

DOCKET NO. 24

AN APPLICATION BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION OF A MICROWAVE TELECOMMUNICATION FACILITY IN THE TOWN OF BLOOMFIELD, CONNECTICUT. : CONNECTICUT SITING COUNCIL : November 13, 1981

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

1. The Department of Environmental Protection applied to the Connecticut Siting Council on July 20, 1981, for a certificate of environmental compatibility and public need for the construction of a telecommunication tower which will be shared with the Department of Public Safety, the Department of Transportation, and the Capital Region Council of Governments. (Record)
2. The fee of \$500.00 accompanied the application. (Record)
3. The application was accompanied by proof of service as required by section 16-501(b) of the General Statutes of the State of Connecticut. (Record)
4. Affidavits of newspaper notices as required by statute in section 16-501-1 of the regulations of Connecticut State Agencies were also filed. (Record)
5. Council members and staff made a ground inspection of the proposed site on September 17, 1981. (Record)
6. Pursuant to section 16-50m of the General Statutes of the State of Connecticut, the Connecticut Siting Council, after giving due notice thereof, held a

public hearing at the Bloomfield Town Hall, Council Room, 800 Bloomfield Avenue, Bloomfield, Connecticut, on September 17, 1981. (Record)

7. The parties to the proceedings are listed in the Decision and Order which accompanies these findings. (Record)
8. The Department of Economic Development filed written comments with the Council pursuant to section 16-50j(f) of the General Statutes of the State of Connecticut.

ENVIRONMENTAL

9. The applicant proposes to construct a telecommunication tower and an equipment enclosure on Talcott Mountain in Talcott Mountain State Park in the town of Bloomfield, Connecticut. (Appl. pp. 1,9)
10. The proposed tower is to be shared by the Department of Environmental Protection, the Department of Transportation, the Department of Public Safety, and the Capital Region Council of Governments. (Appl. pp. 1,4, Appendix B)
11. The Department of Environmental Protection solicited the Department of Motor Vehicle's participation in sharing the proposed facility but received no response. No intermodulation study was made to determine the compatibility of the Department of Motor Vehicle frequencies with those frequencies to be transmitted from the proposed tower. (Department

of Environmental Protection late file Exhibit C,
10/5/81; Tr. p.62-63)

12. The proposed facility will be a free standing,
triangular lattice steel tower 60 feet high. The
tower legs will be mounted on a concrete pad. (Appl.
p.1, Appendix A; Department of Environmental
Protection letter 9/9/81, p.3, Q.8)
13. The proposed tower will support two six foot dish
antennas facing east mounted at the 57 foot level,
one eight foot dish antenna facing west mounted at the
56 foot level, two stick antennas mounted on the top
of the tower, and two stick antennas mounted at the
50 foot level. (Appl. p.2; Department of
Environmental Protection letter 9/9/81, p.4; Appendix
A, p.10; Tr. pp.80-81)
14. The proposed facility will provide regional two way
UHF broadcasts for the Department of Public Safety,
Department of Transportation, and Capital Region
Council of Governments. Microwave signals will be
sent from the proposed facility to facilities on John
Tom Hill in Glastonbury, the Hartford Police
Department and in the future, to Mohawk Mountain in
Cornwall. (Appl. pp.4-7; Tr. pp. 81,88-90;
Department of Environmental Protection letter 9/9/81,
Attachments B and C)
15. The microwave equipment will operate with a power
output of 4.5 watts. In the main dish field the near

field power density values are calculated to be less than one milliwatt per square centimeter (mw/cm^2). The power density at a maximum field point is $0.85 \text{ mw}/\text{cm}^2$ obtained at a distance of 16.4 feet for the six foot dish antennas and $0.48 \text{ mw}/\text{cm}^2$ obtained at 29.3 feet for the eight foot antenna. Between the plane of the feedhorn and the dish, the calculated power density of $1 \text{ mw}/\text{cm}^2$ is obtained at a distance of 20 inches from the horn opening. For the side and back lobes a calculated power density of $1 \text{ mw}/\text{cm}^2$ is obtained at a distance of 4.5 inches from the feedhorn. The actual power densities to be expected will be less than the above calculated values, due to transmission line losses. (Appl. pp.3-4)

16. The actual power densities will be less than the OSHA power density limit of $10 \text{ mw}/\text{cm}^2$, and the US Bureau of Radiological Health density limit of $1 \text{ mw}/\text{cm}^2$ which is the standard for microwave ovens. (Appl. p.3-4)
17. A cement block radio building 20 feet long and 16 feet wide and eleven feet high will be constructed on a foundation adjacent to the proposed tower. The building will contain an emergency generator, and both UHF and microwave transmitters and receivers. A 110 gallon fuel storage tank will be buried adjacent to the building to provide diesel fuel for the emergency generator. (Appl. p.2, Appendix C)
18. The radio building will be secure, locked, and pro-

tected by an alarm; there will be no climbing pegs on the lower portions of the tower legs, and both the building and tower will be surrounded by a fence.

