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

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 45
License No. DPR-24

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

   A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated November 2, 1978, 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 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 45 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark, Chief
Operating Reactors Branch # 3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 20, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 45 TO FACILITY OPERATING LICENSE NO. DPR-24

DOCKET NOS. 50-266 AND 50-301

Revise Appendix A as follows:

Remove Pages	Insert Pages
15-i	15-i
Table 15.3.5-2	Table 15.3.5-2
Table 15.3.5-2 (cont.)	Table 15.3.5-2 (cont.)
Table 15.3.5-3	Table 15.3.5-3
Table 15.3.5-4	Table 15.3.5-4
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Table 15.4.1-1 (cont.)	Table 15.4.1-1 (cont.)
Table 15.4.1-2	Table 15.4.1-2
Table 15.4.1-2 (cont.)	Table 15.4.1-2 (cont.)
Table 15.4.10-1 (cont.)	Table 15.4.10-1 (cont.)
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TABLE 15.3.5-2

INSTRUMENT OPERATION CONDITIONS FOR REACTOR TRIP

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTIO IF CONDITIONS COLUMN 3 OR 4 CANNOT BE MET
1.	Manual	2	1	1	-*		Maintain hot shutdown
2.	Nuclear Flux Power Range**					2 of 4 power range channels greater than 10% F.P. (low setting only)	Maintain hot shutdown
	low setting	4	2	3	2		
	high setting	4	2	3	2		
3.	Nuclear Flux Intermediate Range	2	1	1	-*	2 of 4 power range channels greater than 10% F.P.	Maintain hot shutdown. Not
4.	Nuclear Flux Source Range	2	1	1	-*	1 of 2 intermediate range channels greater than 10^{-10} amps	Maintain hot shutdown. Not
5.	Overtemperature ΔT	4	2	3	2		Maintain hot shutdown
6.	Overpower ΔT	4	2	3	2		Maintain hot shutdown
7.	Low Pressurizer Pressure	4	2	3	2		Maintain hot shutdown
8.	Hi Pressurizer Pressure	3	2	2	1		Maintain hot shutdown
9.	Pressurizer-Hi Water Level	3	2	2	1		Maintain hot shutdown
10.	Low Flow in one loop (>50% F.P.)	3/loop	2/loop (any loop)	2	1		Maintain hot shutdown
	Low Flow Both Loops (10-50% F.P.)	3/loop	2/loop (any loop)				

TABLE 15.3.5-2 (Cont'd)

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
11.	Turbine Trip	3	2	2	1		Maintain <50% of rated power
12.	Steam Flow - Feed Water Flow mismatch	2/loop	1/loop	1/loop	1/loop		Maintain hot shutdown
13.	Lo Lo Steam Generator Water Level	3/loop	2/loop	2/loop	1/loop		Maintain hot shutdown
14.	Undervoltage 4 KV Bus	2/bus	1/bus (both buses)	1/bus	—		Maintain hot shutdown
15.	Underfrequency 4 KV Bus	2/bus	1/bus (both buses)	1/bus	—		Maintain hot shutdown
16.	Control rod misalignment as monitored by on-line computer	1	-	1	-		Log individual rod positions once/hour, and after a load change >10% or after >30 inches of control rod motion

NOTE 1: When block condition exists, maintain normal operation.

F.P. = Full Power

* Not Applicable

** One additional channel may be taken out of service for zero power physics testing.

TABLE 15.3.5-3

EMERGENCY COOLING

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNEL TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS O COLUMN 3 OR 4 CANNOT BE MET
1.	SAFETY INJECTION						
a.	Manual	2	1	1	1		Hot Shutdown***
b.	High Containment Pressure	3	2	2	1		Hot Shutdown***
c.	Steam Generator Low Steam Pressure/Loop	3	2	2	1	Primary Pressure is Less than 1800 psig	Hot Shutdown***
d.	Pressurizer Low Pressure	3	2	2	1	Primary Pressure is Less than 1800 psig	Hot Shutdown***
2.	CONTAINMENT SPRAY						
a.	Manual	2	2	2	—**		Hot Shutdown**
b.	Hi-Hi Containment Pressure (Containment Spray)	2 sets of 3	2 of 3 in each set	2 per set	1/set		Hot Shutdown**

** - Must actuate 2 switches simultaneously.

*** - If minimum conditions are not met within 24 hours, steps shall be taken on the affected unit to place the unit in cold shutdown conditions.

