DOCKET NO. 43

AN APPLICATION SUBMITTED BY TELE-MEDIA COMPANY OF NORTHEASTERN CONNECTICUT FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE ERECTION OF COMMUNITY ANTENNA TELEVISION TOWERS AND ASSOCIATED EQUIPMENT IN THE TOWNS OF ASHFORD, LEBANON, MANSFIELD (STORRS), WOODSTOCK, AND CANTERBURY, CONNECTICUT.	:	CONNECTICUT SITING COUNCIL
	:	June 18, 1984

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

1. Tele-Media Company of Northeastern Connecticut Limited Partnership (Tele-Media), in accordance with the provisions of section 16-50k et seq of the General Statutes of Connecticut (CGS) revised to 1983 and sections 16-50j-70 et seq of the Regulations of Connecticut State Agencies (RSA), applied to the Connecticut Siting Council (Council) on February 23, 1984, for a certificate of environmental compatibility and public need (certificate) for the erection of a community antenna television tower and earth station in the town of Ashford and hub towers and receiving sites in the towns of Lebanon, Mansfield, Woodstock, and Canterbury. (Record)
2. The fee as prescribed by section 16-50v-1 of the RSA accompanied the application. (Record)
3. The application was accompanied by proof of service as required by section 16-501 of the CGS. (Record)
4. An affidavit of newspaper notice as required by section 16-501 of the CGS was also filed. (Record)
5. On May 2, 1984, members of the Council and its staff made an inspection of the proposed sites in Mansfield, Ashford, and Woodstock. On May 9, 1984, members of the Council and its staff made an inspection of the proposed sites in Lebanon and Canterbury, as well as an inspection of the Hall's Pond area. (Record)

6. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held public hearings at the following places: May 2, 1984, at 6:30 P.M. in the Town Council Chambers, Mansfield, and at 8:00 P.M. in the Town Hall, Ashford; May 9, 1984, at 7:00 P.M., Lebanon Community Center, Lebanon. (Record)
7. The parties to the proceeding are the applicant, Tele-Media, and those persons and organizations whose names are listed in the Decision and Order which accompanies these findings. (Record)
8. The following state agencies filed written comments with the Council pursuant to section 16-50j of the CGS: the Department of Economic Development (DED), the Department of Environmental Protection (DEP), and the Department of Transportation (DOT). (Record)
9. On July 21, 1983, Tele-Media was issued a certificate of public convenience and necessity by the Department of Public Utility Control (DPUC) to construct and operate a community antenna television company (CATV) system in CATV Area No. 13. (Tele-Media 1, p. 2)
10. CATV Area No. 13 consists of the towns of Ashford, Brooklyn, Canterbury, Chaplin, Columbia, Coventry, Eastford, Hampton, Lebanon, Mansfield, Pomfret, Scotland, Thompson, Willington, Windham, and Woodstock. (Tele-Media 1, p. 2)
11. Tele-Media proposes to construct a head-end microwave transmission and earth station receiving site in Ashford. The proposed sites in Lebanon, Mansfield, Woodstock, and Canterbury are microwave receiving or hub sites. (Tele-Media 1, p. 3)

12. The proposed head-end was selected because of its location near the center of the entire franchise area. The site is sufficiently high to provide good quality off-air VHF/UHF signals which would be transmitted throughout the system by line-of-sight AML pathways. (Tele-Media 2, Q. 7; Tr. 5/2/84, pp. 18-19, 63-64)

13. The proposed hub receive sites selected are on high terrain so that minimum tower heights would provide line-of-sight microwave paths to and from the Ashford head-end. (Tele-Media 2, Q. 7)

14. The proposed Lebanon and Mansfield sites would have return microwave capability to Ashford to implement local access programming. The Woodstock and Canterbury sites would be receiving sites only. (Tele-Media 1, p. 3)

15. Tele-Media will submit an application to the Council at a future date for microwave receiving sites in Brooklyn and Thompson. (Tele-Media 1, p. 4)

