April 13, 1983

Docket Nos: 50-369
and 50-370

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Issuance of Amendment No. 20 to Facility Operating License NPF-9 and Amendment No. 1 to Facility Operating License NPF-17 - McGuire Nuclear Station, Units 1 and 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 20 to Facility Operating License NPF-9 and Amendment No. 1 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments are in response to your letter dated March 24, 1983.

The amendments increase the maximum flow rate for the centrifugal charging pump and correct several typographical errors in the initial issuance of the Technical Specifications.

A copy of the related safety evaluation report supporting Amendment No. 20 to Facility Operating License NPF-9 and Amendment No. 1 to Facility Operating License NPF-17 is enclosed. Also enclosed is a copy of a related notice which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

S/

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:
1. Amendment No. 20 to NPF-9
2. Amendment No. 1 to NPF-17
3. Safety Evaluation
4. Federal Register Notice

cc w/encl:
See next page

8304200390 830413
PDR ADOCK 05000369
P PDR

OFFICE	LA:DL:LB #4	DL:LB #4	DL:LB #4				
SURNAME	MDuncan/hmc	RBirkel	EAdensam				
DATE	3/31/83	3/31/83	4/11/83				

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

McGuire

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

cc: Mr. A. Carr
Duke Power Company
P.O. Box 33189
422 South Church Street
Charlotte, North Carolina 28242

Mr. F. J. Twogood
Power Systems Division
Westinghouse Electric Corp.
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. G. A. Copp
Duke Power Company
Nuclear Production Department
P.O. Box 33189
Charlotte, North Carolina 28242

J. Michael McGarry, III, Esq.
Debevoise & Liberman
1200 Seventeenth Street, N.W.
Washington, D. C. 20036

Mr. Wm. Orders
Senior Resident Inspector
c/o U.S. Nuclear Regulatory Commission
Route 4, Box 529
Hunterville, North Carolina 28078

James P. O'Reilly, Regional Admin.
U.S. Nuclear Regulatory Commission,
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dr. John M. Barry
Department of Environmental Health
Mecklenburg County
1200 Blythe Boulevard
Charlotte, North Carolina 28203

Attorney General
Department of Justice
Justice Building
Raleigh, North Carolina 27602

Office of Intergovernmental Relations
116 West Jones Street
Raleigh, North Carolina 27603

County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

Mr. Bruce Blanchard
Environmental Projects Review
Department of the Interior
Room 4256
18th and C Street, N.W.
Washington, D. C. 20240

EIS Coordinator
U.S. Environmental Protection Agency
Region IV Office
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Chairman, North Carolina
Utilities Commission
430 North Salisbury Street
Dobbs Building
Raleigh, North Carolina 27602

R. S. Howard
Operating Plants Projects
Regional Manager
Westinghouse Electric Corporation -
R&D 701
P.O. Box 2728
Pittsburgh, Pennsylvania 15230

OFFICE ▶							
SURNAME ▶							
DATE ▶							

DUKE POWER COMPANY

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 20
License No. NPF-9

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

   A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-9 filed by the Duke Power Company (licensee) dated March 24, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   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 hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

OFFICE ▶							
SURNAME ▶							
DATE ▶							

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 20, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

S/

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Technical Specification
Changes

Date of Issuance: April 13, 1983

No legal objection to form of amendment. SER review not requested.

OFFICE	LA:DL:LB #4	DL:LB #4	OELD	DL:LB #4	AD:L:DL		
SURNAME	MDuncan/bmc	RBirkel	CUTCHIN	EAdensam	TNovak		
DATE	3/31/83	3/31/83	4/ 1/83	4/1/83	4/12/83		

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

DUKE POWER COMPANY

DOCKET NO. 50-370

MCGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 1
License No. NPF-17

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

   A. The application for amendment to the McGuire Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-17 filed by the Duke Power Company (licensee) dated March 24, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   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 hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

OFFICE ▶							
SURNAME ▶							
DATE ▶							

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 1, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Technical Specification
Changes

Date of Issuance: April 13, 1983

No legal objection to form of amendment. SER review not required.

OFFICE	LA:DL:LB #4	DL:LB #4	OELD	DL:LB #4	AD:L:DL		
SURNAME	MDuncan/hmc	RBirkel	Cutchin	EAdensam	TNovak		
DATE	3/31/83	3/31/83	4/1/83	4/1/83	4/13/83		

ATTACHMENT TO LICENSE AMENDMENT NO. 20

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 1

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Amended Page	Overleaf Page
I	II
1-2	1-1
1-6	1-5
3/4 3-42	3/4 3-41
3/4 3-46	3/4 3-45
3/4 3-58	3/4 3-57
3/4 3-67	
3/4 3-68	
3/4 3-74	3/4 3-73
3/4 4-2	3/4 4-1
3/4 4-3	3/4 4-4
3/4 4-25	3/4 4-26
3/4 4-28	3/4 4-27
3/4 5-8	3/4 5-7
3/4 6-2	3/4 6-1
3/4 6-3	3/4 6-4
3/4 6-10	3/4 6-9
3/4 7-21	3/4 7-22
3/4 7-26	3/4 7-25
3/4 7-27	
3/4 7-28	
3/4 7-33	3/4 7-34
3/4 8-20	3/4 8-19
3/4 8-21	3/4 8-22
3/4 8-24	3/4 8-23
3/4 8-27	
3/4 8-28	
3/4 8-29	3/4 8-30

ATTACHMENT TO LICENSE AMENDMENT NO. 20 AND NO. 1 (CON'T)

Amended Page	Overleaf Page
3/4 8-34	3/4 8-33
3/4 8-38	3/4 8-37
3/4 8-45	3/4 8-46
3/4 8-49	3/4 8-50
3/4 8-56	3/4 8-55
3/4 8-57	3/4 8-58
3/4 8-59	
3/4 8-60	
3/4 8-66	3/4 8-65
3/4 8-67	
3/4 8-68	
3/4 8-71	
3/4 8-72	
3/4 12-3	3/4 12-4
3/4 12-7	3/4 12-8
3/4 12-13	3/4 12-14

SECTION PAGE

1.0 DEFINITIONS

DEFINITIONS

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications.

ACTION

1.1 ACTION shall be that part of a Technical Specification which prescribes remedial measures required under designated conditions.

ACTUATION LOGIC TEST

1.2 An ACTUATION LOGIC TEST shall be the application of various simulated input combinations in conjunction with each possible interlock logic state and verification of the required logic output. The ACTUATION LOGIC TEST shall include a continuity check, as a minimum, of output devices.

ANALOG CHANNEL OPERATIONAL TEST

1.3 An ANALOG CHANNEL OPERATIONAL TEST shall be the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY of alarm, interlock and/or trip functions. The ANALOG CHANNEL OPERATIONAL TEST shall include adjustments, as necessary, of the alarm, interlock and/or Trip Setpoints such that the Setpoints are within the required range and accuracy.

AXIAL FLUX DIFFERENCE

1.4 AXIAL FLUX DIFFERENCE shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector.

CHANNEL CALIBRATION

1.5 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel such that it responds with the required range and accuracy to known values of input. The CHANNEL CALIBRATION shall encompass the entire channel including the sensors and alarm, interlock and/or trip functions and may be performed by any series of sequential, overlapping, or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.6 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or

2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-2 of Specification 3.6.3.

b. All equipment hatches are closed and sealed,

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits of Specification 3.6.1.2, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

CONTROLLED LEAKAGE

1.8 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

DOSE EQUIVALENT I-131

1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

$\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

1.11 $\bar{E}$ shall be the average (weighted in proportion to the concentration of each radionuclide in the sample) of the sum of the average beta and gamma energies per disintegration (MeV/d) for the radionuclides in the sample.

PURGE - PURGING

1.23 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

QUADRANT POWER TILT RATIO

1.24 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.25 RATED THERMAL POWER shall be a total core heat transfer rate to the reactor coolant of 3411 MWt.

REACTOR BUILDING INTEGRITY

1.26 REACTOR BUILDING INTEGRITY shall exist when:

a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed,

b. The Annulus Ventilation System is in compliance with the requirements of Specification 3.6.1.8, and

c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

REACTOR TRIP SYSTEM RESPONSE TIME

1.27 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its Trip Setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE OCCURRENCE

1.28 A REPORTABLE OCCURRENCE shall be any of those conditions specified in Specifications 6.9.1.10 and 6.9.1.11.

SHUTDOWN MARGIN

1.29 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

SITE BOUNDARY

1.30 The SITE BOUNDARY shall be that line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee.

SLAVE RELAY TEST

1.31 A SLAVE RELAY TEST shall be the energization of each slave relay and verification of OPERABILITY of each relay. The SLAVE RELAY TEST shall include a continuity check, as a minimum, of associated testable actuation devices.

SOLIDIFICATION

1.32 SOLIDIFICATION shall be the immobilization of wet radioactive wastes such as evaporator bottoms, spent resins, sludges, and reverse osmosis concentrates as a result of a process of thoroughly mixing the waste type with a SOLIDIFICATION agent(s) to form a free standing monolith with chemical and physical characteristics specified in the PROCESS CONTROL PROGRAM (PCP).

SOURCE CHECK

1.33 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

STAGGERED TEST BASIS

1.34 A STAGGERED TEST BASIS shall consist of:

a. A test schedule for n systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into n equal subintervals, and

b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

THERMAL POWER

1.35 THERMAL POWER shall be the total core heat transfer rate to the reactor coolant.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

MONITOR	CHANNELS TO TRIP/ALARM	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	ACTION
1. Containment Atmosphere Gaseous Radioactivity-High (Low Range-EMF-39)	1	1	1, 2, 3, 4	***	26
2. Spent Fuel Pool Radioactivity-High (EMF-42)	1	1	**	$\leq 1.7 \times 10^{-4}$ µCi/ml	30
3. Criticality-Radiation Level (Unit 1-1EMF-17 and Unit 2-2EMF-4)	1	1	*	$\leq$ 15 mR/hr	28
4. Gaseous Radioactivity-RCS Leakage Detection (Low Range - EMF-39)	N.A.	1	1, 2, 3, 4	N.A.	29
5. Particulate Radioactivity-RCS Leakage Detection (Low Range - EMF-38)	N.A.	1	1, 2, 3, 4	N.A.	29

TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

MONITOR	CHANNELS TO TRIP/ALARM	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	ACTION
6. Control Room Air Intake Radioactivity-High (EMF-43a and 43b)	1 per station	2 per station	All	$\leq 3.4 \times 10^{-4}$ µCi/ml	27

TABLE NOTATION

* - With fuel in the fuel storage areas or fuel building.

