DOCKET NO. 5

APPLICATION OF THE CONNECTICUT LIGHT AND POWER COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR A 345 KV TRANSMISSION LINE AND A 115 KV TRANSMISSION LINE BETWEEN POINTS IN THE TOWNS OF NEW MILFORD AND BETHEL	:	POWER FACILITY EVALUATION COUNCIL FEBRUARY 24, 1975

OPINION

It is the opinion of the Power Facility Evaluation Council, based on its findings, that the application which is the subject of Docket No. 5 should be granted, subject to such terms, conditions and modifications as shall hereinafter be set forth in the Decision and Order, for the following reasons:

(1) The record in this proceeding demonstrates that although the southwestern area of Connecticut receives electric power from generation within the area and by transmission from generating sources outside the area, a deficiency in area generating capacity has existed since 1970 with the result that any additional electric power necessary to meet customer demands must be transmitted into the area from external sources.

The existing transmission system which supplies the southwestern area, consisting mainly of 115 KV transmission lines, can be expected to become inadequate to maintain a reliable supply of power to the area when peak loads reach about 890 megawatts (mw). Load levels in excess of this figure would have no immediate effect on the public as long as all lines and generating units were in service; however, the outage of a generating unit or the loss of a line could cause load flows and voltage drops to exceed permissible limits.

A combination of such contingencies could force other lines to become seriously overloaded. If this situation occurred, it would present the danger that it might become necessary to cut off electrical service to much of the southwestern area in order to avoid damage to conductors and equipment, eliminate safety hazards and preclude damage to customer facilities from low voltage conditions.

There is a public need for the additional transmission facilities proposed by the applicant since area peak loads in excess of 890 mw can reasonably be expected to materialize by the late 1970's or very early 1980's and the proposed 345 KV line could probably not be placed in service any earlier than the summer of 1978. In arriving at this conclusion the Council has carefully considered the probable future rate of growth of peak loads in the southwestern area, as suggested in the various projections which were made a part of the record. As the findings reflect, these projections varied considerably, as did their underlying assumptions, and they dramatically emphasize the extent to which the energy crisis and the resulting conservation measures exercised by electric consumers have had the effect of making specific load forecasts difficult to formulate. It must be noted, however, that while the projected growth rates differed, nearly all forecasts indicated some degree of growth and as such the prime issue raised was "when" and not "whether" the 890 mw peak load would occur.

The conservation ethic associated with the fuel crisis as well as the dramatic increase in electric rates which has recently occured have clearly had a pronounced effect on historic patterns of growth rates in the demand for electricity

in the southwestern area of Connecticut. The area peak load figures for 1973 and 1974 are illustrative in this regard; however, even if the actual 1974 summer peak were projected to increase at only 6% per year, the area peak load would nonetheless exceed 890 megawatts in 1980.

Although the future rate of growth in demand for electricity could conceivably be reduced by the initiation or expansion of programs such as Save-A-Watt, voltage reduction or rate differentials, it is questionable whether there is enough remaining usage of electrical power that can be voluntarily conserved by existing customers to offset the increased usage by reasonably anticipated new customers in the area. All Connecticut public planning agencies forecast continued growth in the southwestern area and it would appear that the Danbury area, in particular, will continue to grow. In addition, any decline in fertility rates which may occur should not be expected to effect the formation of new family units or the demand for electricity in the southwestern area for the foreseeable future.

(2) The Council recognizes and the record reflects that certain adverse effects on the environment may occur as a result of the granting of a certificate in this matter. The nature of this probable environmental impact is more particularly contained in the findings; however, the significant consequences of the proposed facility would appear to be:

(a) The proposed route is 17.5 miles long and would utilize most of the existing 115 KV right-of-way from New Milford to Danbury. However, in order to accommodate the

proposed facilities it will be necessary to widen and clear the right-of-way approximately an additional 175 feet in the first section from Long Mountain to Rocky River, 150 feet in the second section from Rocky River to Lanesville, 25 feet between Lanesville and Brookfield Junction and 50 feet between Brookfield Junction and Danbury Junction.

(b) Relocating the proposed facility westward from Chimney Heights will cause it to cross an open space area although the area is used for landfill and an industrial subdivision has been laid out.