TABLE 15.3.5-4

INSTRUMENT OPERATING CONDITIONS FOR ISOLATION FUNCTIONS

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
	1 CONTAINMENT ISOLATION						
a.	Safety Injection	See Item No. 1 b,c, and d of Table 15.3.5-3					Hot Shutdown***
b.	Manual	2	1	1	-		Hot Shutdown
	2 STEAM LINE ISOLATION						
a.	Hi Hi Steam Flow with Safety Injection	2/loop	1	1	-		Hot Shutdown***
b.	Hi Steam Flow and 2 of 4 Low T_{avg} with Safety Injection	2/loop	1	1	-		Hot Shutdown***
c.	Hi Containment Pressure	3	2	2	1		Hot Shutdown***
d.	Manual	1/loop	1/loop	1/loop	-		Hot Shutdown

*** - If minimum conditions are not met within 24 hours, steps shall be taken on the affected unit to place the unit in cold shutdown conditions.

15.3.15 Overpressure Mitigating System Operations

Applicability

Applies to operability of the overpressure mitigating system when the reactor coolant system temperature is less than the minimum temperature for the inservice pressure test.

Objective

To specify functional requirements and limiting conditions for operation on the use of the pressurizer power operated relief valves when used as part of the overpressure mitigating system and to specify further limiting conditions for operation when the reactor coolant system is operated without a pressure absorbing volume in the pressurizer.

Specification

A. System Operability

1. Except as specified in 15.3.15.A.2 below, the overpressurization mitigating system shall be operable whenever the reactor coolant system is not open to the atmosphere and the temperature is less than the minimum pressurization temperature for the inservice pressure test, as specified in Figures 15.3.1-1 (Unit 1) and 15.3.1-3 (Unit 2). Operability requirements are:
   a. Both pressurizer power operated relief valves operable at a setpoint of $\leq$425 psig.
   b. The upstream isolation valves to both power operated relief valves are open.
2. The requirements of 15.3.15.A.1 may be modified to allow one of the two power operated relief valves to be inoperable for a period of not more than seven days.

3. If the inoperable power operated relief valves cannot be made operable within seven days, the reactor coolant system must be depressurized and vented to the pressurizer relief tank within eight hours.

4. If both power operated relief valves are inoperable, the reactor coolant system must be depressurized and vented to the pressurizer relief tank within eight hours.

B. Additional Limitations

1. When the reactor coolant system is not open to the atmosphere and the temperature of one or both reactor coolant system cold legs is $\leq$275°F, no more than one high pressure safety injection pump shall be operable. The second high pressure safety injection pump shall be demonstrated inoperable whenever the temperature of one or both reactor coolant system cold legs is $\leq$275°F by verifying that the motor circuit breakers have been removed from their electrical power supply circuits or by verifying that the discharge valves from the high pressure safety injection pumps to the reactor coolant system are shut and that power is removed from their operators.

2. A reactor coolant pump shall not be started when the reactor coolant system temperature is less than the minimum temperature for the inservice pressure test unless:

   a. There is a pressure absorbing volume in the pressurizer or

   b. The secondary water temperature of each steam generator is less than 50°F above the temperature of the reactor coolant system.

Basis

The Overpressurization Mitigating System consists of a diverse means of relieving pressure during periods of water solid operation and when the system temperature is below the value permitted to perform the primary system leak test. This method

of water relief utilizes the pressurizer power operated relief valves (PORV's). The PORV's are made operational for low pressure relief by utilizing a dual set-point where the low pressure circuit is energized and de-energized by the operator with a keylock switch depending on plant conditions. The logic required for the low pressure setpoint is in addition to the existing PORV actuation logic and will not interfere with existing automatic or manual actuation of the PORV's.

During plant cooldown prior to reducing reactor coolant system temperature below the minimum temperature allowable for the inservice pressure test, the operator under administrative procedures shall place the keylock switch in the "Low Pressure" position. This action enables the Overpressure Mitigating System. The redundant PORV channels shall remain enabled and operable while the reactor coolant system is not open to the atmosphere and the temperature is less than the minimum pressurization temperature for the inservice pressure test, except that one PORV may be out of service for a period of up to seven days.

The mass input transient used to determine the PORV setpoint assumed a worse case transient of a single high pressure safety injection pump discharging to the reactor coolant system while the system is solid. Therefore, when the reactor coolant system is less than 275°F, only one high pressure safety injection pump shall be operable at any time except when the reactor coolant system is open to the atmosphere.