16. The proposed Ashford tower would be 300' high, anchored to a concrete pier and guyed. This tower would be designed to function with 40 pounds per square foot wind loading with ½ inch radial ice. (Tele-Media 1, p. 7)

17. The proposed Ashford tower would have seven parabolic antennas, each 8'-10' in diameter, at various levels between 130' and 295' above the ground. Twelve VHF and UHF antennas would be mounted on the tower at various levels between 110' and 295' above the ground. (Tele-Media 1, p. 7; Tele-Media 1, Exhibit 1-B)

18. A 24'x30' cinderblock building would be constructed near the proposed Ashford tower to house CATV equipment. (Tele-Media 1, p. 7)

19. The proposed Ashford site would also have a 5-meter diameter Simulsat Multiple Satellite Antenna. This earth station would have a 90 mph wind loading capacity with 1" of radial ice. It would be located close to the base of the proposed tower. (Tele-Media 1, Exhibit 1-B; Tele-Media 2, Q. 11)

20. The proposed Ashford site is located about 1000' east of Pumpkin Hill Road on property owned by John J. and Irene Bunte. (Tele-Media 1, pp. 8, 18)

21. Tele-Media would have to construct an access road of over 1000' to the proposed Ashford site and install utilities above ground, as facilities are not on the present site. (Tele-Media 1, p. 8; Tele-Media 1, Exhibit 1-D)

22. The proposed Ashford site consists of 6.6 acres of wooded land. This site is zoned Residential/Agricultural. (Tele-Media 1, p. 12; Tele-Media 2, Q. 22)

23. Surrounding the proposed Ashford site are forests and farmlands. The nearest house, located on Pumpkin Hill Road, is approximately 1000' west of the proposed tower site. (Tele-Media 1, p. 13)

24. To install an access road and construct the proposed tower, certain trees would have to be removed for the access road to the proposed Ashford site; probably fewer than 200. (Tele-Media 1, p. 14; Tele-Media 2, Q. 15)

25. The access road to the proposed Ashford site crosses an intermittent stream. The DEP recommends utilization of adequate erosion control techniques at the stream crossing. (Tele-Media 1, Exhibit 1-B; DEP Comments, 4/23/84; Schroeder letter, 5/29/84)

26. Tele-Media plans to install a culvert at the proposed Ashford site stream crossing. The company would submit drainage and runoff control plans to the Council. (Tr. 5/2/84, p. 73; p. 134)

27. The Federal Aviation Administration (FAA) requires that the proposed Ashford tower would be lighted with a flashing beacon at the top, and side lights. (Tele-Media 2, Q. 3; Tr. 5/2/84, p. 113)

28. The lower portion of the proposed Ashford tower would be screened by the surrounding forest. The top of the proposed tower would be visible along Kennerson Reservoir Road and a majority of Pumpkin Hill Road. It would also be visible from Route 44, Molnar Road, and Bebbington Road. (Tr. 5/2/84, pp. 135-139; DEP Comments 4/23/84)

29. A major portion of the Ashford tower would be visible on the horizon from a large area. The top 130' of the proposed Ashford tower would be visible from most of the Hall's Pond Wildlife Management area, which is 5000' southeast of the proposed tower site. (Tele-Media 2, Q. 14; DEP Comments 4/23/84)

30. Based on calculations using conservative assumptions, the Radio Frequency Electromagnetic Radiation (RFER) power density for the proposed Ashford tower would be 2.85 microwatts per square centimeter (uW/cm^2) at the 140' level of the antenna. (Tele-Media 1, p. 23)

31. Tele-Media would be willing to measure RFER power densities at the proposed Ashford site after the tower is installed and operating. These measurements would be certified by an engineer. (Tr. 5/2/84, p. 134)

32. In order to provide the performance standards submitted to the DPUC, Tele-Media would have to obtain a site near the proposed Pumpkin Hill site in an area central to CATV Area No. 13. (Tr. 5/2/84, p. 107)

33. The proposed Lebanon tower, on Gates Hill, would be 120' high, and designed to function with 40 pounds per square foot wind loading with ½inch radial ice. This guyed tower would have one 10' parabolic antenna at the 105' level and one 6' parabolic antenna at the 115' level. It would be anchored to a concrete pier. (Tele-Media 1, p. 25)

