UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Docket No. 50-282
50-306

REQUEST FOR AMENDMENT TO
OPERATING LICENSE NOS. DPR-42 & DPR-60

(Revision No. 1 to License Amendment Request Dated August 7, 1975)

Northern States Power Company, a Minnesota corporation, request authorization for changes to the Technical Specifications as shown on the attachments labeled Exhibit A and Exhibit B. Exhibit A describes the proposed changes along with reasons for the change. Exhibit B is a set of Technical Specification pages incorporating the proposed changes.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By _____
David Musolf
Manager - Nuclear Support Services

On this 3rd day of December, 1982 before me a notary public in and for said County, personally appeared David Musolf, Manager - Nuclear Support Services, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof and that to the best of his knowledge, information and belief, the statements made in it are true and that it is not interposed for delay.

_____
Betty J. Dean

BETTY J. DEAN
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Dec 16 1987

EXHIBIT A

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
REVISION 1 TO
LICENSE AMENDMENT REQUEST DATED AUGUST 7, 1975

PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS

APPENDIX A OF OPERATING
LICENSES DPR-42 & DPR-60

Pursuant to 10 CFR Part 50, Sections 50.59 and 50.90, the holders of Operating Licenses DPR-42 and DPR-60 hereby propose the following changes to Appendix A, Technical Specifications:

1. Specification 4.4.A.1, Type A Test Duration

PROPOSED CHANGE

Add a new specification 4.4.A.1.b as follows:

> b. A Type A test may be terminated in less than 24 hours if the procedures of Bechtel Topical Report BN-TOP-1 are followed completely.

Renumber specifications 4.4.A.1.b and 4.4.A.1.c as 4.4.A.1.c and 4.4.A.1.d respectively.

REASON FOR CHANGE

In our letter dated November 2, 1977 and in followup discussions and correspondence, Northern States Power Company has sought to obtain approval from the Commission for terminating containment integrated leak rate tests (Type A tests) in less than 24 hours. In discussions with our Project Manager in the Division of Licensing we have been informed that Bechtel Topical Report BN-TOP-1 has been approved for use by the Commission and provides for test durations of less than 24 hours. This change revises the Technical Specifications to show NRC Staff approval of BN-TOP-1.

SAFETY EVALUATION

Bechtel Topical Report BN-TOP-1 requires the use of rigorous test duration criteria. These criteria have been found acceptable by the NRC Staff when used in conjunction with the test procedure of BN-TOP-1.

2. Specification 4.4.A.3, Shield Building and Auxiliary Building Leak Tests

PROPOSED CHANGE

Delete Specification 4.4.A.3 and renumber the remaining Specifications in Section 4.4.A. Combine pages TS.4.4-2 and TS.4.4-3 and renumber other pages.

REASON FOR CHANGE

Specification 3.3.a is no longer required. Shield building leak tightness is verified by the quarterly shield building ventilation system operability test. Refer to Specification 4.4.B.1.

Specification 3.3.b is no longer required. Auxiliary building ventilation zone leak tightness is verified by the quarterly auxiliary building special ventilation system operability test. Refer to Specification 4.4.B.2. System performance with a 10-foot opening was demonstrated during a special test program several years ago and reported in our April 9, 1976 report entitled, "Containment Systems Special Analyses." It is not necessary to repeat testing with an additional opening on a periodic basis.

Specification 3.3.c is no longer required. Special testing was performed and reported in our April 9, 1976 report. This report establishes the instrument location for shield building tests required by Specification 4.4.B.1.

SAFETY EVALUATION

None required. This change removes redundant and obsolete surveillance requirements.