The heat input transient used to determine the PORV setpoint assumes a temperature difference between the reactor coolant system and the steam generator of 50°F. Therefore, before starting a reactor coolant pump when the reactor coolant system is solid, the operator shall insure that the secondary temperature of each steam generator is less than 50°F above the temperature of the reactor coolant system unless a pressure absorbing volume has been verified to exist in the pressurizer.

TABLE 15.4.1-1 (CONTINUED)

	Channel Description	Check	Calibrate	Test	Remarks
24.	Containment Pressure	S	R	M**	Narrow range containment pressure (-3.0, +3 [illegible] excluded)
25.	Steam Generator Pressure	S***	R	M***	
26.	Turbine First Stage Pressure	S**	R	M**	
27.	Emergency Plan Radiation Instruments	M	R	M	
28.	Environmental Monitors	M	N.A.	N.A.	
29.	Overpressure Mitigating System	S	R	****	

S - Each Shift

D - Daily

W - Weekly

B/W - Biweekly

M - Monthly

P - Prior to each startup if not done previous week

R - Each Refueling Shutdown (But not to exceed 20 months, except for first core cycle)

NA - Not applicable

** Not required during periods of refueling shutdown, but must be performed prior to starting up if it has not been performed during the previous surveillance period.

*** Not required during periods of refueling shutdown if steam generator vessel temperature is greater than 70°F.

**** Each PORV shall be demonstrated operable by:

a. Performance of a channel functional test on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required operable and at least once per 31 days thereafter when the PORV is required operable.

b. Testing valve operation in accordance with the inservice test requirements of the ASME Boiler and Pressure Vessel Code, Section IX.

MINIMUM FREQUENCIES FOR EQUIPMENT AND SAMPLING TESTS

		Test	Frequency
1.	Reactor Coolant Samples	Gross Beta-gamma activity (excluding tritium)	5/week (7)
		Tritium activity	Monthly
		Radiochemical $\bar{E}$ Determination (1)	Semiannually (2)
		Chloride Concentration	5/week (8)
		Diss. Oxygen Conc.	5/week (6)
		Fluoride Conc.	Weekly
2.	Reactor Coolant Boron	Boron Concentration	Twice/week
3.	Refueling Water Storage Tank Water Sample	Boron Concentration	Weekly (6)
4.	Boric Acid Tanks	Boron Concentration	Twice/week
5.	Spray Additive Tank	NaOH Concentration	Monthly
6.	Accumulator	Boron Concentration	Monthly
7.	Spent Fuel Pit	Boron Concentration	Monthly
8.	Secondary Coolant	Gross Beta-gamma activity or gamma isotopic analysis	Weekly (6)
		Iodine concentration	Weekly when gross Beta-gamma activity equals or exceeds 1.2 µCi/cc (6)
9.	Control Rods	Rod drop times of all full length rods (3)	Each refueling or after maintenance that could affect proper functioning (4)
10.	Control Rod	Partial movement of all rods	Every 2 weeks (6)
11.	Pressurizer Safety Valves	Set point	Each refueling shutdown
12.	Main Steam Safety Valves	Set point	Each refueling shutdown
13.	Containment Isolation Trip	Functioning	Each refueling shutdown

TABLE 15.4.1-2 (CONTINUED)

		Test	Frequency
14.	Refueling System Interlocks	Functioning	Each refueling shutdown
15.	Service Water System	Functioning	Each refueling shutdown
16.	Primary System Leakage	Evaluate	Monthly (6)
17.	Diesel Fuel Supply	Fuel inventory	Daily
18.	Turbine Stop and Governor Valves	Functioning	Monthly (6)
19.	Low Pressure Turbine Rotor Inspection (5)	Visual and magnetic particle or liquid penetrant	Every five years
20.	Boric Acid System	Storage Tank Temperature	Daily
21.	Boric Acid System	Visual observation of piping temperatures (all $\geq$145°F)	Daily
22.	Boric Acid Piping Heat Tracing	Electrical circuit operability	Monthly

(1) A radiochemical analysis for this purpose shall consist of a quantitative measurement of each radionuclide with half life of >30 minutes such that at least 95% of total activity of primary coolant is accounted for.

