)

12. The FCC has determined that a national public need exists to improve the present mobile telephone service, due to the current system's limited capacity, long waiting lists nationally, and poor quality service, which have created congested channels and long waiting times. (Docket 69, Finding 12)

13. The FCC has established the technical standards for cellular service to ensure the efficient use of the allotted frequency spectrum and to ensure nationwide compatibility. (Docket 69, Finding 13)

14. The FCC has pre-empted the state's regulation of cellular service in three major areas: technical standards, market structure, and state certification prior to federal application for a construction permit. (Docket 69, Finding 14)

15. Applicants for FCC cellular system authorizations are not required to demonstrate a public need for cellular service, because the FCC has exercised its primary jurisdiction to determine that there is a need for cellular service generally and to encourage the development of cellular service nationwide. (Docket 69, Finding 15)

16. The FCC has acknowledged state jurisdiction with respect to charges, classifications, practices, services, facilities, and regulation of service by licensed carriers. (Docket 69, Finding 16)

17. According to FCC rules, there must be two licenses awarded in each NECMA to provide competition. One is awarded to a wireline company, the other to a non-wireline company. (Docket 69, Finding 17)

18. The FCC defines a "reliable service contour" as an area having a signal quality greater than or equal to 39 dBu. The FCC requires 75 percent coverage of the cellular geographic service area. (Docket 69, Finding 18)

19. Cell-splitting accommodates the future growth of demand for cellular mobile service. Adding a cell between existing cells increases the number of calls which can be handled in an area. Cell-splitting adds cell sites containing lower power antennas, converts omnidirectional antennas to directional antennas, or both. (Docket 69, Finding 19)

20. New cells achieved by cell-splitting may require additional towers and/or associated equipment. (Docket 69, Finding 20)

21. An omnidirectional antenna radiates in 360 degrees, but may be blocked by part of the tower itself, an effect called shadowing. Terrain and buildings can also cause shadowing. (Docket 69, Finding 21)

22. Shadowing in urban areas can be reduced by overlapping coverage from two cell sites. Such overlapping fills in holes from shadowing and increases the possible number of simultaneous conversations. (Docket 69, Finding 22)

23. Intermodulation interference and shadowing may be significant when antennas broadcasting independent AM radio signals are located on the same tower. (Docket 69, Finding 23)

24. The FCC has authorized Metro Mobile to construct a cellular system to serve the Bridgeport NECMA. (Metro Mobile 1, p. 8)

25. To begin its search for potential cellular tower sites, Metro Mobile developed a hexagonal grid for the area to be served, with the center of each hexagon representing the centroid of a theoretical primary cell site search area. For uneven terrain, secondary cell sites were considered. (Metro Mobile 1, pp. 25-26)

26. Primary cell site search areas have a radius of 1.2 miles from the centroid. Secondary search areas have a 0.6 mile radius. (Metro Mobile 1, pp. 25-26)

27. Metro Mobile based site selections on the location of existing towers; elevation; impacts on residential, historic, scenic, or environmentally sensitive areas; possible interference from airports, transmission lines, or broadcast facilities; ease of access; utility service; and computer modeling of coverage. (Metro Mobile 1, p. 26)

28. The proposed system is designed to facilitate the use of both mobile and portable units. (Metro Mobile 1, p. 13)

29. The proposed Greenwich antenna site is located atop the penthouse of Greenwich Hospital. The proposed eight-foot cellular receive antennas would be mounted below the high point of the existing facade atop the building. The two transmit antennas, 13 feet in height, would extend above the top of the facade. (Metro Mobile 1, Exhibit 5, pp. 4-6)

30. Metro Mobile had originally proposed a four-foot diameter dish and a six-foot diameter dish for the Greenwich Hospital roof top. The four-foot diameter dish has been withdrawn from consideration. (Metro Mobile 1, Exhibit 5, pp. 6-7; Tr., 3:00 P.M., p. 18)

31. The proposed six-foot Greenwich dish would link the proposed Greenwich site with the proposed Stamford site via microwave. (Metro Mobile 4, Q. 1)

32. Greenwich Hospital, which is eight stories in height, is the tallest building in Greenwich. It is located within an R-MF zone, single and multi-family dwellings, in which radio masts are a permitted use. (Metro Mobile 3, p. 13; Metro Mobile 4, Q. 6; Q. 9)

