

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )

NIAGARA MOHAWK POWER CORPORATION )  
(Nine Mile Point Nuclear Station )  
Unit No. 1) )

Docket No. 50-220

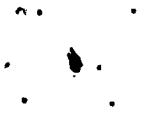
APPLICATION FOR AMENDMENT  
TO  
OPERATING LICENSE

Pursuant to Section 50.90 of the regulations of the Nuclear Regulatory Commission, Niagara Mohawk Power Corporation, holder of Facility Operating License No. DPR-63, hereby requests that Section 3.1.7 and Bases of the Technical Specifications set forth in Appendix A to that License be amended. This proposed change has been reviewed by the Site Operations Review Committee and the Safety Review and Audit Board.

The proposed Technical Specifications change is set forth in Attachment A to this application. Supporting information, which demonstrates that the proposed change does not involve a significant hazards consideration, is set forth in Attachment B. The proposed change would not authorize any change in the types or any increase in the amounts of effluents or any change in the authorized power level of the facility. Justification for classification of the amendment

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pursuant to 10 C.F.R. Section 170.22 is included as Attachment C. A check for the appropriate fee accompanies this application.

WHEREFORE, Applicant respectfully requests that Appendix A to Facility Operating License No. DPR-63 be amended in the form attached hereto as Attachment A.

NIAGARA MOHAWK POWER CORPORATION

By Donald P. Dise

Donald P. Dise  
Vice President - Engineering

Subscribed and sworn to before  
me on this 18 day of July, 1979.

Cynthia A. Petta

NOTARY PUBLIC

CYNTHIA A. PETTA  
Notary Public in the State of New York  
Qualified in Onondaga Co. No. 4682225  
My Commission Expires March 30, 1980



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ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

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PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS (APPENDIX A)

Replace Pages 64a and 70a with the attached revised pages.



## LIMITING CONDITION FOR OPERATION

### c. Minimum Critical Power Ratio (MCPR)

During power operation MCPR shall be  $\geq 1.40$  for 8x8 fuel and  $> 1.37$  for 8x8R fuel at rated power and flow. If at any time during power operation it is determined by normal surveillance that these limits are no longer met, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If all the operating MCPRs are not returned to within the prescribed limits within two (2) hours, reactor power reductions shall be initiated at a rate not less than 10% per hour until MCPR is within the prescribed limits.

For core flows other than rated the MCPR limits shall be the limits identified above times  $K_f$  where  $K_f$  is as shown in Figure 3.1.7-1.

### d. Power Flow Relationship During Power Operation

The power/flow relationship shall not exceed the limiting values shown in Figure 3.1.7.aa. When operating with one recirculation loop isolated, the reactor may operate at 100 percent of full licensed power level provided the following conditions are met.

1. Suction valve, discharge valve and discharge bypass valve in the isolated loop shall be in the closed position and the associated motor breakers shall be locked in the open position.
2. Associated pump motor circuit breaker shall be open and the breaker removed.

If these conditions are not met, core power shall be restricted to 90.5 percent of full licensed power.