(2) $\bar{E}$ determination will be started when the gross activity analysis of a filtered sample indicates $\geq$10 µc/cc and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than 10 µc/cc.

(3) Drop tests shall be conducted at rated reactor coolant flow. Rods shall be dropped under both cold and hot conditions, but cold drop tests need not be timed.

(4) Drop tests will be conducted in the hot condition for rods on which maintenance was performed.

(5) As accessible without disassembly of rotor.

(6) Not required during periods of refueling shutdown.

(7) At least once per week during periods of refueling shutdown.

(8) At least three times per week (with maximum time of 72 hours between samples) during periods of refueling shutdown.

TABLE 15.4.10-1 (CONTINUED)

Sample Type	Locations[a,c]	Frequency	Analysis	Comments
Well Water	1-Onsite Well (10)	Quarterly	Gross Beta-T.S.[b] Gamma Scan T.S. Tritium Strontium-89 Strontium-90	
Milk	1-Local dairy pool (11) 1-Dairy Farm, NNW (19) 1-Dairy Farm, SSE (21)	Monthly	Gamma Scan Radioiodine Strontium-89 Strontium-90	Radioiodine analysis done by the resin extraction technique.
Algae	1-North of Discharge (5) 1-Discharge of Flume (12)	3x/yr as available	Gross Beta Gamma Scan	
Fish	1-Travelling screens (13)	3x/yr as available	Gross Beta Gamma Scan	Analysis of edible portions only.

(a) Reference location is chosen well in excess of 10 miles from the plant in a low X/Q sector to provide an estimate of background levels.

(b) T.S. - Total Solids

(c) Numbers given under location correspond to sampling locations shown in Figure 15.4.10-1.

C. Fire Hose Stations

Test	Frequency
1. Visual Inspection	Monthly
2. Hose Hydro-Test	Yearly
3. Partially open each hose station valve to verify operability and no blockage	3 years

D. Fire Detection

Test	Frequency
1. Channel Functional Test	2 mo.

E. Fire Barrier Penetration Fire Seals

Test	Frequency
1. Visual Inspection	18 mo. and following repairs or maintenance

F. Fire Pump Diesel Engine

Test	Frequency
1. a. Verify 200 gallons of fuel in fuel storage tank	Monthly
b. Verify diesel starts from ambient conditions and operates for at least 20 minutes.	Monthly
2. Sample diesel fuel per ASTM-D270 and verify acceptable per Table 1 of ASTM-D975 with respect to viscosity, water content and sediment.	Quarterly
3. a. Inspect diesel per procedures prepared in conjunction with its manufacturer's recommendations	18 months
b. Verify diesel starts from ambient conditions and operates for $\geq$20 minutes while loaded with the fire pump	18 months

(1) The number and types of samples taken and the measurements made on the samples; e.g., gross beta gamma scan, etc.

(2) Any changes made in sample types or locations during the reporting period, and criteria for these changes.

b. A summary of survey results during the reporting period.

4. Leak Testing of Source

Results of required leak tests performed on seal sources if the tests reveal the presence of 0.005 microcuries or more of removable contamination.

D. Poison Assembly Removal from Spent Fuel Storage Racks

Plans for removal of any poison assemblies from the spent fuel storage racks shall be reported and described at least 14 days prior to the planned activity. Such report shall describe neutron attenuation testing for any replacement poison assemblies, if applicable, to confirm the presence of boron material.

E. Overpressure Mitigating System Operation

In the event the overpressure mitigating system is operated to relieve a pressure transient which, by licensee's evaluation, could have resulted in an overpressurization incident had the system not been operable; a special report shall be prepared and submitted to the Commission within 30 days. The report shall describe the circumstances initiating the transient, the effect of the system on the transient and any corrective action necessary to prevent recurrence.

15.6.11 RADIATION PROTECTION PROGRAM

Specification

Radiological control procedures shall be written and made available to all station personnel, and shall state permissible radiation exposure levels. The radiation protection program shall meet the requirements of 10 CFR 20, with the exception of the following:

Paragraph 20.203 - Caution signs, labels and signals

In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2), each radiation area in which the intensity of radiation is greater than 100 mrem/hr shall be barricaded and conspicuously posted as a High Radiation Area, and entrance thereto shall be controlled in accordance with the Point Beach Nuclear Plant Health Physics Administrative Control Policies and Procedure Manual, Section 2.7, Radiation Work Permit. A person or persons permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area. In addition, each High Radiation Area outside the containment building in which the intensity of radiation is greater than 1000 mrem/hr shall be provided with locked barricades to prevent unauthorized entry into these areas, and the keys to these locked barricades shall be maintained under the administrative control of the Duty Shift Supervisor.