3. Table TS.4.1-1, Penetration Leakage Tests

PROPOSED CHANGE

a. Remove all references to "Hydrostatic" tests. Remove the column labeled "Test Method."

b. Change "Penetration Designation" for 3A, 3B, 50 (Unit 2), and 49A to "Note (1)." Change "Type of Test" to "-" indicating that no testing is required.

c. Change "Penetration Designation" for steam lines (6A, 6B), feedwater lines (7A - 7D), and steam generator blowdown (8A - 8D) to "Note (2)." Change "Type of Test" to "-" indicating that no testing is required.

d. Change "Penetration Designation" for RHR loop out (9), RHR loop in (10), Safety Injection (28A, 28B, 35), Cooling Water (37A-D, 38A-D), and Closed Cooling (32A-B, 33A-B, 39, and 40), and Low Head SI (48) to "Note (5)." Change "Type of Test" to "-" indicating that no testing is required.

e. For Penetration 6A and 6B add the notation, "(6C, 6D in Unit 2)."

f. Redesignate the three penetrations (42A) Post-LOCA Hydrogen Control Air Supply, Post-LOCA Hydrogen Control Vent, and Sample to Gas Analyzer as penetrations (42A-1), (42A-2), and (42A-3) respectively.

g. Redesignate the two penetrations (42F) Heating Steam Condensate Return and Heating Steam Return Vent as (42F-1) and (42F-2) respectively (42E-1 and 42E-2 in Unit 2).

h. Redesignate the three penetration (50) Post-LOCA Hydrogen Control Air Supply, Post-LOCA Hydrogen Control Vent, and Sample to Gas Analyzer as penetrations (50-1), (50-2), and (50-3) respectively.

i. Change the "Penetration Description" for the following penetrations:

No.	Current Description	Correct Description
21	RC Drain Tank Gas to Analyzer	RC Drain Tank to Gas Analyser
27-1,2	Pressure Instrument	OILT Instruments
30-A,B	Containment Sump Suction	Low Head SI Suction from Sump B
37A-D	CC to Fan Coil Units	Cooling Water to Fan Coil Units
38A-D	CC from Fan Coil Units	Cooling Water from Fan Coil Units

j. For electrical penetrations (34) and (47) delete "Nitrogen to Electrical Penetration" test. Change the penetration designation in each case from "sealed" to "Annulus" and Type of Test to "B."

k. Change the "Type of Test" from "H" to "C" for the following penetrations: 12, 13A, 13B, 14, 29A, 29B, 30A, and 30B.

l. Change note (4) on page 5 of the table to read:

> 4. These penetrations have blank flanges. Penetrations 18, 25A, 25B, 27-1, 27-2, 27C-1, and 27C-2 have blind flanges on the inside only. Penetrations 42B, 43A, 52, and 53 have a blind flange in the annulus only.

m. Change note (5) on page 5 of the table to read:

> 5. Safety injection, RHR, cooling water, and closed cooling water system valves not relied upon to prevent containment leakage.

n. Add note (6) on page 5 of the table to read:

> 6. The leakage test for this penetration is only required prior to use of the inservice purge system.

o. Change the "Penetration Designation" for penetrations 42A and 50 (42A-1 and 50-1) from "Exterior" to "Annulus."

REASON FOR CHANGE

a. Hydrostatic testing is not permitted by Appendix J. All type B and C testing will be pneumatic.

b. These are instrument penetrations. Isolation valves are not relied upon in these lines to prevent containment leakage.

c. These are steam and feedwater system penetrations. Isolation valves are not relied upon in these lines to prevent containment leakage.

d. These are systems in which isolation valves are not relied upon to prevent containment leakage.

e. Correction of typographical error.

f. Correction of typographical error.

g. Correction of typographical error.

h. Correction of typographical error.

i. Correction of typographical errors.

j. Nitrogen is not supplied to these penetrations on a continuous basis. The nitrogen makeup line has been disconnected.

k. Hydrostatic testing will no longer be performed.

l. Clarification of blank flange installation.

m. Clarification of testing requirements for systems in which isolation valves are not relied upon to prevent containment leakage.

n. Clarification of when inservice purge valves must be tested (when blank flange is removed to use the system).

o. These penetrations have fail open solenoid valves venting the volume between the inner and outer isolation valves to the annulus. All leakage is therefore directed to the annulus where it is processed by the shield building ventilation system.