34. A 9'x9' steel building, containing CATV equipment, would be constructed near the proposed Lebanon tower. (Tele-Media 1, p. 25)

35. Access to the proposed Lebanon site would be by existing roadways and utility easements. (Tele-Media 1, p. 25)

36. The proposed Lebanon tower site consists of two acres of land, on which is located a 200' high tower. This tower is owned by the Willimantic Switch Board Fire Chiefs' Association. (Tele-Media 1, p. 29)

37. On a piece of property adjacent to the proposed Lebanon tower site there are two towers owned by the Southern New England Telephone Company (SNET). These towers are 120' and 80' in height respectively. (Tele-Media 1, p. 36)

38. The sharing of space on existing towers at the Gates Hill, Lebanon, site was considered by the applicant. The Willimantic Switch

Board Fire Chiefs' Association tower was technologically insufficient, and the SNET towers were not available for sharing. (Tele-Media 1, p. 38; Tele-Media LF1; Tr. 5/2/84, p. 44)

39. The proposed Lebanon tower site is zoned Rural/Agricultural/Residential. This site is owned by Mike and Colin Rice, 948 Main Street, Willimantic, Connecticut. (Tele-Media 1, pp. 29, 34; Tele-Media 2, Q. 22)

40. The top of the proposed Lebanon tower should be visible along Gates Street, Kick Hill Road, Bogg Lane, and Bender Lane. It would be intermittently visible along Route 289. The proposed tower would be visible along most of South Street. (DEP Comments, 4/23/84; Tr. p. 220)

41. The proposed Lebanon tower would not interfere in any way with the function of the existing SNET or Willimantic Switch Board Fire Chiefs' Association towers. (Tr. pp. 222-223)

42. Tele-Media plans to locate the proposed Lebanon tower behind the existing 200' tower on the property, thus reducing the proposed tower's visibility. (Tr. 5/9/84, p. 229)

43. Based on calculations using conservative assumptions, the RFER power density for the proposed Lebanon tower site would be 6.03 uW/cm^2 at the 115' level of the antenna. (Tele-Media 1, p. 40)

44. The proposed Mansfield (Storrs) tower would be located on University of Connecticut (UCONN) property off of North Eagleville Road. This proposed tower would be anchored to a concrete pier, 120' high, guyed, and have a 10' parabolic antenna at the 105' level and a 6' parabolic antenna at the 115' level. It would be

designed to function with 40 pounds per square foot wind loading with ½ inch radial ice. (Tele-Medial, pp. 41, 44)

45. A 9'x9' steel building containing CATV equipment would be located near the proposed Mansfield tower. Access to the site would be by an existing roadway and public easements. (Tele-Media 1, p. 41)

46. On the proposed Mansfield site is an existing 210' tower and earth station owned by the University of Connecticut radio station. Also, on this site is an existing 80' tower owned by SNET. (Tele-Media 1, p. 42)

47. Tele-Media investigated the possibility of using UCONN's existing 210 foot tower. A field study indicated the age and apparent condition of this tower would not support the necessary CATV antennas. The SNET tower at the Mansfield site would not be tall enough for Tele-Media's purposes. (Tele-Media 1, pp. 42-43, 54; Tele-Media 2, Q. 1)

48. The proposed Mansfield tower site is one acre in size and zoned Rural/Agricultural. (Tele-Media 1, p. 44)

49. A research and development park and a housing project have been proposed for the area adjacent to the proposed Mansfield tower. However, UCONN officials foresee no conflicts. (Tr. 5/2/84, p. 23)

50. Due to the surrounding terrain, the proposed Mansfield tower's visibility would be limited to the immediate vicinity. The proposed tower would be visible from Route 195 north of North Eagleville Road and intermittently visible on Gurleyville Road and Bundy Lane. (DEP Comments, 4/23/84)

51. Based on calculations using conservative assumptions, the RFER power density for the proposed Mansfield tower would be 6.03

uW/cm^2 at the 115' level of the antenna. (Tele-Media 1, Exhibit 3-J)

