DOCKET NO. 53

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 TOWERS AND ASSOCIATED EQUIPMENT IN THE TOWNS OF BROOKLYN AND THOMPSON, CONNECTICUT.	:	CONNECTICUT SITING COUNCIL
	:	October 8, 1985

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

1. Tele-Media Company of Northeastern Connecticut (Tele-Media), 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 24, 1985, for a certificate of environmental compatibility and public need (certificate) of the construction, maintenance, and operation of hub towers and receiving sites in the towns of Brooklyn and Thompson, Connecticut. (Record)
2. The fee as prescribed by section 16-50v-1 of the Regulations of State Agencies (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. Affidavits of newspaper notice as required by statute and section 16-501-1 of the RSA were also filed with the application. (Record)
5. The Council and its staff made an inspection of the proposed Brooklyn and Thompson tower sites on September 4, 1985. (Record)
6. Pursuant to section 16-50m of the CGS, the Council, after giving due notice thereof, held public hearings on September 4, 1985, at the Town Office Building in North Grosvenordale Connecticut, at 3:00 P.M., and at 7:00 P.M. at the Brooklyn Junior High School in Brooklyn, Connecticut. (Record)

7. 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)
8. The following state agency filed written comments with the Council pursuant to section 16-50j of the CGS: the Department of Environmental Protection (DEP).
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 (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. On June 18, 1984, the Council granted Tele-Media a certificate for a head-end site in Ashford, and hub sites in Woodstock, Mansfield, Canterbury, and Lebanon to serve CATV Area No. 13. (Record, Docket 43)
12. The proposed Brooklyn and Thompson hub sites would complete Tele-Media's microwave network as proposed and enable the applicant to provide CATV service to Area No. 13 in its entirety. (Tele-Media 1, p. 3)
13. In its search for a tower site in Brooklyn, Tele-Media investigated seven potential sites before deciding on its proposed site. These potential sites are located on Valentine Road (two sites), Murray Road (two sites), Bush Hill Road, Spaulding Road,

and near the intersection of Bush Hill and Valentine Roads. (Tele-Media 2, Q. 18)

14. The proposed Brooklyn site is located on Wolf Den Road on a hill known as Bush Hill. The proposed site consists of 1.59 acres of wooded, undeveloped land located in an R-40 Rural/Agricultural Zone. (Tele-Media 1, p. 9; Tele-Media 2, Q. 1)

15. The proposed Brooklyn site is owned by H. Robert Booth and Virginia Booth of Pomfret Center, Connecticut, and has an elevation of 525'. The nearest dwelling is located a distance of 325' away. (Tele-Media 1, p. 14; Tele-Media 2, Q. 1; Tele-Media 2, Q. 8)

16. The proposed Brooklyn site is located in a sparsely populated rural area, removed from high density traffic. (Tele-Media 1, p. 7)

17. The proposed Brooklyn tower would be 150' in height, guyed, and would support a 10' solid parabolic antenna at the 145' level. Each of the proposed tower's three guys would be anchored 112' from the proposed tower. (Tele-Media 1, p. 6; Tele-Media 2, Exhibit J)

18. The proposed Brooklyn tower would be designed to meet Electronics Industry Association standards (EIA) of 40 lbs per square foot wind loading and one half inch radial ice. (Tele-Media 1, p. 6)

19. The proposed Brooklyn tower would be located 130' east of Wolf Den Road and 7.6 miles from the existing Tele-Media Ashford head-end. (Tele-Media Late File 3; Tele-Media 2, Q. 17)

20. The proposed Brooklyn tower would not require any special painting and would not be lighted. (Tele-Media 2, Q. 15; Tele-Media Late File 3)

21. A 9'x9' pre-painted steel electronic equipment building would be located near the base of the proposed Brooklyn tower. (Tele-Media 1, p. 6)

22. A gravel access road into the proposed Brooklyn site would be approximately 100' in length, with an entrance way off of Wolf Den Road. A bend in a proposed access road would preclude a direct view of the proposed facilities from Wolf Den Road. About 40 trees, up to 60' in height, would have to be removed, but enough trees would be left around the perimeter of the proposed site to provide screening. (Tele-Media 1, p. 9; Tele-Media 2; Exhibit J; Tele-Media 2, Q. 11)