SAFETY EVALUATION

These changes are required to conform to the requirements of 10 CFR Part 50 Appendix J.

NOTE:

Items 1.c, 2, and 4 of our August 7, 1975 License Amendment Request have been withdrawn. These items related to a change in the allowable leakage attributable to leakage to the ABSVZ and leakage to the exterior. The change was originally submitted in response to a letter dated March 27, 1975 from Mr Karl Kniel, Chief, LWR Branch 2-2, Directorate of Licensing, USAEC, to Mr L O Mayer, NSP.

The suggested change in leakage ratio was based on data from the initial Unit 1 Type B and Type C tests prior to start up. Experience since the preoperational testing has indicated that changes in the leakage ratio are unnecessary.

EXHIBIT B

Revision 1 to License Amendment Request Dated August 7, 1975

Exhibt B, attached, consists of newly prepared pages of the Technical Specifications as listed below. These pages incorporate the proposed changes.

Pages TS.4.4-1
TS.4.4-2
*TS.4.4-3
*TS.4.4-4
*TS.4.4-5
TS.4.4-6
*TS.4.4-7
TS.4.4-8
TABLE TS.4.4-1 (page 1 of 5)
TABLE TS.4.4-1 (page 2 of 5)
TABLE TS.4.4-1 (page 3 of 5)
TABLE TS.4.4-1 (page 4 of 5)
TABLE TS.4.4-1 (page 5 of 5)

* Page renumering only

4.4 CONTAINMENT SYSTEM TESTS

Applicability

Applies to integrity testing of the steel containments, shield buildings, auxiliary building special ventilation zone, and the associated systems including isolation valves and emergency ventilation systems.

Objective

To assure that potential leakage from containment of either unit to the environs following a hypothetical loss of coolant accident in that unit is held within values assumed in the accident analysis.

Specification

A. Containment Leakage Tests

Periodic and post-operational integrated leakage rate tests of each containment shall be performed in accordance with the requirements of 10CFR50, Appendix J, "Reactor Containment Leakage Testing for Water Cooled Power Reactors," as published in the Federal Register, Volume 38, February 14, 1973.

1. Type A tests shall initially be performed in accordance with the reduced pressure test program as defined in paragraph III A4(a)(1) of Appendix J. Periodic tests shall be in accord with either the reduced or peak pressure test program defined in Paragraph III A5. Tests shall include the following conditions:

   a. The absolute method of leakage rate testing will be used as the method for performing the test. The controlled leak-off method of leakage rate testing will be used for verification. Test will be conducted in accordance with the provisions of ANSI N45.4-1972.

   b. A Type A test may be terminated in less than 24 hours if the procedures of Bechtel Topical Report BN-TOP-1 are followed completely.

c. An initial leakage rate test will be performed at a pressure of 23 psig (P_t) and a second test at 46 psig (P_a).

d. The design basis accident leakage rate (L_a) shall be 0.25 weight percent per 24 hours at pressure P_a.

2. Initial and periodic type B (except airlocks) and type C tests of penetrations (Table TS.4.4-1) shall be performed at a pressure of 46 psig (P_a) in accordance with the provisions of Appendix J, Section III.B and Section III.C, and Specification 4.4.A.5. The airlocks shall be tested initially and at six-month intervals at 46 psig by pressurizing the inner volume. In addition, when containment system integrity is required, each airlock shall be tested every 3 days if it is in use by pressurizing the intergasket space to 10 psig.

3. Type A, tests will be considered to be satisfactory if the acceptance criteria delineated in Appendix J, Section III.A are met.

