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DESCRIPTION:
Ltr re our 1-17-73 ltr.....furnishing comments on Draft Enviro Statement.....

ENCLOSURES:

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PLANT NAMES: Nine Mile Point Unit # 2

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50-410

Mr. Daniel R. Muller
Assistant Director for
Environmental Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Muller:

This is in response to your letter of January 17, 1973, requesting comments on the AEC Draft Environmental Impact Statement related to the proposed issuance of a construction permit for a second nuclear unit at Niagara Mohawk Power Corporation's Nine Mile Point nuclear generating station on the south shore of Lake Ontario in the Town of Scriba, New York.

The 1,100-megawatt Unit No. 2 will be situated east of and adjacent to the existing, initial 642-megawatt unit. The 900-acre Nine Mile Point site is about eight miles northeast of Oswego and just west of the New York Power Authority's James A. Fitzpatrick nuclear plant, where an 850-megawatt unit is under construction.

The following comments review the need for the facility with respect to the adequacy and reliability of the affected power systems, and matters related thereto, in compliance with the National Environmental Policy Act of 1969, and the April 23, 1971, Guidelines of the Council on Environmental Quality. In preparing these comments, the Federal Power Commission's Bureau of Power staff has considered the AEC Draft Environmental Statements; the Applicant's Environmental Report and Supplement thereto; reports made in response to the Commission's Statement of Policy on Reliability and Adequacy of Electric Service (Order 383-2); and the FPC staff's analysis of these documents, together with related information from other FPC reports. The staff generally bases its evaluation of the need for a specific bulk power facility upon the load-supply situation for the peak load period immediately following the availability of the facility, as well as long-term considerations. It should be noted that the useful life of the Nine Mile Point facilities is expected to be 30 years or more. During that period, the plant will make a significant contribution to the adequacy and reliability of power supply in the Applicant's service area.

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Mr. Daniel R. Muller

Need for the Facility

Nine Mile Point Unit No. 2 will be owned and operated by Niagara Mohawk Power Corporation. Information available to the Commission indicates that it is now scheduled for commercial service in November 1978. Consequently, the projected 1978-1979 winter load-supply conditions of the winter-peaking Applicant's system, and the 1979 summer load-supply conditions of the summer-peaking New York Power Pool were selected for evaluation purposes.

Niagara Mohawk is a member of the New York Power Pool (NYPP) whose basic purpose is to coordinate the development and operation of electric power production and transmission facilities in order to achieve optimum reliability of service and efficiency of operation from the interconnected systems in New York. To satisfy adopted reliability criteria, a reserve margin objective of 18 percent of individual member annual peak loads by 1975 has been established.

Niagara Mohawk serves a population of some 3.6 million people in upstate New York over an area of approximately 25,000 square miles. The Applicant's annual peak demand in 1972 was 4,827 megawatts and occurred in December; the NYPP coincident peak of nearly 19,000 megawatts occurred in July. These loads are estimated to increase to 7,200 megawatts (winter) and 30,380 megawatts (summer) in 1980 for Niagara Mohawk and the Pool, respectively. To satisfy this projected growth in requirements, utilities are faced with the need to expand their power supply.

The following tabulation shows Niagara Mohawk's scheduled capacity expansion program through 1978:

APPLICANT'S SCHEDULED CAPACITY ADDITIONS

Plant & Unit No.	Type	Capability (MW)	Scheduled Service Date
Roseton #1	Fossil	240 1/	May '73
Roseton #2	Fossil	240 1/	Aug. '73
Oswego #5	Fossil	850	Oct. '74
Oswego #6	Fossil	850	Nov. '76
Nine Mile #2	Nuclear	1,100	Nov. '78

1/ Applicant's share of 600 MW unit.

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After 1978, the only announced planned addition on Applicant's system is a 1,100-megawatt unit for 1982. Both the type of fuel and the location are yet undecided. No unit retirements are scheduled.

The following table gives the estimated capacity margins for the peak periods on Niagara Mohawk (winter) and the NYPP (summer) following the planned completion date of November 1978 for Nine Mile Point Unit No. 2.