52. The Mansfield facility would enable live and educational programming generated at UCONN to be shown campuswide and/or throughout the system. (Tele-Media 1, p. 47)

53. The company would be willing to establish a connection with the statewide CATV interconnect system. (Tr. 5/9/84, pp. 240-243)

54. Tele-Media intends to provide public service installations at the University of Connecticut, particularly to the library. (Tr. 5/9/84, p. 243)

55. Tele-Media has reserved four channels for local programming from such sources as the University of Connecticut, Eastern Connecticut State College, United Social and Mental Health Services, Manna Center, and others. These channels will be disseminated by the Connecticut State interconnect. (Tele-Media application to DPUC, Docket 81-08-13, Exhibit E, p. 21; DPUC decision Docket 81-08-13, pp. 21, 25; Tr. 5/9/84, pp. 240-241)

56. The proposed Woodstock tower would be located on Perrin Road. This tower would be anchored to a concrete pier, 60' high, guyed, and designed to function with 40 pounds per square foot wind loading with ½ inch radial ice. There would be one 10' parabolic antenna at the 55' level. (Tele-Media 1, p. 56)

57. A 9'x9' steel building containing CATV equipment would be constructed near the proposed tower. (Tele-Media 1, p. 56)

58. Access to the proposed Woodstock site would be via an existing roadway and utility easements on the lessor's property. (Tele-Media 1, p. 56)

59. The proposed Woodstock tower site, located on a farm, is slightly less than one acre in size. (Tele-Media 1, p. 59)

60. Since Woodstock has no zoning regulations, the proposed site's zoning status is not classified. (Tele-Media 1, p. 59)

61. The proposed Woodstock tower site would be located in an abandoned corral surrounded by trees which would limit its visibility. However, the tower should be intermittently visible along Perrin Road. The rolling terrain precludes visibility from other roads. (Tele-Media 1, p. 61; Tele-Media 2, Q. 18; DEP Comments, 4/23/84)

62. The proposed Woodstock tower site is owned by Ernie and Mary Levesque, RR #1, Box 203, Woodstock, Connecticut. (Tele-Media 1, p. 64)

63. Based on calculations using conservative assumptions, the RFER power density for the proposed Woodstock tower site is .000968 uW/cm^2 at the 55' level. (Tele-Media 1, p. 68)

64. The proposed Canterbury tower, on Westminster Hill, would be anchored to a concrete pier, 110' high, guyed, and designed to function with 40 pounds per square foot wind loading with ½ inch radial ice. This tower would have one 10' parabolic antenna at the 105' level. (Tele-Media 1, p. 69)

65. A 9'x9' steel building containing CATV equipment would be located near the proposed Canterbury tower. (Tele-Media 1, p. 69)

66. Access to the proposed Canterbury site would be via an unused public right-of-way on the lessor's property. A utility easement has been granted by the lessor. (Tele-Media 1, p. 69; Tele-Media 2, Q. 17)

67. The proposed Canterbury tower site is slightly less than one acre in size and surrounded by trees on three sides. (Tele-Media 1, pp. 72-73)

68. The proposed Canterbury tower site is zoned Rural/Agricultural. (Tele-Media 1, p. 73)

69. The proposed Canterbury tower site is owned by James R. and Kathleen C. Willie, RR1, Box 263, Colburn Road, Canterbury, Connecticut. (Tele-Media 1, p. 76)

70. Dense foliage surrounds the proposed Canterbury tower site, thus limiting its visibility. The proposed tower would be visible to homes on Colburn Road and Water Street. The upper portion of the proposed tower would be visible from some homes on Bingham Road. It would also be visible along a short portion of Route 14. (DEP Comments, 4/23/84; Tr. 5/9/84, pp. 221-222)

71. Based on calculations using conservative assumptions, the RFER power density for the proposed Canterbury tower would be .00048 uW/cm^2 at the 105' level. (Tele-Media 1, p. 80)

72. Tele-Media did not have soil test borings made for any of the proposed sites. The soils at all the sites are safe and adequate to support the proposed towers. (Tr. 5/9/84, p. 224)