23. An access road into the proposed Brooklyn site could utilize an existing abandoned logging road, which would cross a wetland on the northern portion of the proposed site. (Tele-Media 2, Q. 4)

24. The northern-most anchor of the three proposed Brooklyn tower guys would be located within the wetlands. The proposed tower and equipment building would be located south of the wetlands. The wetlands would not be adversely affected by either the access road or the guy supports. (Tele-Media 2, Exhibit J; Tele-Media 1, p. 9; DEP Comments, 8/27/85)

25. Utilities into the proposed Brooklyn site would be installed aerially on poles along the access road. (Tele-Media 1, p. 6)

26. A liquid propane generator would be used for emergency electrical generation at the proposed Brooklyn site. (Tr. p. 33)

27. The expected electromagnetic radio frequency power densities at the proposed Brooklyn site have been conservatively calculated at .000689 uW/cm^2. This would not represent a hazard to the health of the general public, as it would be several orders of magnitude below Connecticut standards for this frequency. (Tele-Media 1, p. 18; DEP Comments, 8/27/85)

28. Directly west of the proposed Brooklyn site, on Wolf Den Road, is a swine farm which contains a single residence. Nearby properties are presently wooded and unused. A Connecticut State Police radio tower, 180' in height, is located 1600' from the proposed Brooklyn tower site. (Tele-Media 1, pp. 9-10, p. 16; Tele-Media 2, Q. 3)

29. The proposed Brooklyn tower would be strong enough to support the antenna used on the existing State Police tower. However, since the proposed Brooklyn tower would be 30' shorter and located in an area of lower elevation than the State Police tower, there would be some loss of operational radio coverage for the State Police if that agency shared Tele-Media's proposed Brooklyn tower. (Tele-Media 2, Q. 3; Tr. p. 29)

30. Because the existing State Police tower is not structurally adequate to support Tele-Media's proposed microwave antenna, Tele-Media has not contacted the State Police regarding possible tower sharing. (Tele-Media 2, Q. 3; Tr. pp. 28-29)

31. The proposed Brooklyn tower would not be visible from Bush Hill Road, Route 169, Hillandale Farm, or from the Brooklyn Town Green. It would be intermittently visible from Valentine Road. (Tr. pp. 29-30)

32. A home located across from the proposed Brooklyn tower, on Valentine Road, would have a clear view of the proposed facilities. A farm to the north and a home located to the south would also have clear views of the proposed tower. (DEP Comments, 8/27/85)

33. The proposed Brooklyn tower would be visible from portions of the Natchaug State Forest in Brooklyn, but would not affect DEP management of this or any other DEP properties. (DEP Comments, 8/27/85)

34. The proposed Brooklyn tower would provide CATV service to the towns of Brooklyn and Pomfret, thereby serving approximately 2300 customers. (Tele-Media 1, p. 6; Tr. pp. 32-33)

35. In its search for a tower site in Thompson, Tele-Media investigated five other potential sites in the area. They are on Fort Hill, Quaddick Mountain, near the intersection of Routes 193 and 200, and at two places on Brandy Hill. (Tele-Media 2, Q. 18)

36. The proposed Thompson tower site is located on Brandy Hill, off of Lowell Davis Road. The proposed site consists of two acres of undeveloped wooded land, located in an Industrial zone. (Tele-Media 1, p. 22; Tele-Media 1, Exhibit 2-B)

37. The proposed Thompson site is owned by Roland Toutant of North Grosvenordale, Connecticut, and has an elevation of 575'. The

nearest dwelling is located some 500' away. (Tele-Media 1, p. 27; Tele-Media 2, Q. 2; Tele-Media 2, Q. 8)

38. The lessor of the proposed site owns a manufacturing plant 1800' away from the proposed Thompson site. Most of the surrounding area is wooded, with several homes located to the west on Lowell Davis Road. (Tele-Media 1, pp. 22-23; Tele-Media 2, Q. 10)

39. The proposed Thompson tower would be 250' in height, guyed, and would support a 10' parabolic antenna at the 245' level. Each of the proposed tower's three guys would be anchored 192' from the proposed tower. (Tele-Media 1, p. 19; Tele-Media 2, Exhibit K)

40. The proposed Thompson tower would be designed to meet EIA standards of 40 lbs per square foot wind loading and one half inch radial ice. (Tele-Media 1, p. 19)

