UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 139
License No. DPR-63

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated December 4, 1992, as supplemented February 12, 1993, and February 17, 1993, 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. DPR-63 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 139, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance to be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

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: February 24, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 139 TO FACILITY OPERATING LICENSE NO. DPR-63

DOCKET NO. 50-220

Revise Appendix A as follows:

Remove Pages	Insert Pages
191	191
192	192
193	193
194	194
195	195
196a	196a
197	197
198	198
199	199
200	200
201	201
203	203
204	204
-	204a (added page)
205	205
206	206
207	207
208	208
209	209
210	210
212	212
212a	212a
214	214
215	215
216	216
217	217
221	221
223	223
225	225
225a	225a
228	228
230	230
231	231
232	232
232a	232a
237	237
237a	237a
-	237b (added page)
241ff	241ff
241hh	241hh
241ii	241ii

Table 3.6.2a

INSTRUMENTATION THAT INITIATES SCRAM

Limiting Condition for Operation

	Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
					Shutdown	Refuel	Startup	Run
(1)	Manual Scram	2	1			x	x	x
(2)	High Reactor Pressure	2	2(o)	≤ 1080 psig		(p)	x	x
(3)	High Drywell Pressure	2	2(o)	≤ 3.5 psig		x	(a)	(a)
(4)	Low Reactor Water Level	2	2(o)	≥ 53 inches (Indicator Scale)		x	x	x
(5)	High Water Level Scram Discharge Volume	2	2(o)	≤ 45 gal.		(b)	x	x

Table 3.6.2a (cont'd)

INSTRUMENTATION THAT INITIATES SCRAM

Limiting Condition for Operation

	Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable				
					Shutdown	Refuel	Startup	Run	
(6)	Main-Steam-Line Isolation Valve Position	2	4(h)(o)	≤ 10 percent valve closure from full open		(c)	(c)	x	
(7)	High Radiation Main-Steam-Line	2	2(o)	≤ 5 times normal background at rated power[(n)]		x	x	x	
(8)	Shutdown Position of Reactor Mode Switch	2	1	---		(k)	x	x	
(9)	Neutron Flux (a) IRM (i) Upscale	2	3(d)(o)	≤ 96 percent of full scale		(g)	(g)	(g)	

Table 3.6.2a (cont'd)

INSTRUMENTATION THAT INITIATES SCRAM

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable				
				Shutdown	Refuel	Startup	Run	
(ii) Inoperative	2	3(d)(o)	---		x	x		
(b) APRM								
(i) Upscale	2	3(e)(o)	Figure 2.1.1		x	x	x	
(ii) Inoperative	2	3(e)(o)	---		x	x	x	
(iii) Downscale	2	3(e)(o)	≥ 5 percent of full scale		(g)	(g)	(g)	
(10) Turbine Stop Valve Closure	2	4(o)	≤ 10% valve closure				(i)	
(11) Generator Load Rejection	2	2(o)	(j)				(i)	

Table 4.6.2a

INSTRUMENTATION THAT INITIATES SCRAM

Surveillance Requirement

	Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(1)	Manual Scram	None	Once per week	None
(2)	High Reactor Pressure	None	Once per 3 months (l)	Once per 3 months(l)
(3)	High Drywell Pressure	None	Once per 3 months (l)	Once per 3 months(l)
(4)	Low Reactor Water Level	Once/day	Once per 3 months (l)	Once per 3 months(l)
(5)	High Water Level Scram Discharge Volume	None	Once per 3 months	Once per 3 months
(6)	Main-Steam-Line Isolation Valve Position	None	Once per 3 months	Once per operating cycle
(7)	High Radiation Main-Steam Line	Once/shift	Once per 3 months	Once per 3 months

Table 4.6.2a (cont'd)