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

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50
License No. DPR-27

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

A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated November 2, 1978, 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 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 50 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark, Chief
Operating Reactors Branch # 3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 20, 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-27

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TABLE 15.3.5-2

INSTRUMENT OPERATION CONDITIONS FOR REACTOR TRIP

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSABLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
1.	Manual	2	1	1	-*		Maintain hot shutdown
2.	Nuclear Flux Power Range**					2 of 4 power range channels greater than 10% F.P. (low setting only)	Maintain hot shutdown
	low setting	4	2	3	2		
	high setting	4	2	3	2		
3.	Nuclear Flux Intermediate Range	2	1	1	-*	2 of 4 power range channels greater than 10% F.P.	Maintain hot shutdown. Note 1
4.	Nuclear Flux Source Range	2	1	1	-*	1 of 2 intermediate range channels greater than 10^{-10} amps	Maintain hot shutdown. Note 1
5.	Overtemperature ΔT	4	2	3	2		Maintain hot shutdown
6.	Overpower ΔT	4	2	3	2		Maintain hot shutdown
7.	Low Pressurizer Pressure	4	2	3	2		Maintain hot shutdown
8.	Hi Pressurizer Pressure	3	2	2	1		Maintain hot shutdown
9.	Pressurizer-Hi Water Level	3	2	2	1		Maintain hot shutdown
10.	Low Flow in one loop (>50% F.P.)	3/loop	2/loop (any loop)	2	1		Maintain hot shutdown
	Low Flow Both Loops (10-50% F.P.)	3/loop	2/loop (any loop)				

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TABLE 15.3.5-2 (Cont'd)

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
11.	Turbine Trip	3	2	2	1		Maintain <50% of rated power
12.	Steam Flow - Feed Water Flow mismatch	2/loop	1/loop	1/loop	1/loop		Maintain hot shutdown
13.	Lo Lo Steam Generator Water Level	3/loop	2/loop	2/loop	1/loop		Maintain hot shutdown
14.	Undervoltage 4 KV Bus	2/bus	1/bus (both buses)	1/bus	—		Maintain hot shutdown
15.	Underfrequency 4 KV Bus	2/bus	1/bus (both buses)	1/bus	--		Maintain hot shutdown
16.	Control rod misalignment as monitored by on-line computer	1	-	1	-		Log individual rod positions once/hour, and after a load change >10% or after >30 inches of control rod motion

NOTE 1: When block condition exists, maintain normal operation.

F.P. = Full Power

* Not Applicable

** One additional channel may be taken out of service for zero power physics testing.

TABLE 15.3.5-3

EMERGENCY COOLING

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MIN. DEGREE OF REDUNDANCY	5 PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
1.	SAFETY INJECTION						
a.	Manual	2	1	1	1		Hot Shutdown***
b.	High Containment Pressure	3	2	2	1		Hot Shutdown***
c.	Steam Generator Low Steam Pressure/Loop	3	2	2	1	Primary Pressure is Less than 1800 psig	Hot Shutdown***
d.	Pressurizer Low Pressure	3	2	2	1	Primary Pressure is Less than 1800 psig	Hot Shutdown***
2.	CONTAINMENT SPRAY						
a.	Manual	2	2	2	--**		Hot Shutdown***
b.	Hi-Hi Containment Pressure (Containment Spray)	2 sets of 3	2 of 3 in each set	2 per set	1/set		Hot Shutdown***

** - Must actuate 2 switches simultaneously.

*** - If minimum conditions are not met within 24 hours, steps shall be taken on the affected unit to place the unit in cold shutdown conditions.