(Appl. p.13)

19. Utility lines for the proposed facility will be placed in a conduit which will be constructed at or near ground level between the proposed facility and an existing storage garage approximately 900 feet to the northeast where existing utility lines are located. (Appl. p.2,13)
20. Access to the site will be along an existing state maintained service road that runs along the Talcott Mountain ridge and leads to the Heublein Tower. Approximately fifty feet of new access road will be established between the service road and the proposed site. (Appl. p.2)
21. The proposed site, approximately 1000 feet south of Heublein Tower, is within the state owned property of Talcott Mountain State Park. (Appl. p.2)
22. The CRCOG Land Use Plan of 1978 classifies the site as "reservation" meaning that a policy of a no development has been adopted for it, and the Connecticut Plan of Conservation and Development classifies the site as existing preserved open space. (Appl. p.10)
23. The proposed site is within the boundaries of the Talcott Mountain State Park in the town of Bloomfield. The park is a 557 acre parcel located on

the Talcott Mountain ridge line in the towns of Avon, Bloomfield, Simsbury, and West Hartford. (Appl. p.10)

24. The park is used by hikers and other outdoor enthusiasts; the two major attractions are the King Philip Caves and the Heublein Tower. The tower is used for viewing the surrounding landscape. (Appl. p.10)
25. The construction and completion of the project would have no impact on the enjoyment of Heublein tower by the public. (Tr. p.96)
26. The proposed site was located approximately 1000 feet south of Heublein Tower so the facility will not interfere with the view from the Heublein Tower or the recreational uses of the park. (Appl. 10)
27. The Avon Planning and Zoning Commission, the Avon Natural Resources Commission, and the Simsbury Board of Selectman expressed concern that the proposed facility would intrude on the most visually sensitive section of Talcott Mountain and irreparably damage the Mountain's western profile. (Avon letters 7/21/81 and 8/17/81; Simsbury letter 8/21/81)
28. The microwave dishes on the proposed tower will create a profile more noticeable than the profile presented by existing towers on the ridge. (Avon letters 7/21/81 and 8/17/81)
29. In order to preserve the Town's ridgetops the Town of

Avon's 1978 Plan of Development states that any new transmission towers should be located on existing sites or consolidated with existing facilities.

(Avon letters 7/21/81 and 8/17/81)

30. The proposed facility will not increase the number of towers on Talcott Ridge. There are three existing telecommunication towers 80 feet to 100 feet high between the proposed site and Heublein Tower. One tower, the Regional Access Frequency System 100 foot tower, will be removed if the proposed facility is built. (Appl. pp. 11-12)
31. The proposed tower and its relation to the landscape have been planned to minimize any visual impacts. Dishes will be arranged on the tower as low above the treeline as possible and clustered to lessen the visual impact. (Appl. p.12)
32. The view of the proposed tower from the east might be totally obscured by trees approximately as high as the proposed tower. (Appl. p.12; Department of Environmental Protection letter 9/9/81, Q.10; Tr. p.76-77)
33. The base and the first forty feet of the tower will be obscured from western view points by trees and a rise in ground elevation west of the tower site. (Appl. p.12; Department of Environmental Protection letter 9/9/81)
34. The top twenty feet of the proposed tower will appear

above the tree line when viewed from the west.