INSTRUMENTATION THAT INITIATES SCRAM

Surveillance Requirement

	Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(8)	Shutdown Position of Reactor Mode Switch	None	Once during each major refueling outage	None
(9)	Neutron Flux			
	(a) IRM			
	(i) Upscale	(f)	(f)	(f)
	(ii) Inoperative	(f)	(f)	(f)
	(b) APRM			
	(i) Upscale	None	Once per 3 months	Once per week[m] Once per 3 months
	(ii) Inoperative	None	Once per 3 months	None
	(iii) Downscale	None	Once per 3 months	Once per week[m] Once per 3 months
(10)	Turbine Stop Valve Closure	None	Once per 3 months	Once per operating cycle
(11)	Generator Load Rejection	None	Once per 3 months	Once per 3 months

(n) Within 24 hours prior to the planned start of the hydrogen injection test with the reactor power at greater than 20% rated power, the normal full-power radiation background level and associated trip and alarm setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip and alarm setpoints may be adjusted during the test program based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be determined and associated trip and alarm setpoints shall be reset within 24 hours of re-establishing normal radiation levels after completion of the hydrogen injection or within 12 hours of establishing reactor power levels below 20% rated power, while these functions are required to be operable. At reactor power levels below 20% rated power, hydrogen injection shall be terminated and the injection system secured.

(o) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same trip system is monitoring that parameter.

With one channel required by Table 3.6.2a inoperable in one or more Parameters, place the inoperable channel and/or that trip system in the tripped condition* within 12 hours.

With two or more channels required by Table 3.6.2a inoperable in one or more Parameters:

1. Within one hour, verify sufficient channels remain Operable or tripped* to maintain trip capability for the Parameter, and

2. Within 6 hours, place the inoperable channel(s) in one trip system and/or that trip system** in the tripped condition*, and

3. Within 12 hours, restore the inoperable channels in the other trip system to an Operable status or tripped*.

Otherwise, take the ACTION required by Specification 3.6.2a for that Parameter.

* An inoperable channel or trip system need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, if the inoperable channel is not restored to Operable status within the required time, the ACTION required by Specification 3.6.2a for the parameter shall be taken.

** This ACTION applies to that trip system with the most inoperable channels; if both trip systems have the same number of inoperable channels, the ACTION can be applied to either trip system.

(p) May be bypassed during reactor coolant system pressure testing and/or control rod scram time testing.

Table 3.6.2b

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
PRIMARY COOLANT ISOLATION							
(Main Steam, Cleanup, and Shutdown)							
(1) Low-Low Reactor Water Level	2	2(f)	≥ 5 inches (Indicator Scale)			x	x
(2) Manual	2	1	---	x	x	x	x
MAIN-STEAM-LINE ISOLATION							
(3) High Steam Flow Main-Steam Line	2	2(f)	≤ 105 psid			x	x

Table 3.6.2b (cont'd)

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Limiting Condition for Operation

	Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
					Shutdown	Refuel	Startup	Run
(4)	High Radiation Main Steam Line	2	2(f)	≤ 5 times normal background at rated power[e]			x	x
(5)	Low Reactor Pressure	2	2(f)	≥ 850 psig				x
(6)	Low-Low-Low Condenser Vacuum	2	2(f)	≥ 7 in. mercury vacuum			(a)	x
(7)	High Temperature Main Steam Line Tunnel	2	2(f)	≤ 200F			x	x

Table 3.6.2b (cont'd)

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
CLEANUP SYSTEM ISOLATION							
(8) High Area Temperature	1	2(g)	≤ 190°F	x	x	x	x
SHUTDOWN COOLING SYSTEM ISOLATION							
(9) High Area Temperature	1	1	≤ 170°F	x	x	x	x
CONTAINMENT ISOLATION							
(10) Low-Low Reactor Water	2	2(f)	≥ 5 inches (Indicator Scale)	(c)		x	x

Table 3.6.2b (cont'd)

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
(11) High Drywell Pressure	2	2(f)	≤ 3.5 psig	(c)		(b)	(b)
(12) Manual	2	1	---	x	x	x	x

