DOCKET NO. 34

ORIGINAL

AN APPLICATION SUBMITTED BY CONTINENTAL CABLEVISION OF CONNECTICUT, INCORPORATED FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE ERECTION OF A COMMUNITY ANTENNA TELEVISION TOWER IN THE TOWN OF STAFFORD.	:	CONNECTICUT SITING COUNCIL
	:	October 17, 1983

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

1. Continental Cablevision of Connecticut, Inc. (Continental) in accordance with 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 July 1, 1983, for a Certificate of Environmental Compatibility and Public Need (Certificate) for the erection of a community antenna television tower and associated equipment in the town of Stafford. (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. (Continental D)
5. Pursuant to Section 16-50m of the CGS, the Council, after giving due notice thereof, held a public hearing at the Warren Memorial Town Hall, in Stafford Springs, Connecticut, on August 18, 1983, at 7:00 P.M. (Record)
6. The parties to the proceeding are the applicant, Continental Cablevision of Connecticut, Inc., and those persons and

organizations whose names are listed in the Decision and Order which accompanies these findings. (Record)

7. The following state agencies filed written comments with the Council pursuant to Section 16-50j(g) of the CGS: the Department of Transportation; the Department of Economic Development; and the Department of Environmental Protection. (Record)

8. The Department of Transportation's Office of Environmental Planning had no comment to offer on the proposal. (Record)

9. The Department of Economic Development examined the docket and concluded that the proposal is compatible with the environment while providing service to many homes in the northern section of the state. (Record)

10. The Department of Environmental Protection (DEP) concluded that the visual impacts would be the dominant effect of the head-end facility and expressed opinions of tower visibility from various sites. The DEP noted that calculated microwave power densities from the proposed facility would pose no danger to public health. (Record)

11. On August 18, 1983, members of the Council made a field inspection of the proposed site and surrounding area. (Record)

12. The proposed tower would be a 150 foot, self-supporting structure with three legs anchored to concrete piers and would be provided by Rohn Manufacturing. Associated equipment proposed for the facility includes two 7 meter (23 ft.), receive-only earth station (dish type) antennas mounted on ten-by-ten foot concrete pads and a 30'x30', one story block equipment building. (Continental A, p. 2, revised Exhibit 6B; Continental B, 7/22/83, Q. 1)

13. The proposed site is a 100'x100' parcel to be leased from Troiano Realty Corporation on approximately 50 acres of Troiano property north of Chestnut Mountain Road (Conn. Route 190) in Stafford. (Continental A, p. 4, attachment 5a)

14. The proposed site and all property abutting it is zoned AAA (rural and single family residential) by the town. (Continental A, p. 5; Continental B, 8/8/83, Q. 14)

15. The Shenipsit State Forest headquarters is located south of Connecticut Rte. 190, approximately opposite the proposed site. The public access to the state forest lies to the west. (Continental A, p. 5)

16. The closest structure to the proposed site is a cinder block chicken coop approximately 70 feet away, and the nearest house is approximately 300 feet away. (Continental A, p. 5, Attachment 5b)

17. The Stafford Medical Center is approximately 0.32 miles from the proposed tower site while the Johnson Hospital is approximately 0.42 miles away. (Tr. pp. 15-16)

18. The tower is needed to receive off-air television signals from as far as New Haven, Boston, and New Britain, and to transmit amplitude modulation link (AML) signals to microwave receiving sites within the franchise. The two earth stations are proposed to receive signals from satellites for distribution throughout the franchise area. (Continental A, p. 3; Continental B, 7/22/83, Q. 1)

19. The proposed facility is the head-end for a system designed to utilize receive sites in the towns of Union, East Windsor, Enfield, Suffield, and Hartland, and the proposed Stafford head-end

site would be the key element in Continental's engineering plan for cable service to CATV Area 11. (Continental A, p. 3, Exhibit 2; Tr. p. 15)

20. The proposed facility would not receive microwave signals directly from Hartford or Springfield but would receive these signals by cable from Enfield. (Tr. pp. 16-17)