(c) Widening the existing right-of-way could necessitate relocating two houses.

(d) Additional open space and recreational areas along the proposed and existing route are located at Sunny Valley Farm in New Milford, the golf course in Lanesville and Meckauer Park in Bethel. The Meckauer Park area will be avoided by the relocation westward from Chimney Heights.

(e) There will be an impact due to the visibility of the lines and the visual effects of the transmission structures and conductors. About one-fifth of the proposed route would cross designated inland wetlands and about 19 out of approximately 154 required structures would be in wetlands.

(f) Approximately 24 structure locations would be required between Long Mountain and Rocky River. About 1,000 linear feet of designated wetland areas is crossed by the existing right-of-way in this section but widening to the west should not necessitate locating any structures in a wetland.

(g) It will be necessary to cross the Housatonic River with the proposed 345 KV line, adding to the visual effect; however, the extent of the cumulative impact will be lessened due to the height of the crossing and the eventual removal of two existing 69 KV circuits.

(h) It will be necessary to cross an environmentally sensitive area at Altermatts Pond where approximately 500 linear feet of designated wetland is located and approximately two-thirds of the right-of-way is covered by the water surface of the pond.

(i) Approximately 28 proposed 345 KV structures would be needed between Rocky River and Lanesville, of which, about four would be located in designated wetlands areas. About 3500 linear feet of the existing right-of-way crosses designated wetlands in this section in the vicinity of Sunny Valley Farm and McNulty's land fill.

(j) The proposed single pole structures between Lanesville and Brookfield Junction, being about 45 feet taller than the existing 85 foot H-frame structures, will increase the visual impact in this section.

(k) Approximately seven 345 KV structure locations would be placed in wetlands between Lanesville and Brookfield Junction where the proposed line would cross the Still River and several small wetland areas.

(l) Wider right-of-ways associated with wooden H-frame transmission structures would increase the visual impact in areas where they have been proposed.

(m) Approximately 8 structures would be placed in wetlands between Brookfield Junction and Plumtree where about 6,000 linear feet of the proposed route, in the Danbury land fill area and along the existing right-of-way between Plumtree and the City, crosses designated wetlands.

(n) About 15 of the approximately 102 structure locations between Lanesville and Danbury Junction would be in wetlands.

(o) Wetlands areas will also be effected where it becomes necessary to cross them to gain access to non-wetland construction sites.

(p) A total of approximately 9,200 feet of access ways would be required in wetlands. This represents about 3 acres out of the approximately 580 acre proposed right-of-way.

(q) About 1,300 feet of access ways can be anticipated between Rocky River and Lanesville, 2,900 feet between Lanesville and Brookfield Junction and 5,000 feet between Brookfield Junction and Danbury Junction.

(r) Where access ways are required in wet areas, wood slabs or logs would be laid and gravel placed on top in order to support equipment. This procedure would be followed on about 2,000 feet of the access ways anticipated in wetlands.

(s) There is a potential for some erosion in the area southerly of Route I-84 and westerly of Chimney Heights where the ground slopes to the west, and in the northerly portion of the route, particularly near Altermatts Pond.

(t) The use of herbicides for right-of-way vegetation control, particularly in wetland or watershed areas, could have a significant adverse environmental impact if applied improperly.

The Council is aware of no identifiable historic values which would be effected by the proposed facility and the record does not suggest that there would be any significant adverse effect on, or conflicts with, the policy of the State concerning air and water purity or fish and wildlife. It would appear that proper right-of-way maintenance should benefit wildlife in the area. Constructing the proposed facility in accordance with the applicable requirements of the Connecticut Public Utilities Commission and the National Electrical Safety Code should adequately safeguard public health and safety.

(3) The Council is of the opinion that the possible adverse effects or conflicts with the policies of the State referred to in paragraph two (2) of this opinion do not constitute sufficient reason to deny the application. In arriving at this conclusion the Council has carefully reviewed the evidence and recommendations presented to it and finds that there is a demonstrable need for the proposed transmission facilities, in order to insure adequate and reliable electric service in the southwestern area of Connecticut, and that many of the potential adverse environmental effects of the proposed facility are insignificant, as detailed in the findings, or can be considerably ameliorated by the conditions and modifications contained in the Decision and Order.

