



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-410

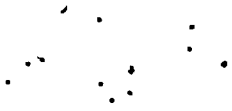
NINE MILE POINT NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 13
License No. NPF-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated August 3, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-69 is hereby amended to read as follows:

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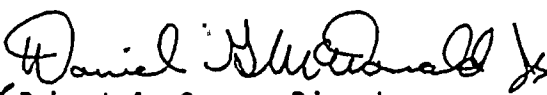


(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 13 are hereby incorporated into this license. Niagara Mohawk Power Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Acting
701

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 5, 1990



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ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 13 TO FACILITY OPERATING LICENSE NO. NPF-69

DOCKET NO. 50-410

Revise Appendix A as follows:

Remove Pages

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TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>		<u>MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION(a)</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>	
C. <u>Division III Trip System</u>					
1. <u>HPCS SYSTEM</u>					
a. Reactor Vessel Water Level - Low, Low, Level 2		4(b)	1, 2, 3, 4*, 5*	36	
b. Drywell Pressure - High (d)		4(b)	1, 2, 3	36	
c. Reactor Vessel Water Level - High, Level 8		4(e)	1, 2, 3, 4*, 5*	32	
d. Pump Suction Pressure - Low (Transfer)		2(f)	1, 2, 3, 4*, 5*	37	
e. Suppression Pool Water Level - High		2(f)	1, 2, 3, 4*, 5*	37	
f. HPCS System Flow Rate - Low (Bypass)		1	1, 2, 3, 4*, 5*	31	
g. Pump Discharge Pressure - High (Bypass)		1	1, 2, 3, 4*, 5*	31	
h. Manual Initiation (d)		1/System	1, 2, 3, 4*, 5*	35	
	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
D. <u>Loss of Power (Divisions I & II)</u>					
1. 4.16-kV Emergency Bus Under-voltage - Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4**, 5**	39
2. 4.16-kV Emergency Bus Under-voltage - Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4**, 5**	39
E. <u>Loss of Power, Division III</u>					
1. 4.16-kV Emergency Bus Under-voltage - Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4**, 5**	39
2. 4.16-kV Emergency Bus Under-voltage - Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4**, 5**	39



TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
C. <u>Division III Trip System</u>		
1. <u>HPCS SYSTEM</u>		
a. Reactor Vessel Water Level - Low, Low, Level 2	≥ 108.8 in.*	≥ 101.8 in.
b. Drywell Pressure - High	≤ 1.68 psig	≤ 1.88 psig
c. Reactor Vessel Water Level - High, Level 8	≤ 202.3 in.*	≤ 209.3 in.
d. Pump Suction Pressure - Low (Transfer)	≥ 97 in. H ₂ O	≥ 94.5 in. H ₂ O
e. Suppression Pool Water Level - High	≤ 201.0 ft. el	≤ 201.1 ft. el
f. HPCS System Flow Rate - Low (Bypass)	≥ 825 gpm	≥ 750 gpm
g. Pump Discharge Pressure - High (Bypass)	≥ 240 psig	≥ 220 psig
h. Manual Initiation	NA	NA
D. <u>Loss of Power (Divisions I & II)</u>		
1. 4.16-kV Emergency Bus Under-voltage - Loss of Voltage	a. 4.16-kV basis - ≥ 3148	≥ 3051 volts
	b. ≤ 3.06 -sec time delay	≤ 3.12 -sec time delay
2. 4.16-kV Emergency Bus Under-voltage - Degraded Voltage	a. 4.16-kV basis - ≥ 3847 volts	≥ 3770 volts
	b. ≤ 8.16 -sec time delay**	≤ 8.32 -sec time delay **
	c. ≤ 30.6 -sec time delay	≤ 31.2 -sec time delay



TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
E. <u>Loss of Power (Division III)</u>		
1. 4.16-kV Emergency Bus Under-voltage - Loss of Voltage	a. 4.16-kV basis - ≥ 3148 volts b. ≤ 3.06 -sec time delay	≥ 3051 volts ; ≤ 3.12 -sec time delay
2. 4.16-kV Emergency Bus Under-voltage - Degraded Voltage	a. 4.16-kV basis - ≥ 3847 volts b. ≤ 12.24 -sec time delay	≥ 3770 volts ≤ 12.48 -sec time delay

* See Bases Figure B3/4 3-1.