21. Each of the receive sites in the network associated with the proposed head-end would also have sending capability except Enfield, which would be connected by cable (hard-wired). (Tr. pp. 24-25)

22. Continental received a certificate of public convenience and necessity from the Department of Public Utility Control on December 23, 1982, to serve CATV Area No. 11, which consists of the Towns of East Granby, East Windsor, Enfield, Granby, Hartland, Somers, Stafford, Suffield, Union, and Windsor Locks. (Continental A, p. 1; DPUC Docket No. 81-08-11)

23. Continental would use virtually all of the allotted 52 channels the system is capable of carrying at the onset of initial transmission. (Tr. p. 46)

24. Continental would offer universal service to all franchise area residents. Continental estimates there are 34,000 homes in the franchise area. (Continental B, 8/8/83 Q. 17; Tr. p. 51)

25. The projected number of homes which would receive service is estimated between 60% and 65% of the total homes in CATV Area 11. This number of subscribers would keep the franchise economically viable. (Tr. p. 51)

26. The first phase of the plan for service would provide 98.5% of the area's households with cable beginning in January, 1984. The

second phase would provide service to the remaining 1.5% of the area's households during the third through seventh years. (Continental B, 8/8/83, Q. 17; Tr. p. 48)

27. The initial monthly charge for "economy" service would be $3.95, the "basic level" monthly charge would be $6.95 including the converter, and the "expanded basic" monthly charge would be $9.95. (Tr. p. 44; Continental B, 8/8/83, Q. 24)

28. Expanded basic service includes a choice of satellite type entertainment at additional cost. (Tr. p. 46)

29. Customers adding pay T.V. channels to their expanded basic monthly service could average a monthly charge ranging from $25.00 to $30.00. (Tr. p. 46)

30. Continental will provide as part of their system two institutional channels which will provide telecommunications capability between city halls, police stations, fire departments, and other public buildings, as they become wired throughout the franchise. (Tr. pp. 25-26)

31. By hard-wiring Hartford and Springfield signals from Enfield, Continental has been able to reduce the proposed height of the Stafford tower from 400' to 150'. (Continental A, p. 6: Tr. p. 28)

32. Continental has requested a ruling from the Federal Aviation Administration to determine if the tower must be lighted. The FAA has made no determination on this tower's lighting and Continental would place a light at the top of the tower only if required to do so. (Tr. pp. 8, 38)

33. Electronic transmissions from airports would be reviewed by the FAA and regulated by the FCC to prevent conflicts with the Stafford

facility. (Continental B, 8/8/83, Q. 5)

34. Microwave transmissions from the Stafford tower would not pass over or near any airport. The channels and frequencies employed in Continental's system should not interfere with the navigational systems of airports in the area, particularly Bradley Field in Windsor Locks. (Continental B, 8/8/83, Q. 5; Tr. pp. 47, 56)

35. Attached to the top of the tower would be a search antenna, a radio repeater antenna, and a light if it's required by the FAA. (Continental A, pp. 2, 8)

36. Six UHF antennas; five VHF antennas; and five ten-foot, two eight-foot, and one six-foot microwave dishes would be placed at various levels below the top of the proposed tower. (Continental A, pp. 2, 3)

37. At the present time there is no general public health or environmental standard in the United States for microwave power density. (Continental C, Exhibit 1, p. 9; Continental A, Exhibit 9, p. 6)

38. The principal microwave power density standard in the United States is the occupational standard of the American National Standards Institute (ANSI). (Continental C, Exhibit 1, p. 8; Office of Legislative Research Report, p. 2)

39. The ANSI standard for the eleven gigahertz frequency range, which the proposed facility would utilize, is 5.0 milliwatts per square centimeter. (Tr. p. 64; Office of Legislative Research Report, p. 18)

40. The transmit power density immediately in front of one of the eight-foot dishes is calculated to be 0.02 milliwatts per square

centimeters or 250 times less than the ANSI standard. The total power density of all transmitted and received signals at ground level as calculated would be approximately .00001 milliwatts per square centimeter. (Continental A, p. 10; Continental B, 7/22/83, Q. 3; Office of Legislative Research Report, p. 2)