(Appl. p.12; Department of Environmental Protection letter 9/9/81, Q.7)

35. The top few feet of the tower may be visible from a residential area on Nod Road and probably will not be visible from other residential areas within a mile of the proposed site. (Department of Environmental Protection letter 9/9/81, Q.10)
36. The proposed facility will be visible from sections of Route 10 in Avon and Simsbury, but the visibility will diminish as the viewer travels north or south from the Avon-Simsbury Town line. The proposed facility will also be visible from sections of Nod Road in Avon and Simsbury, and from Old Meadow Plains Road in Simsbury. (Tr. pp.75-77)
37. The proposed tower may be visible from Route 44 in Avon and from the Wampanaug Country Club in West Hartford. (Tr. pp.76-77)
38. The height of the proposed tower cannot be decreased and still maintain a guaranteed microwave beam path with adequate clearance to Mohawk Mountain.
(Department of Environmental Protection letter 9/9/81, Q.11)
39. A suitable site on Talcott Mountain is necessary to meet the needs of the four participating agencies.
(Appl. p.15)
40. The proposed site has the elevation necessary to pro-

vide microwave paths to John Tom Hill in Glastonbury, Mohawk Mountain in Cornwall, and the Hartford Police Department in Hartford with a low profile tower. Other areas along Talcott Ridge do not reach the elevation needed for a low profile tower to complete such paths. (Appl. p.11)

41. The proposed site provides excellent UHF radio coverage to the Connecticut River Valley and the service areas west of the Talcott Mountain, and at the same time permits the required connection to the microwave system. Separating the microwave system from the UHF Regional Access Frequency System (RAFS) or relocating the existing Regional Access Frequency System transmitters north or south of Talcott Mountain destroys the effectiveness of the system by requiring continued dependence on telephone lines or by resulting in inadequate coverage of service areas. (Appl. p.6, Tr. pp.58,88-91)
42. The town of Avon requested that the need for the facility be investigated and that alternative sites and solutions be examined. More specifically the town suggested a beam path for DEP from John Tom Hill in Glastonbury to Mohawk Mountain via Meriden or Middletown, selecting an existing transmission site further south on Talcott Mountain, sharing existing radio or television towers in Avon or Farmington, or placing the transmitting equipment on or in Heublein

Tower itself. (Town of Avon letters 8/17/81,
7/21/81)

43. Numerous alternative tower sites and alternative microwave beam paths were investigated, but most alternatives are not available for use, and none will meet the needs of all participating agencies. (Tr. pp.90-91, Department of Environmental Protection letter 9/9/81 Questions 1,2,3,5,14; Department of Environmental Protection late file Exhibit No. 5; Appl. pp.14,15)
44. The applicant investigated the potential for using existing towers owned and operated by the Department of Motor Vehicles on Talcott Ridge, Northeast Utilities in Bloomfield, Southern New England Telephone Company in Bristol, Times-Mirror, Incorporated in Hartford, WVIT, and WRCH in Farmington, and WEDU, WHCT, WTIC, WFSB, and WCCC in Avon. The following alternative microwave routes were investigated: Beseck Mountain in Middlefield to a DEP fire tower in Oxford, Beseck Mountain to Mowhawk Mountain, Farmington Medical Center to Mowhawk Mountain, West Peak in Meriden to the Oxford fire tower, West Peak to Mohawk Mountain, West Peak to John Tom Hill, John Tom Hill to Mowhawk Mountain, Hartford National Bank roof or 1 Financial Plaza to South Mountain to Mohawk Mountain. The applicant also investigated sites along Talcott Mountain ridge

and in the town of Burlington. (Tr. pp. 61,62,79,90,91,91-95; DEP letter, 9/9/81; DEP late file No. 5)

45. The proposed site is level and fairly clear. There will be no need for filling or grading, removal of trees, or other operations which would alter the landscape. Some trimming of trees may be necessary to insure and maintain a microwave path to the Hartford Police Department. (Appl. p.12)
46. The proposed facility will have no impact on architectural, historical, or archaeological resources listed on or eligible for the National Register of Historic Places. (Appl. p.16)
47. Plans for the proposed facility conform to all of the elements of Section III of the Department of Interior and Department of Agriculture's Environmental Criteria for Electric Transmission Systems except the tower will not be located on a slope or brow of a hill and there will be no adequate landing area for helicopters. (Appl. p.14)
48. The proposed facility will comply with or exceed all Electronics Industry Association structural standards. (Appl. p.1; Tr. p. 121)
49. The proposed facility will provide for the general safety, welfare, and protection of the public.
(Department of Economic Development letter 8/25/81)
50. The Office of Civil Preparedness recommends that the

Talcott Mountain Tower be constructed because it will provide a significant improvement in key agencies coordinated responses to emergencies and will provide an opportunity for future economies. (Tr. p.55)

51. The structural integrity of the tower will not be able to support any equipment other than that proposed in the application without a structural analysis, and as far as the DEP is concerned, no additional dishes will ever be placed on the tower. (Tr.