4. Type B and C tests will be considered to be satisfactory if the combined leakage rate of all components subjected to Type B and C tests does not exceed 60% of the L_a and if the following conditions are met:

a. Type B and C tests will be considered to be satisfactory if the combined leakage rate of all components subjected to Type B and C tests does not exceed 60% of the L_a and if the following conditions are met.

a. For pipes connected to systems that are in the ABSVZ (Designated ABSVZ in Table TS.4.4-1) the total leakage past isolation valves shall be less than 0.1 weight percent per 24 hours at pressure P_a.

b.

b. For pipes connected to systems that are exterior to both the shield building and the ABSVZ (designated EXTERIOR in Table TS.4.4-1) the total leakage past isolation valves shall be less than 0.01 weight percent per 24 hours at pressure P_a.

c. For airlocks, the leakage shall be less than 256 sccm at 10 psig for door intergasket tests and 1500 sccm at 46 psig for overall airlock tests.

5. The retest schedules for Type A, B, and C tests will be in accordance with Section III-D of Appendix J. Each shield building shall be retested in accordance with the Type A test schedule for its containment. The auxiliary building special ventilation zone shall be retested in accordance with the Type A test schedule for Unit 1 containment.

6. Type A, B and C tests will be in accordance with Section V of Appendix J. Inspection and reporting requirements of each shield building test shall be the same as for Type A tests. The auxiliary building special ventilation zone shall have the same inspection and reporting requirements as for the Type A tests of Unit 1.

B. Emergency Charcoal Filter Systems

1. Periodic tests of the shield building ventilation system shall be performed at quarterly intervals to demonstrate operability. Each redundant train shall be initiated from the control room and determined to be operable at the time of its periodic test if it meets drawdown performance computed for the test conditions with 75% of the shield building inleakage specified in Figure TS 4.4-1 after initiation.

2. Periodic tests of the auxiliary building special ventilation system shall be performed at approximately quarterly intervals to demonstrate its operability. Each redundant train shall be initiated from the control room and determined to be operable at the time of periodic test if it isolates the normal ventilation system and procedures a measureable negative pressure in the ABSVZ within 6 minutes after initiation.

3. At least once per operating cycle, or once each 18 months, whichever comes first, tests of the filter units in the Shield Building Ventilation System and the Auxiliary Building Special Ventilation System shall be performed as indicated below:

   a. The pressure drop across the combined HEPA filters and the charcoal adsorbers shall be demonstrated to be less than 6 inches of water at system design flow rate ($\pm$10%).

   b. The inlet heaters and associated controls for each train shall be determined to be operable.

   c. Verify that each train of each ventilation system automatically starts on a simulated signal of safety injection and high radiation (Auxiliary Building Special Ventilation only).

4. a. The tests of Specification 3.6.E.2 shall be performed at least once per operating cycle, or once every 18 months whichever occurs first, or after every 720 hours of system operation or following painting, fire or chemical release in any ventilation zone communicating with the system that could contaminate the HEPA filters or charcoal adsorbers.

b. Cold DOP testing shall be performed after each complete or partial replacement of a HEPA filter bank or after any structural maintenance on the system housing that could affect the HEPA bank bypass leakage.

c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of a charcoal adsorber bank or after any structural maintenance on the system housing that could affect the charcoal adsorber bank bypass leakage.

d. Each circuit shall be operated with the heaters on at least 10 hours every month.

5. Perform an air distribution test on the HEPA filter bank after any maintenance or testing that could affect the air distribution within the systems. The test shall be performed at rated flow rate (±10%). The results of the test shall show the air distribution is uniform within ±20%.

C. Containment Vacuum Breakers

The air-operated valve in each vent line shall be tested at quarterly intervals to demonstrate that a simulated containment vacuum of 0.5 psi will open the valve and a simulated accident signal will close the valve. The check valves as well as the butterfly valves will be leak-tested during each refueling shutdown in accordance with the requirements of Specification 4.4 A.2.

D. Residual Heat Removal System

1. Those portions of the residual heat removal systems external to the isolation valves at the containment shall be hydrostatically tested for leakage at 12-month intervals.

2. Visual inspection shall be made for excessive leakage from components of the system. Any visual leakage that cannot be stopped at test conditions shall be measured by collection and weighing or by another equivalent method.

3. The acceptance criterion is that maximum allowable leakage from either train of the recirculation heat removal system components (which includes valve stems, flanges and pump seals) shall not exceed two gallons per hour when the system is at 350 psig.