In analyzing the nature of the probable environmental impact of the proposed facility the Council has recognized that until such time as a certificate of environmental compatibility and public need has been issued to the applicant, enabling it to acquire the necessary right-of-way, a

detailed right-of-way development and management plan cannot be prepared. Thus, the precise route of the proposed facility and much of the detail necessary to evaluate more particularly and limit the extent of its adverse environmental impact is presently unavailable. It is for this reason that the Council feels it has a responsibility to require the applicant to coordinate its specifications for construction of the facility, its detailed environmental inventory, and its right-of-way maintenance and use plan with the Department of Environmental Protection prior to the initiation of construction activities. Such a plan and the Department's recommendations would aid this Council in determining the most appropriate method of constructing and maintaining the proposed facility so that the least possible adverse effect on the environment will occur.

(4) The Council is of the opinion that the entire length of the proposed facility should be located overhead. As the findings and the comments of several of the State agencies indicate, the intense nature of the construction activity which would be required to underground the facility, its relatively comparable environmental impact on the surrounding area, the lengthy time which might be required to repair the failure of an underground line and the very high costs for underground construction all make undergrounding the proposed line impractical. In addition, to underground in short stretches would necessitate the construction of terminal facilities which could have distinct adverse effects.

(5) A grid of 345 KV transmission lines has been constructed by the applicant and other electric systems in New England and

New York in order to transport large blocks of electric power from major generating stations to major load areas for transformation to 115 KV and further transmission to local substations; one 345 KV line can usually transport about five times as much power as one 115 KV line, and the efficiency of 345 KV transmission is much higher, since the energy losses and the voltage drop associated with a 345 KV line are considerably less than those associated with a 115 KV line for delivery of the same amount of power. The proposed New Milford to Danbury 345 KV line would be the first section of a planned expansion of this 345 KV system into the southwestern area of Connecticut and would serve as the first segment of a proposed 345 KV loop to be completed over a period of several years, provided that future peak load experience is found to justify the need for the remainder of the loop.

Completion of the 345 KV loop would provide transmission at 345 KV to the proposed major substations at the Danbury and Norwalk load centers and also would provide those substations with the reliability of a dual supply; however, the proposed 345 KV line is deemed necessary in order to supply the electrical load in the Danbury area and to relieve the Norwalk area regardless of the ultimate construction of the remainder of the loop.

The plan of the applicant is to continue to support research and development of underground transmission materials and techniques which will make it economically justifiable to underground at least 115 KV lines and to continue to propose overhead transmission lines, except in congested urban

areas, until the cost of underground transmission more nearly approaches that of overhead transmission.

The Council is satisfied that the proposed facility conforms to a long range plan for expansion of the electric power grid of the electric systems serving the state and interconnected utility systems, that will serve the interests of electric system economy and reliability.

The Council is satisfied that the proposed facility conforms to a plan that will provide for the elimination of all overhead electric transmission lines, in accordance with the need for adequate and reliable electric service.

(6) The Council finds that the overhead portions of the facility conform to the Federal Power Commission "Guidelines for the Protection of Natural Historic, Scenic and Recreational Values in the design and Location of Rights-of-Way and Transmission Facilities", especially where relocations from the existing right-of-way are concerned.

(7) The record, as expressed in the Council's findings, does not indicate that the location of the proposed transmission line will pose an undue hazard to persons or property along the area traversed by the line.

(8) The alternate route east of the Route 7 corridor would require the acquisition and development of a totally new right-of-way for most of its 20.2 mile length and would necessitate a crossing of the Lake Lillinonah part of the Housatonic River, as well as the construction of new access roads to each transmission structure. The Council finds the consideration of such an alternate route utterly unrealistic, notwithstanding the cost differentials involved or the fact

that such a route has some aesthetic virtue.

(9) The Council recognizes that increasing electrical demands in the southwestern area could be met by providing additional generation in the area and by adding transmission lines to support that generation. It might also be possible to expand the existing 115 KV transmission which would require a greater number of new circuits and rights-of-way; however, the preferable long range plan suggests the construction of the proposed facility which would enable the area generation deficit to be made up from outside the area.