DOCKET NO. 131 - An application of Metro Mobile CTS of Hartford, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, operation, and maintenance of a cellular telephone tower and associated equipment in the Town of West Hartford, Connecticut.

CONNECTICUT

SITING

COUNCIL

April 9, 1990

ORIGINAL

FINDINGS OF FACT

1. Metro Mobile CTS of Hartford, 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 September 29, 1989, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a telecommunications tower and associated equipment to provide increased domestic public cellular radio telecommunications service (cellular service) in the Town of West Hartford within the Hartford, Connecticut, New England County Metropolitan Area (Hartford NECMA). (Record)

2. The application was accompanied by proof of service as required by CGS Section 16-501. (Metro Mobile 1, Exhibit 4)

3. Public notice of the application, as required by CGS Section 16-501, was published in the Hartford Courant on September 27 and 28, 1989. (Record)

4. The Council and its staff made an inspection of the proposed and alternate West Hartford sites on December 21, 1989. The inspection was publicly noticed in the Hartford Courant on October 25, 1989. During the field review, Metro Mobile flew a balloon only at the alternative tower site to simulate the height of the proposed alternate tower. (Record)

5. Pursuant to CGS Section 16-50m, the Council, after giving due notice thereof, held a public hearing for the proposed application on December 21, 1989, beginning at 3:00 p.m., and reconvening at 7:00 p.m., in the West Hartford Town Hall Council Chambers, 50 South Main Street, West Hartford, Connecticut. (Record)

6. The parties 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. The Department of Environmental Protection (DEP) filed written comments with the Council pursuant to CGS Section 16-50j in a letter dated December 11, 1989. (Record)

8. In 1981, the Federal Communications Commission (FCC) recognized a national need for technical improvement, wide area coverage, high quality service, and competitive pricing in mobile telephone service. (Metro Mobile 1, pp. 5, 6)

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, market structure, and state certification prior to federal application for construction permit. (Metro Mobile 1, pp. 6-7)

11. The FCC has pre-empted State regulation 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, p. 6)

12. The FCC has detemined 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 Hartford 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 7)

13. 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. The system design provides for frequency reuse and call transfer, orderly expansion, and compatibility with other cellular systems. (Metro Mobile 1, pp. 13-16; Docket 107, Finding 13; Tr. p. 17)

14. The proposed cellular facility would operate in the 870-890 megahertz (MHz) frequency range with a maximum of 90 channels. (Metro Mobile 1, Exhibit 1, p. 13; Metro

Mobile 1, Exhibit 7; Metro Mobile 1, Exhibit 9, pp. 2, 11)

15. The electromagnetic radio frequency power density emissions, assuming all 90 channels are operating simultaneously at maximum allowable power, would be 0.0636 milliwatts per square centimeter (mW/cm^2) at ground level at the primary site and 0.0433 mW/cm^2 at ground level at the alternate site. Both power density values would be below the American National Standards Institute (ANSI) standard of 2.92 mW/cm^2, as adopted by the State in CGS Section 22a-162 and 22a-162a, for frequency ranges to be used in the proposed cellular system. (Metro Mobile 1, pp. 11-12; Metro Mobile 1, Exhibit 9, pp. 2, 11; Tr. pp. 30-31, 80)

16. Primary 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, pp. 9-11; Metro Mobile 1, Exhibit 1, p. 22; Metro Mobile 1, Exhibit 11, pp. 6, 7)

17. Cell site call handling capability can be increased by adding more channels until the maximum is reached, or by reassigning frequencies to new secondary facilities within existing cells or in adjoining areas. (Metro Mobile 1, Exhibit 11, pp. 9-10)

18. Metro Mobile, in its investigation of potential cell sites, identified areas of relatively high elevation and areas zoned or used for commercial or industrial purposes within and near the identified search area. No suitable and available existing towers or tall structures were located within the search area, therefore Metro Mobile concentrated on locating an undeveloped parcel within an industrial or commercial zone along New Park Avenue and Newington Road, West Hartford. (Metro Mobile 1, Exhibit 11, p. 9; Metro Mobile 3, Q-3)

19. As part of Metro Mobile's overall system, the proposed West Hartford facility is planned to overlap existing cellular coverage from operating sites in Hartford and Farmington. (Metro Mobile 1, p. 15; Metro Mobile 1, Exhibit 11, pp. 9-10)