41. The low-level non-ionizing radiation involved in the proposed facility is not an environmental hazard. (Continental A, p. 10)

42. No microwave transmission paths to or from the Stafford Tower would pass over either of the medical facilities located on Route 190 west of the tower site. (Continental B, 8/8/83, Q. 2)

43. The transmission of television signals by AML microwave requires a path unobstructed by trees or terrain. (Continental A, p. 3)

44. The Stafford site was selected because it met the criteria of high elevation and central location necessary in order to serve Cable Area 11, which extends about 51 miles east to west and 8 miles north to south. (Continental A, p. 7)

45. The Stafford site offers signal beam paths throughout the entire franchise. (Continental A, p. 3)

46. The clearing adjacent to the proposed site would permit reception of satellite signals by ground mounted earth dishes, whereas any other site on the Troiano property would require tree clearing for some 340 to 360 feet to the west of the site. (Continental A, p. 6; Tr. p. 33)

47. The rights negotiated with the property owners include maintaining the clearance required for the earth dishes, however, Continental has no control over the trees which provide screening adjacent to Route. 190. (Tr. pp. 41, 70)

48. There are no regulated wetlands or watercourses on or within 100 feet of the proposed site. (Continental B, 8/8/83, Q. 15)

49. The tower would be visible from the Shenipsit State Forest headquarters and from Route 190 as the site is passed, especially in winter, and may be visible from the Stafford Medical Center parking lot in winter. It would be visible, at least in winter, from locations on the Shenipsit Trail, including Bald Mountain and Soapstone Mountain. (DEP comments; Tr. p. 31)

50. Access to the site would be by an existing road and the improvement of an existing jeep trail that passes the site. Three utility poles for power and telephone would be placed along the access road. (Continental A, p. 3)

51. There should be no erosion problems caused by the proposed construction due to the flat nature of the site. A test boring of the proposed site revealed no ledge problems, and no blasting is foreseen by Continental. (Continental A, p. 6)

52. The proposed facility would be secured and not accessible to the public. Anti-climb sections are planned as part of this tower design and are reflected in all price estimates provided in the application. (Continental A, p. 10; Tr. pp. 37-38)

53. Continental would be willing and able to detail landscaping plans in a development and management plan if needed. (Tr. p. 34)

54. The property owners informed Continental that they do not intend to develop the area around the proposed site. (Tr. p. 40)

55. Continental conducted a property value study on the Troiano land surrounding the tower and concluded there would be no devaluation of property due to the presence of their facility. The property

value study did not assess impacts on the value of the land owned by adjacent or abutting landowners. (Tr. pp. 57-58)

56. The proposed tower height is required for line-of-sight contact with receive sites and for separation of the antennas and dishes. (Tr. pp. 34-35)

57. The tower would be designed in accordance with the Electronic Industries Association structural standards RS-222-C. (Continental A, p. 2)

58. The tower's design features are to be based on Zone "B" wind loading (40 pounds per square foot) with one-half inch of radial ice. (Continental A, p. 2; Continental B, 8/8/83 Q. 11)

59. Continental was unable to determine and document the historical record for radial ice thickness in Connecticut. (Continental B, 8/8/83 Q. 11)

60. This tower would be designed to collapse on itself rather than fall lengthwise. (Tr. p. 37)

61. In order to maintain minimal signal quality, only two point to point relays of a microwave signal are possible. (Continental B, 8/8/83 Q. 20; Tr. pp. 17, 53)

62. The entire franchise area would be hard-wired with overhead lines where utility poles now exist and underground where other utilities are currently underground. (Continental B, 8/8/83, Q. 21; Tr. p. 50)

63. The industry standard for the maximum number of cascading amplifiers is between twenty-five and thirty, beyond which signal quality degrades below acceptable levels. (Continental B, 8/8/83, Q. 19; Tr. p. 29)

64. Continental will apply for a microwave license from the Federal Communications Commission. (Continental A. p. 8)

65. There is a potential for a cable system to interfere with aircraft navigation; however, the FCC has reviewed Continental's system and, after disallowing the use of two channels, is convinced no interference with aircraft would occur. (Tr. pp. 46-47)