TABLE 15.3.5-4

INSTRUMENT OPERATING CONDITIONS FOR ISOLATION FUNCTIONS

NO.	FUNCTIONAL UNIT	1 NO. OF CHANNELS	2 NO. OF CHANNELS TO TRIP	3 MIN. OPERABLE CHANNELS	4 MINIMUM DEGREE OF REDU-DANCY	5 PERMISSABLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
	1 CONTAINMENT ISOLATION						
a.	Safety Injection	See Item No. 1 b,c, and d of Table 15.3.5-3					Hot Shutdown***
b.	Manual	2	1	1	-		Hot Shutdown
	2 STEAM LINE ISOLATION						
a.	Hi Hi Steam Flow with Safety Injection	2/loop	1	1	-		Hot Shutdown***
b.	Hi Steam Flow and 2 of 4 Low T_{ave} with Safety Injection	2/loop	1	1	-		Hot Shutdown***
c.	Hi Containment Pressure	3	2	2	1		Hot Shutdown***
d.	Manual	1/loop	1/loop	1/loop	-		Hot Shutdown

*** - If minimum conditions are not met within 24 hours, steps shall be taken on the affected unit to place the unit in cold shutdown conditions.

15.3.15 Overpressure Mitigating System Operations

Applicability

Applies to operability of the overpressure mitigating system when the reactor coolant system temperature is less than the minimum temperature for the inservice pressure test.

Objective

To specify functional requirements and limiting conditions for operation on the use of the pressurizer power operated relief valves when used as part of the overpressure mitigating system and to specify further limiting conditions for operation when the reactor coolant system is operated without a pressure absorbing volume in the pressurizer.

Specification

A. System Operability

1. Except as specified in 15.3.15.A.2 below, the overpressurization mitigating system shall be operable whenever the reactor coolant system is not open to the atmosphere and the temperature is less than the minimum pressurization temperature for the inservice pressure test, as specified in Figures 15.3.1-1 (Unit 1) and 15.3.1-3 (Unit 2). Operability requirements are:

   a. Both pressurizer power operated relief valves operable at a setpoint of $\leq$425 psig.

   b. The upstream isolation valves to both power operated relief valves are open.

2. The requirements of 15.3.15.A.1 may be modified to allow one of the two power operated relief valves to be inoperable for a period of not more than seven days.

3. If the inoperable power operated relief valves cannot be made operable within seven days, the reactor coolant system must be depressurized and vented to the pressurizer relief tank within eight hours.

4. If both power operated relief valves are inoperable, the reactor coolant system must be depressurized and vented to the pressurizer relief tank within eight hours.

B. Additional Limitations

1. When the reactor coolant system is not open to the atmosphere and the temperature of one or both reactor coolant system cold legs is $\leq$275°F, no more than one high pressure safety injection pump shall be operable. The second high pressure safety injection pump shall be demonstrated inoperable whenever the temperature of one or both reactor coolant system cold legs is $\leq$275°F by verifying that the motor circuit breakers have been removed from their electrical power supply circuits or by verifying that the discharge valves from the high pressure safety injection pumps to the reactor coolant system are shut and that power is removed from their operators.

2. A reactor coolant pump shall not be started when the reactor coolant system temperature is less than the minimum temperature for the inservice pressure test unless:

   a. There is a pressure absorbing volume in the pressurizer or

   b. The secondary water temperature of each steam generator is less than 50°F above the temperature of the reactor coolant system.

Basis

The Overpressurization Mitigating System consists of a diverse means of relieving pressure during periods of water solid operation and when the system temperature is below the value permitted to perform the primary system leak test. This method

of water relief utilizes the pressurizer power operated relief valves (PORV's). The PORV's are made operational for low pressure relief by utilizing a dual set-point where the low pressure circuit is energized and de-energized by the operator with a keylock switch depending on plant conditions. The logic required for the low pressure setpoint is in addition to the existing PORV actuation logic and will not interfere with existing automatic or manual actuation of the PORV's.

During plant cooldown prior to reducing reactor coolant system temperature below the minimum temperature allowable for the inservice pressure test, the operator under administrative procedures shall place the keylock switch in the "Low Pressure" position. This action enables the Overpressure Mitigating System. The redundant PORV channels shall remain enabled and operable while the reactor coolant system is not open to the atmosphere and the temperature is less than the minimum pressurization temperature for the inservice pressure test, except that one PORV may be out of service for a period of up to seven days.

The mass input transient used to determine the PORV setpoint assumed a worse case transient of a single high pressure safety injection pump discharging to the reactor coolant system while the system is solid. Therefore, when the reactor coolant system is less than 275°F, only one high pressure safety injection pump shall be operable at any time except when the reactor coolant system is open to the atmosphere.

The heat input transient used to determine the PORV setpoint assumes a temperature difference between the reactor coolant system and the steam generator of 50°F. Therefore, before starting a reactor coolant pump when the reactor coolant system is solid, the operator shall insure that the secondary temperature of each steam generator is less than 50°F above the temperature of the reactor coolant system unless a pressure absorbing volume has been verified to exist in the pressurizer.