20. The combined service areas of the existing Hartford and Farmington facilities and the proposed or alternate West Hartford sites would include Interstate 84 (I-84), Routes 4 and 6, and areas of West Hartford, Hartford, Newington, and Wethersfield. (Metro Mobile 1, pp. 7-8; Metro Mobile 1, Exhibit 11, p. 10)

21. In the area south of West Hartford, traffic through the highway corridor is heavy, with inadequate call handling capability that has resulted in dropped and blocked

calls. Metro Mobile projects that the Hartford and Farmington facilities would reach maximum call handling capability in 1990. Without the introduction of additional channels as provided by the proposed West Hartford cell site, the existing facilities would begin to block calls, resulting in an unacceptable level of service to customers. (Metro Mobile 1, pp. 9, 10; Metro Mobile 1, Exhibit 11, p. 10; Metro Mobile 3, Q-8; Tr. pp. 19-21, 25-29)

22. The existing Hartford and Farmington sites are sectorized facilities which provides for maximum call handling capacity by dividing the geographic service area into six areas or sectors. This sectorization allows for additional frequency reuse through the use of directional antennas for call handling. The Hartford and Farmington facilities' call handling experience has been as follows:

Peak

Hartford - 2225 calls per hour (all six sectors);
Farmington - 1500 calls per hour (all six sectors);

Average Per Business Day

Hartford - 1610 calls per hour (all six sectors);
Farmington - 1120 calls per hour (all six sectors).

The maximum number of calls per hour that could be handled by either of these existing facilities would be 600 calls over 12 to 15 channels per sector or 3600 calls per site over 72 to 90 channels. (Metro Mobile 3, Q-9)

23. The proposed West Hartford facility would be a sectorized site that would have the same call handling capacities as the Hartford and Farmington facilities. This would allow 90 additional simultaneous calls within the West Hartford site's service area above what is currently provided and allow additional cellular traffic handling capability through call transfers from one facility to another. The West Hartford facility would have six sectors, each handling 12 to 15 channels per sector, with a total site capability of 3600 calls per hour or 600 calls per hour for each of the six sectors. (Metro Mobile 1, Exhibit 11, pp. 10-11; Metro Mobile 3, Q-9)

24. To date, the proposed cellular facility represents state-of-the-art technology, and Metro Mobile is not aware of any technically viable alternatives to its system design. There is no licensed or experimental mobile satellite telephone service. (Metro Mobile 1, p. 18)

25. Metro Mobile determined that a 150-foot tower at the proposed site and a 180-foot tower at the alternate site would be the tower heights that could provide the

necessary call handling capability for traffic through the West Hartford area. (Metro Mobile 1, Exhibit 11, p. 3; Tr. p. 59)

26. A shorter tower, 100 feet in height above ground level (AGL) at the proposed site, would off-load about 32 percent fewer calls from the surrounding sites than the proposed 150-foot tower, resulting in the Hartford and Farmington facilities reaching call handling capacity approximately nine months sooner than forecasted with the proposed 150-foot tower. A 100-foot tower at the proposed site would necessitate the addition of another site in the West Hartford area. (Metro Mobile Exhibit 5; Tr. pp. 57-60)

27. A cellular structure taller than the proposed tower would cause interference and reduce frequency reuse and overall call handling capacity. (Tr. pp. 59-61)

28. Metro Mobile investigated ten possible cell sites, rejecting eight in or near the 0.6-mile theoretical cell site search area. Cell site selection was restricted by cellular coverage requirements, site availability, environmental impact, surrounding land uses, technical compatibility, site access, and reasonable leasing or purchase terms. (Metro Mobile 1, Exhibit 11, pp. 4-5; Metro Mobile 1, Attachment A; Metro Mobile 3, Q-13, Q-14, Q-15; Tr. pp. 48-49, 67-72)

29. Potential sites were considered and rejected for one or more of the following reasons: use of existing structures would not provide adequate coverage; future private development is planned for a parcel; the rooftop of an existing building would not be structurally adequate to support a tower structure; and a parcel size is inadequate. (Metro Mobile 1, Exhibit 11, pp. 2-9; Metro Mobile 1, Attachment A; Tr. pp. 48-49, 65-72, 75-76)