** - With irradiated fuel in the fuel storage areas or fuel building.

*** Must satisfy the requirements of Specification 3.11.2.1.

ACTION STATEMENTS

ACTION 26 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge valves are maintained closed.

ACTION 27 - With the number of operable channels one less than the Minimum Channels OPERABLE requirement, within 1 hour isolate the Control Room Ventilation System outside air intake which contains the inoperable instrumentation.

ACTION 28 - With less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel building.

ACTION 29 - Must satisfy the ACTION requirement for Specification 3.4.6.1.

ACTION 30 - With less than the minimum channels OPERABLE requirement, operation may continue provided the Fuel Handling Ventilation Exhaust System requirements of Specification 3/4.9.11 are met.

LIMITING CONDITION FOR OPERATION

3.3.3.2 The Movable Incore Detection System shall be OPERABLE with:

a. At least 75% of the detector thimbles,

b. A minimum of two detector thimbles per core quadrant, and

c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the Movable Incore Detection System is used for:

a. Recalibration of the Excore Neutron Flux Detection System,

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$, $F_Q(Z)$ and F_{xy}

ACTION:

With the Movable Incore Detection System inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The Movable Incore Detection System shall be demonstrated OPERABLE at least once per 24 hours by normalizing each detector output when required for:

a. Recalibration of the Excore Neutron Flux Detection System, or

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$, $F_Q(Z)$, and F_{xy}.

SEISMIC INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above accessible seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours following the seismic event. Data shall be retrieved from accessible actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. Data retrieved from the triaxial time-history accelerograph shall include a post-event CHANNEL CALIBRATION obtained by actuation of the internal test and calibrate function immediately prior to removing data. CHANNEL CALIBRATION shall be performed immediately after insertion of the new recording media in the triaxial time-history accelograph recorder. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2, with a copy to Director, Office of Nuclear Reactor Regulation, Attention: Chief, Structural and Geotechnical Engineering Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, within 10 days describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.

TABLE 4.3-7

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure	M	R
2. Reactor Coolant Temperature - T_{HOT} and T_{COLD} (Wide Range)	M	R
3. Reactor Coolant Pressure - Wide Range	M	R
4. Pressurizer Water Level	M	R
5. Steam Line Pressure	M	R
6. Steam Generator Water Level - Narrow Range	M	R
7. Refueling Water Storage Tank Water Level	M	R
8. Auxiliary Feedwater Flow Rate	M	R
9. Reactor Coolant System Subcooling Margin Monitor	M	R
10. PORV Position Indicator	M	R
11. PORV Block Valve Position Indicator	M	R
12. Safety Valve Position Indicator	M	R
13. Containment Water Level (Wide Range)	M	R
14. In Core Thermocouples	M	R
15. Unit Vent - High Range Noble Gas Monitor (High-High Range - EMF-36)	M	R
16. Steam Relief - High Range Monitor (Unit 1 - EMF-24, 25, 26, 27) (Unit 2 - EMF-10, 11, 12, 13)	M	R
17. Containment Atmosphere - High Range Monitor (EMF-51a or 51b)	M	R

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

a. With any, but not more than one-half the total in any fire zone, Function A fire detection instruments shown in Table 3.3-11 inoperable, restore the inoperable instrument(s) to OPERABLE status within 14 days or within the next 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations given in Specification 4.6.1.5.1 or 4.6.1.5.2.

b. With more than one-half of the Function A fire detection instruments in any fire zone shown in Table 3.3-11 inoperable, or with any Function B fire detection instruments shown in Table 3.3-11 inoperable, or with any two or more adjacent fire detection instruments shown in Table 3.3-11 inoperable, within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations given in Specification 4.6.1.5.1 or 4.6.1.5.2.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

Each of the above required fixed temperature/rate of rise detection instruments shall be demonstrated OPERABLE as follows:

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. Radioactivity Monitors Providing Alarm And Automatic Termination of Release		
a. Waste Liquid Effluent Line (EMF-49)	1 per station	31
b. Containment Ventilation Unit Condensate Line (EMF-44)	1	33
2. Radioactivity Monitors Providing Alarm But Not Providing Automatic Termination of Release		
Conventional Wastewater Treatment Line (EMF-31)	1	32
3. Continuous Composite Samplers And Sampler Flow Monitor		
a. Containment Ventilation Unit Condensate Line	1 per station	33
b. Conventional Wastewater Treatment Line	1 per station	33
4. Flow Rate Measurement Devices		
a. Waste Liquid Effluent Line	1 per station	34
b. Discharge Canal Minimum Flow Interlock*	1 per station	34
c. Containment Ventilation Unit Condensate Line	1	34
d. Conventional Wastewater Treatment Line	1 per station	34

*Minimum flow is assured by an interlock terminating waste liquid releases if minimum dilution flow is not available.

TABLE 3.3-12 (Continued)

ACTION STATEMENTS

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and

b. At least two technically qualified members of the facility staff independently verify the discharge line valving:

1) The manual portion of the computer input for the release rate calculations performed on the computer, or

2) The entire release rate calculations if such calculations are performed manually.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 32 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided grab samples are analyzed for radioactivity for up to 30 days at a lower limit of detection of at least 10^{-7} microCurie/ml:

a. At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microCurie/gram DOSE EQUIVALENT I-131, and

b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microCurie/gram DOSE EQUIVALENT I-131.

ACTION 33 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 12 hours, grab samples are collected and analyzed for radioactivity at a lower limit of detection of at least 10^{-7} microCurie/ml.

ACTION 34 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated in place may be used to estimate flow.

TABLE 3.3-13 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
5. Containment Purge System			
Noble Gas Activity Monitor - Providing Alarm and Automatic Termination of Release (Low Range - EMF-39)	1	*	38
6. Auxiliary Building Ventilation System			
Noble Gas Activity Monitor (EMF-41 or EMF-36)	1	*	37
7. Fuel Storage Area Ventilation System			
Noble Gas Activity Monitor (EMF-42 or EMF-36)	1	*	37
8. Contaminated Parts Warehouse Ventilation System			
a. Noble Gas Activity Monitor (EMF-53)	1 per station	***	37
b. Flow Rate Monitor	1 per station	***	36
c. Sampler Minimum Flow Device	1 per station	***	36
9. Radwaste Facility Ventilation System			
a. Noble Gas Activity Monitor (EMF-52)	1 per station	***	37
b. Flow Rate Monitor	1 per station	***	36
c. Sampler Minimum Flow Rate	1 per station	***	36

TABLE NOTATION

*At all times.

**During WASTE GAS HOLDUP SYSTEM operation.

***During gaseous effluent releases.

ACTION STATEMENTS

ACTION 35 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the tank(s) may be released to the environment for up to 14 days provided that prior to initiating the release:

a. At least two independent samples of the tank's contents are analyzed, and

b. At least two technically qualified members of the facility staff independently verify the discharge valve lineup:

1) The manual portion of the computer input for the release rate calculations performed on the computer, or

2) The entire release rate calculations if such calculations are performed manually.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 36 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours.

ACTION 37 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 12 hours and these samples are analyzed for gross radioactivity within 24 hours.

ACTION 38 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, immediately suspend PURGING or VENTING of radioactive effluents via this pathway.

ACTION 39 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 14 days. With two channels inoperable, be in at least HOT STANDBY within 6 hours.

ACTION 40 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via the effected pathway may continue for up to 30 days provided samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.

ACTION 41 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, suspend oxygen supply to the recombiner.

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.4.1.1 All reactor coolant loops shall be in operation.

APPLICABILITY: MODES 1 and 2.*

ACTION:

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within 1 hour.

SURVEILLANCE REQUIREMENT

4.4.1.1 The above required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

*See Special Test Exception 3.10.4.

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two of the reactor coolant loops listed below shall be OPERABLE and at least one of these reactor coolant loops shall be in operation:*

a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,

b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,

c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump, and

d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump.

APPLICABILITY: MODE 3

ACTION:

a. With less than the above required reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required reactor coolant loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 12% at least once per 12 hours.

4.4.1.2.3 At least one reactor coolant loop shall be verified in operation and circulating reactor coolant at least once per 12 hours.

*All reactor coolant pumps may be de-energized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the reactor coolant and/or residual heat removal (RHR) loops listed below shall be OPERABLE and at least one of these reactor coolant and/or RHR loops shall be in operation:**

a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*

b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*

c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*

d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump,*

e. RHR Loop A, and

f. RHR Loop B.

APPLICABILITY: MODE 4.

ACTION:

a. With less than the above required reactor coolant and/or RHR loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; if the remaining OPERABLE loop is an RHR loop, be in COLD SHUTDOWN within 24 hours.

b. With no reactor coolant or RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

*A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 300°F unless: (1) the pressurizer water volume is less than 1600 cubic feet, or (2) the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

**All reactor coolant pumps and RHR pumps may be de-energized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required reactor coolant pump(s), if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 12% at least once per 12 hours.

4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation and circulating reactor coolant at least once per 12 hours.

3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the reactor coolant shall be limited to:

a. Less than or equal to 1.0 microCurie per gram DOSE EQUIVALENT I-131, and

b. Less than or equal to $100/\bar{E}$ microCuries per gram of gross specific activity.