NIAGARA MOHAWK SYSTEM
(MEGAWATTS)

	WINTER	
	1978-79	1979-80
Total Generating Capability - 5/31/78	7,198	7,198
Net Purchases	2,003	1,972
Total System Capability	9,201	9,170
Estimated Winter Peak	6,635	6,905
Reserves	2,566	2,265
Reserves - % Peak	38.7	32.8
Reserves without Nine Mile Point No. 2	1,466	1,165
Reserves - % Peak	22.1	16.9

NEW YORK POWER POOL
(MEGAWATTS)

	SUMMER	
	1979	1980
Total Generating Capability - 5/31/79	37,108	39,304
Net Purchases	671	669
Total System Capability	37,779	39,973
Estimated Summer Peak	28,870	30,380
Reserves	8,909	9,593
Reserves - % Peak	30.9	31.6
Reserves without Nine Mile Point No. 2	7,809	8,493
Reserves - % Peak	27.0	28.0

As the table indicates, if Nine Mile Point No. 2 is placed in commercial service as planned, reserve margins will be well in excess of the 18 percent criterion set by the New York Power Pool. Even with one year's delay, reserve requirements are satisfied for the State as a whole, but are slightly submarginal for the Applicant. The effect of a delay past summer 1980 was not evaluated.

Mr. Daniel R. Muller

The proposed unit is but one element in a continuing capacity expansion program in New York that experience has shown to be subject to serious delays. The derived values of reserves assume the timely completion of all other additions scheduled in the same time frame as Nine Mile Point No. 2. Delays of any of them would adversely reflect reserve margins in New York. During the period to May 31, 1979, the aggregate new capacity additions planned within the NYPP, including those of the Applicant, total 15,037 megawatts. Among the larger scheduled installations are: Long Island Lighting Company's 820-megawatt Shoreham nuclear plant planned for May 1977, and Power Authority of the State of New York (PASNY's) proposed 1,000 megawatt Breakabeen pumped storage project planned for 1978.

Transmission Facilities

The Applicant's plan for additional transmission facilities to serve the expanded Nine Mile Point nuclear plant provide for the construction of a single circuit, 765-kilovolt overhead line on an existing right-of-way from the generating station to a proposed substation in the Town of Volney, about nine miles south of the site. An additional 120 feet of right-of-way will be purchased on the eastern side of the two 345-kilovolt lines presently on the right-of-way to provide a total width of 450 feet for the three circuits. These lines traverse open areas in the towns of Scriba and Volney. Two types of towers, lattice steel and tubular H-frame, ranging from 135 feet to 200 feet in height, are being considered. The location and design of the 765-kilovolt line will be consistent with appropriate State and Federal guidelines with respect to environmental and technical aspects.

Alternatives and Costs

From system studies made by Applicant to evaluate various alternative methods of providing additional capability to meet forecast load requirements in 1978-79, it was concluded that base load generation should be installed on the system. Consideration of the relative amounts of so-called peaking types of capacity in the existing and projected capacity mix in New York tends to confirm that decision. For example, pumped storage hydroelectric capacity as now planned will exceed 2,000 MW by summer 1978 and 4,000 MW by fall 1979. Aggregate combustion turbine capacity of some 3,400 MW (summer rating) in March 1973 is expected to increase to 4,800 MW by spring 1978. In addition, substantial amounts of conventional hydroelectric capacity and older fossil fuel steam-electric capacity will operate above the base, in the middle to upper range of the system load curve.

Mr. Daniel R. Muller

Consideration of the capacity types and unit sizes available and reliability criteria favored the installation of a fossil-fueled, or nuclear base load unit. The Nine Mile Point site was found to have definite advantages over other possible locations within the Applicant's franchise area in terms of land use, economics, transmission requirements and location with respect to system load and supply centers and the state-wide transmission network. The economics of system facilities and manpower, uncertainties of fossil fuel supplies and pollution controls, and diversity of energy sources favored the selection of a nuclear unit at Nine Mile Point over either a coal- or oil-fired unit.

Exclusive of transmission, the Applicant estimated the capital cost of a 1,100 MW nuclear unit at Nine Mile Point at $346 per kilowatt, compared to $312 and $324 for oil- and coal-fired units of the same size, respectively. The projected nuclear cost of 2.8 mills per kilowatt-hour compares with 2.1 mills per kilowatt-hour reported for Rochester Gas and Electric Corporation's 517-MW nuclear unit in 1971 and 2.24 mills per kilowatt-hour reported for Nine Mile Point No. 1 (642 MW). The Bureau of Power staff finds the fuel costs for these units to be within the range reported by the industry.

Conclusions

The staff of the Bureau of Power concludes that the electric power output of Nine Mile Point Unit No. 2 is needed to meet the Applicant's future demands for power in the 1978-79 period and to provide reasonable reserve margins for adequacy and reliability of electric service. Its on-time completion will assist materially in achieving the levels of reliability considered necessary to cope with various operating contingencies and delays in completion of other generating facilities that could adversely affect Niagara Mohawk and New York Power Pool system integrity.

Very truly yours,

T. A. Phillips
Chief, Bureau of Power

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