66. The National Weather Service Radar on Soapstone Mountain would neither affect nor be affected by the proposed microwave transmissions. (Tr. p. 16)

67. Microwave transmission to or from the Stafford Tower would not affect or be affected by the operation of any electronic medical or telecommunications equipment located at the Stafford Medical Center or the Johnson Memorial Hospital. (Continental B, 8/8/83, Q. 3)

68. A state-wide interconnection network could be accommodated by Continental's proposed facility without modification. (Tr. pp. 22-23)

69. Continental studied a number of alternatives to the proposed site but determined these to be either technically or environmentally less desirable than the proposal. (Continental A, p. 9)

70. An alternative site within the Troiano property but further back from the road was explored by Continental. It would require additional road construction and extensive tree removal, but would provide no additional technical or economic benefits. (Continental B, 8/8/83, Q. 6, 8)

71. Alternative systems investigated involved the use of one 400' tower and seven hub site towers, or two 200 foot head-end towers,

one on each side of the Connecticut River distributing signals by cable. (Continental B, 8/8/83, Q. 18)

72. A system utilizing two 200' head-end towers would require 50 amplifiers in cascade sequence, resulting in lower signal to noise (S/N) ratios than the S/N ratio obtained by the AML microwave system. (Continental B, 8/8/83, Q. 19)

73. Continental approached the DEP about the use of the Soapstone Mountain area, but the DEP declined to permit such a use. (Continental A, p. 7)

74. The Enfield site considered would not have line-of-sight to all of the other facility sites on Continental's system and therefore would not be suitable as the head-end. (Tr. p. 28)

75. Continental did consider a single rectangular multi-satellite receive earth station in place of the proposed two earth dishes but rejected the option after reviewing one in the field which showed signs of excessive weathering. (Tr. pp. 52-53)

76. The proposed tower design could support additional antennas or dishes, and Continental would consider the addition of such by other entities. (Tr. p. 35)

77. No public service company or emergency service agency has requested antenna space on the proposed Stafford tower. (Tr. p. 55)

78. Following Council approval, Continental plans to accomplish site acquisition within one week. The tower would require 40 working days to construct. (Continental A, p. 7; Continental B, 8/8/83, Q. 16)

79. Continental plans to commence construction in various parts of the franchise simultaneously so that customers would be connected in several, but not all, Area 11 towns, at the onset. (Tr. p. 48)

80. Regardless of the fate of applications to the CSC for other sites in the franchise area, Continental needs and would construct its head-end at the proposed site if the Council grants a certificate. (Tr. pp. 74-76)

81. Continental has received no objections from the public regarding the implementation of the system or the construction of the tower. (Tr. p. 60)

82. The total cost of constructing the entire Continental system is expected to be approximately $23 million over a period of seven years. (Tr. p. 41)

83. The total estimated cost of the Stafford project is expected to be $1,300,776. The component costs are as follows:

$36,000	Building 30'x 30'
10,000	Extras
62,500	150' Tower
35,000	Dishes 5 @ 7,000 AML
717,000	52 ch. Hughes AML Transmitter
13,175	Stand-by power
14,175	AML receive antenna
11,200	Tower construction
25,726	Two dishes: 7 m.
4,000	Pads for dishes
325,000	Headend electronics
15,000	Off-air antennas
10,000	Site improvement
22,000	Engineering cost
1,300,776	Total

(Continental B, 8/8/83, Q. 23)

84. Lease payments for the use of the tower site would be approximately $9,000/year. (Continental A; B, 8/8/83, Q. 23)

85. The cost of a tower capable of withstanding a 1" radial ice loading is estimated to be 30% more than the proposed tower cost of $32,612. The additional cost would be due to added base strengthening, more steel, and more construction work. (Continental B, 8/8/83, Q. 26; Tr. p. 62)

86. The tower is designed to be free standing; therefore, guying would provide no benefits. (Continental B, 8/8/83, Q. 25)