APPLICABILITY: MODES 1, 2, 3, 4, and 5.

ACTION:

MODES 1, 2 and 3*:

a. With the specific activity of the reactor coolant greater than 1.0 microCurie per gram DOSE EQUIVALENT I-131 but within the Allowable Limit (below and to the left of the line) shown on Figure 3.4-1, operation may continue for up to 48 hours provided that the cumulative operating time under these circumstances does not exceed 800 hours in any consecutive 12-month period;

b. With the total cumulative operating time at a reactor coolant specific activity greater than 1.0 microCurie per gram DOSE EQUIVALENT I-131 exceeding 500 hours in any consecutive 6-month period, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days indicating the number of hours above this limit;

c. With the specific activity of the reactor coolant greater than 1.0 microCurie per gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours;

d. With the gross specific activity of the reactor coolant greater than $100/\bar{E}$ microCuries per gram, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours; and

e. The provisions of Specification 3.0.4 are not applicable.

* With T_{avg} greater than or equal to 500°F.

ACTION: (Continued)

MODES 1, 2, 3, 4, and 5:

With the specific activity of the reactor coolant greater than 1.0 microCurie per gram DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ microCuries per gram of gross specific activity, perform the sampling and analysis requirements of Item 4.a) of Table 4.4-4 until the specific activity of the reactor coolant is restored to within its limits.

In lieu of any other report required by Specification 6.9.1, for this ACTION statement within 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 with a copy to the Director, Nuclear Reactor Regulation, Attention: Chief, Core Performance Branch, and Chief, Accident Evaluation Branch, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555. This report shall contain the results of the specific activity analyses together with the following information:

1. Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded;

2. Results of the last isotopic analysis for radioiodines performed prior to exceeding the limit, while limit was exceeded, and one analysis after the radioiodine activity was reduced to less than the limit, including for each isotopic analysis, the date and time of sampling and the radioiodine concentrations;

3. Clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded;

4. History of degassing operations, if any, starting 48 hours prior to the first sample in which the limit was exceeded; and

5. The time duration when the specific activity of the reactor coolant exceeded 1.0 microCurie per gram DOSE EQUIVALENT I-131.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the reactor coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

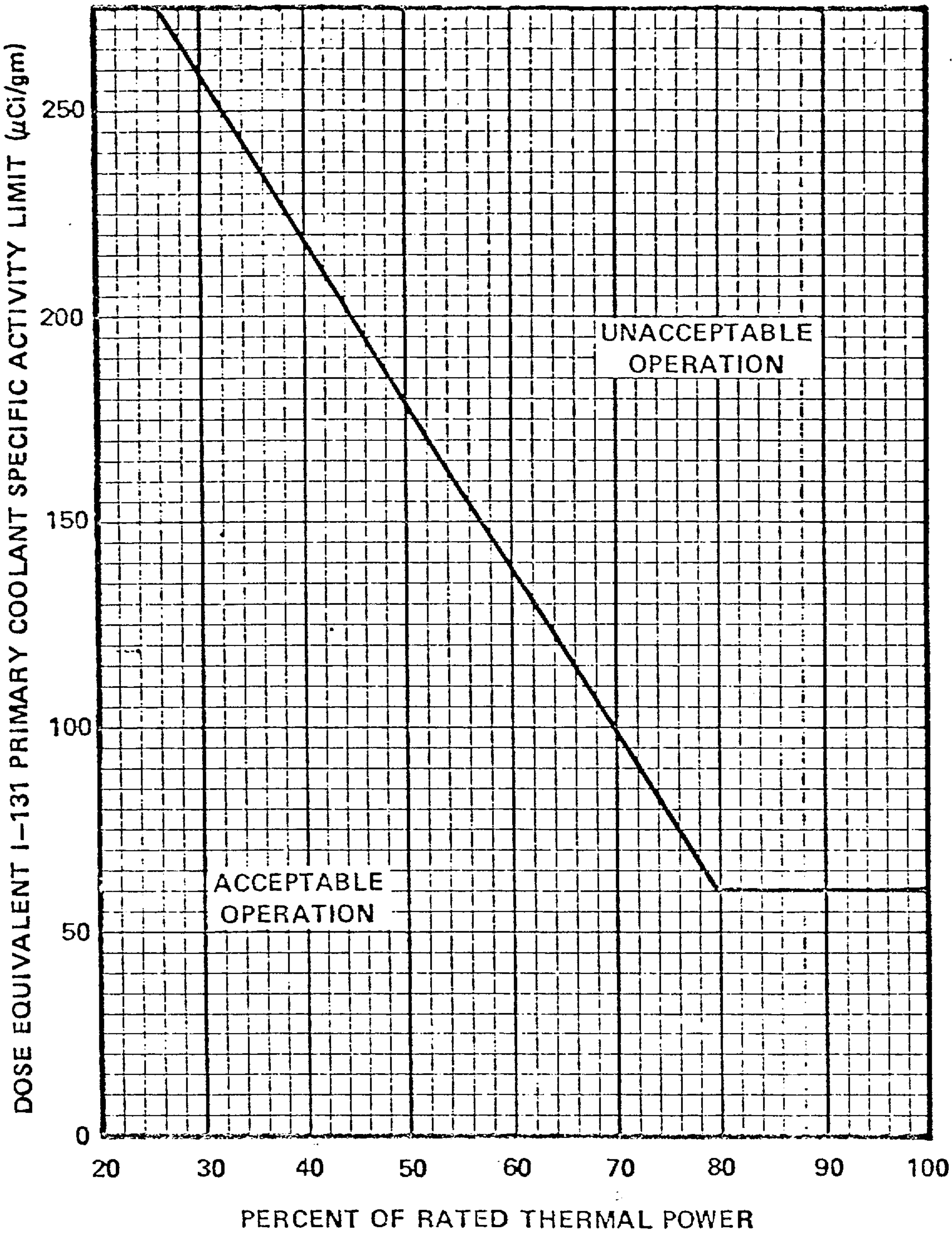

FIGURE 3.4-1

DOSE EQUIVALENT I-131 REACTOR COOLANT SPECIFIC ACTIVITY LIMIT VERSUS PERCENT OF RATED THERMAL POWER WITH THE REACTOR COOLANT SPECIFIC ACTIVITY > 1.0 μCi/GRAM DOSE EQUIVALENT I-131

TABLE 4.4-4

REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED
1. Gross Specific Activity Determination**	At least once per 72 hours	1, 2, 3, 4
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days	1
3. Radiochemical for $\bar{E}$ Determination***	1 per 6 months*	1
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) Once per 4 hours, whenever the specific activity exceeds 1.0 µCi/gram DOSE EQUIVALENT I-131 or 100/$\bar{E}$ µCi/gram of gross radioactivity, and	$1^{\#}$, $2^{\#}$, $3^{\#}$, $4^{\#}$, $5^{\#}$
	b) One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1-hour period.	1, 2, 3

2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

e. At least once per 18 months, during shutdown, by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on Safety Injection actuation and automatic switchover to Containment Sump Recirculation test signals, and

2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:

a) Centrifugal charging pump,

b) Safety Injection pump, and

c) RHR pump.

f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:

1)	Centrifugal charging pump	$\geq$ 2380 psid,
2)	Safety Injection pump	$\geq$ 1430 psid, and
3)	RHR pump	$\geq$ 160 psid.

g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:

1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and

2) At least once per 18 months.

Boron Injection Throttle Valves	Safety Injection Throttle Valves
Valve Number	Valve Number
NI-480	NI-488
NI-481	NI-489
NI-482	NI-490
NI-483	NI-491

h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:

1) For centrifugal charging pump lines, with a single pump running:

a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to 345 gpm, and

b) The total pump flow rate is less than or equal to 565 gpm.

2) For Safety Injection pump lines, with a single pump running:

a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to 462 gpm, and

b) The total pump flow rate is less than or equal to 660 gpm.

3) For RHR pump lines, with a single pump running, the sum of the injection line flow rates is greater than or equal to 3975 gpm.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-2 of Specification 3.6.3;

b. By verifying that each containment air lock is in compliance with Specification 3.6.1.3; and

c. After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a, 14.8 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2d. for all other Type B and C penetrations, the combined leakage rate is less than 0.60 L_a.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of:

1) Less than or equal to L_a, 0.20% by weight of the containment air per 24 hours at P_a, 14.8 psig, or

2) Less than or equal to L_t, 0.14% by weight of the containment air per 24 hours at a reduced pressure of P_t, 7.4 psig.

b. A combined leakage rate of less than 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a, and

c. A combined bypass leakage rate of less than 0.07 L_a for all penetrations identified in Table 3.6-1 as secondary containment bypass leakage paths when pressurized to P_a.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or 0.75 L_t, as applicable, or (b) the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L_a, or (c) the combined bypass leakage rate exceeding 0.07 L_a, restore the overall integrated leakage rate to less than 0.75 L_a or less than or equal to 0.75 L_t, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than 0.60 L_a, and the combined bypass leakage rate to less than 0.07 L_a prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4-1972 or the mass-plot method:

SURVEILLANCE REQUIREMENTS (Continued)

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at either P_a, 14.8 psig, or at P_t, 7.4 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

b. If any periodic Type A test fails to meet either 0.75 L_a or 0.75 L_t, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet either 0.75 L_a or 0.75 L_t, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either 0.75 L_a or 0.75 L_t at which time the above test schedule may be resumed;

c. The accuracy of each Type A test shall be verified by a supplemental test which:

   1) Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 0.25 L_a, or 0.25 L_t;

   2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and

   3) Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25% of the total measured leakage at P_a, 14.8 psig, or P_t, 7.4 psig.

d. Type B and C tests shall be conducted with gas at P_a, 14.8 psig, at intervals no greater than 24 months except for tests involving:

   1) Air locks,

   2) Dual-ply bellows assemblies on containment penetrations between the containment building and the annulus, and

   3) Purge supply and exhaust isolation valves with resilient material seals.

e. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.9.3 or 4.6.1.9.4, as applicable;

f. The combined bypass leakage rate shall be determined to be less than 0.07 L_a by applicable Type B and C tests at least once per 24 months except for penetrations which are not individually testable; penetrations not individually testable shall be determined to have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a, 14.8 psig, or P_t, 7.4 psig, during each Type A test;

SURVEILLANCE REQUIREMENTS (Continued)

g. Air locks shall be tested and demonstrated OPERABLE per Specification 4.6.1.3;

h. The space between each dual-ply bellows assembly on containment penetrations between the containment building and the annulus shall be vented to the annulus during Type A tests. Following completion of each Type A test, the space between each dual-ply bellows assembly shall be subjected to a low pressure test at 3-5 psig to verify no detectable leakage or the dual-ply bellows assembly shall be subjected to a leak test with the pressure on the containment side of the dual-ply bellows assembly at P_a, 14.8 psig, or P_t, 7.4; psig, to verify the leakage to be within the limits of Specification 4.6.1.2f.;

i. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced Integrated Leakage Measurement System; and

j. The provisions of Specification 4.0.2 are not applicable.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS

McGUIRE NUCLEAR STATION, UNITS 1 AND 2

INTRODUCTION

By letter dated March 24, 1983, the licensee proposed a change to the station's Technical Specifications for Units 1 and 2 concerning the maximum flow rate for the centrifugal charging pumps.