Table 4.6.2b

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Parameter	Surveillance Requirement: Sensor Check	Surveillance Requirement: Instrument Channel Test	Surveillance Requirement: Instrument Channel Calibration
PRIMARY COOLANT ISOLATION			
(Main Steam, Cleanup and Shutdown)			
(1) Low-Low Reactor Water Level	Once/day	Once per 3 months[(d)]	Once per 3 months[(d)]
(2) Manual	---	Once during each major refueling outage	---
MAIN-STEAM-LINE ISOLATION			
(3) High Steam Flow Main-Steam Line	Once/day	Once per 3 months[(d)]	Once per 3 months[(d)]
(4) High Radiation Main-Steam Line	Once/shift	Once per 3 months	Once per 3 months
(5) Low Reactor Pressure	Once/day	Once per 3 months[(d)]	Once per 3 months[(d)]

Table 4.6.2b (cont'd)

INSTRUMENTATION THAT INITIATES
PRIMARY COOLANT SYSTEM OR CONTAINMENT ISOLATION

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
CONTAINMENT ISOLATION			
(10) Low-Low Reactor Water Level	Once/day	Once per 3 months[d]	Once per 3 months[d]
(11) High Drywell Pressure	Once/day	Once per 3 months[d]	Once per 3 months[d]
(12) Manual	---	Once during each operating cycle	---

NOTES FOR TABLES 3.6.2b and 4.6.2b

(a) May be bypassed in the refuel and startup positions of the reactor mode switch when reactor pressure is less than 600 psi.

(b) May be bypassed when necessary for containment inerting.

(c) May be bypassed in the shutdown mode whenever the reactor coolant system temperature is less than 215°F.

(d) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2b, the primary sensor will be calibrated and tested once per operating cycle.

(e) Within 24 hours prior to the planned start of the hydrogen injection test with the reactor power at greater than 20% rated power, the normal full-power radiation background level and associated trip and alarm setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip and alarm setpoints may be adjusted during the test program based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be determined and associated trip and alarm setpoints shall be reset within 24 hours of re-establishing normal radiation levels after completion of the hydrogen injection or within 12 hours of establishing reactor power levels below 20% rated power, while these functions are required to be operable. At reactor power levels below 20% rated power hydrogen injection shall be terminated and the injection system secured.

(f) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same Trip System is monitoring that Parameter.

With the number of Operable Channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for one trip system, either

1. Place the inoperable channel(s) in the tripped condition within

   a. 12 hours for Parameters common to SCRAM Instrumentation, and
   b. 24 hours for Parameters not common to SCRAM Instrumentation.

or

2. Take the ACTION required by Specification 3.6.2a for that Parameter.

(f) (cont'd)

With the number of Operable Channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for both trip systems,

1. Place the inoperable channel(s) in one trip system in the tripped condition within one hour,
and
2. a. Place the inoperable channel(s) in the remaining trip system in the tripped condition within

(1) 12 hours for Parameters common to SCRAM Instrumentation, and
(2) 24 hours for Parameters not common to SCRAM Instrumentation.

or

b. take the ACTION required by Specification 3.6.2a for that Parameter.

(g) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same Trip System is monitoring that Parameter.

With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels for the Operable Trip System, either

1. Place the inoperable channel(s) in the tripped condition within 24 hours.
or
2. Take the ACTION required by Specification 3.6.2a for that Parameter.

