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PLANT NAME: Nine Mile Point Unit # 1

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FEDERAL POWER COMMISSION
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50-220

SEP 6 1973

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 dated July 5, 1973, requesting comment on the AEC Draft Environmental Statement relating to the conversion of the current provisional operating license to a full-term license to the Niagara Mohawk Power Corporation for the Nine Mile Point Nuclear Station Unit 1 (Docket No. 50-220).

The following comments are made in compliance with the National Environmental Policy Act of 1969, and the April 23, 1971, Guidelines of the Council on Environmental Quality, and review the need for the capacity of the 610-megawatt Nine Mile Point Nuclear Unit 1 with regard to the adequacy and reliability of the affected electric power systems and related matters.

In preparation of these comments, the Federal Power Commission's Bureau of Power staff has considered the AEC Draft Environmental Statement; the Applicant's Environmental Report and Supplements thereto; related reports made in response to the Commission's Statement of Policy on Reliability and Adequacy of Electric Service (Docket No. R-362); and the 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 long-term considerations as well as upon the load-supply situation for the peak load period immediately following the availability of the facility. It should be noted that the useful life of the Nine Mile Point unit is expected to be 30 years or more. During that period the unit will make a significant contribution to the adequacy of power supply in the Applicant's service area.

The Nine Mile Point Nuclear Unit 1 has been in commercial operation since December 1969. During the period from December 1969 to December 31, 1971, the unit produced 4,858 billion kilowatt-hours of electric energy, and during 1972 the unit produced an additional 3,242 billion kilowatt-hours.

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The Applicant is a member of the New York Power Pool (NYPP), which coordinates the operation of members' bulk power systems whose combined service areas serve the entire State of New York. The Applicant is also a member of the Northeast Power Coordinating Council (NPCC), which coordinates the planning of the members' generating and transmission facilities in the area which includes the State of New York, New England and the provinces of New Brunswick and Ontario. NPCC has established a reliability criterion equivalent to a loss of load probability of one day in ten years. Members of the NYPP have agreed that to maintain this standard, each member system will maintain installed capacity at least equal to that required to meet an 18 percent reserve during its most recent annual peak load.

The Bureau of Power staff has analyzed the effect of the capacity of Nine Mile Point No. 1 on the winter-peaking Applicant's system for the 1973-1974 Winter Peak Period and the summer-peaking NYPP for the 1974 Summer Peak Period. The following tabulations show the effect of the Nine Mile Unit 1 on these systems.

NIAGARA MOHAWK SYSTEM 1/
1973-74 WINTER PEAK LOAD PERIOD

	With Unit 1	Without Unit 1
Total Owned Capability, Dec. 31, 1972, MW	3,251	2,641
Share of Roseton No. 1, MW	240	240
Share of Roseton No. 2, MW	240	240
Share of Fitzpatrick No. 1, MW	295	295
Share of Blenheim-Gilboa, MW	550	550
Other Purchases	1,646	1,646
Total Capability, MW	6,222	5,612
Estimated Peak Load, MW	5,200	5,200
Reserve MW	1,022	412
Reserve, % of Peak Load	19.7	7.9

1/ Niagara Mohawk Form 12 Report For 1972.

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NEW YORK POWER POOL
1974 SUMMER PEAK PERIOD 1/

	With Unit 1	Without Unit 1
Total Capability - Megawatts	27,671	27,061
Net Peak Load - Megawatts	22,006 2/	22,006 2/
Reserve Margin - Megawatts	5,665	5,055
Reserve Margin - Percent of Peak Load	25.8	23.0

1/ Data Source: NPCC Report 383-2 dated April 1, 1973.
2/ Coincident Peak Load of 21,930 megawatts increased by 76 MW as a result of transactions with systems outside NYPP.