The combined Technical Specifications for the McGuire Nuclear Station, Units 1 and 2, were issued with the license (NPF-17) for Unit 2 on March 3, 1983, as NUREG-0964. These combined Technical Specifications were incorporated into the Unit 1 license (NPF-9) by Amendment No. 19, dated March 29, 1983.

In Attachment 2 to the letter dated March 24, 1983, the licensee noted several typographical errors contained in the initial issuance of NUREG-0964 in Tables 3.8-1a and 3.8-1b. Additional errors were noted by the staff and discussed with the licensee for the Index (page I), Definitions (page 1-6), and Specifications 3/4 (pages 3-42, 3-46, 3-58, 3-67, 3-68, 3-74, 4-2, 4-3, 4-25, 4-28, 6-2, 6-3, 6-10, 7-21, 7-26-28, 7-33, 12-3, 12-7 and 12-13).

EVALUATION

The licensee states, and we agree, that the proposed change for the maximum total pump flow rate for the centrifugal charging pump with a single pump running needs to be changed from 550gpm (based on McGuire Unit 1 specification) to 565gpm (combined McGuire Units 1 and 2 specification). The manufacturer's test data for the McGuire Unit 2 centrifugal charging pumps were not available at the time of license issuance on March 3, 1983. It is not unusual for such data not to be available at the time of the initial license issuance for low power testing. The proposed change does not affect the performance or operations of the McGuire Unit 1 centrifugal charging pumps since the Surveillance Requirement is related to a less than or equal to performance specification. The proposed value represents the results of the manufacturer's tests and does not have an adverse safety or environmental impact.

The errors noted by the licensee and the staff are administrative in nature and do not require a safety evaluation. These changes are typographical errors, omissions, clarification of intent, format errors and incorrect specification references.

OFFICE ▶							
SURNAME ▶							
DATE ▶							

Based on our review of the licensee's submittal, we conclude that the change to the maximum flow rate for the centrifugal charging pumps, as proposed, does not represent a significant increase in the risk to the health and safety of the public, and is acceptable.

ENVIRONMENTAL CONSIDERATION

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 13, 1983

Principal Contributors: F. Anderson, Standardization and Special Projects Branch, DL
R. Birkel, Licensing Branch No. 4, DL

OFFICE	DL:LB #4	DL:LB #4:LA	SSPB	DL:LB #4	AD:L:DL		
SURNAME	RBirkel/hmc	MDuncan	CThomas	EAdensam	TNovak		
DATE	3/31/83	3/31/83	4/1/83	4/11/83	4/12/83		

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-369 AND 50-370

DUKE POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS

FACILITY OPERATING LICENSE NOS. NPF-9 AND NPF-17

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 20 to Facility Operating License No. NPF-9 and Amendment No. 1 to Facility Operating License No. NPF-17, issued to Duke Power Company (licensee) for the McGuire Nuclear Station, Units 1 and 2 (the facilities) located in Mecklenburg County, North Carolina. These amendments are effective as of their dates of issuance.

These amendments increase the maximum flow rate for the centrifugal charging pump and correct several typographical errors in the initial issuance of the Technical Specifications.

Issuance of these amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

OFFICE							
SURNAME							
DATE							

For further details with respect to this action, see (1) Duke Power Company letter dated March 24, 1983, (2) Amendment No. 20 to Facility Operating License No. NPF-9, (3) Amendment No. 1 to Facility Operating License No. NPF-17, and (4) the Commission's related Safety Evaluation.

These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., and the Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223. A copy of these items may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 13th day of April 1983.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing, NRR

No legal objection to form of FR notice

OFFICE	LA:DL:LB #4	DL:LB #4	OELD	DL:LB #4			
SURNAME	MDuncan/hmc	RBirkel	Cutchin	EAdensam			
DATE	3/ /83	3/ /83	/ /83	/ /83			

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

April 15, 1983

DISTRIBUTION:
✓Docket File
LB#4 Reading
MDuncan
RBirkel

Docket Nos. 50-369/370

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: McGuire Nuclear Station, Units 1 and 2 (DUKE POWER COMPANY)

~~Two~~ One signed originals of the Federal Register Notice identified below ~~are~~ is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (12) of the Notice are enclosed for your use.

- ☐ Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- ☐ Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- ☐ Notice of Availability of Applicant's Environmental Report.
- ☐ Notice of Proposed Issuance of Amendment to Facility Operating License.
- ☐ Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- ☐ Notice of Availability of NRC Draft/Final Environmental Statement.
- ☐ Notice of Limited Work Authorization.
- ☐ Notice of Availability of Safety Evaluation Report.
- ☐ Notice of Issuance of Construction Permit(s).
- ☒ Notice of Issuance of Facility Operating License~~(s) or~~ Amendment(s).
- ☐ Other: ____________________

Office of Nuclear Reactor Regulation

Enclosure:
As Stated

OFFICE →	DL:LB#4					
SURNAME →	MDuncan					
DATE →	4/15/83					

April 1983

AMENDMENT NO. 20 TO FACILITY OPERATING LICENSE NPF-9 - McGUIRE NUCLEAR STATION, UNIT 1
AMENDMENT NO. 1 TO FACILITY OPERATING LICENSE NPF-17 - McGUIRE NUCLEAR STATION, UNIT 2

DISTRIBUTION:

Docket Nos. 50-369/370
NRC PDR
Local PDR
TERA
NSIC
LB #4 r/f
E. Adensam
R. Birkel
M. Duncan
Attorney, OELD
D. Eisenhut/R. Purple
R. Hartfield, MPA
R. Diggs, ADM
T. Barnhart (8)
J. Souder
A. Rosenthal, ASLAB
W. Jones, OA (10)
ACRS (16)
ASLBP
E. L. Jordan, DEQA:I&E
J. M. Taylor, DRP:I&E
L. J. Harmon, I&E File (2)

TABLE 3.6-1(Continued)

SECONDARY CONTAINMENT BYPASS LEAKAGE PATHS

PENETRATION NUMBER	SERVICE	RELEASE LOCATION	TEST TYPE
M280	Sample from Accumulator	Auxiliary Building	Type C
M342	Auxiliary Seal Injection Line from Annulus to Reactor Coolant Pumps	Auxiliary Building	Type C
M394	Ice from Rotary Valve Assembly to Ice Condenser Cyclone Receiver	Auxiliary Building	Type C
M255	ILRT Pressure Impulse Line	Auxiliary Building	Type C

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exits through the containment, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate of less than 0.05 L_a at P_a, 14.8 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one containment air lock door inoperable:

1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed,

2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days,

3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, and

4. The provisions of Specification 3.0.4 are not applicable.

b. With the containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS (Continued)

e. Functional Tests (Continued)

at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. This plan be plotted using an "Accept" line which follows the equation $N = 55(1 + C/2)$. Each snubber should be plotted as soon as it is tested. If the point plotted falls on or below the "Accept" line, testing may be discontinued. If the point plotted falls above the "Accept" line, testing must continue unless all snubbers have been tested.

The representative samples for the functional test sample plans shall be randomly selected from the snubbers required by Specification 3.7.8 and reviewed before beginning the testing. The review shall ensure as far as practical that they are representative of the various configurations, operating environments, range of sizes, and capacities. Snubbers placed in the same locations as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional testing results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1) Activation (restraining action) is achieved within the specified range in both tension and compression, except that inertia dependent, acceleration limiting mechanical snubbers may be tested to verify only that activation takes place in both directions of travel;

2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;

3) Where required, the force required to initiate or maintain motion of the snubber is within the specified range in both direction of travel; and

4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

g. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the

g. Functional Test Failure Analysis (Continued)

failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to activate or fails to move, i.e., frozen-in-place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be evaluated in a manner to ensure their OPERABILITY. This testing requirement shall be independent of the requirements stated in Specification 4.7.8e. for snubbers not meeting the functional test acceptance criteria.

h. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and freedom-of-motion test must have been performed within 12 months before being installed in the unit.

i. Snubber Seal Replacement Program

The seal service life of hydraulic snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The expected service life for the various seals, seal materials, and applications shall be determined and established based on engineering information and the seals shall be replaced so that the expected service life will not be exceeded during a period when the snubber is required to be OPERABLE. The seal replacements shall be documented and the documentation shall be retained in accordance with Specification 6.10.2.