Table 3.6.2c

INSTRUMENTATION THAT INITIATES OR ISOLATES EMERGENCY COOLING

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System (d)	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
EMERGENCY COOLING INITIATION							
(1) High-Reactor Pressure	2	2(e)	≤ 1080 psig	(b)		x	x
(2) Low-Low Reactor Water Level	2	2(e)	≥ 5 inches (Indicator Scale)	(b)		x	x
EMERGENCY COOLING ISOLATION (for each of two systems)							
(3) High Steam Flow Emergency Cooling System	2	2(a)(f)	≤ 11.5 psid			x	x

Table 4.6.2c

INSTRUMENTATION THAT INITIATES OR ISOLATES EMERGENCY COOLING

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
EMERGENCY COOLING INITIATION			
(1) High Reactor Pressure	None	Once per 3 months[(c)]	Once per 3 months[(c)]
(2) Low-Low Reactor Water Level	Once/day	Once per 3 months[(c)]	Once per 3 months[(c)]
EMERGENCY COOLING ISOLATION (for each of two systems)			
(3) High Steam Flow Emergency Cooling System	None	Once per 3 months[(c)]	Once per 3 months[(c)]

NOTES FOR TABLES 3.6.2c and 4.6.2c

(a) Each of two differential pressure switches provide inputs to one instrument channel in each trip system.

(b) May be bypassed in the cold shutdown condition.

(c) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2c, the primary sensor will be calibrated and tested once per operating cycle.

(d) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same Trip System is monitoring that parameter.

(e) With the number of Operable channels less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement:

1. For one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or take the action required by Specification 3.6.2a for that Parameter.
2. With more than one channel inoperable, take the ACTION required by Specification 3.6.2a for that Parameter.

(f) With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for one trip system, either

1. Place the inoperable channel(s) in the tripped condition within 24 hours.

or

2. Take the ACTION required by Specification 3.6.2a for that Parameter.

With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for both trip systems,

1. Place the inoperable channel(s) in one trip system in the tripped condition within one hour

and

2. a. Place the inoperable channel(s) in the remaining trip system in the tripped condition within 24 hours.

   or

   b. Take the ACTION required by Specification 3.6.2a for that Parameter.

Table 3.6.2d

INSTRUMENTATION THAT INITIATES CORE SPRAY[e]

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System (f)	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
START CORE SPRAY PUMPS							
(1) High Drywell Pressure	2	2	≤ 3.5 psig	(d)	x	(a)	(a)
(2) Low-Low Reactor Water Level	2	2	≥ 5 inches (Indicator Scale)	(b)	x	x	x
OPEN CORE SPRAY DISCHARGE VALVES							
(3) Reactor Pressure and either (1) or (2) above.	2	2	≥ 365 psig	x	x	x	x

Table 4.6.2d

INSTRUMENTATION THAT INITIATES CORE SPRAY

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
START CORE SPRAY PUMPS			
(1) High Drywell Pressure	Once/day	Once per 3 months[(c)]	Once per 3 months[(c)]
(2) Low-Low Reactor Water Level	Once/day	Once per 3 months[(c)]	Once per 3 months[(c)]
OPEN CORE SPRAY DISCHARGE VALVES			
(3) Reactor Pressure and either (1) or (2) above	None	Once per 3 months[(c)]	Once per 3 months[(c)]

NOTES FOR TABLES 3.6.2d and 4.6.2d

(a) May be bypassed when necessary for containment inerting.

(b) May be bypassed when necessary for performing major maintenance as specified in Specification 2.1.1.e.

(c) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2d, the primary sensor will be calibrated and tested once per operating cycle.

(d) May be bypassed when necessary for integrated leak rate testing.

(e) The instrumentation that initiates the Core Spray System is not required to be operable, if there is no fuel in the reactor vessel.

(f) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same Trip System is monitoring that parameter.

With the number of Operable channels less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement:

1. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or take the ACTION required by Specification 3.6.2a for that Parameter.

2. With more than one channel inoperable, take the ACTION required by Specification 3.6.2a for that Parameter.

Table 4.6.2e

INSTRUMENTATION THAT INITIATES CONTAINMENT SPRAY

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(1)a. High Drywell Pressure	Once/day	Once per 3 months[(b)]	Once per 3 months[(b)]
b. Low-Low Reactor Water Level	Once/day	Once per 3 months[(b)]	Once per 3 months[(b)].