41. The proposed Thompson tower would be located 170' northeast of Lowell Davis Road and 16.5 miles from the existing Tele-Media Ashford head-end site. (Tele-Media 2, Q. 17, Exhibit L; Tele-Media Late File 3)

42. The proposed Thompson tower would have a beacon located on the top of the tower, and side lights approximately halfway up the tower. The proposed tower would be painted aircraft orange and white in seven equal sections. The painting and lighting are necessary to conform to Federal Aviation Administration (FAA) regulations. (Tr. p. 12; Tele-Media Late File 3; Tele-Media 2, Q. 15)

43. A 9'x9' pre-painted steel electronic equipment building would be located near the base of the proposed Thompson tower. (Tele-Media 1, p. 19)

44. The gravel access road into the proposed Thompson site would be approximately 220' in length, with an entrance from Lowell Davis Road. The access road would have a 60^{o} bend to preclude a direct line of sight of the proposed facilities from Lowell Davis Road. (Tele-Media 2, Q. 12; Tele-Media 2, Exhibit K; Tr. p. 10)

45. Approximately 100 to 120 trees, ranging up to 70' in height, would be removed from the proposed Thompson site. A sufficient number of trees would remain to provide screening around the perimeter of the proposed site. (Tele-Media 2, Q. 11)

46. The proposed Thompson tower, equipment building, and access road would be outside a wetlands area on the proposed site. However, a western anchor for a tower guy would be within the wetlands boundary. (Tele-Media 2, Q. 4; Tele-Media 2, Exhibit K; Tr. p. 10; Tele-Media 1, pp. 22-23)

47. Utilities would be brought in overhead to the proposed Thompson site. A liquid propane generator would be used for emergency electrical generation. (Tr. pp. 13-14)

48. The expected electromagnetic radio frequency power densities at the proposed Thompson site have been conservatively calculated as .000202 uW/cm^2. (Tele-Media 1, p. 30)

49. The proposed Thompson tower would not be visible from Webster Road or from the center of Thompson. The proposed tower would be visible over a large area, including from Route 395 and Route 193. Major views would be from a home across from the proposed site on Lowell Davis Road, from properties on Route 193, and from homes at the top of Brandy Hill Road. Tele-Media determined its visibility

estimates by using an inclinometer. (Tr. pp. 10-11; DEP Comments, 8/27/85)

50. The proposed Thompson tower would provide CATV service to approximately 3400 customers in Thompson. (Tele-Media 1, p. 20; Tr. p. 13)

51. Off-air reception from Boston, Worcester, and Providence could be improved if the proposed Thompson tower were used for off-air reception. Such use is not proposed. (Tele-Media 2, Q. 20)

52. The proposed tower heights for both of the proposed towers would be the minimum necessary to provide the expected CATV service. Tele-Media determined the proposed heights by plotting the elevation of terrain between the Ashford head-end site and the proposed Brooklyn and Thompson sites. Other factors taken into consideration were the curvature of the earth, atmospheric refraction, and the tower height needed to clear any obstacles in the beam path while leaving an additional 10'-15' margin for error. (Tele-Media 2, Q. 13)

53. Tele-Media has no plans for adding additional antennas to either of its proposed towers, although the proposed towers would be capable of supporting additional antennas. (Tele-Media 2, Q. 14)

54. Tele-Media would consider sharing tower space with other entities, if studies showed there would be no adverse loading problems, and if there were adequate space and frequency separation. (Tele-Media 2, Q. 3)

55. Tele-Media has had construction permits approved by the Federal Communications Commission (FCC) for both proposed sites, but has not yet received them. (Tr. p. 31)

56. The proposed sites in Brooklyn and Thompson would have no effect on historical, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places. (Tele-Media Late File 5)

57. No known existing populations of rare or endangered species would be directly affected at either of the proposed tower sites. (Tele-Media 2, Q. 5)

58. There are no direct costs to the public for the construction, erection, and operation of the proposed towers. The benefits of using these sites include bringing high quality, affordable CATV service to the Thompson and Brooklyn areas. (Tele-Media 1, p. 71, p. 20)

59. Tele-Media would supply TV cable outlets in schools for educational programming at reduced rates from normal subscriber rates. (Tr. p. 25)