The Niagara Mohawk reserve of 19.7% with Nine Mile Point is within the range usually found satisfactory, but the bare numerical value is deceptive. Of the 1,646 MW listed under "Other Purchases," 270 MW is supplied by Rochester Gas & Electric Company, who in turn is relying on a purchase of 207 MW from Power Authority of the State of New York. However, Rochester Gas & Electric Company, according to its 1972 Form 12 Report to the Federal Power Commission, will only have a 5.2% reserve at the time of its 1973-74 winter peak. Consequently, of the 1,022 megawatt reserve that Niagara Mohawk appears to have with Nine Mile Point No. 1, 270 megawatts can be considered of doubtful reliability. Without Nine Mile Point, Niagara Mohawk would have only a 7.9% reserve, more than half of which would be dependent on a purchase of doubtful reliability. It is therefore essential for Niagara Mohawk's adequacy of service to have Nine Mile Point No. 1 in operation at its full rated 610 megawatts.

The Applicant's system is integrated with all New York State systems through the NYPP and the summer-peaking pool indicates reserves of 25.8 percent of peak load responsibility with the capacity of Unit 1 and 23.0 percent without the unit. During the week of the summer peaks in 1971 and 1972 the NYPP experienced unavailable capacity totalling 3,326 megawatts and 3,581 megawatts, respectively, due to scheduled maintenance, forced outages, delays in availability of new units and variation of hydro conditions from median values. If the average of the capacity losses experienced during the 1971 and 1972 summer peaks existed at the time of the 1974 summer peak, the reserves on the NYPP system would be reduced to 10.0 percent with Unit 1 and 7.3 percent without the unit.

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During the 1974 summer period, the availability of emergency power supplies from the neighboring NEPOOL 1/ and PJM 2/ pools may be limited by the needs of those systems to maintain planned reserve levels. The limited capacity of the interconnections and the predominantly thermal systems of NEPOOL and PJM, which are subject to forced outages, fuel shortages and operating restrictions due to air quality limitations, indicate that little capacity reserve would be available from these areas. The winter-peaking Ontario Hydro system has indicated reserves after maintenance of 31.3 percent of peak load, totalling 3,490 megawatts, and is considered the only available source of emergency power supply.

The Nine Mile Point Unit 1 is completed and has been producing electric power since 1969. In view of the substantial purchases of power necessary by the Applicant to meet its system demands, the Bureau of Power staff recommends that the full-term operating license be issued to the Applicant for this unit. Power purchases are an expedient for meeting electric system demands during construction of new units; however, purchases are not a satisfactory substitute for adequate base-load owned generation. Regional reliability is greatly improved when each electric system has adequate installed generating capacity to meet its system demands and provide reserve capacity.

The use of geothermal power as an alternative to the nuclear unit was not considered, according to the Draft Environmental Statement (page 9-1). In light of the fact that geothermal sources are known to exist in New York and neighboring states, 3/ a discussion of this alternate would be appropriate.

Hydroelectric power as a substitute for the Nine Mile Point Nuclear unit would be impractical and inadequate. Although the total generating capacity that could be made available in New York by the addition of generators at existing hydro sites and the development of new sites is some 1,292 megawatts, 4/ this capacity would be scattered over a large number of sites. The total average annual energy available from all the sites 4/ would be approximately equal to the annual energy obtainable.

1/ New England Power Pool.
2/ Pennsylvania-New Jersey-Maryland Interconnection.
3/ Thermal Springs of the United States and Other Countries of the World - A Summary. Geological Survey Professional Paper 492. U. S. Government Printing Office, 1965.
4/ Hydroelectric Power Resources of the United States, January 1, 1972. Federal Power Commission, FPC P-42.

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from Nine Mile Point No. 1. However, it is not considered feasible to develop a large number of small hydroelectric sites due to environmental considerations and public reaction.

The Bureau of Power staff considers that the Nine Mile Point Unit 1 is needed on the Applicant's system to meet the projected loads. In view of the substantial power purchases required by Niagara Mohawk Power Corporation to meet loads and the serious consequences of inadequate installed generating capacity, the staff considers it prudent that a full-term license be issued to the Applicant for the continued operation of the Nine Mile Nuclear Station Unit 1.

Very truly yours,

T. A. Phillips
Chief, Bureau of Power

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