NOTES FOR TABLES 3.6.2e and 4.6.2e

(a) May be bypassed in the shutdown mode whenever the reactor coolant temperature is less than 215°F.

(b) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2e, the primary sensor will be calibrated and tested once per operating cycle.

(c) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip system in the tripped condition provided at least one Operable Instrument Channel in the same Trip System is monitoring that parameter.

With the number of Operable channels less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement:

1. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or take the ACTION required by Specification 3.6.2a for that Parameter.

2. With more than one channel inoperable, take the ACTION required by Specification 3.6.2a for that Parameter.

Table 4.6.2f

INSTRUMENTATION THAT INITIATES AUTO DEPRESSURIZATION

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(1)a. Low-Low-Low Reactor Water	None	Once per 3 months[(c)]	Once per 3 months[(c)]
and			
b. High Drywell Pressure	Once/day	Once per 3 months[(c)]	Once per 3 months[(c)]

NOTES FOR TABLES 3.6.2f and 4.6.2f

(a) Both instrument channels in either trip system are required to be energized to initiate auto depressurization. One trip system is powered from power board 102 and the other trip system from power board 103.

(b) May be bypassed when the reactor pressure is less than 110 psig and the reactor coolant temperature is less than the corresponding saturation temperature.

(c) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2f, the primary sensor will be calibrated and tested once per operating cycle.

(d) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one operable channel in the same Trip System is monitoring that parameter.

With the number of Operable channels less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement:

1. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or take the ACTION required by Specification 3.6.2a for that Parameter.

2. With more than one channel inoperable, take the ACTION required by Specification 3.6.2a for that Parameter.

Table 3.6.2g

INSTRUMENTATION THAT INITIATES CONTROL ROD WITHDRAWAL BLOCK

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System (i)	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
(1) SRM							
a. Detector not in Startup Position	2	2(a)(e)	---		x	x	
b. Inoperative	2	2(a)	---		x	x	
c. Upscale	2	2(a)	$\leq 10^5$ counts/sec		x	x	
(2) IRM							
a. Detector not in Startup Position	2	3(b)	---		x	x	
b. Inoperative	2	3(b)	---		x	x	

Table 3.6.2g (cont'd)

INSTRUMENTATION THAT INITIATES CONTROL ROD WITHDRAWAL BLOCK

Limiting Condition for Operation

Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System (i)	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
				Shutdown	Refuel	Startup	Run
c. Downscale	2	3(b)	≤ 5 percent of full scale for each scale		x	x	
d. Upscale	2	3(b)	≤ 88 percent of full scale for each scale		x	x	
(3) APRM							
a. Inoperative	2(h)	3(c)	---		x	x	x
b. Upscale (Biased by Recirculation Flow)	2(h)	3(c)	Figure 2.1.1(h)		x	x	x
c. Downscale	2(h)	3(c)	≥ 2 percent of full scale		(d)	(d)	x

Table 4.6.2g (cont'd)

INSTRUMENTATION THAT INITIATES CONTROL ROD WITHDRAWAL BLOCK

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(3) APRM			
a. Inoperative	None	Once per 3 months	None
b. Upscale (Biased by Recirculation Flow)	None	Once per 3 months	Once per 3 months
c. Downscale	None	Once per 3 months	Once per 3 months
(4) Recirculation Flow			
a. Comparator Off Normal	None	Once per 3 months	Once per 3 months
b. Flow Unit Inoperative	None	Once per 3 months	Once per 3 months
c. Flow Unit Upscale	None	Once per 3 months	Once per 3 months

NOTES FOR TABLES 3.6.2g AND 4.6.2g

(a) No more than one of the four SRM inputs to the single trip system shall be bypassed.

(b) No more than one of the four IRM inputs to each instrument channel shall be bypassed. These signals may be bypassed when the APRM's are onscale.