33. The elevation of the Greenwich Hospital is 170 feet above mean sea level (AMSL). The proposed dish would be located 105 feet above ground level (AGL). The proposed transmit antennas would be located 80 feet AGL, and the proposed receive antennas would be 70 feet AGL. Electronic equipment would be located within the hospital's penthouse. (Metro Mobile 1, Exhibit 5, p. 4, p. 9)

34. There are currently 20 antennas and one twelve-foot diameter dish located on the roof of the Greenwich Hospital. These antennas are owned by the Greenwich Department of Public Works, the Greenwich Police Department, the Greenwich Fire Department, the Glenville Fire Department, the Greenwich Red Cross, and Greenwich Hospital. (Metro Mobile 4, Q. 5)

35. The proposed Greenwich site would provide cellular coverage to nearby portions of I-95, the Merritt Parkway, the downtown portion of Greenwich, and Long Island Sound. (Metro Mobile 3, p. 13; Metro Mobile 1, Exhibit 5, p. 12)

36. The trees surrounding Greenwich Hospital would limit the visibility of the proposed antennas from nearby streets. The proposed antennas would not be visible from Lake Avenue. The proposed antennas would be visible from the east side of the hospital along Perry Ridge Road. The proposed antennas would extend no further above the penthouse than the existing antennas, and therefore would have comparable visibility. (Metro Mobile 4, Q. 5; Tr., 3:00 P.M., pp. 40-41)

37. Metro Mobile considered and rejected two other sites in the Greenwich area. A site at 80 Field Point Road was considered but rejected due to anticipated shadowing caused by surrounding buildings, as well as the unwillingness of the owner of the site to enter into a lease agreement with Metro Mobile. Additionally, equipment space was unavailable. An AM tower site on Route 1 was rejected due to problems with signal interference. (Metro Mobile 3, pp. 14-15)

38. The proposed Norwalk site is located at 50 Rockland Road, and is owned by Metro Mobile CTS Inc. A 240-foot by 171-foot by 250-foot by 121-foot parcel is located within an area zoned for industrial uses. (Metro Mobile 1, Exhibit 4, p. 1, p. 3, p. 22; Metro Mobile 3, p. 2)

39. The proposed 180-foot Norwalk tower would be placed on level asphalt pavement at the rear of an existing building. Metro Mobile would use this building as its headquarters and mobile telephone switching office (MTSO). (Metro Mobile 1, Exhibit 4, p. 3, p. 22; Tr., 3:00 P.M., pp. 73-74)

40. The proposed Norwalk site has an elevation of 60 feet AMSL, and has 451 residences within a 2000-foot radius. (Metro Mobile 1, Exhibit 4, p. 5, p. 14)

41. The proposed Norwalk site is bounded to the north by a propane gas storage facility. Other properties nearby contain a landfill, a transmission line right-of-way, railroad tracks, and a church. This church may be relocating in the future. (Tr., 3:00 P.M., pp. 35-36, pp. 78-79)

42. The proposed Norwalk tower would be a self-supporting, SSV-Heavy Series Rohn Manufacturing lattice tower. The 13-foot transmit antennas would be base-mounted on a two-foot platform at the 178-foot level of the tower, resulting in a total structure height of 193 feet. Eight-foot receive antennas would be base-mounted at the 167-foot level. A six-foot diameter dish would be mounted at the 155-foot level to provide a microwave link between the proposed Stamford site and the Norwalk MTSO. (Metro Mobile 1, Exhibit 4, p. 14, p. 16, p. 23)

43. The proposed Norwalk tower would conform to Electronic Industries Association standard RS-222-C for Zone A wind loading with one half-inch radial icing. All of Connecticut is within Zone A for wind loading. (Metro Mobile 1, p. 31)

44. The proposed Norwalk tower would be surrounded by an eight-foot chain link fence at its base. No electronics building would be required, as such equipment would be housed in the MTSO proposed for this site. (Metro Mobile 1, pp. 12-13)

45. The proposed Norwalk site would provide coverage to Norwalk, portions of I-95, and the Merritt Parkway. Coverage would also extend into Long Island Sound. (Metro Mobile 1, Exhibit 4, p. 25, Metro Mobile 3, p. 1)

46. The top 100 feet of the proposed Norwalk tower would be visible from most of Rockland Road. The top 80 to 85 feet of this tower would be visible from Highland Avenue. The upper 50 to 60 feet of the tower would be visible from South Main Street. Vegetation and a ridge between the proposed tower and Charcoal Road would provide some sceening between the tower and Charcoal Road; however, the upper 60 to 70 feet of the tower might be visible from some portions of this road. From Soundview Avenue, about 50 to 60 feet of this tower would be visible above the trees. About 100 feet of the tower would be visible from the St. James Church property. (Tr., 3:00 P.M., pp. 34-36)

