DOCKET NO. 4

APPLICATION OF THE MILLSTONE POINT COMPANY, ET AL FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR AN ELECTRIC GENERATING FACILITY IDENTIFIED AS "MILLSTONE NUCLEAR POWER STATION, UNIT 3" LOCATED IN THE TOWN OF WATERFORD, CONNECTICUT	:	POWER FACILITY EVALUATION COUNCIL

OPINION

It is the opinion of the Council that the application which is the subject of Docket No. 4 should be approved, subject to such terms, conditions and modifications as shall hereinafter be set forth in the Decision and Order, for the following reasons:

1A. The record in this proceeding demonstrates that there is a public need for additional electrical generating capacity to meet the increases in total electric energy consumption and peak loads which can be expected to occur, on the Northeast Utilities system, over the next ten years.

Cumulative forecasts of estimated consumption by the major customer classes of each operating company within the system indicate that there will be a significant increase in total electrical energy consumption through 1982. In addition, continued growth in summer and winter peaks during this period can be expected to increase the generation of electricity required to meet the needs of customers on the Northeast Utilities system. (Findings 28-47)

The system generating capacity available to satisfy these anticipated load requirements and to provide a level of reserve generating capacity sufficient to insure the reliable operation of the bulk power system of New England would be inadequate without the installation of the proposed Unit 3, or equivalent capacity, for operation in 1979. Assuming that other capacity additions

currently planned for the Northeast Utilities system in 1979 and subsequent years become operational as scheduled, the projected reserve margin which can be expected without the proposed additional capacity might seriously jeopardize the quality and reliability of electric service in Connecticut. (Findings 48-67)

1B. The demonstrated need for additional electrical generating capacity for the 1979 period can best be met through the installation of a base load generating facility. The need is emphasized because a delay in the scheduled retirement of presently operating units, the reactivation of older units, the importation of needed electricity from neighboring generating systems, or the construction of additional intermediate and peaking units would be impractical. (Findings 68-73, 76, 93, 94)

The use of nuclear fuel for this base load facility instead of fossil fuels such as oil or coal is founded in the demonstrated economic availability and environmental advantages of nuclear fuel. Over the first ten years of operation, an equivalent oil-fired unit could be expected to cost several million dollars more than the proposed nuclear unit, primarily as a result of higher fuel costs. In addition, the availability of adequate supplies of oil or natural gas for a 1979 New England base load plant can be seriously questioned whereas nuclear fuel for the proposed facility is committed for at least the first several years of operation. There is no assurance that coal meeting current Connecticut air quality standards will be available in New England at a reasonable price, or that reliable, economic desulphurization technology will be available to justify approval of a coal-fired alternative to meet the need for new base-load generation in the 1979-1980 period. (Findings 74, 75, 77-92, 95-97)

The Council has given serious consideration to other technological concepts in base-load electrical generation. Solar energy concepts, such as offshore windpower, ocean thermal gradient and other developing systems, offer promise for the future and might eventually replace present heat releasing combusion and fission processes. However, prohibitive costs and the unavailability of developed and demonstrated working models preclude reliance upon them as viable alternative methods of satisfying the need for power by 1979. (Findings 98-102)

1C. To the extent that construction of the proposed facility at the Maromas or Connecticut Yankee sites would necessitate the use of cooling towers in order to enable it to meet water quality criteria at these two river locations, locating a third unit at Millstone presents a significant cost advantage. While the effects of impingement and entrainment on fish eggs, larvae and other small aquatic organisms would be greater at the Millstone site than at either of these two alternative locations, other environmental considerations such as visual impact, fogging, land use compatibility, the effect of constructing additional transmission lines at the various sites and comparative noise levels are balanced in favor of the Millstone site and indicate that it is the preferred location from an overall environmental standpoint. (Findings 103-118)

2. The Council recognizes that certain adverse effects on the environment may occur as a result of the granting of a certificate in this matter, in particular:

(a) An increase in the visual impact of the Millstone site

with the addition of a third generating facility and auxiliary equipment. (Findings 118, 130)

(b) Noise from the main power transformer, fans and vents which could be audible beyond the boundaries of the site. (Finding 120)

(c) Removal of vegetation and disruption of wildlife during construction of the proposed facility. (Findings 132-135)

(d) The removal of 40,000 cubic yards of material by dredging and the building of an earthen cofferdam for the circulating water system with resulting disruption of benthic communities. (Finding 136)

(e) A limited temporary effect on air quality from dust created during the construction of the facility. (Finding 141)

(f) The expansion of the thermal plume further into Twotree Island Channel as a result of the combined operation of three units. (Findings 144-150)

(g) The possibility of scouring the sea bottom in the vicinity of the discharge at the quarry cut. (Findings 151-154)

(h) The possible growth of seaweed on parts of a nearby island caused by the plume. (Finding 152)

(i) The possible thermal shock to fish attracted to the plume in the remote event the entire three unit heated discharge were turned off. (Findings 155-157)

(j) The possible mortality for fish from warm water. (Finding 158

(k) The remote possibility of some eutrophication if winds or tides push the plume into Jordan Cove for an extended period of time. (Finding 159)

(l) The entrapment of several thousand fish per year on the intake screen of the proposed Unit 3. (Findings 160-164)

(m) The loss of as much as 108,000 pounds of fish per year as a result of the impact of entrainment on marine organisms passing through the circulating water system. (Findings 165-171)

(n) The discharge of sodium sulfate and trace level concentrations of other chemicals into Long Island Sound. (Findings 172-177)

(o) The possible effect on winter food for waterfowl if chlorine was used in the event of a failure of the proposed mechanical backwashing system. (Finding 207)

3. The Council is of the opinion that the possible adverse effects referred to in paragraph two (2) of this opinion do not constitute sufficient reason to deny the subject application. In arriving at this conclusion the Council has carefully considered the evidence and recommendations presented to it and is of the opinion that the demonstrable need for additional base-load generating capacity on the Northeast Utilities system for the post 1979 period, balanced against those adverse environmental effects which cannot be ameliorated by the conditions and modifications set forth in the Decision and Order, will result in the construction of a necessary facility, at a reasonable cost, in a location where it is the most environmentally compatible considering the nature of such a facility.

The nuclear safety aspects of the proposed generating facility, particularly with respect to the release of radioactive gases, emergency core cooling, reactor safety and the transportation of fuel and wastes to and from Millstone Point, were not dismissed by the Council in reaching its decision on this application. Without attempting to delineate the Council's position with regard to th

jurisdictional limits on regulation of these matters by this Council, the United States Atomic Energy Commission and the United States Department of Transportation, it is our opinion that an acceptable level of nuclear safety can be achieved by designing and building this facility in accordance with the multiple barrier and defense-in-depth concepts which have been presented. Nuclear safety aspects of this facility which cannot be ameliorated through conformance with existing regulatory criteria do not constitute sufficient reason to deny this application. (Findings 189-198)

4. The Council finds that the location of the facility as proposed and as hereinafter certified will conform to applicable state and local laws and regulations. (Finding 201(o))