TABLE 3.7-4a (Continued)

SAFETY-RELATED HYDRAULIC SNUBBERS*

SYSTEM**	SMALL SIZE (1,250 Lbs. or Less TO 3,000 Lbs)	MEDIUM SIZE (10,350 Lbs. to 27,300 Lbs)	LARGE SIZE (45,500 Lbs. to 68,200 Lbs)
ND	5	1	0
NI	6	1	0
NS	2	0	0
NV	4	0	0
SM	0	40	10
SV	3	0	0
Subtotal (Unit 2)	41	51	18
TOTAL FOR UNITS 1 & 2	628	268	56

*Snubbers may be added or deleted without prior License Amendment to Table 3.7-4a provided that a revision to Table 3.7-4a is included with the next License Amendment request. In lieu of any other report required by Specification 6.9.1, at least 15 days prior to the deletion of any listed snubber, a Special Report shall be prepared and submitted to the Commission in accordance with Specification 6.9.2 evaluating the safety significance of the proposed snubber removal.

**A listing of individual snubbers and more detailed information shall be available for NRC review at the McGuire Nuclear Station.

TABLE 3.7-4b

SAFETY-RELATED MECHANICAL SNUBBERS*

PACIFIC SCIENTIFIC

SYSTEM**	SMALL SIZE (350 Lbs. or Less TO 600 Lbs)	MEDIUM SIZE (1,487 Lbs. to 15,000 Lbs)	LARGE SIZE (50,000 Lbs. to 120,000 Lbs)
UNIT 1			
AS	0	2	0
BB	92	31	0
BW	6	2	0
CA	2	18	0
CF	5	9	0
FW	1	9	1
KC	16	23	1
KF	2	2	0
NB	30	3	0
NC	24	50	1
ND	6	12	1
NF	0	3	0
NI	20	25	0
NM	20	8	0
NV	43	35	0
RF	0	2	0
RN	2	9	11
RV	13	11	0
SA	0	8	0
SM	0	10	8

*Snubbers may be added or deleted without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request. In lieu of any other report required by Specification 6.9.1, at least 15 days prior to the deletion of any listed snubber, a Special Report shall be prepared and submitted to the Commission in accordance with Specification 6.9.2 evaluating the safety significance of the proposed snubber removal.

**A listing of individual snubbers and more detailed information shall be available for NRC review at the McGuire Nuclear Station.

TABLE 3.7-4b (Continued)

SAFETY-RELATED MECHANICAL SNUBBERS*

PACIFIC SCIENTIFIC

SYSTEM**	SMALL SIZE (350 Lbs. or Less TO 600 Lbs)	MEDIUM SIZE (1,487 Lbs. to 15,000 Lbs)	LARGE SIZE (50,000 Lbs. to 120,000 Lbs)
SV	0	3	0
VE	1	3	0
VI	30	1	0
VQ	0	2	0
WG	2	0	0
WL	8	0	0
WS	2	0	0
YC	1	1	0
Subtotal (Unit 1)	326	282	23
UNIT 2			
BB	67	55	0
CA	9	59	0
CF	13	80	8
FW	0	4	1
KC	66	81	0
KD	3	1	0
KF	2	5	0
LD	1	2	0
NB	5	1	0
NC	100	95	2
ND	29	41	0

*Snubbers may be added or deleted without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request. In lieu of any other report required by Specification 6.9.1, at least 15 days prior to the deletion of any listed snubber, a Special Report shall be prepared and submitted to the Commission in accordance with Specification 6.9.2 evaluating the safety significance of the proposed snubber removal.

**A listing of individual snubbers and more detailed information shall be available for NRC review at the McGuire Nuclear Station.

TABLE 3.7-4b (Continued)

SAFETY-RELATED MECHANICAL SNUBBERS*

PACIFIC SCIENTIFIC

SYSTEM**	SMALL SIZE (350 Lbs. or Less TO 600 Lbs)	MEDIUM SIZE (1,487 Lbs. to 15,000 Lbs)	LARGE SIZE (50,000 Lbs. to 120,000 Lbs)
NF	2	2	0
NI	56	56	3
NM	42	11	0
NR	10	8	0
NV	170	69	0
RF	1	3	0
RN	28	34	1
RV	9	8	0
SA	9	12	0
SM	2	24	30
SV	0	1	0
TE	1	3	0
VE	3	2	0
VG	1	2	0
VI	26	1	0
VN	0	4	0
VQ	3	1	0
VS	1	0	0
VX	2	1	0
WL	15	7	0
WN	0	2	0
Subtotal (Unit 2)	676	675	45
TOTAL for UNITS 1 and 2	1,002	957	65

*Snubbers may be added or deleted without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request. In lieu of any other report required by Specification 6.9.1, at least 15 days prior to the deletion of any listed snubber, a Special Report shall be prepared and submitted to the Commission in accordance with Specification 6.9.2 evaluating the safety significance of the proposed snubber removal.

**A listing of individual snubbers and more detailed information shall be available for NRC review at the McGuire Nuclear Station.

SURVEILLANCE REQUIREMENTS

4.7.10.1 The Fire Suppression Water System shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS, by starting each electric motor-driven pump and operating it for at least 15 minutes on recirculation flow,

b. At least once per 31 days, by verifying that each valve (manual, power-operated, or automatic) in the flow path is in its correct position,

c. At least once per 6 months, by performance of a system flush of the outside distribution loop to verify no flow blockage,

d. At least once per 12 months, by cycling each testable valve in the flow path through at least one complete cycle of full travel,

e. At least once per 18 months, by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

   1) Verifying that each automatic valve in the flow path actuates to its correct position,

   2) Verifying that each pump develops at least 2500 gpm at a system pressure of 125 psig,

   3) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

   4) Verifying that each fire suppression pump starts (sequentially) to maintain the Fire Suppression Water System pressure greater than or equal to 125 psig.

f. At least once per 3 years, by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

LIMITING CONDITION FOR OPERATION

3.7.10.2 The following Spray and/or Sprinkler Systems shall be OPERABLE:

a. Elevation 695 ft. - Auxiliary Building

Room No.	Equipment
501	RHR Pump 1A
500	RHR Pump 1B
506	RHR Pump 2A
507	RHR Pump 2B
508	Corridor

b. Elevation 716 ft. - Auxiliary Building

Room No.	Equipment
600	Aux. FW Pump Room - Unit 1
649	Nuclear Services Water Pumps
627	Centrifugal Charging Pump 1A
630	Centrifugal Charging Pump 1B
601	Aux. FW Pump Room - Unit 2
634	Centrifugal Charging Pump 2A
637	Centrifugal Charging Pump 2B
648	Cable Shaft

c. Elevation 733 ft. - Auxiliary Building

Room No.	Equipment
723	Component Cooling Pumps
701	Battery Room Trench Area

d. Elevation 750 ft. - Auxiliary Building

Room No.	Equipment
801	Cable Room - Unit 1
801C	Cable Room - Unit 2
806	Component Cooling Pumps

e. Elevation 725 ft. - Reactor Building

1) Pipe Corridor
2) Lower Containment Ventilation Filters

f. Elevation 738 ft. - Reactor Building

Annulus

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2) By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. For the lower voltage circuit breakers the nominal Trip Setpoint and overcurrent response times are listed in Table 3.8-1. Testing of these circuit breakers shall consist of injecting a current in excess of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to a value specified by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested; and

3) By selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive resistance measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found inoperable during these functional tests shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

TABLE 3.8-1a

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1. 6900 VAC-Swgr			
Primary Bkr-RCP1A	5.0	15.4 @ 25A	Reactor Coolant Pump 1A
Backup Brk-1TA-5	5.0	16.5 @ 20A	
Primary Bkr-RCP1B	5.0	15.4 @ 25A	Reactor Coolant Pump 1B
Backup Brk-1TB-5	5.0	16.5 @ 20A	
Primary Bkr-RCP1C	5.0	15.4 @ 25A	Reactor Coolant Pump 1C
Backup Brk-1TC-5	5.0	16.5 @ 20A	
Primary Bkr-RCP1D	5.0	15.4 @ 25A	Reactor Coolant Pump 1D
Backup Brk-1TD-5	5.0	16.5 @ 20A	
2. 600 VAC-MCC			
1EMXA-2 1D			
Primary Bkr	20	45 @ 60A	NC Pump 1C Thermal Barrier
Backup Fuse	20	N.A.	Outlet Auto Isol Vlv 1KC345A
1EMXA-2 1E			
Primary Bkr	20	45 @ 60A	NC Pump 1A Thermal Barrier
Backup Fuse	20	N.A.	Outlet Auto Isol Vlv 1KC394A
1EMXA-2 2A			
Primary Bkr	20	45 @ 60A	Cont Air Return Fan 1A Damper
Backup Fuse	20	N.A.	IRAF-D-2

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXB-4 7C			
Primary Bkr	20	45 @ 60A	SG 1D Blowdown Line Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 1NM220B
1EMXB-5 1A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust Cont Vessel
Backup Fuse	20	N.A.	Isol Vlv 1VE6B
1EMXB-5 1C			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 1B Suction
Backup Fuse	20	N.A.	Isol Vlv 1VX2B
1EMXC-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 1A
1EMXC-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 1C
1EMXC-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan
Backup Fuse	100	N.A.	No. 1A
1EMXC-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan
Backup Fuse	100	N.A.	No. 1C

TABLE 3.12-1

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS(1)	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
1. Direct Radiation(2)	Forty routine monitoring stations either with two or more dosimeters or with one instrument for measuring and recording dose rate continuously, placed as follows: An inner ring of stations, one in each meteorological sector in the general area of the SITE BOUNDARY; An outer ring of stations, one in each meteorological sector in the 6- to 8-km range from the site; and The balance of the stations be placed in special interest areas such as population centers, nearby residences, schools, and in one or two areas to serve as control stations.	Quarterly.	Gamma dose quarterly.