** Alarm only without LOCA signal present; Alarm and trip with LOCA signal present.



TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE IS REQUIRED</u>
B. <u>Division II Trip System (Continued)</u>				
2. <u>Automatic Depressurization System Trip System "B" (Continued)</u>				
a. Reactor Vessel Water Level - Low, Low, Low, Level 1	S	M	R(c)	1, 2, 3
b. ADS Timer	NA	M	Q	1, 2, 3
c. Reactor Vessel Water Level - Low, Level 3 (Permissive)	S	M	R(c)	1, 2, 3
d. LPCI Pump (B and C) Discharge Pressure - High (Permissive)	S	M	R(c)	1, 2, 3
e. Manual Inhibit	NA	M	NA	1, 2, 3
f. Manual Initiation	NA	M(a)	NA	1, 2, 3
C. <u>Division III Trip System</u>				
1. <u>HPCS System</u>				
a. Reactor Vessel Water Level - Low, Low, Level 2	S	M	R(c)	1, 2, 3, 4*, 5*
b. Drywell Pressure - High(b)	S	M	R(c)	1, 2, 3
c. Reactor Vessel Water Level - High, Level 8	S	M	R(c)	1, 2, 3, 4*, 5*
d. Pump Suction Pressure - Low (Transfer)	S	M	R(c)	1, 2, 3, 4*, 5*
e. Suppression Pool Water Level - High	S	M	R(c)	1, 2, 3, 4*, 5*
f. HPCS System Flow Rate - Low (Bypass)	S	M	R(c)	1, 2, 3, 4*, 5*
g. Pump Discharge Pressure - High (Bypass)	S	M	R(c)	1, 2, 3, 4*, 5*
h. Manual Initiation(b)	NA	M(a)	NA	1, 2, 3, 4*, 5*



TABLE 3.3.5-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

<u>FUNCTIONAL UNITS</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a)</u>	<u>ACTION</u>
1. Reactor Vessel Water Level - Low, Low, Level 2	2	50
2. Reactor Vessel Water Level - High, Level 8(b)	2	50
3. Pump Suction Pressure - Low (Transfer)	2(c)	51
4. Manual Initiation(d)	1/system(e)	52

TABLE NOTATIONS

- (a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the Trip System in the tripped condition provided at least one other OPERABLE channel in the same Trip System is monitoring that parameter.
- (b) The RCIC Level 8 trip may be bypassed to perform RCIC 150 psig operational surveillance test in accordance with Specification 4.7.4.c.2.
- (c) One Trip System with one-out-of-two logic.
- (d) Manual initiation is not required to be OPERABLE with indicated reactor vessel water level on the wide-range instrument greater than the Level 8 setpoint coincident with the vessel pressure less than 600 psig due to the hot calibration/cold operation level error.
- (e) One Trip System with one channel.

Amendment No. 13



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TABLE 3.3.5-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

<u>FUNCTIONAL UNITS</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. Reactor Vessel Water Level - Low, Low, Level 2	≥ 108.8 in.*	≥ 101.8 in.
2. Reactor Vessel Water Level - High, Level 8	≤ 202.3 in.*	≤ 209.3 in.
3. Pump Suction Pressure - Low (Transfer)	≥ 102 in. H ₂ O	≥ 101 in. H ₂ O
4. Manual Initiation	NA	NA

* See Bases Figure B3/4 3-1.