(c) No more than one of the four APRM inputs to each instrument channel shall be bypassed provided that the APRM in the other instrument channel in the same core quadrant is not bypassed. No more than two C or D level LPRM inputs to an APRM shall be bypassed and only four LPRM inputs to only one APRM shall be bypassed in order for the APRM to be considered operable. In the Run mode of operation, bypass of two chambers from one radial core location in any one APRM shall cause that APRM to be considered inoperative. A Travelling In-Core Probe (TIP) chamber may be used as a substitute APRM input if the TIP is positioned in close proximity to the failed LPRM it is replacing. If one APRM in a quadrant is bypassed and meets all requirements for operability with the exception of the requirement of at least one operable chamber at each radial location, it may be returned to service and the other APRM in that quadrant may be removed from service for test and/or calibration only if no control rod is withdrawn during the calibration and/or test.

(d) May be bypassed in the startup and refuel positions of the reactor mode switch when the IRM's are onscale.

(e) This function may be bypassed when the count rate is $\geq$ 100 cps.

(f) One sensor provides input to each of two instrument channels. Each instrument channel is in a separate trip system.

(g) Calibrate and/or test prior to startup and normal shutdown. Thereafter test once per week until no longer required.

(h) The actuation of either or both trip systems will result in a rod block.

(i) A channel may be placed in an inoperable status for up to 6 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.

Table 4.6.2h

VACUUM PUMP ISOLATION

Surveillance Requirement

Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
MECHANICAL VACUUM PUMP			
High Radiation Main Steam Line	Once/shift	Once per 3 months	Once per 3 months

NOTES FOR TABLES 3.6.2h and 4.6.2h

(a) Within 24 hours prior to the planned start of the hydrogen injection test with the reactor power at greater than 20% rated power, the normal full-power radiation background level and associated trip and alarm setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip and alarm setpoints may be adjusted during the test program based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be determined and associated trip and alarm setpoints shall be reset within 24 hours of re-establishing normal radiation levels after completion of the hydrogen injection or within 12 hours of establishing reactor power levels below 20% rated power, while these functions are required to be operable. At reactor power levels below 20% rated power hydrogen injection shall be terminated and the injection system secured.

(b) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one operable channel in the same Trip System is monitoring that parameter.

With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for one trip system, either

1. Place the inoperable channel(s) in the tripped condition within 12 hours.

or

2. Take the ACTION required by Specification 3.6.2a for that Parameter.

With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement for both trip systems,

1. Place the inoperable channel(s) in one trip system in the tripped condition within one hour.

and

2. a. Place the inoperable channel(s) in the remaining trip system in the tripped condition within 12 hours.

   or

   b. Take the ACTION required by Specification 3.6.2a for that Parameter.

Table 3.6.2j

EMERGENCY VENTILATION INITIATION

Limiting Condition for Operation

	Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
					Shutdown	Refuel	Startup	Run
(1)	High Radiation Reactor Building Ventilation Duct	1	2(d)	≤ 5mr/hr	x	x	x	x
(2)	High Radiation Refueling Platform	1	1	≤ 1000mr/hr	(a)	(a)	(a)	(a)

NOTES FOR TABLES 3.6.2j AND 4.6.2j

(a) This function shall be operable any time that irradiated fuel or the irradiated fuel cask is being handled in the reactor building.

(b) Once per shift whenever this function is required to be operable.

(c) Immediately prior to when function is required and once per week thereafter until function is no longer required.

(d) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one Operable Instrument Channel in the same Trip system is monitoring that parameter.

With the number of Operable channels one less than required by the Minimum Number of Operable Instrument Channels for the Operable Trip System, either

1) Place the inoperable channel(s) in the tripped condition within 24 hours.
or
2) Take the ACTION required by Specification 3.6.2a for that Parameter.