47. The Norwalk Planning and Zoning Commission had no objection to the location of a tower at the proposed Norwalk site. However, the Commission recommended that Metro Mobile should provide adequate landscaping at the proposed site. (Metro Mobile 1, Exhibit M)

48. Metro Mobile considered and rejected twelve other possible tower sites in the Norwalk area. These were the WNLK towers, property at 52 Oakwood Road, the Cablevision penthouse on Maple Street, a Southern New England Telephone (SNET) tower on Willard Road, property at the corner of Dover Street and Fairview Avenue owned by the Norwalk First District Water Department, property owned by the Mattera Landscaping Company off of Price Avenue, property off of New Canaan Avenue, property at 163 Connecticut Avenue, property

owned by S&S Companies off of Stuart Avenue, property at 261 Connecticut Avenue, property at the Norwalk Cemetery, and property owned by Vallerie's Transportation off of Connecticut Avenue. (Metro Mobile 3, pp. 3-10)

49. The WNLK towers were rejected due to the potential for signal interference from these AM towers. The Oakwood Road site is within a residential area, and the owner was unwilling to consider any option longer than three months in duration. The Cablevision penthouse was rejected due to inadequate coverage caused by nearby trees. At the Willard Road site, SNET was unwilling to consider a lease arrangement acceptable to Metro Mobile. Metro Mobile rejected the Water Department property because a water tank at that site will soon be replaced. The owner of the Mattera property did not respond to Metro Mobile's inquiries. The New Canaan Avenue site would provide inferior coverage within a residential zone. The owner of the 163 Connecticut Avenue site stated he had no room for a tower on this property, and was not interested in entering into a lease agreement. S&S Companies, Inc., was not interested in leasing its proerty. The owners of the 261 Connecticut Avenue site, the Norwalk Cemetery, and the Vallerie's Transportation site were not interested in leasing space to Metro Mobile. (Metro Mobile 3, pp. 3-10)

50. The proposed Stamford site is located on the rooftop of a building located at 300 Tresser Boulevard. The proposed site is owned by Cablevision of Connecticut. (Metro Mobile 1, Exhibit 6, p. 1, p. 3)

51. Two 6-foot microwave dishes would be mounted on the penthouse walls. One dish would provide a pathway between the proposed Greenwich and Stamford sites. The other dish would provide a pathway to the proposed Norwalk site. (Metro Mobile 1, Exhibit 6, pp. 6-7; Metro Mobile 4, Q. 1)

52. The proposed Stamford transmit antennas, 15 feet in height overall, would be mounted atop the building's penthouse roof. The proposed eight-foot receive antennas would be mounted on a parapet atop this building. (Metro Mobile 1, Exhibit 6, pp. 6-7)

53. The roof top of the proposed Stamford site currently contains 12 yagi-type antennas, which resemble typical residential television antennas, and one 8-foot microwave dish. These facilities are owned by Cablevision of Connecticut. (Metro Mobile 4, Q. 5)

54. The cellular equipment at the proposed Stamford site would be located within the plaza level equipment room of the building. (Metro Mobile 1, Exhibit 6, p. 3)

55. The elevation of the proposed Stamford site is 10 feet AMSL. The transmit antennas would be 220 feet AGL, the receive antennas 210-feet AGL, and the dishes 215 feet AGL. The building is currently used for rental housing. (Metro Mobile 1, Exhibit 6, p. 7, p. 9; Metro Mobile 4, Q. 10)

56. The proposed Stamford site is zoned "Central City North." Radio and television antennas are permitted within this zone. (Metro Mobile 4, Q. 6)

57. The proposed Stamford site would provide coverage to the downtown area of Stamford, portions of I-95 and the Merritt Parkway, and a portion of Lond Island Sound. The proposed site would enable

telephone call handoffs to occur between the adjacent proposed Greenwich and Norwalk sites. (Metro Mobile 1, Exhibit 6, p. 12; Metro Mobile 3, p. 16)

58. The proposed Stamford transmit antennas would be set back far enough from the facade of the building so that they would not be visible from Tresser Boulevard. None of the proposed antennas would be visible from streets near the base of the building. (Tr., 3:00 P.M., pp. 41-42)