73. The four proposed hub site towers would be painted a color compatible with the environment, such as tan or gray. The 9'x9' CATV equipment buildings would be green in color. (Tr. 5/9/84, pp. 223-224)

74. None of the five proposed tower sites in this application is the habitat of any known rare or endangered species. (Tele-Media 2, Q. 16)

75. In response to questions raised at the public hearings on this application, the Council asked the DEP about the feasibility of locating an alternate tower site within the Natchaug State Forest. Such use of public lands would be inconsistent with DEP policies and contrary to DEP management objectives. (DEP letter of 5/25/84)

76. The possibility exists that migratory birds may fly into guyed towers such as those proposed in this application. However, this is likely only during periods of low visibility and does not constitute a significant problem. (DEP letter of 5/25/84)

77. The applicant would be willing to screen the proposed tower sites with plantings. (Tr. 5/9/84, p. 228)

78. The dominant impact of the facilities proposed in this application would be visual. Construction impacts would be minor, of short duration, and should not cause any difficulty for surrounding properties. (DEP Comments, 4/23/84; DED letter of 4/9/84)

79. The low levels of the RFER power densities for the five tower sites proposed in this application are well below known accepted standards for non-ionizing radiation and would pose no danger to public health. (DEP Comments 4/23/84)

80. The alternative of providing service with separate master antennas at each of the proposed sites would increase the system's total costs to $2,040,000 with the cost at each site estimated at $408,000. (Tele-Media 2; Q. 7)

81. A second alternative to the proposed AML microwave system would use FM supertrunk from the Ashford master site and is estimated to cost $2,273,186. (Tele-Media 2, Q. 7)

82. The incremental costs of erecting towers designed to function at wind loading Zone B with 1" radial ice would be approximately 25 percent more than the proposed towers. (Tele-Media LF6)

83. The applicant would lease the proposed Ashford site for the head-end facility for $2,500 annually to 1998 with an option of renewing the lease in fifteen years. (Tele-Media 1, pp. 15-16, Exhibit 1-G)

84. The estimated cost of the Ashford site improvement, tower construction, and associated equipment is $757,470, including

Surveying and site improvement	$ 7,500,
Building	$ 35,000,
Erection of tower and antenna	$ 53,470,
Earth station (Simulsat)	$ 25,000,
Electronics	$600,000,
Utilities and standby power	$ 22,000, and
Miscellaneous and labor	$ 15,000.

(Tele-Media 1, p. 16)

85. The applicant would lease the proposed Canterbury site for $2,000 annually to 1998 with an option of renewing the lease for fifteen years. (Tele-Media 1, Exhibit 5-F)

86. The estimated cost of the Canterbury site improvement and construction of the tower and associated equipment is $45,310 including

Surveying and site improvement	$ 1,300,
Building	$ 5,600,
Tower and antennas	$17,560,
Electronics	$15,650, and
Utilities and standby power	$ 5,200.

(Tele-Media 1, p. 75)

87. Tele-Media has an agreement with Nutmeg Broadcasting Company to use the proposed Lebanon site for fifteen years with an option to

renew the agreement for an additional term of five years. (Tele-Media 1, Exhibit 2-G, Exhibit 2-H)

88. The estimated cost of the Lebanon site survey and construction of the tower and associated equipment is $56,340 including

Surveying	$ 1,000,
Building	$ 5,600,
Tower and antennas	$21,463,
Electronics	$23,577, and
Utilities and standby power	$ 4,700.

(Tele-Media 1, p. 32)

89. Locating the Mansfield tower on state-owned land on the Storrs campus of UCONN reduces land acquisition and site development costs to the applicant. The applicant has entered a reciprocal agreement with UCONN for use of the site. (Tele-Media 1, p. 46; Exhibit 3-C; Tele-Media 2, Q. 1)

90. The estimated cost of the Mansfield site surveying and construction of the tower and associated equipment is $56,340 including

Surveying	$ 1,000,
Building	$ 5,600,
Tower and antennas	$21,463,
Electronics	$23,577, and
Utilities and standby power	$ 4,700.