30. Metro Mobile communicated with Town of West Hartford officials regarding potential facility sites, including use of the Town's abandoned landfill site. The Town of West Hartford did not indicate any preference regarding the location of the proposed and alternate sites. The landfill site was unavailable to Metro Mobile for development of a cellular facility. (Metro Mobile 3, Q-4, Attachments 7, 8, 9; Tr. pp. 64, 70-72)

31. Metro Mobile proposes to construct a 150-foot high, self-supporting steel monopole tower. Two 15-foot signal processing transmit antennas with supporting pipes would be mounted at the top with six 11.5-foot receive/transmit antennas with 11-inch by 112-inch attached reflectors side-mounted at the 141-foot level. The total structure height, including antennas, would be 163 feet AGL. (Metro Mobile 1, Exhibit 1, pp. 8, 11, 13; Tr. p. 16)

32. The proposed tower would be designed to withstand the equivalent of 90 mile per hour (MPH) wind pressures with a 0.5-inch radial ice accumulation in accordance with the Electronic Industries Association Standard RS-222-D. The tower foundation would be designed based on soil conditions at the site. (Metro Mobile 1, p. 9; Metro Mobile 1, Exhibit 5)

33. The proposed facility would be constructed on a 65-foot by 60-foot (3900 square feet) parcel of property owned by Connecticut Tar and Asphalt Services, Inc., located at 570 New Park Avenue, West Hartford. An existing brick garage would be used as an equipment shelter. Existing overhead utility lines on New Park Avenue would be accessed from a utility easement through the surrounding property. Vehicular access would be along existing driveways. (Metro Mobile 1, p. 2; Metro Mobile 1, Exhibit 9, p. 1)

34. The proposed site would be adjacent to and west of Conrail railroad property and 200 feet east of New Park Avenue. (Metro Mobile 1, Exhibit 1, pp. 2, 4, 5, 12)

35. At the proposed site, the tower base would be located approximately 30 feet from the Conrail railroad right-of-way and about 40 to 45 feet from the tracks. The fall zone of the tower would include the railroad tracks, a building owned by the lessor, and three commercial buildings on three adjacent private properties respectively owned by Henry Bonk, Nicolina Docchio, and Richard Weinstein. (Metro Mobile 1, Exhibit 1, pp. 4-5; Tr. pp. 32-39)

36. The parcel on which the proposed site is located is zoned IG, General Industrial District. The surrounding areas within a one quarter mile radius are zoned IP (Industrial Park District) and IR (Restricted Industrial District). Land uses in the surrounding area include commercial and industrial buildings and some residential development. (Metro Mobile, Exhibit 1, p. 6; Metro Mobile 1, Exhibit 9, p. 2, Metro Mobile 3, Q-5)

37. The proposed tower would be partially visible from various areas depending on vegetation, buildings, and distance from the tower. (Metro Mobile 1, Exhibit 9, p. 2)

38. The nearest residence to the proposed site is located approximately 1100 feet to the southeast. (Metro Mobile 3, Q-5)

39. The proposed site is level and clear of vegetation. Minimum leveling would be required. The topography would remain relatively unchanged following construction. (Metro Mobile 1, Exhibit 1, p. 6; Metro Mobile 1, Exhibit 9, p. 6)

40. No water flow and/or quality changes at the proposed site would be expected from construction or operation of the proposed facility. (Metro Mobile 1, Exhibit 9, p. 1)

41. On the alternate site, Metro Mobile would construct a 180-foot high, self-supporting steel monopole tower with the same antenna configuration as the proposed tower. The antenna bases would be mounted at 178 feet above AGL. The total structure height including antennas would be 193 feet AGL. Wind loading specifications would be identical to the proposed tower. (Metro Mobile 1, Exhibit 2, pp. 8, 9, 12)

42. Metro Mobile also proposes to construct a 20-foot by 22-foot, single story, pre-fabricated concrete equipment building on the alternate site. (Metro Mobie 1, pp. 8, 9; Metro Mobile 1, Exhibit 9, p. 10; Metro Mobile 1, Exhibit 12)

43. The alternate site would be a 25-foot by 40-foot (1000 square foot) parcel located on property in the rear of 631 New Park Avenue, West Hartford. Existing overhead utility lines would be accessed from a utility easement across land owned by the lessor, William M. Lombardi, Jr. Vehicular access would be along existing parking areas. (Metro Mobile 1, Exhibit 2, pp. 1, 4, 5, Metro Mobile 1, Exhibit 9, p. 10)

