

AN APPLICATION BY THE DEPARTMENT OF : POWER FACILITY  
ENVIRONMENTAL PROTECTION FOR A CER-  
TIFICATE OF ENVIRONMENTAL COMPATI- : EVALUATION COUNCIL  
BILITY AND PUBLIC NEED FOR A MICRO-  
WAVE TELECOMMUNICATION FACILITY IN  
THE TOWN OF GLASTONBURY, CONNECTICUT. : April 1, 1981

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

I. PROCEDURES

1. The Department of Environmental Protection applied to the Power Facility Evaluation Council on December 18, 1980 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 Capitol 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 16-50ℓ(b) of the General Statutes of the State of Connecticut. (Record)
4. Affidavits of newspaper notices as required by statute in section 16-50ℓ-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 February 11, 1981. (Record)
6. Pursuant to section 16-50m of the General Statutes of the State of Connecticut, the Power Facility Evaluation Council, after giving due notice thereof, held a public hearing at the Academy School, 2143 Main Street, Glastonbury, Connecticut on February 11, 1981. (Record)
7. The parties to the proceedings 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(f) of the General Statutes of the State of Connecticut, the

Department of Health Services, the Department of Economic Development, and the Department of Transportation. (Record)

II. ENVIRONMENTAL

9. The Department of Environmental Protection proposes to construct a telecommunication tower and radio building east of Birch Mountain Road on John Tom Hill in Glastonbury. (App1. p-1)
10. The proposed tower is to be shared by the Department of Environmental Protection, the Connecticut Department of Transportation, the Department of Public Safety, and the Capitol Region Council of Governments. (App1. p-3,4, and exhibit B)
11. The Council conducted a field inspection of the proposed project on February 11, 1981. (Record)
12. The proposed facility will be a triangular lattice steel, free standing telecommunication tower 120 feet high. Each tower leg will be anchored in concrete piers. (App1. p-1)
13. The tower will support three four foot microwave dishes, two six foot microwave dishes, one eight foot microwave dish, and two UHF whip antennae. (App1. p-2)
14. The transmission equipment will be 80-120 feet above ground. (App1. p-8)
15. A concrete radio building 26 feet long and 15 feet wide will be constructed adjacent to the proposed tower. This building will house both UHF and microwave transmitters and receivers. (App1. p-2)
16. The radio building will be secure, locked, and protected by an alarm. (App1. p-7)
17. Electrical power and telephone service will be provided through a conduit constructed at or near ground level from Birch Mountain Road to the radio building. (App1. p-2)
18. A 200 gallon tank containing propane for emergency power will be located adjacent to the radio building.

- (Department of Environmental Protection letter 2/6/81)
19. A 125 foot long gravel access road will be built and used for maintenance. (App1. p-7)
  20. The Department of Environmental Protection intends to surround the facility with a chain link fence soon after construction is completed. (Department of Environmental Protection letter 2/6/81)
  21. There will be no climbing pegs on the tower legs. (App1. p-7)
  22. The proposed tower site is located adjacent to an existing state-owned abandoned fire lookout tower on John Tom Hill, Birch Mountain Road, Glastonbury. (App1. p-1)
  23. The proposed site is owned by the state and has been tentatively reserved as a tower location. (App1. p-6)
  24. Locating the site on John Tom Hill in Glastonbury is necessary to satisfy the requirements of the four agencies' communications needs. (App1. p-8)
  25. Microwave signals will be sent from the proposed tower to receiving antennae at the following locations:  
(a) Talcott Mt. in Avon; (b) Department of Transportation on Vernon Street, Hartford; (c) Department of Public Safety Radio Division Headquarters, Cedar Street, Hartford; (d) Beseck Mt., Middlefield; (e) State Office Building, Capitol Ave., Hartford; (f) Ekonk Hill, Sterling. (App1. p-2)
  26. The UHF transmitters will operate with a power output of 100 watts. The microwave signals will operate with a power output of 4 watts. (App1. p-2)
  27. In the main dish field the near field values of power density are calculated to be less than one milliwatt per square centimeter (mw/cm<sup>2</sup>). The power density at a maximum field point is calculated to be 0.85 mw/cm<sup>2</sup> at a distance of 16.4 feet from the six foot dishes and 0.48 mw/cm<sup>2</sup> at a distance of 29.3 feet from the eight foot dish. Between the plane of the feedhorn and the

dish, the calculated power density of 1 mw/cm<sup>2</sup> is obtained at a distance of 20 inches from the horn opening. For the side and back lobes a calculated power density of 1 mw/cm<sup>2</sup> is obtained at a distance of 4.5 inches from the feedhorn. The actual power densities or distances to be expected will be less than the above calculated values due to transmission line losses. (App1. p-3)

28. The actual power densities will be less than the OSHA power density limit of 10 mw/cm<sup>2</sup>, and less than the U.S. Bureau of Radiological Health density limit of 1 mw/cm<sup>2</sup>, which is the standard for microwave ovens. (App1. p-3)
29. The proposed facility will not present a health hazard to the public. (Department of Health Services letter 2/6/81)
30. The zoning classification of the general area is Rural Residential. Approximately six residences are located along the road which passes the tower site, and the surrounding area is forest and agricultural land. (App1. p-6)
31. The Glastonbury Plan of Development categorizes the entire area as low density and major portions of the John Tom Hill ridgeline as open space. (App1. p-6)
32. The Capitol Region Council of Governments Land Use Plan of 1978 classifies the site as rural residential. (App1. p-7)
33. The Connecticut Plan of Conservation and Development classifies the site as open space. (App1. p-7)
34. There are approximately twelve towers ranging from 100 feet to 250 feet in height within 1200 feet of the proposed site. (App1. p-6, p-9, III(a)(b); Council field review)
35. Multi-agency use of the proposed facility will reduce the number of telecommunication towers necessary to provide similar service. (Tr. p-6)

36. The existing Department of Environmental Protection fire tower adjacent to the proposed site will be needed until the Department of Environmental Protection can establish their proposed system on the new tower. (Tr. p-10)
37. The existing Department of Environmental Protection fire tower could be removed, as long as the Department of Environmental Protection equipment is transferred without problems to the communication system onto the new tower.
38. The proposed facility will improve the welfare and safety of the public. (Department of Economic Development letter 2/5/81)
39. The proposed facility will have no impact on architectural, historical, or archaeological resources listed on or eligible for the National Register of Historic Places.
40. The proposed facility will conform to all the criteria listed in Section III of the Department of the Interior and Department of Agriculture's Environmental Criteria for Electric Transmission Systems with the exception of the following:  
Item B4, it is not located on a slope or the brow of a hill; Item C5, the fuel tank will not be buried; and Item C9, there are no facilities for helicopter landing.  
(App1. p-8)
41. The proposed tower will comply with or exceed all structural standards of the Electronic Industry Association.  
(App1. p-1)
42. Comments on the application were received from the Department of Economic Development, the Department of Health Services, and the Department of Transportation.  
(Record)