

An application of Metro : Docket No. 116  
 Mobile CTS of New London Inc., for :  
 a Certificate of Environmental : Connecticut  
 Compatibility and Public Need : Siting  
 for the construction, operation, and : Council  
 maintenance of a cellular telephone :  
 tower and associated equipment in the :  
 Town of East Lyme, Connecticut. : January 3, 1990

FINDINGS OF FACT

1. Metro Mobile CTS of New London, 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 July 14, 1989, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation of a telecommunication tower, associated equipment, and building to provide domestic public cellular radio service (cellular service) in the town of East Lyme within the New London, Connecticut, New England County Metropolitan Area ("New London NECMA"). (Record)
2. The application was accompanied by proof of service as required by section 16-50l of the CGS. (Record)
3. Affidavit of newspaper notice as required by section 16-50l of the CGS was supplied by the applicant. Newspaper notice of this application was published twice by the applicant in the New London Day. (Metro Mobile 1, Exhibit 4)
4. The Council and its staff inspected the proposed and alternate cell sites in the Town of East Lyme, Connecticut, on October 18, 1989. (Record)
5. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing on this application on October 18, 1989, at 4:00 P.M. and 7:00 P.M. in the East Lyme Town Hall Meeting Room in East Lyme, Connecticut. (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 Department of Environmental Protection (DEP) filed written comments with the Council pursuant to section 16-50j of the CGS. (Record)
8. The Southeastern Connecticut Regional Planning Agency filed written comments with the Council by letter dated July 29, 1989. (Record)
9. 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, p.5 and 6; Docket 107 Finding of Fact 10)

10. 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. (Metro Mobile 1, p.6 and 7; Docket 107, Finding of Fact 12)
11. 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. (Metro Mobile 1, p.6 and 9; Docket 107, Finding of Fact 11)
12. Conventional mobile telephone service has been limited by insufficient frequency availability, inefficient frequency use, and poor quality of service. These limitations have resulted in congestion, blocking of transmission, interference, lack of coverage, and high costs. (Metro Mobile 1, p.5; Docket 107, Finding of Fact 9)
13. Cellular service consists of small, overlapping broadcast regions. These regions or cells are limited in coverage by FCC's technical standards governing transmitting power. The system design provides frequency reuse and hand-off and would be capable of an orderly and compatible expansion. (Metro Mobile 1, p.14)
14. Cell site locations are limited by a basic need for a 10 percent to 20 percent overlap of coverage between cell sites. Location of cell sites is essential to provide for uninterrupted hand-off of calls in progress. (Metro Mobile 1, Exhibit 10, p.10)
15. Presently, the proposed cellular system represents state-of-the-art technology and Metro Mobile is aware of no viable alternatives. There is no licensed or experimentally licensed satellite system that provides domestic mobile communication service. (Metro Mobile 1, p.19; Transcript, p.46)
16. In selecting a site for the cell, Metro Mobile considered and rejected nine sites. Actual site selection is based on several factors, including: a) availability, b) coverage, c) environmental impact, d) technical compatibility, e) access and other site related matters, and f) reasonable lease or purchase terms. (Metro Mobile 1, Exhibit 10, p.4 and Attachment "A")
17. The nine sites investigated were rejected for one or all of the following reasons: a) substantial residential development and visibility, b) low ground elevation, and c) unacceptable potential for interference or inadequate coverage from existing towers to meet Metro Mobile's operating criteria. (Metro Mobile 1, Exhibit 10, Attachment "A"; Metro Mobile 3, Q.14)
18. Both the proposed and alternate sites would provide cellular coverage to Interstate 95 from approximately exit 72 to exit 75, U.S. Route 1, State Routes 156 and 161, and to the East Lyme area. (Metro Mobile 1, p.7)

19. The proposed or alternate site would overlap in coverage with an existing site in Montville and a possible future site in Old Saybrook. (Metro Mobile 1, p.16)
20. Coverage from the proposed or alternate site would extend to Long Island, New York. Frequencies between the adjacent carriers would be coordinated under agreement between the carriers and controlled by the FCC. (Metro Mobile 3, Q.16; Transcript, pp.28-30)
21. The proposed cellular site is off Roxbury Road on property owned by the town. This 49 acre parcel contains the East Lyme landfill. The proposed tower would be located approximately 360 feet west of the landfill, 80 feet south of a quarry pond, and 300 feet east of a water tank also located on town property, and would not affect the operation of the landfill. (Metro Mobile 1, p.2; Metro Mobile 4, Q.4; Transcript, p.19)
22. The proposed site is shaped like a trapezoid with a front measuring 20 feet and a back measuring 80 feet with sides measuring approximately 75 feet. (Transcript, p.21)
23. Access to the proposed site would be over an existing roadway leading into the landfill. No improvement to this roadway would be anticipated. (Metro Mobile 1, Exhibit 1 p.1; Metro Mobile 4, Q.8)
24. Metro Mobile proposes to construct a 160-foot self-supporting lattice tower. Two 13-foot transmit antennas would be mounted at the top with six 11 1/2-foot receive antennas mounted at 151 feet. (Metro Mobile 1, p.8 and Exhibit 1, p.8)
25. Metro Mobile would provide space on the proposed tower for fire, police, and emergency service antennas for the Town of East Lyme, Connecticut. Presently, the town has no specific plans to place antennas on the proposed tower. (Metro Mobile 1, pp.8 and 12; Transcript, p.15)
26. A 20-foot by 40-foot building would be constructed on the proposed site. Metro Mobile would utilize 600 square feet in the proposed building. The remaining 200 square feet would be made available to the Town of East Lyme. (Metro Mobile 1, p.9; Metro Mobile 3, Q.5; Transcript, p.22)
27. The alternate site would be on a 7 1/2-acre privately owned parcel abutting the eastern portion of the East Lyme landfill. (Metro Mobile 1, p.2; Transcript, p.19)
28. The alternate site is triangular in shape and measures 166 feet by 153 feet by 135 feet. (Metro Mobile 1, Exhibit 1A, p.6)
29. A new 800-foot access road would have to be constructed from Roxbury Road to the alternate site. It would be over private property parallel to the existing access road and eastern boundary to the landfill. Clearing of brush, trees, and leveling would be required to construct the access road. (Metro Mobile 4, Qs.7 and 8; Transcript, p.20)