TABLE 15.4.1-1 (CONTINUED)

	Channel Description	Check	Calibrate	Test	Remarks
24.	Containment Pressure	S	R	M**	Narrow range containment pressure (-3.0, +3 psig excluded)
25.	Steam Generator Pressure	S***	R	M***	
26.	Turbine First Stage Pressure	S**	R	M**	
27.	Emergency Plan Radiation Instruments	M	R	M	
28.	Environmental Monitors	M	N.A.	N.A.	
29.	Overpressure Mitigating System	S	R	****	

S - Each Shift

D - Daily

W - Weekly

B/W - Biweekly

M - Monthly

P - Prior to each startup if not done previous week

R - Each Refueling Shutdown (But not to exceed 20 months, except for first core cycle)

NA - Not applicable

** Not required during periods of refueling shutdown, but must be performed prior to starting up if it has not been performed during the previous surveillance period.

*** Not required during periods of refueling shutdown if steam generator vessel temperature is greater than 70°F.

**** Each PORV shall be demonstrated operable by:

a. Performance of a channel functional test on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required operable and at least once per 31 days thereafter when the PORV is required operable.

b. Testing valve operation in accordance with the inservice test requirements of the ASME Boiler and Pressure Vessel Code, Section IX.

TABLE 15.4.1-2

MINIMUM FREQUENCIES FOR EQUIPMENT AND SAMPLING TESTS

		Test	Frequency
1.	Reactor Coolant Samples	Gross Beta-gamma activity (excluding tritium)	5/week (7)
		Tritium activity	Monthly
		Radiochemical $\bar{E}$ Determination (1)	Semiannually (2)
		Chloride Concentration	5/week (8)
		Diss. Oxygen Conc.	5/week (6)
		Fluoride Conc.	Weekly
2.	Reactor Coolant Boron	Boron Concentration	Twice/week
3.	Refueling Water Storage Tank Water Sample	Boron Concentration	Weekly (6)
4.	Boric Acid Tanks	Boron Concentration	Twice/week
5.	Spray Additive Tank	NaOH Concentration	Monthly
6.	Accumulator	Boron Concentration	Monthly
7.	Spent Fuel Pit	Boron Concentration	Monthly
8.	Secondary Coolant	Gross Beta-gamma activity or gamma isotopic analysis	Weekly (6)
		Iodine concentration	Weekly when gross Beta-gamma activity equals or exceeds 1.2 μCi/cc (6)
9.	Control Rods	Rod drop times of all full length rods (3)	Each refueling or after maintenance that could affect proper functioning (4)
10.	Control Rod	Partial movement of all rods	Every 2 weeks (6)
11.	Pressurizer Safety Valves	Set point	Each refueling shutdown
12.	Main Steam Safety Valves	Set point	Each refueling shutdown
13.	Containment Isolation Trip	Functioning	Each refueling shutdown

TABLE 15.4.1-2 (CONTINUED)

		Test	Frequency
14.	Refueling System Interlocks	Functioning	Each refueling shutdown
15.	Service Water System	Functioning	Each refueling shutdown
16.	Primary System Leakage	Evaluate	Monthly (6)
17.	Diesel Fuel Supply	Fuel inventory	Daily
18.	Turbine Stop and Governor Valves	Functioning	Monthly (6)
19.	Low Pressure Turbine Rotor Inspection (5)	Visual and magnetic particle or liquid penetrant	Every five years
20.	Boric Acid System	Storage Tank Temperature	Daily
21.	Boric Acid System	Visual observation of piping temperatures (all $\geq$145°F)	Daily
22.	Boric Acid Piping Heat Tracing	Electrical circuit operability	Monthly

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(1) A radiochemical analysis for this purpose shall consist of a quantitative measurement of each radionuclide with half life of >30 minutes such that at least 95% of total activity of primary coolant is accounted for.

(2) $\bar{E}$ determination will be started when the gross activity analysis of a filtered sample indicates $\geq$10 µc/cc and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than 10 µc/cc.

(3) Drop tests shall be conducted at rated reactor coolant flow. Rods shall be dropped under both cold and hot conditions, but cold drop tests need not be timed.

(4) Drop tests will be conducted in the hot condition for rods on which maintenance was performed.