44. The parcel on which the alternate site is located is zoned IG, General Industrial District. The surrounding areas, within one quarter mile radius, are zoned IG (General Industrial District), R-6 (Residential District), RM-3 (Multifamily Residential District), and BN (Neighborhood Business District). (Metro Mobile 1, Exhibit 2, p. 6)

45. Activities in the area surrounding the alternate cell site are mostly industrial and commercial in nature. The fall zone of the alternate tower would include buildings on the land of the lessor, and commercial establishments on property owned by the Pasquale Mancini Trust, and on property owned by Leonard Perugini. (Metro Mobile 1, Exhibit 2, pp. 4-5; Metro Mobile 1, Exhibit 9, p. 3; Tr. p. 35)

46. The fall zone of the alternate tower would also include land owned by the Michael Guerrera Family Trust, Nicholas Perugini, and Lillian Perugini et al. (Metro Mobile 1, Exhibit 9, p. 10)

47. There are six residential buildings located within 1000 feet of the alternate site. The distance to the nearest residence, an apartment building containing 72 housing units, is approximately 450 feet. The power density at

that distance is calculated to be 0.00546 mW/cm^2. (Metro Mobile 1, Exhibit 9, p. 11; Tr. pp. 31-32, 80)

48. The alternate 193-foot structure would not be visible from several neighboring areas because of 20-foot to 70-foot trees located between sight-line vantage points and the tower site. Partial tower visibility would result in some areas surrounding the tower. (Metro Mobile 1, Exhibit 9, p. 11)

49. The alternate site is a level parking area with brush along the western boundary. No clearing and filling would be required. The topography of the site would remain relatively unchanged after construction. (Metro Mobile 1, Exhibit 2, pp. 6-7; Metro Mobile 1, Exhibit 9, p. 10)

50. No water flow and/or quality changes at the alternate site would be expected from construction or operation of the proposed facility. (Metro Mobile 1, Exhibit 9, p. 10)

51. The proposed and alternate cell sites would pose no threats to endangered or threatened species or their habitat nor the destruction of vegetation or wildlife. (Metro Mobile 1, Exhibit 9, pp. 2, 11)

52. The proposed and alternate cell sites contain no known unique historical, cultural, or recreational characteristics. (Metro Mobile 1, Exhibit 9, pp. 2, 11)

53. Neither the proposed nor alternate facilities would emit air pollutants except during limited periods of power outages when a portable standby generator would be used. No permanent standby emergency generator would be installed at either site. Except for air conditioning and emergency power equipment, neither facility would emit noise. Some short term noise would be expected during cell site construction. (Metro Mobile 1, Exhibit 9, pp. 1, 10; Tr. pp. 73, 74)

54. Either the proposed or the alternate cell site would be equipped with intrusion and alarm systems. No sanitary facilities would be required at either site. The equipment building would be unmanned at each site. (Metro Mobile 1, pp. 8, 9)

55. Metro Mobile has executed options to lease property for both the proposed and alternate sites. (Metro Mobile 1, p. 16)

56. No persons, agencies, or organizations have expressed any interest in sharing the proposed tower. (Tr. p. 77)

57. The Department of Environmental Protection (DEP) stated that construction of either the proposed or alternate

towers would have no environmental impacts or land use conflicts. (Record, DEP Letter, December 11, 1989)

58. The Federal Aviation Administration has determined that the proposed and alternate towers would not be identified as an obstruction under any of its standards and would not be a hazard to air navigation. Obstruction marking and lighting would not be required. (Metro Mobile 3, Q-2, Attachments 4 and 5)

59. Total estimated cost of the construction for the proposed site is as follows:

1.	Radio equipment	$ 791,500
2.	Tower and antennas	46,240
3.	Power system	24,000
4.	Building renovation	10,000
5.	Miscellaneous including site preparation and installation	110,800
	Total	$982,540.

(Metro Mobile 1, Exhibit 1, p. 9; Metro Mobile 3, Q-16)

60. Total estimated cost of construction for the alternate site is as follows:

1.	Radio equipment	$791,500
2.	Tower and antennas	49,700
3.	Power system	24,000
4.	New building	68,300
5.	Miscellaneous including site preparation and installation	135,800
	Total	$1,069,300.

(Metro Mobile 1, Exhibit 2, p. 9)