TABLE 3.12-1 (Continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS[1]	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
2. Airborne			
Radioiodine and Particulates	Samples from five locations: Three samples from close to the three SITE BOUNDARY locations, in different sectors, of the highest calculated annual average groundlevel D/Q. One sample from the vicinity of a community having the highest calculated annual average ground-level D/Q. One sample from a control location, as for example 15-30 km distant and in the least prevalent wind direction.[3]	Continuous sampler operation with sample collection weekly, or more frequently if required by dust loading.	Radioiodine Cannister: I-131 analysis weekly. Particulate Sampler: Gross beta radioactivity analysis following filter change;[4] Gamma isotopic analysis[5] of composite (by location) quarterly.
3. Waterborne			
a. Surface[6]	One sample upstream. One sample downstream.	Composite sample over 1-month period.[7]	Gamma isotopic analysis[5] monthly. Composite for tritium analysis quarterly.
b. Ground	Samples from one or two sources only if likely to be affected[8].	Quarterly.	Gamma isotopic[5] and triti analysis quarterly.
c. Drinking	One sample of each of one to three of the nearest water supplies that could be affected by its discharge. One sample from a control location.	Composite sample over 2-week period[7] when I-131 analysis is performed, monthly composite otherwise.	I-131 analysis on each composite when the dose calculated for the consump-tion of the water is greater than 1 mrem per year.[6] Composite for gross beta and gamma isotopic analyses[5] monthly. Composite for tritium analysis quarterly.

TABLE 3.12-1 (Continued)

TABLE NOTATION

(1) Specific parameters of distance and direction sector from the centerline of one reactor, and additional description where pertinent, shall be provided for each and every sample location in Table 3.12-1 in a table and figure(s) in the ODCM. Refer to NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants," October 1978, and to Radiological Assessment Branch Technical Position, Revision 1, November 1979. Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment and other legitimate reasons. If specimens are unobtainable due to sampling equipment malfunction, every effort shall be made to complete corrective action prior to the end of the next sampling period. All deviations from the sampling schedule shall be documented in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6. It is recognized that, at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the Radiological Environmental Monitoring Program. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.7, identify the cause of the unavailability of samples for that pathway and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).

(2) One or more instruments, such as a pressurized ion chamber, for measuring and recording dose rate continuously may be used in place of, or in addition to, integrating dosimeters. For the purposes of this table, a thermoluminescent dosimeter (TLD) is considered to be one phosphor; two or more phosphors in a packet are considered as two or more dosimeters. Film badges shall not be used as dosimeters for measuring direct radiation. The forty stations is not an absolute number. The number of direct radiation monitoring stations may be reduced according to geographical limitations; e.g., at an ocean site, some sectors will be over water so that the number of dosimeters may be reduced accordingly. The freqency of analysis or readout for TLD systems will depend upon the characteristics of the specific system used and should be selected to obtain optimum dose information with minimal fading.

(3) The purpose of this sample is to obtain background information. If it is not practical to establish control locations in accordance with the distance and wind direction criteria, other sites that provide valid background data may be substituted.

TABLE 3.12-1 (Continued)

TABLE NOTATION

(4) Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than ten times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.

(5) Gamma isotopic analysis means the identification and quantification of gamma-emitting radionuclides that may be attributable to the effluents from the facility.

(6) The "upstream sample" shall be taken at a distance beyond significant influence of the discharge. The "downstream" sample shall be taken in an area beyond but near the mixing zone. "Upstream" samples in an estuary must be taken far enough upstream to be beyond the plant influence. Salt water shall be sampled only when the receiving water is utilized for recreational activities.

(7) A composite sample is one in which the quantity (aliquot) of liquid sampled is proportional to the quantity of flowing liquid and in which the method of sampling employed results in a specimen that is representative of the liquid flow. In this program composite sample aliquots shall be collected at time intervals that are very short (e.g., hourly) relative to the compositing period (e.g., monthly) in order to assure obtaining a representative sample.

(8) Groundwater samples shall be taken when this source is tapped for drinking or irrigation purposes in areas where the hydraulic gradient or recharge properties are suitable for contamination.

(9) The dose shall be calculated for the maximum organ and age group, using the methodology and parameters in the ODCM.

(10) If harvest occurs more than once a year, sampling shall be performed during each discrete harvest. If harvest occurs continuously, sampling shall be monthly. Attention shall be paid to including samples of tuborous and root food products.

3/4.12.2 LAND USE CENSUS

LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 16 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden* of greater than 50 m^2 (500 ft^2) producing broad leaf vegetation. (For elevated releases as defined in Regulatory Guide 1.111, Revision 1, July 1977, the land use census shall also identify within a distance of 5 km (3 miles) the locations in each of the 16 meteorological sectors of all milk animals and all gardens of greater than 50 m^2 producing broad leaf vegetation.)

APPLICABILITY: At all times.

ACTION:

a. With a land use census identifying a location(s) which yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.7.

b. With a land use census identifying a location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, add the new location to the Radiological Environmental Monitoring Program. The sampling location(s), excluding the control station location, having the lowest calculated dose or dose commitment (via the same exposure pathway) may be deleted from this monitoring program after October 31 of the year in which this land use census was conducted. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.7, the next Semiannual Radioactive Effluent Release Report shall contain the following information: (1) the new location(s), (2) revised figure(s) and table(s) for the ODCM reflecting the new location(s), and (3) if samples cannot be obtained, an explanation of why samples are not obtainable (substitute representative locations shall be included, if possible).

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

*Broad leaf vegetation sampling of at least three different kinds of vegetation may be performed at the SITE BOUNDARY in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 3.12-1.4c shall be followed, including analysis of control samples.

SURVEILLANCE REQUIREMENTS

4.12.2 The land use census shall be conducted during the growing season at least once per 12 months using that information which will provide the best results, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.6.

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXA-2 2B			
Primary Bkr	20	45 @ 60A	N2 to Prt Cont Isol Inside
Backup Fuse	20	N.A.	Vlv 1NC54A
1EMXA-2 2C			
Primary Bkr	20	45 @ 60A	RCP Mtg Brg Oil Fill Isol
Backup Fuse	20	N.A.	Vlv 1NC196A
1EMXA-2 3A			
Primary Bkr	30	45 @ 90A	Accumulator 1A Disch Isol
Backup Fuse	30	N.A.	Vlv 1NI54A
1EMXA-2 3B			
Primary Bkr	30	45 @ 90A	Accumulator 1C Disch Isol
Backup Fuse	30	N.A.	Vlv 1NI76A
1EMXA-2 3C			
Primary Bkr	20	45 @ 60A	Test Hdr Inside Cont Isol
Backup Fuse	20	N.A.	Vlv 1NI95A
1EMXA-2 4A			
Primary Bkr	20	45 @ 60A	UHI Check Vlv Test Line Isol
Backup Fuse	20	N.A.	Vlv 1NI266A

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXA-2 4B			UHI Check Vlv Test Line Iso Vlv 1NI267A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-2 4C			Accum 1A Vent to 1NC34 for Blkout Vlv 1NI430A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-5 1B			Pzr Steam Sample Line Inside Cont Isol Vlv 1NM3A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-5 2B			Pzr Steam Sample Line Inside Cont Isol Vlv 1NM6A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-5 3B			NC Hotleg 1A Sample Line Co Isol Vlv 1NM22A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-5 2D			NC Hotleg 1D Sample Line Cont Isol Vlv 1NM25A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	
1EMXA-2 7A			SG 1A Upper Shell Sample Cont Isol Vlv 1NM187A
Primary Bkr	20	45 @ 60A	
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEMS POWERED
2. 600 VAC-MCC (Continued)			
1EMXA-2 7B			
Primary Bkr	20	45 @ 60A	SG 1A Blowdown Line Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 1NM190A
1EMXA-2 7C			
Primary Bkr	20	45 @ 60A	SG 1C Upper Shell Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 1NM207A
1EMXA-2 8A			
Primary Bkr	20	45 @ 60A	SG 1C Blowdown Line Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 1NM210A
1EMXA-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump Seal Return Cont
Backup Fuse	20	N.A.	Cont Vlv 1NV94AC
1EMXA-3 3A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust Cont Vessel
Backup Fuse	20	N.A.	Isol Vlv 1VE5A
1EMXA-3 3B			
Primary Bkr	20	45 @ 60A	Cont. H2 Purge Blower Inlet
Backup Fuse	20	N.A.	Vlv 1VE8A
1EMXA-3 3C			
Primary Bkr	20	45 @ 60A	H2 Purge Inlet Cont Vessel
Backup Fuse	20	N.A.	Isol Vlv 1VE10A
1EMXA-4 2C			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump Inlet
Backup Fuse	20	N.A.	Isol Valve 1NV842AC

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXA-3 4A			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 2A Suction
Backup Fuse	20	N.A.	Isol Vlv 1VX1A
1EMXA-3 5B			
Primary Bkr	20	45 @ 60A	RCDT Pump Disch Cont Isol
Backup Fuse	20	N.A.	Vlv 1WL2A
1EMXA-3 5C			
Primary Bkr	20	45 @ 60A	RCDT Vent Cont Isol Vlv
Backup Fuse	20	N.A.	1WL39A
1EMXA-3 6A			
Primary Bkr	20	45 @ 60A	RB Sump Pump Disch Cont Isol
Backup Fuse	20	N.A.	Vlv 1WL64A
1EMXA-3 6B			
Primary Bkr	20	45 @ 60A	Cont Vent Unit Condensate
Backup Fuse	20	N.A.	Cont Isol Vlv 1WL321A
1EMXB-4 1B			
Primary Bkr	20	45 @ 60A	NC Pump 1B Thermal Barrier
Backup Fuse	20	N.A.	Outlet Auto Isol Vlv 1KC364B
1EMXB-4 1C			
Primary Bkr	20	45 @ 60A	NC Pump 1D Thermal Barrier
Backup Fuse	20	N.A.	Auto Isol Vlv 1KC413B