60. The Tele-Media system in the Brooklyn-Pomfret area will hardwire an area equivalent in density to twelve homes per mile. Construction initially would be at the rate of 32 miles a month. Home installations based on Tele-Media past experience could be on an average of 120 installations a day. (Tr. pp. 22-23)

61. Because of the large geographic area to be served, it is technically and economically unfeasible to provide high quality CATV service to Area 13 from a single, centrally located master antenna site using overhead trunk cables. (Tele-Media 1, p. 17)

62. DPUC orders require Tele-Media to serve no more than three towns with locally originated signals from any given site. Eliminating the microwave tower sites and using cable trunk lines would extend

coverage to more than three towns, limiting public access for local origination. (Tr. pp. 17-18; Tele-Media 2, Q. 16)

63. By using fast feed-forward technology, outages would create losses in capability along the trunk line from that point onward since more subscribers would have to be fed signals from the trunk line rather than receiving signals from various other lines. (Tr. p. 16)

64. Tele-Media considered hardwiring the Thompson area from the Woodstock hub site using feed-forward technology but concluded the distance of the longest cascade would necessitate the use of 58 amplifiers. This distance would be at the technical limits for acceptable performance specifications and allows no error margin. (Tele-Media 2, Q. 16)

65. The 58-amplifier trunk line distance in the Thompson area would be exceeded if permission to use a right-of-way through U.S. Government land near West Thompson Lake were not granted and Tele-Media were required to run the cable around this area. (Tele-Media 2, Q. 16)

66. In order to supply local access channels into the system from any area via fast feed-forward technology through cable trunk lines, bidirectional amplifiers would have to be used to relay signals to and from any existing tower site. The cost of these amplifiers is higher than the cost of single feed-forward amplifiers. (Tr. p. 16)

67. The estimated cost to feed the town of Thompson from the present Woodstock hub site using feed-forward technology would be $103,700. (Tele-Media 2, Q. 16)

68. The costs of using feed-forward technology are incremental to the estimated costs of a feed-forward system in question 16 and do not include the cost of the hub site. This incremental cost totals $30,000-$40,000. (Tr. p. 18)

69. If the feed-forward technology were used, additional construction for three miles of cable lines would be $9000 per mile from the Woodstock site. (Tr. p. 19)

70. The total construction of the proposed Thompson site is estimated at $85,550. These costs include:

a) Lease, surveying, and site preparation	$ 9,000;
b) Building construction	6,100;
c) Tower and antenna	47,500;
d) Electronic equipment	17,500;
e) Standby power	3,800; and
f) Utilities	1,650.

(Tele-Media 1, p. 4, p. 25)

71. A lease has been signed with the property owners of the Thompson site for an initial annual rental of $1500, with renewable options at the end of the first five year period for a period of at least 20 years. (Tele-Media 1, Exhibit 2-B, p. 2)

72. The cost to bring utility lines into the Thompson site from the Lowell Davis Road line is about $1800 for an overhead route. Undergrounding would cost approximately twice that amount. (Tr. 9/4/85, p. 13)

73. The total construction cost of the proposed Brooklyn site is estimated at $72,900. These costs include

a) Lease, surveying and site preparation	$ 8,000;
b) Building construction	6,100;
c) Tower and antenna	35,900;
d) Electronics equipment	17,500;

e) Utilities 1,600; and
f) Standby power 3,800.

(Tele-Media 1, p. 4, p. 12)

74. A lease has been signed with the property owners of the Brooklyn site for an initial annual rental of $2,000 with renewable options at five year intervals for a period of at least 20 years. (Tele-Media 1, Exhibit 1-F, p. 2)

75. The incremental cost to erect a tower capable of withstanding a Zone B windloading with 1" radial ice would be $8,000 collectively, an increase of 14.6%. (Tele-Media 2, Q. 21)

76. Tele-Media has no plans to add earth dishes to either of the proposed hub receiving sites. (Tele-Media 2, Q. 19)

77. There would be no cost advantage to receiving off air signals from Boston, Worcester, and Providence stations and relaying them throughout the system as additional transmitting and signal processing equipment would have to be added to the system. Present signals received at Pumpkin Hill are rated quite acceptable. (Tele-Media 2, Q. 20)

78. Local access signals are microwaved back to the main antenna site from only two hub sites, Lebanon and Storrs. Tele-Media has no plans at this time to microwave locally originated signals from either Thompson or Brooklyn sites. (Tr. p. 17)