30. A 180-foot self-supporting lattice tower with two 13-foot transmit antennas mounted at the top and six 11 1/2-foot receive antennas mounted at the 171-foot level would be constructed at the alternate site. (Metro Mobile 1, p.8 and Exhibit 1A, p.8.)
31. Metro Mobile proposes to construct a 21-foot by 21-foot building at the alternate site and utilize 441 square feet, but no arrangements have been made to share building space with the town. (Metro Mobile 1, p.9; Metro Mobile 3, Q.5; Transcript, p.22)
32. No structures except the proposed equipment building would be within the fall zone of the proposed or alternate tower. (Metro Mobile 1, Exhibits 1 and 1A, p.1)
33. The zoning for the proposed and alternate cellular sites is RU-40 residential. The nearest residence to either site is approximately 400 feet away. (Metro Mobile 1, Exhibits 1 and 1A, p.6, and Exhibit 8, pp.2 and 13)
34. There are 76 residences within a 1000-foot radius of both the proposed and alternate cellular sites. (Metro Mobile 1, Exhibit 8, pp.2 and 13; Transcript, p.40)
35. The East Lyme landfill has been operating under a permit from the DEP since 1974. A proposed expansion of the southwest corner of the landfill would have no effect on either site or the proposed site access road. (Metro Mobile 3, Q.18; Metro Mobile 5)
36. The electromagnetic radio frequency power density at the base of the proposed and alternate towers, assuming all 60 channels operating simultaneously at 100 watts (maximum allowable power) and broadcasting from the lowest set of antennas, would be 0.0370 milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ) at the proposed site, and 0.0288  $\text{mW}/\text{cm}^2$  at the alternate site, and would be well below the American National Standards Institute (ANSI) standard of 2.92  $\text{mW}/\text{cm}^2$ , as adopted by the State of Connecticut in CGS Section 22a-162. (Metro Mobile 1, p.12, Exhibit 8, pp.2 and 13)
37. Both the proposed and alternate towers would be designed to withstand pressure equivalent to 90 mph wind with a 1/2 inch solid ice accumulation in accordance with Electronic Industries Association standard RS-222-D. (Metro Mobile 1, Exhibit 1, p.9)
38. A lattice tower effectively accommodates additional loading within limitations with little additional expense. Also, lattice towers are available from more suppliers in shorter timeframes and are easier to transport and erect than monopoles. (Metro Mobile 4, Q.11)
39. A monopole could be used, but attachment of additional, unanticipated antennas could be limited which would reduce the flexibility of sharing space on the tower. (Metro Mobile 4, Q.11)

40. The proposed site consists of quarry spoil. Metro Mobile proposes to place 26 to 29 feet of compacted fill on the site after excavation of 18 to 20 feet of quarry spoil. The finished grade elevation of the proposed site would approximately be six to eleven feet above a present elevation of 170 feet AMSL. (Metro Mobile 3, Q.21; Transcript pp.41 and 42)
41. The detailed propagation of the proposed cellular site was based on an original estimate of a 170-foot ground elevation with the top of the tower at 330 feet AMSL. (Metro Mobile 3, Qs.2 and 20; Transcript, pp.43 and 44)
42. According to the Connecticut Historical Commission "the project will have no effect on historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places." (Metro Mobile 1, Exhibit 9)
43. The Department of Environmental Protection states "there are no known extant populations of federally endangered and threatened species or Connecticut 'species of special concern' occurring at the sites in question." (Metro Mobile 1, Exhibit 9; Metro Mobile 3, Q.19)
44. The total estimated cost of construction for the proposed site is as follows:

1. Radio equipment	\$306,400
2. Tower and antennas	\$ 36,240
3. Power System	\$ 12,000
4. Building	\$ 68,300
5. Miscellaneous	\$182,800
(Site preparation and installation)	
Total	\$605,740

(Metro Mobile 1, pp.17 and 18, and Exhibit 1, p.9)

45. The total estimated cost of construction for the alternate site is as follows:

1. Radio equipment	\$306,400
2. Tower and antennas	\$ 40,200
3. Power System	\$ 12,000
4. Building	\$ 68,300
5. Miscellaneous	\$157,800
(Site preparation and installation)	
Total	\$584,700

(Metro Mobile 1, pp.18, and Exhibit 1A, p.9)