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXC-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan
Backup Fuse	90	N.A.	No. 1A
1EMXC-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner
Backup Fuse	90	N.A.	No. 1A
1EMXC-6A			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel
Backup Fuse	40	N.A.	Booster Fan CPT-BF-1A
1EMXC-6B			
Primary Bkr	30	45 @ 90A	Upper Containment Air
Backup Fuse	30	N.A.	Handling Unit 1A
1EMXC-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg
Backup Fuse	30	N.A.	Unit 1C
1EMXC-6D			
Primary Bkr	90	110 @ 270A	Hydrogen Skimmer Fan
Backup Fuse	90	N.A.	No. 1
1EMXC-7C			
Primary Bkr	30	45 @ 90A	Upper Cont Return Air Fan
Backup Fuse	30	N.A.	No. 1C

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXC-7D			
Primary Bkr	20	45 @ 60A	Pzr Pwr Oper Relief
Backup Fuse	20	N.A.	Isol Vlv 1NC33A
1EMXC-8C			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm
Backup Fuse	20	N.A.	Air Hdlg Unit 1A
1EMXC-8D			
Primary Bkr	20	45 @ 60A	Upper Containment Return
Backup Fuse	20	N.A.	Air Fan No. 1A
1EMXA-4 3C			
Primary Bkr	30	45 @ 90A	NC Loop 1C Discharge to ND
Backup Fuse	30	N.A.	System Cont Isol Vlv 1ND 2AC
1EMXD-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 1B
1EMXD-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 1D
1EMXD-3B			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel
Backup Fuse	40	N.A.	Booster Fan CPT-BF-1B

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1EMXD-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1B
Backup Fuse	100	N.A.	
1EMXD-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan No. 1D
Backup Fuse	100	N.A.	
1EMXD-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan No. 1B Fan CPT-BF-1A
Backup Fuse	90	N.A.	
1EMXD-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner No. 1B
Backup Fuse	90	N.A.	
1EMXD-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 1B
Backup Fuse	30	N.A.	
1EMXD-6D			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg Unit No. 1D
Backup Fuse	30	N.A.	
1EMXD-6E			
Primary Bkr	90	110 @ 270A	Hydrogen Skimmer Fan No. 1B
Backup Fuse	90	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXM F2E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A4 Blower A
Backup Fuse	20	N.A.	
1MXM F3A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A5 Blower A
Backup Fuse	20	N.A.	
1MXM F3B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A6 Blower A
Backup Fuse	20	N.A.	
1MXM F3C			
Primary Bkr	20	45 @ 60A	Incore Inst Room Sump Pump
Backup Fuse	20	N.A.	
1MXM F3D			
Primary Bkr	100	110 @ 300A	Upper Cont Welding Recpt
Backup Fuse	100	N.A.	
1MXM F4A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A7 Blower A
Backup Fuse	20	N.A.	
1MXM F4B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A8 Blower A
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXM F4D			
Primary Bkr	100	110 @ 300A	Welding Feeder
Backup Fuse	100	N.A.	
1MXM F5C			
Primary Bkr	50	110 @ 150A	Ice Cond Floor Cooling Defrost Heater 1A
Backup Fuse	50	N.A.	
1MXM F6C			
Primary Bkr	60	110 @ 180A	Reactor Coolant Drain Tank Pump 1A
Backup Fuse	60	N.A.	
1MXM F7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A9 Blower A
Backup Fuse	20	N.A.	
1MXM F7B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A10 Blower A
Backup Fuse	20	N.A.	
1MXM F7C			
Primary Bkr	30	45 @ 90A	Lower Cont Aux Charcoal Filter Fan 1A
Backup Fuse	30	N.A.	
1MXM F8A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1A11 Blower A
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXM R4F			
Primary Bkr	30	45 @ 90A	RCP 1D Oil Lift Pump
Backup Fuse	30	N.A.	
1MXM R5B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B9 Blower A
Backup Fuse	20	N.A.	
1MXM R5C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B10 Blower A
Backup Fuse	20	N.A.	
1MXM R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 1B
Backup Fuse	175	N.A.	
1MXM R6A			
Primary Bkr	20	45 @ 60A	Rod Cntrl Cluster Change Fixture Hoist Drive
Backup Fuse	20	N.A.	
1MXM R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B11 Blower A
Backup Fuse	20	N.A.	
1MXM R7A			
Primary Bkr	20	45 @ 60A	Stud Tensioner Hoist
Backup Fuse	20	N.A.	
1MXM R6D			
Primary Bkr	150	110 @ 450A	175 Ton Polar Crane
Backup Fuse	150	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR Cont. Rating (AMPERES)	RESPONSE Time (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXM R7B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1A
Backup Fuse	20	N.A.	
1MXM R7D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B12
Backup Fuse	20	N.A.	
1MXM R7E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B13 Blower A
Backup Fuse	20	N.A.	
1MXM R8A			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1B
Backup Fuse	20	N.A.	
1MXM R8B			
Primary Bkr	20	45 @ 60A	Incore Inst Drive 1C
Backup Fuse	20	N.A.	
1MXM R8D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B14 Blower A
Backup Fuse	20	N.A.	
1MXM R8E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B15 Blower A
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXN-R3A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B3 Blower B
Backup Fuse	20	N.A.	
1MXN-R3B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B4 Blower B
Backup Fuse	20	N.A.	
1MXN-R3C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B5 Blower B
Backup Fuse	20	N.A.	
1MXN-R3D			
Primary Bkr	30	45 @ 90A	RCP 1C Oil Lift Pump No. 2
Backup Fuse	30	N.A.	
1MXN-R4A			
Primary Bkr	50	110 @ 150A	Ice Cond Bridge Crane
Backup Fuse	50	N.A.	
1MXN-R4B			
Primary Bkr	30	45 @ 90A	RB Equip Hatch Hoist No. 1
Backup Fuse	30	N.A.	
1MXN-R4D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B6 Blower B
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
1MXN-R4E			
Primary Bkr	30	45 @ 90A	RCP 1D Oil Lift Pump No. 2
Backup Fuse	30	N.A.	
1MXN-R5D			
Primary Bkr	175	200 @ 525A	Ice Cond Equip Pwr Pnlbd 1
Backup Fuse	175	N.A.	
1MXN-R6A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B7 Blower B
Backup Fuse	20	N.A.	
1MXN-R6B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B8 Blower B
Backup Fuse	20	N.A.	
1MXN-R6C			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B9 Blower B
Backup Fuse	20	N.A.	
1MXN-R6D			
Primary Bkr	100	110 @ 300A	Welding Fdr
Backup Fuse	100	N.A.	
1MXN-R7A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 1B10 Blower B
Backup Fuse	20	N.A.	
1MXN-R5A			
Primary Bkr	20	45 @ 60A	Control Room Area Duct Heater CRA-H
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
MXN-R5B			
Primary Bkr	20	45 @ 60A	Control Room Area Duct
Backup Fuse	20	N.A.	Heater
SMXG-F3G			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to
Backup Fuse	20	N.A.	Cont Sump Isol Vlv 1NV1012C
SMXG-F4G			
Primary Bkr	20	45 @ 60A	Standby Makeup Pump to NC
Backup Fuse	20	N.A.	Pump Seals Isol Vlv 1NV1013C
1MXNA-3C			
Primary Bkr	20	45 @ 60A	NC Pump Motor Drain Tank
Backup Fuse	20	N.A.	Pump No. 1
1MXNA-3D			
Primary Bkr	20	45 @ 60A	Ice Cond Equip Access Door 1B
Backup Fuse	20	N.A.	
SMXC-7D			
Primary Bkr	15	45 @ 45A	Unit 1 Personnel Lock
Backup Fuse	15	N.A.	
SMXA-F4A			
Primary Bkr	15	45 @ 45A	Unit 1 Emergency Personnel Lock
Backup Fuse	15	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
3. 600 VAC-Press Htr Pwr Pnls			
Backup Press Htr Pwr Pnl 1A-1A			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 1, 2, & [illegible]
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1A-1B			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 5, 6, & 27
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1A-1C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 9, 10, & 32
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1A-2C			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 11, 12, & 35
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1A-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 13, 14, & 37
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1A-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 17, 18, & 42
Backup Fuse	90	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
3. 600 VAC-Press Htr Pwr Pnls (Continued)			
Backup Press Htr Pwr Pnl 1D-2D			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 38, 67, & 68
Backup Fuse	90	N.A.	
Backup Press Htr Pwr Pnl 1D-2E			
Primary Bkr	90	110 @ 270A	Pressurizer Heaters 43, 73, & 74
Backup Fuse	90	N.A.	
4. 120 VAC-Panelboards			
1EKVD-12			
Primary Bkr	20	40 @ 60A	Rad Mon Sys Sample Solenoid Vlvs 1MISV 5581 & 5583
Backup Fuse	6	N.A.	
KRA-22			
Primary Bkr	30	45 @ 90A	Rad Mons 1EMF9 & 1EMF16
Backup Fuse	1	N.A.	
KXA-13			
Primary Bkr	20	40 @ 60A	Rad Mon Sys Sample Solenoid Vlvs IMISV 5584, 5585, & 5586
Backup Fuse	4	N.A.	
1KM-1			
Primary Bkr	30	45 @ 90A	RCP 1B Space Htr
Backup Fuse	30	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
4. 120 VAC-Panelboards (Continued)			
1KM-2			
Primary Bkr	30	45 @ 90A	RCP 1C Space Htr
Backup Fuse	30	N.A.	
1KM-28			
Primary Bkr	20	36 @ 60A	Cont Spray Sys Rh Trans 1NSMT 5400
Backup Fuse	20	N.A.	
1KM-30			
Primary Bkr	20	36 @ 60A	Cont Spray Sys Rh Trans 1NSMT 5410
Backup Fuse	20	N.A.	
1KN-1			
Primary Bkr	30	45 @ 90A	RCP 1B Space Heater
Backup Fuse	30	N.A.	
1KN-2			
Primary Bkr	30	45 @ 90A	RCP 1D Space Heater
Backup Fuse	30	N.A.	
1KN-25			
Primary Bkr	20	36 @ 60A	Incore Inst Dehum. #1
Backup Fuse	20	N.A.	
1KN-27			
Primary Bkr	20	36 @ 60A	Fuel Handling Control Console
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
4. 120 VAC-Panelboards (Continued)			
1KN-29			
Primary Bkr	20	36 @ 60A	Incore Inst Dehum. #2
Backup Fuse	20	N.A.	
5. 250 VDC-Lighting			
RB Deadlight Pnlbd 1DLD #1			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 1LR1 & 1LR2
Backup Fuse	20	N.A.	
RB Deadlight Pnlbd 1DLD #3			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 1LR4, 1LR5, & 1LR6
Backup Fuse	20	N.A.	
RB Deadlight Pnlbd 1DLD #4			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 1LR7, 1LR8, & 1LR9
Backup Fuse	20	N.A.	
RB Deadlight Pnlbd 1DLD #6			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 1LR12
Backup Fuse	20	N.A.	