NEED

52. The Department of Environmental Protection microwave links to Mohawk Mountain are not totally dependent upon Federal grant money but would be funded by the state. (Tr. 9/17/81, p.99)
53. Other aspects of the project are dependent on Federal funds. The money to finance DOT and CRCOG participation in the project is a combination of Federal and State money; 80 percent is Federal and 20 percent represents state money. (Tr. p.99)
54. The federal money was available at the time of the hearing, and two-thirds of the state funds were available. (Tr. p.99)
55. The estimated total cost of the Talcott Mountain facility is \$82,000 of which \$30,000 is for the cost and installation of the tower itself. (Department of Environmental Protection Late File No. 6)
56. The Department of Environmental Protection rejected

an alternative site on Wolcott Mountain for the same reason West Peak, Meriden was rejected, namely:

1. No cost sharing benefit between agencies was possible;
2. System implementation costs would be increased by \$50,000;
3. The John Tom Hill Tower would have to be replaced by a stronger tower capable of supporting additional microwave antennae at an additional cost of \$30,000.

(Department of Environmental Protection Late File No. 5; DEP Ans. to CSC Q.2)

57. Another alternative site owned by Northeast Utilities on Hotchkins Road, Bloomfield, was rejected because of its lower elevation, a structural analysis requirement which would have to be underwritten by Northeast Utilities, implementation costs totaling \$37,000.00, and the need to replace the John Tom Hill tower with a stronger one. (Department of Environmental Protection Late File No.5)

58. The salvage value of the dismantled tower on the proposed site would be \$1,000. (Department of Environmental Protection Ans. to Q.20)

59. The microwave link to Mohawk Mountain which will not be established immediately, will greatly facilitate communications in the area needed for coordinating forest fire fighting efforts in that part of the state. Without this link, which is limited now, larger fires will expand across the area since delays in spotting and getting to the fire allow the fires to spread. (Tr. p.96,153-154)

60. The Department of Health's Emergency Medical System has the capability of tying into the proposed system and will integrate the entire EMS system into one unit. (Tr. p.85-87, Tr. p.51)
61. In 1978, an interagency agreement was drafted to initiate interagency cooperation and cost sharing between the Connecticut State Police, the Department of Health Services, and the Department of Environmental Protection for microwave facility construction by these governmental agencies, on the Department of Environmental Protection property, subject to Siting Council approval, providing that: a) there was a demonstrated and pressing public need; and b) that no other reasonable alternative could be found. (Tr. p.19-20)
62. The Talcott Mountain site would be an example of interagency cooperative cost sharing. (Tr. p.20)
63. The Department of Transportation received \$4 million from the Urban Mass Transportation Administration to provide telecommunication systems for the state-owned bus system. (Tr. p.35)
64. The proposed system will allow the installation of two-way voice and data communication between transit authorities and the bus fleet, maintenance vehicles, and supervisory personnel. (Tr. p.35)
65. The proposed system will allow link-ups in emergency situations and control of transit services thereby

enhancing passenger safety and real time-monitoring of fleet operation. (Tr. p.36)

66. The proposed system will improve the efficiency of operating the State Bus System; reduce operation's costs; and improve the productivity of the system. (Tr. p.45)
67. The Connecticut State Police Department will use the proposed system to link State Police headquarters in Hartford to all of the field troops, thereby coordinating emergency responses. (Tr. p.57)
68. The proposed tower will improve the RAFS radio network and link together local police and the State Police on a common radio network which is especially important in emergency situations. (Tr. p.57)
69. The system will improve radio dispatching for State Troopers throughout the Hartford area by providing clearer, more reliable radio signals. This would be accomplished by linking State Police headquarters with the new tower antennae and the transmitter equipment in the Heublein Tower without depending on telephone lines, which in disaster situations are readily disrupted. (Tr. p.57-58)
70. The microwave system will provide 96 radio channels for use by state agencies statewide. (Appl. p.15; Tr. p.86-87)
71. The purpose of the new system is to allow the police departments in the entire capital region to cooperate

in situations of mutual concern. (Tr. p. 89)

72. The microwave system eliminates technical problems of the present RAFS System installed 10 years ago. The microwave tower has to be in reasonable proximity to the two repeater sites in order to be maximally effective. The proposed site appears to be the most effective site without resort to phone lines, based upon studies done by DEP and the Hartford Police Department. (Tr. p.89-95)