59. Metro Mobile considered and rejected eight other possible sites in the Stamford area. A building at 200 Perry Street would have provided inadequate coverage along the Merritt Parkway and lacked adequate space for equipment. An existing SNET tower at 555 Main Street was rejected when SNET was unwilling to consider a lease acceptable to Metro Mobile. A site at One Stamford Place was rejected because the screening of antennas was not possible. A site at One Landmark Square was considered but the owner was unwilling to allow the mounting of antennas on his buildings. A site at 65 Glenbrook Street was rejected because the building's owner did not want to place a tower on his roof. A site at 101 Tresser Boulevard was rejected because the owners were unable to provide equipment space in the building and because of concerns by the owner regarding interference with a paging transmitter. An existing AM tower site on Hanover Street was rejected because of the potential for signal interference and insufficient space for a separate tower. A site at the corner of Main and Blachley Streets was rejected because of high visibility and construction costs. (Metro Mobile 3, pp. 17-22)

60. Metro Mobile believes microwave links between the three proposed sites offer economic and competitive advantages. Potential problems of dealing with SNET and NYNEX landlines would be avoided. (Tr., 3:00 P.M., pp. 75-76)

61. For the proposed cellular frequency range of 870-890 Mhz, the allowable human exposure over a 0.1 hour period is a power density of 2.9 mW/cm^2, according to the American National Standards Institute (ANSI) Standard. The electromagnetic radio frequency power densities at all the proposed sites would be several orders of magnitude below these standards. These standards are intended to eliminate adverse effects on the human body. (Docket 69, Finding 39; Metro Mobile 1, Exhibit Q, p. 1)

62. Based on conservative assumptions, the power density levels at the proposed sites would be as follows: Greenwich, 0.0197638 mW/cm^2 at the base of the hospital building; Norwalk, 0.0047716 mW/cm^2 at the base of the proposed tower; and Stamford, 0.0034827 mW/cm^2 at the base of the building. (Metro Mobile 1, Exhibit Q, pp. 1-2; Late File 9)

63. The microwave system linking the three proposed sites would operate in the 10.55 to 11.70 GHz frequency band. The ANSI standard for exposure to these frequencies is 5.0×10^{-3} $Watts/cm^2$. The proposed sites would have the following power density levels, based on conservative assumptions: Greenwich 8.6×10^{-13} $Watts/cm^2$ at the base of the hospital building; Norwalk, 3.9×10^{-13} $Watts/cm^2$ at the base of the proposed tower; and Stamford, 2.1×10^{-13} $Watts/cm^2$ at the base of the building. (Metro Mobile 1, Exhibit Q, pp. 3-8)

64. The Federal Aviation Administration (FAA) has determined that obstruction marking and lighting would not be required for the proposed Norwalk tower. The proposed Stamford and Greenwich sites are on existing buildings, and the FAA was not notified of them. (Metro Mobile 4, Q. 7; Metro Mobile 1, p. 29)

65. The State Historic Preservation Officer has determined that the proposed sites would have no effect on the state's cultural resources. (Tr., 3:00 P.M., p. 28; Late File 6)

66. There are no known existing or historic records of species classified by the U.S. Government as endangered or threatened, or of species classified by the State of Connecticut as being of special concern, occurring at any of the proposed sites. (Metro Mobile 1, Exhibit K; Metro Mobile 2, Exhibit K)

67. The DEP expressed no major concerns or objections to the sites proposed in this application. (DEP letter of 2/10/87)

68. Proposed Greenwich facility construction, equipment, and improvement costs are as follows:

Radio equipment,	$364,223;
Antenna,	45,900;
Utilities,	6,800;
Facility,	20,000;
Miscellaneous (including site preparation and installation),	25,000;
Total	$461,923.

(Metro Mobile 1, Exhibit 5, p. 7)

69. Proposed Norwalk facility construction, equipment, and improvement costs are estimated as follows:

Radio equipment,	$ 324,223;
Tower and antenna,	86,200;
Standby Power Systems,	31,000;
Miscellaneous, (including site preparation, office and MTSO construction,	2,735,000;
Total	$3,176,423.

(Metro Mobile 1, Exhibit 4, p. 17)

70. Proposed Stamford facility construction, equipment, and improvement costs are estimated as follows:

Radio equipment,	$413,176;
Antenna,	45,900;
Standby Power,	6,800;
Miscellaneous (including site preparation and installation)	50,000;
Total	$515,876.

(Metro Mobile 1, Exhibit 6, p. 7)