TABLE 3.8-1a (Continued)

UNIT 1 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
5. 250 VDC-Lighting (Continued)			
RB Deadlight Pnlbd 1DLD #7			
Primary Bkr	20	40 @ 60A	Ltg Pnl No. 1LR16
Backup Fuse	20	N.A.	
RB Deadlight Pnlbd 1DLD #9			
Primary Bkr	20	40 @ 60A	Ltg Pnl Nos. 1LR18 & 1LR17
Backup Fuse	20	N.A.	

TABLE 3.8-1b

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
1. 6900 VAC-Swgr			
Primary Bkr-RCP2A	5.0	15.4 @ 25A	Reactor Coolant Pump 2A
Backup Brk-2TA-5	5.0	16.5 @ 20A	
Primary Bkr-RCP2B	5.0	15.4 @ 25A	Reactor Coolant Pump 2B
Backup Brk-2TB-5	5.0	16.5 @ 20A	
Primary Bkr-RCP2C	5.0	15.4 @ 25A	Reactor Coolant Pump 2C
Backup Brk-2TC-5	5.0	16.5 @ 20A	
Primary Bkr-RCP2D	5.0	15.4 @ 25A	Reactor Coolant Pump 2D
Backup Brk-2TD-5	5.0	16.5 @ 20A	
2. 600 VAC-MCC			
2EMXA-2 1D			
Primary Bkr	20	45 @ 60A	NC Pump 2C Thermal Barrier
Backup Fuse	20	N.A.	Outlet Auto Isol Vlv 2KC345A
2EMXA-2 1E			
Primary Bkr	20	45 @ 60A	NC Pump 2A Thermal Barrier
Backup Fuse	20	N.A.	Outlet Auto Isol Vlv 2KC394A
2EMXA-2 2A			
Primary Bkr	20	45 @ 60A	Cont Air Return Fan 2A Damper
Backup Fuse	20	N.A.	2RAF-D-2

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2EMXA-2 2B			
Primary Bkr	20	45 @ 60A	N2 to Prt Cont Isol Inside
Backup Fuse	20	N.A.	Vlv 2NC54A
2EMXA-2 2C			
Primary Bkr	20	45 @ 60A	RCP Mtg Brg Oil Fill Isol
Backup Fuse	20	N.A.	Vlv 2NC196A
2EMXA-2 3A			
Primary Bkr	30	45 @ 90A	Accumulator 2A Disch Isol
Backup Fuse	30	N.A.	Vlv 2NI54A
2EMXA-2 3B			
Primary Bkr	30	45 @ 90A	Accumulator 2C Disch Isol
Backup Fuse	30	N.A.	Vlv 2NI76A
2EMXA-2 3C			
Primary Bkr	20	45 @ 60A	Test Hdr Inside Cont Isol
Backup Fuse	20	N.A.	Vlv 2NI95A
2EMXA-2 4A			
Primary Bkr	20	45 @ 60A	UHI Check Vlv Test Line Isol
Backup Fuse	20	N.A.	Vlv 2NI266A

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	REPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2EMXB-4 5A			
Primary Bkr	20	45 @ 60A	NI Accum 2B Sample Line
Backup Fuse	20	N.A.	Inside Cont Isol Vlv 2NM75B
2EMXB-4 5B			
Primary Bkr	20	45 @ 60A	NI Accum 2C Sample Line
Backup Fuse	20	N.A.	Inside Cont Isol Vlv 2NM78B
2EMXB-4 5C			
Primary Bkr	20	45 @ 60A	Accum 2B Vent to 2NC32
Backup Fuse	20	N.A.	for Blkout Vlv 2NI431B
2EMXB-4 6A			
Primary Bkr	20	45 @ 60A	NI Accum D2 Sample Line
Backup Fuse	20	N.A.	Inside Cont Isol Vlv 2NM81B
2EMXB-4 6B			
Primary Bkr	20	45 @ 60A	SG 2B Upper Shell Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 2NM197B
2EMXB-4 6C			
Primary Bkr	20	45 @ 60A	SG 2B Blowdown Line Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 2NM200B
2EMXB-4 7B			
Primary Bkr	20	45 @ 60A	SG 2D Upper Shell Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 2NM217B

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2EMXB-4 7C			
Primary Bkr	20	45 @ 60A	SG 2D Blowdown Line Sample
Backup Fuse	20	N.A.	Cont Isol Vlv 2NM220B
2EMXB-5 1A			
Primary Bkr	20	45 @ 60A	H2 Purge Exhaust Cont Vessel
Backup Fuse	20	N.A.	Isol Vlv 2VE6B
2EMXB-5 1C			
Primary Bkr	20	45 @ 60A	H2 Skimmer Fan 2B Suction
Backup Fuse	20	N.A.	Isol Vlv 2VX2B
2EMXC-1A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 2A
2EMXC-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling
Backup Fuse	200	N.A.	Unit No. 2C
2EMXC-3C			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan
Backup Fuse	100	N.A.	No. 2A
2EMXC-3D			
Primary Bkr	100	110 @ 300A	Control Rod Drive Vent Fan
Backup Fuse	100	N.A.	No. 2C

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2EMXC-4C			
Primary Bkr	90	110 @ 270A	Containment Air Return Fan
Backup Fuse	90	N.A.	No. 2A
2EMXC-4D			
Primary Bkr	90	110 @ 270A	Hydrogen Recombiner
Backup Fuse	90	N.A.	No. 2A
2EMXC-6A			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel
Backup Fuse	40	N.A.	Booster Fan CPT-BF-2A
2EMXC-6B			
Primary Bkr	30	45 @ 90A	Upper Containment Air Handling
Backup Fuse	30	N.A.	Unit 2A
2EMXC-6C			
Primary Bkr	30	45 @ 90A	Upper Containment Air Hdlg
Backup Fuse	30	N.A.	Unit 2C No. 2C
2EMXC-6D			
Primary Bkr	90	110 @ 270A	Hydrogen Skimmer Fan
Backup Fuse	90	N.A.	
2EMXC-7C			
Primary Bkr	20	45 @ 60A	Upper Cont Return Air Fan
Backup Fuse	20	N.A.	No. 2C

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2EMXC-7D			
Primary Bkr	20	45 @ 60A	Pzr Pwr Oper Relief
Backup Fuse	20	N.A.	Isol Vlv 2NC33A
2EMXC-8C			
Primary Bkr	20	45 @ 60A	Incore Instrumentation Rm
Backup Fuse	20	N.A.	Air Hdlg Unit 2A
2EMXC-7B			
Primary Bkr	20	45 @ 60A	Upper Containment Return
Backup Fuse	20	N.A.	Air Fan No. 2A
2EMXA-4 3C			
Primary Bkr	30	45 @ 90A	NC Loop 2C Discharge to ND
Backup Fuse	30	N.A.	System Cont Isol Vlv 2ND 2AC
2EMXD-4			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Un
Backup Fuse	200	N.A.	No. 2B
2EMXD-2A			
Primary Bkr	200	250 @ 600A	Lower Containment Cooling Unit
Backup Fuse	200	N.A.	No. 2D
2EMXD-3B			
Primary Bkr	40	45 @ 120A	Containment Pipe Tunnel Booster
Backup Fuse	40	N.A.	Fan CPT-BF-2B

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2MXM F2B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR15
Backup Fuse	40	N.A.	
2MXM F2D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A1 Blower A
Backup Fuse	20	N.A.	
2MXM F2E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A2 Blower A
Backup Fuse	20	N.A.	
2MXM F3A			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR16
Backup Fuse	40	N.A.	
2MXM F3B			
Primary Bkr	40	45 @ 120A	Lighting Pnlbd 2LR17
Backup Fuse	40	N.A.	
2MXM F3C			
Primary Bkr	25	45 @ 75A	Reactor Bldg Equip Hdlg 5 Ton Jib Crane
Backup Fuse	25	N.A.	
2MXM F3D			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A3 Blower A
Backup Fuse	20	N.A.	

TABLE 3.8-1b (Continued)

UNIT 2 CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

DEVICE NUMBER & LOCATION	TRIP SETPOINT OR CONT. RATING (AMPERES)	RESPONSE TIME (SECONDS)	SYSTEM POWERED
2. 600 VAC-MCC (Continued)			
2MXM F3E			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A4 Blower A
Backup Fuse	20	N.A.	
2MXM F4A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A5 Blower A
Backup Fuse	20	N.A.	
2MXM F4B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A6 Blower A
Backup Fuse	20	N.A.	
2MXM F4C			
Primary Bkr	20	45 @ 60A	Incore Inst Room Sump Pump
Backup Fuse	20	N.A.	
2MXM F4D			
Primary Bkr	100	110 @ 300A	Upper Cont Welding Recpt
Backup Fuse	100	N.A.	
2MXM F5A			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A7 Blower A
Backup Fuse	20	N.A.	
2MXM F5B			
Primary Bkr	20	45 @ 60A	Ice Cond AHU 2A8 Blower A
Backup Fuse	20	N.A.	