Amendment No. 13



TABLE 4.3.5.1-1

REACTOR CORE ISOLATION COOLING SYSTEM

ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNITS</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>
1. Reactor Vessel Water Level - Low, Level 2	S	M	R*
2. Reactor Vessel Water Level - High, Level 8	S	M	R*
3. Pump Suction Pressure - Low (Transfer)	S	M	R*
4. Manual Initiation **	NA	M+	NA

* Perform the calibration procedure for the trip unit setpoint at least once per 31 days.

** Manual initiation is not required to be OPERABLE with indicated reactor vessel water level on the wide range instrument greater than Level 8 setpoint coincident with the vessel pressure less than 600 psig because of the hot calibration/cold operation level error.

+ Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days as part of circuitry required to be tested for automatic system actuation.



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INSTRUMENTATION

BASES

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION (Continued)

high or low end of the setting has a direct bearing on safety, are established at a level away from the normal operating range to prevent inadvertent actuation of the systems involved.

Except for the MSIVs, the FSAR Chapter 15 safety analysis does not address individual sensor response times or the response times of the logic systems to which the sensors are connected. For AC-operated valves, it is assumed that the AC power supply is lost and is restored by startup of the emergency diesel generators. In this event, a time of 13 seconds is assumed before the valve starts to move. In addition to the pipe break, the failure of the DC-operated valve is assumed; thus the signal delay (sensor response) is concurrent with the 13-second diesel startup. The safety analysis considers an allowable inventory loss in each case which in turn determines the valve speed in conjunction with the 13-second delay. It follows that checking the valve speeds and the 13-second time for establishing emergency power will establish the response time for the isolation functions.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analysis. The Trip Setpoint and Allowable Value also contain additional margin for instrument accuracy and calibration capability.

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

The emergency core cooling system actuation instrumentation is provided to initiate actions to mitigate the consequences of accidents that are beyond the ability of the operator to control. This specification provides the OPERABILITY requirements, Trip Setpoints, and response times that will ensure effectiveness of the systems to provide the design protection. Although the instruments are listed by system, in some cases the same instrument may be used to send the actuation signal to more than one system at the same time.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analysis. The Trip Setpoint and Allowable Value also contain additional margin for instrument accuracy and calibration capability.

The HPCS pump suction pressure-low represents an analytical transfer level in the condensate storage tank of 14 feet at maximum flow and 3.0 feet at minimum flow. This is above the corresponding minimum tank level of 10.2 feet at maximum flow and 2.9 feet at minimum flow required to prevent vortexing.



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INSTRUMENTATION

BASES

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION (Continued)

between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analyses. The Trip Setpoint and Allowable Value also contain additional margin for instrument accuracy and calibration capability.

3/4.3.5 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

The reactor core isolation cooling system actuation instrumentation is provided to initiate actions to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analyses. The Trip Setpoint and Allowable Value also contain additional margin for instrument accuracy and calibration capability.

The RCIC pump suction pressure-low represents an analytical transfer level in the condensate storage tank of 13.1 feet at maximum flow and 2.53 feet at minimum flow. This is above the corresponding minimum tank level of 5.0 feet at maximum flow and 2.5 feet at minimum flow required to prevent vortexing.

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION

The control rod block functions are provided consistent with the requirements of the specifications in Section 3/4.1.4, Control Rod Program Controls, and Section 3/4.2, Power Distribution Limits. The trip logic is arranged so that a trip in any one of the inputs will result in a control rod block.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analyses. The Trip Setpoint and Allowable Value also contain additional margin for instrument accuracy and calibration capability. The scram discharge volume water level-high setpoint is referenced to a scram discharge volume instrument zero level at elevation 263 feet 10 inches.

3/4.3.7 MONITORING INSTRUMENTATION

3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that: (1) the radiation levels are continually measured in the areas served by the individual channels; (2) the alarm or automatic action is initiated when the radiation level Trip Setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR 50, Appendix A, General Design Criteria (GDC) 19, 41, 60, 61, 63 and 64.



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