Table 3.6.2k

HIGH PRESSURE COOLANT INJECTION

Limiting Condition for Operation

	Parameter	Minimum No. of Tripped or Operable Trip Systems	Minimum No. of Operable Instrument Channels per Operable Trip System	Set Point	Reactor Mode Switch Position in Which Function Must Be Operable			
					Shutdown	Refuel	Startup	Run
(1)	Low Reactor Water Level	2	2(c)	≥ 53 inches (Indicator Scale)	(a)		(a)	x
(2)	Automatic Turbine Trip	1	1	---	(a)		(a)	x

Table 4.6.2k

HIGH PRESSURE COOLANT INJECTION

Surveillance Requirement

	Parameter	Sensor Check	Instrument Channel Test	Instrument Channel Calibration
(1)	Low Reactor Water Level	Once per day	Once per 3 months[(b)]	Once per 3 months[(b)]
(2)	Automatic Turbine Trip	None	Once during each operating cycle	None

NOTES FOR TABLES 3.6.2k and 4.6.2k

(a) May be bypassed when the reactor pressure is less than 110 psig and the reactor coolant temperature is less than the corresponding saturation temperature.

(b) Only the trip circuit will be calibrated and tested at the frequencies specified in Table 4.6.2k, the primary sensor will be calibrated and tested once per operating cycle.

(c) A channel may be placed in an inoperable status for up to 6 hours for required surveillances without placing the Trip System in the tripped condition provided at least one operable channel in the same Trip System is monitoring that parameter.

With the number of Operable channels less than required by the Minimum Number of Operable Instrument Channels per Operable Trip System requirement:

1. For one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or take the ACTION required by Specification 3.6.2a for that Parameter.

2. With more than one channel inoperable, take the ACTION required by Specification 3.6.2a for that Parameter.

High Flow-Main Steam Line, ±1 psid

High Flow-Emergency Cooling Line, ±1 psid

High Area Temperature-Main Steam Line, ±10F

High Area Temperature-Clean-up and Shutdown, ±6F

High Radiation-Main Steam Line, +100% and -50% of set point value

High Radiation-Emergency Cooling System Vent, +100% and -50% of set point

High Radiation-Reactor Building Vent, +100% and -50% of set point

High Radiation-Refueling Platform, +100% and -50% of set point

High Radiation-Offgas Line, ±50% of set point, (Appendix D)*

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," and MDE-77-0485, "Technical Specification Improvement Analysis for Nine Mile Point Nuclear Station, Unit 1."

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A Suppl2, "Technical Specification Improvement Analyses for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," and with NEDC-31677P-A, "Technical Specification Improvement Analyses for BWR Isolation Actuation Instrumentation." Because of local high radiation, testing instrumentation in the area of the main steam line isolation valves can only be done during periods of Station shutdown. These functions include high area temperature isolation and isolation valve position scram.

* FSAR

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30936P-A, "BWR Owners' Group Technical Specification Improvement Methodology (with Demonstration for BWR ECCS Actuation Instrumentation)," Parts 1 and 2 and RE-003, "Technical Specification Improvement Analysis for the Emergency Core Cooling System Actuation Instrumentation for Nine Mile Point Nuclear Station, Unit 1."

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," as approved by the NRC and documented in the SER (letter to R. D. Binz IV from C. E. Rossi dated July 21, 1992).

Testing of the scram associated with the shutdown position of the mode switch can be done only during periods of Station shutdown since it always involves a scram.

b. The control rod block functions are provided to prevent excessive control rod withdrawal so that MCPR is maintained greater than the SLCPR. The trip logic for this function is 1 out of n; e.g., any trip on one of the eight APRM's, eight IRM's or four SRM's will result in a rod block. The minimum instrument channel requirements provide sufficient instrumentation to assure the single failure criteria is met. Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A Suppl 1, "Technical Specification Improvement Analyses for BWR Control Rod Block Instrumentation," and with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," as approved by the NRC and documented in the SER (letter to R. D. Binz IV from C. E. Rossi dated July 21, 1992).