(Tele-Media 1, p. 48)

91. The applicant would lease the proposed Woodstock tower site for an annual rental of $1,500 to 1998 with an option of renewing the lease for one additional period of fifteen years. (Tele-Media 1, Exhibit 4-H)

92. The estimated cost of the Woodstock surveying, site improvement, and construction of the tower and associated equipment is $44,800 and includes

Surveying and site improvement	$ 2,000,

Building	$ 5,600,
Tower and antennas	$14,500,
Electronics	$17,500, and
Utilities and standby power	$ 5,200.

(Tele-Media 1, p. 63)

93. A cost comparison of aerial and underground power utility service to and from each proposed site is estimated as follows.

	Aerial	Underground
Ashford	$5,394	$8,656
Canterbury	$2,424	$3,145
Lebanon	$ 870	$1,978
Mansfield	$1,740	$3,157
Woodstock	$2,424	$3,059

(Tele-Media 2, Q. 24)

94. If supertrunking technology were used, the length of the cable could extend sixteen miles from the master antenna site to a hub site and then reach another eleven or twelve miles beyond that point. It is less costly to maintain a tower system than to use supertrunk, and the signal quality is better with microwave. (Tr. 5/2/84, p. 41)

95. Tele-Media would consider negotiating an agreement for sharing its tower facilities with public service, fire, police, or emergency medical organizations if requested, providing that space is available, no technical interference is encountered, and no adverse structural problems are present. No organizations have made this request. (Tele-Media 2, Q. 6)

96. Providing service from seven independent head-end sites would pose operational problems, including

    a. All sites may not be capable of receiving all off-air channels with acceptable uniform performance,
    b. Local origination programming would not be available systemwide,

c. All antenna heights would exceed 200 feet,
d. Each site would need its own earth station,
e. Environmental impacts would be more extensive, and
f. Increased electronic processing equipment would increase costs.

(Tele-Media 2, Q. 7; Tr. 5/2/84, pp. 128-129)

97. Although Tele-Media investigated alternatives for each proposed hub site, no available technologically suitable sites were found. (Tele-Media 1, pp. 39-40, 55, 67, 79)

98. The estimated number of amplifiers needed for the longest cable run from each proposed tower would be as follows

	Longest Cable Run (miles)	Number Amplifiers
Ashford	10.7	34
Canterbury	11.1	35
Lebanon	10.9	34
Mansfield	10.3	32
Woodstock	7.5	23

(Tele-Media 2, Q. 4)

99. Without the Canterbury tower, Canterbury, Scotland, and Hampton would have to be served by trunk cable from a Brooklyn site, requiring a fifty-three amplifier cascade. Signal to noise ratio and cross modulation specifications at the end of the trunk line would be marginal and unacceptable to Tele-Media. (Tr. 5/9/84, pp. 235-236)

100. An alternative head-end site in Brooklyn was considered but would not be able to provide all the off-air signals proposed in the Ashford head-end applications, even with a 350' tower. This site is not near any major population center, and the signal quality would be marginal. (Tr. 5/9/84, pp. 233-234)

101. Using the UCONN site as a head-end would result in a 23-25 mile microwave path to a future Thompson hub site. Under the present

proposal, the longest pathway in the system would be 16.3 miles from Pumpkin Hill to Thompson. Any distance longer than this decreases the reliability of the transmitted signal below the specifications proposed to the DPUC. (Tr. 5/2/84, p. 142)

102. The use of supertrunk from the Mansfield site to Thompson would not provide 50 channels to Thompson. This connection would require 62 cascade amplifiers to cover the 30-35 mile distance. (Tr. 5/2/84, p. 143; Tele-Media LF4, p. 2)

103. A 30-35 mile Mansfield to Thompson FM dual cable supertrunk system would cost an estimated $936,000. This figure does not include additional pole rental fees, make ready costs, right-of-way fees, expanded site costs, and higher tower costs. Annual operational and maintenance costs would be increased in the trunkline system. (Tele-Media LF4, p. 3)