(5) As accessible without disassembly of rotor.

(6) Not required during periods of refueling shutdown.

(7) At least once per week during periods of refueling shutdown.

(8) At least three times per week (with maximum time of 72 hours between samples) during periods of refueling shutdown.

TABLE 15.4.10-1 (CONTINUED)

Sample Type	Locations[a, c]	Frequency	Analysis	Comments
Well Water	1-Onsite Well (10)	Quarterly	Gross Beta-T.S.[b] Gamma Scan T.S. Tritium Strontium-89 Strontium-90	
Milk	1-Local dairy pool (11) 1-Dairy Farm, NNW (19) 1-Dairy Farm, SSE (21)	Monthly	Gamma Scan Radioiodine Strontium-89 Strontium-90	Radioiodine analysis done by the resin extraction technique.
Algae	1-North of Discharge (5) 1-Discharge of Plume (12)	3x/yr as available	Gross Beta Gamma Scan	
Fish	1-Travelling screens (13)	3x/yr as available	Gross Beta Gamma Scan	Analysis of edible portions only.

(a) Reference location is chosen well in excess of 10 miles from the plant in a low X/Q sector to provide an estimate of background levels.

(b) T.S. - Total Solids

(c) Numbers given under location correspond to sampling locations shown in Figure 15.4.10-1.

C. **Fire Hose Stations**

	Test	Frequency
1.	Visual Inspection	Monthly
2.	Hose Hydro-Test	Yearly
3.	Partially open each hose station valve to verify operability and no blockage	3 years

D. Fire Detection

	Test	Frequency
1.	Channel Functional Test	2 mo.

E. Fire Barrier Penetration Fire Seals

	Test	Frequency
1.	Visual Inspection	18 mo. and following repairs or maintenance

F. Fire Pump Diesel Engine

		Test	Frequency
1.	a.	Verify 200 gallons of fuel in fuel storage tank	Monthly
	b.	Verify diesel starts from ambient conditions and operates for at least 20 minutes.	Monthly
2.		Sample diesel fuel per ASTM-D270 and verify acceptable per Table 1 of ASTM-D975 with respect to viscosity, water content and sediment.	Quarterly
3.	a.	Inspect diesel per procedures prepared in conjunction with its manufacturer's recommendations	18 months
	b.	Verify diesel starts from ambient conditions and operates for $\geq$20 minutes while loaded with the fire pump	18 months

(1) The number and types of samples taken and the measurements made on the samples; e.g., gross beta gamma scan, etc.

(2) Any changes made in sample types or locations during the reporting period, and criteria for these changes.

b. A summary of survey results during the reporting period.

4. Leak Testing of Source

Results of required leak tests performed on seal sources if the tests reveal the presence of 0.005 microcuries or more of removable contamination.

D. Poison Assembly Removal from Spent Fuel Storage Racks

Plans for removal of any poison assemblies from the spent fuel storage racks shall be reported and described at least 14 days prior to the planned activity. Such report shall describe neutron attenuation testing for any replacement poison assemblies, if applicable, to confirm the presence of boron material.

E. Overpressure Mitigating System Operation

In the event the overpressure mitigating system is operated to relieve a pressure transient which, by licensee's evaluation, could have resulted in an overpressurization incident had the system not been operable; a special report shall be prepared and submitted to the Commission within 30 days. The report shall describe the circumstances initiating the transient, the effect of the system on the transient and any corrective action necessary to prevent recurrence.

15.6.11 RADIATION PROTECTION PROGRAM

Specification

Radiological control procedures shall be written and made available to all station personnel, and shall state permissible radiation exposure levels. The radiation protection program shall meet the requirements of 10 CFR 20, with the exception of the following:

Paragraph 20.203 - Caution signs, labels and signals

In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2), each radiation area in which the intensity of radiation is greater than 100 mrem/hr shall be barricaded and conspicuously posted as a High Radiation Area, and entrance thereto shall be controlled in accordance with the Point Beach Nuclear Plant Health Physics Administrative Control Policies and Procedure Manual, Section 2.7, Radiation Work Permit. A person or persons permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area. In addition, each High Radiation Area outside the containment building in which the intensity of radiation is greater than 1000 mrem/hr shall be provided with locked barricades to prevent unauthorized entry into these areas, and the keys to these locked barricades shall be maintained under the administrative control of the Duty Shift Supervisor.