The APRM rod block trip is flow biased and prevents a significant reduction in MCPR especially during operation at reduced flow. The APRM provides gross core protection; i.e., limits the gross core power increase from withdrawal of control rods in the normal withdrawal sequence. The trips are set so that MCPR is maintained greater than the SLCPR.

The APRM rod block also provides local protection of the core; i.e., the prevention of critical heat flux in a local region of the core, for a single rod withdrawal error from a limiting control rod pattern. The trip point is flow biased. The worst case single control rod withdrawal error has been analyzed and the results show that with the specified trip settings rod withdrawal is blocked before the MCPR reaches the SLCPR, thus allowing adequate margin. Below ~60% power the worst case withdrawal of a single control rod results in a MCPR > SLCPR without rod block action, thus below this level it is not required.

The IRM rod block function provides local as well as gross core protection. The scaling arrangement is such that trip setting is less than a factor of 10 above the indicated level. Analysis of the worst case accident results in rod block action before MCPR approaches the SLCPR.

A downscale indication on an APRM or IRM is an indication the instrument has failed or the instrument is not sensitive enough. In either case the instrument will not respond to changes in control rod motion and the control rod motion is prevented. The downscale rod blocks are set at 5 percent of full scale for IRM and 2 percent of full scale for APRM (APRM signal is generated by averaging the output signals from eight LPRM flux monitors).

Table 3.6.11-1

ACCIDENT MONITORING INSTRUMENTATION

	Parameter	Total Number of Channels	Minimum Number of Operable Sensors or Channels	Action (See Table 3.6.11-2)
(1)	Relief Valve Position Indication	2/Valve	1/Valve*	1
(2)	Safety Valve Position Indication	2/Valve	1/Valve*	1
(3)	Reactor Vessel Water Level	2	1*	2
(4)	Drywell Pressure Monitor	2	1	4
(5)	Suppression Chamber Water Level	2	1*	4
(6)	Containment Hydrogen Monitor	2	1	4
(7)	Containment High Range Radiation Monitor	2	1	3
(8)	Suppression Chamber Water Temperature	2	1	2

* A channel may be placed in an inoperable status for up to 6 hours for required surveillance provided at least one Operable channel is monitoring that Parameter.

Table 4.6.11

ACCIDENT MONITORING INSTRUMENTATION

Surveillance Requirement

	Parameter	Instrument Channel Test	Instrument Channel Calibration
(1)	Relief Valve Position Indicator (Primary - Acoustic)	Once per quarter	Once during each major refueling outage
	Relief Valve Position Indicator (Backup - Thermocouple)	Once per quarter	Once during each major refueling outage
(2)	Safety Valve Position Indicator (Primary - Acoustic)	Once per quarter	Once during each major refueling outage
	Safety Valve Position Indicator (Backup - Thermocouple)	Once per quarter	Once during each major refueling outage
(3)	Reactor Vessel Water Level	Once per quarter	Once during each major refueling outage
(4)	Drywell Pressure Monitor	Once per month	Once during each major refueling outage
(5)	Suppression Chamber Water Level Monitor	Once per quarter	Once during each major refueling outage
(6)	Containment Hydrogen Monitor	Once per month	Once per quarter
(7)	Containment High Range Radiation Monitor	Once per month	Once during each major refueling outage
(8)	Suppression Chamber Water Temperature	Once per month	Once during each major refueling outage

BASES FOR 3.6.11 AND 4.6.11 ACCIDENT MONITORING INSTRUMENTATION

Accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. This capability is consistent with the recommendations of NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations," and/or NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980 and NUREG 0661, "Safety Evaluation Report Mark I Containment Long Term Program."

The maximum allowable setpoint deviation for the Suppression Chamber Water Level Instrumentation is ± 1.8 inches.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications" as approved by the NRC and documented in the SER (letter to R. D. Binz IV from C. E. Rossi dated July 21, 1992).