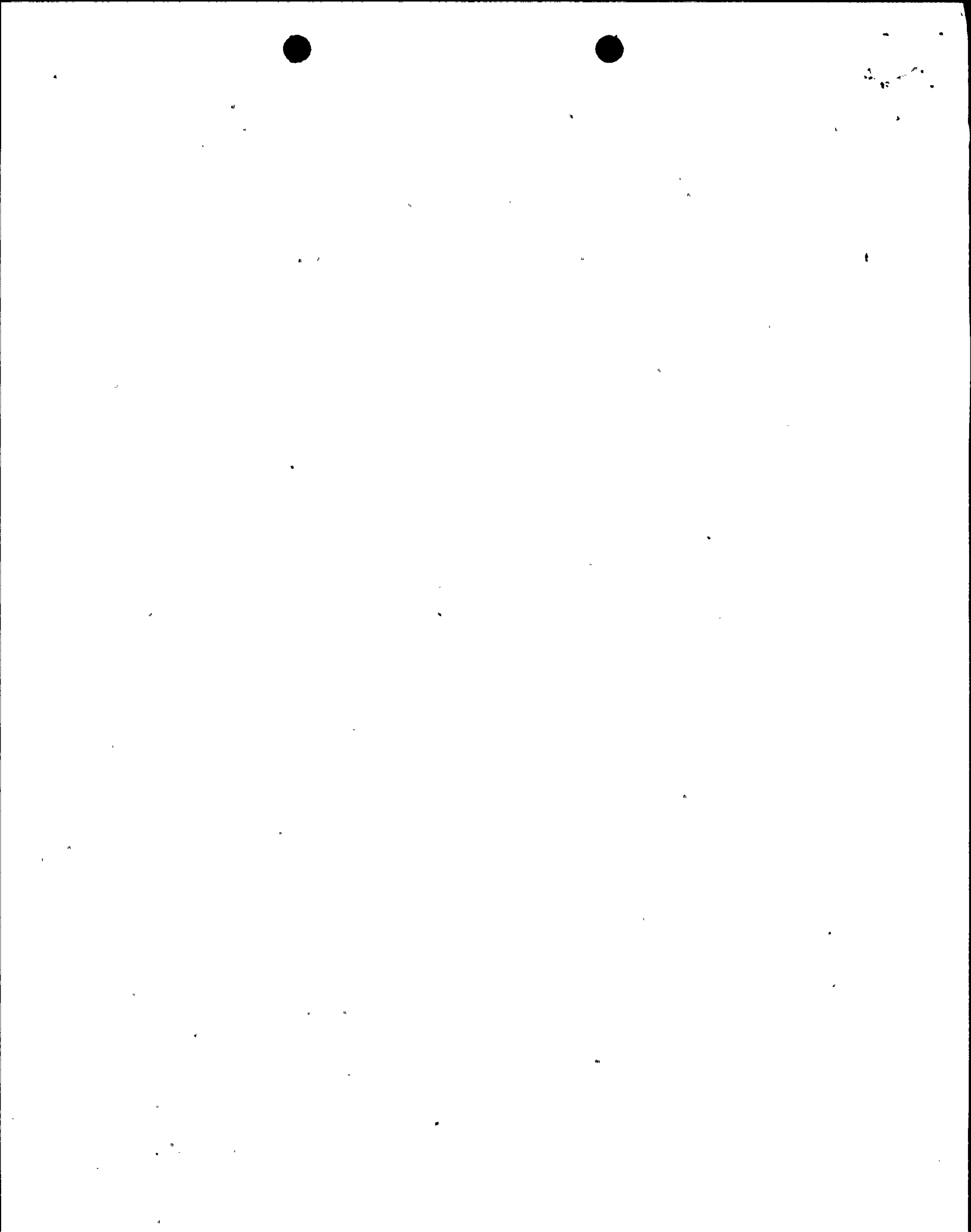
## SURVEILLANCE REQUIREMENT

### c. Minimum Critical Power Ratio (MCPR)

MCPR shall be determined daily during reactor power operation at  $>25\%$  rated thermal power.

### d. Power Flow Relationship

Compliance with the power flow relationship in Section 3.1.7.d shall be determined daily during reactor operation.





## BASES FOR 3.1.7 AND 4.1.7 FUEL RODS

of the plant, a MCPR evaluation will be made at the 25% thermal power level with minimum recirculation pump speed. The MCPR margin will thus be demonstrated such that future MCPR evaluations below this power level will be shown to be unnecessary. The daily requirement for calculating MCPR above 25% rated thermal power is sufficient since power distribution shifts are very slow when there have not been significant power or control rod changes. The requirement for calculating MCPR when a limiting control rod pattern is approached ensures that MCPR will be known following a change in power or power shape (regardless of magnitude) that could place operation at a thermal limit.

Figure 3.1.7-1 is used for calculating MCPR during operation at other than rated conditions. For the case of automatic flow control the  $K_f$  factor is determined such that any automatic increase in power (due to flow control) will always result in arriving at the nominal required MCPR at 100% power. For manual flow control, the  $K_f$  is determined such that an inadvertent increase in core flow (i.e., operator error or recirculation pump speed controller failure) would result in arriving at the 99.9% limit MCPR when core flow reaches the maximum possible core flow corresponding to a particular setting of the recirculation pump MG set scoop tube maximum speed control limiting set screws. These screws are to be calibrated and set to a particular value and whenever the plant is operating in manual flow control the  $K_f$  defined by that setting of the screws is to be used in the determination of required MCPR. This will assure that the reduction in MCPR associated with an inadvertent flow increase always satisfies the 99.9% requirement. Irrespective of the scoop tube setting, the required MCPR is never allowed to be less than the nominal MCPR (i.e.,  $K_f$  is never less than unity).

### Power/Flow Relationship

The power/flow curve is the locus of critical power as a function of flow from which the occurrence of abnormal operating transients will yield results within defined plant safety limits. Each transient and postulated accident applicable to operation of the plant was analyzed along the power/flow line. The analysis<sup>(7)</sup> justifies the operating envelope bounded by the power/flow curve as long as other operating limits are satisfied. Operation under the power/flow line is designed to enable the direct ascension to full power within the design basis for the plant.

The requirements of Specification 3.1.7d for isolated loop operation precludes the inadvertent start-up of a recirculation pump with a cold leg. However, if these conditions cannot be met, power level is restricted to 90.5 percent power based on current transient analysis.



ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

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SUPPORTING INFORMATION

Attachment A describes proposed changes to the Nine Mile Point Unit 1 Technical Specifications. These changes are required to allow rated power operation with one recirculation loop isolated.

Nine Mile Point Unit 1 was designed to normally have all five recirculation loops in operation and is approved to operate with one recirculation loop isolated at power levels up to 90.5 percent.

Previous accident analyses for five loop operation are bounding for four loop operation with the idle loop isolated except for the Loss of Coolant Accident. If the idle loop is isolated, MAPLHGR limits must be reduced by 2 percent as described in Specification 3.1.7a.

Previous core wide transient analyses for five loop operation are bounding for four loop operation with the idle loop isolated, except for the idle loop startup transient analysis. The Final Safety Analysis Report, analyzed idle loop startup with an initial power of 90.5 percent. In order to allow rated power operation with one recirculation loop isolated, Niagara Mohawk will utilize procedural controls, as outlined below, to preclude idle loop startup.

1. Both suction and discharge valves in the isolated loop shall be in the closed position and the associated breakers shall be locked in the open position.
2. Associated pump motor circuit breaker shall be open and the breaker removed.

These requirements for isolated loop operation preclude the inadvertent startup of a recirculation pump, and therefore removes the need for the current power level restriction of 90.5 percent.



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ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION

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AMENDMENT CLASSIFICATION

The proposed amendment to the operating license has been evaluated and determined to fall within the definition of Class III of 10 C.F.R. 170.22, thereby requiring a fee of four thousand dollars (\$4,000.00).

The proposed amendment for Nine Mile Point Unit 1 involves only a single safety issue. Therefore, it meets the requirements of Class III of 10 C.F.R. 170.22.



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