4. Repairs shall be made as required to maintain leakage within the acceptance criterion in Specification 4.4 D.3.

5. If repairs are not completed within 7 days, the reactor shall be shut down and depressurized until repairs are effected and the acceptance criterion in 3. above is satisfied.

E. Containment Isolation Valves

During each refueling shutdown, the containment isolation valves, shield building ventilation valves, and the auxiliary building normal ventilation system isolation valves shall be tested for operability by applying a simulated accident signal to them.

F. Post Accident Containment Ventilation System

During each refueling shutdown, the operability of system recirculating fans and valves, including actuation and indication, shall be demonstrated.

G. Containment and Shield Building Air Temperature

Prior to establishing reactor conditions requiring containment integrity, the average air temperature difference between the containment and its associated Shield Building shall be verified to be within acceptable limits.

H. Containment Shell Temperature

Prior to establishing reactor conditions requiring containment integrity, the temperature of the containment vessel wall shall be verified to be within acceptable limits.

Basis

The containment system consists of a steel containment vessel, a concrete shield building, the auxiliary building special ventilation zone (ABSVZ), a shield building ventilation system, and an auxiliary building special ventilation system. In the event of a loss-of-coolant accident, a vacuum in the shield building annulus will cause most leakage from the containment vessel to be mixed in the annulus volume and recirculated through a filter system before its deferred release to the environment through the exhaust fan that maintains vacuum. Some of the leakage goes to the ABSVZ from which it is exhausted through a filter. A small fraction bypasses both filter systems.

The freestanding containment vessel is designed to accommodate the maximum internal pressure that would result from the Design Basis Accident.[1] For initial conditions typical of normal operation, 120°F and 15 psia, an instantaneous double-ended break with minimum safeguards results in a peak pressure of less than 46 psig at 268°F.

The containment will be strength-tested at 51.8 psig and leak-tested at 46.0 psig to meet acceptance specifications.

The safety analysis[2][3] is based on a conservatively chosen reference set of assumptions regarding the sequence of events relating to activity release and attainment and maintenance of vacuum in the shield building annulus and the auxiliary building special ventilation zone, the effectiveness of filtering, and the leak rate of the containment vessel as a function of time. The effects of variation in these assumptions, including that for leak rate, has been investigated thoroughly. A summary of the items of conservatism involved in the reference calculation and the magnitude of their effect upon off-site dose demonstrates the collective effectiveness of conservatism in these assumptions.

Several penetrations of the containment vessel and the shield building could, in the event of leakage past their isolation valves, result in leakage being conveyed across the annulus by the penetrations themselves, thus bypassing the function of the shield building vent system.[5] Such leakage is estimated not to exceed .025% per day. A special zone of the auxiliary building has minimum-leakage construction and controlled access, and is designated as a special ventilation zone where such leakage would be collected by either of two redundant trains of the auxiliary building special vent system. This system, when activated, will supplant the normal ventilation and draw a vacuum throughout the zone such that all outleakage will be through particulate and charcoal filters which exhaust to the shield building exhaust stack.

The design basis loss-of-coolant accident was initially evaluated by the AEC staff[3] assuming primary containment leak rate of 0.5% per day at the peak accident pressure. Another conservative assumption in the calculation is that primary containment leakage directly to the ABSVZ is 0.1% per day and leakage directly to the environs is 0.01% per day. The resulting two-hour doses at the nearest site boundary and 30-day doses at the low population zone radius of 1½ miles are less than guidelines presented in 10CFR100.

Initial leakage testing of the shield building and the ABSVZ resulted in a greater inleakage than the design basis. The staff has reevaluated doses for these higher inleakage rates and found that for a primary containment leak rate of 0.25% per day at peak accident pressure, the offsite doses are about the same as those initially calculated for higher primary containment leakage and lower secondary containment inleakage.[6]

The residual heat removal systems functionally become a part of the containment volume during the post-accident period when their operation is changed over from the injection phase to the recirculation phase. Redundancy and independence of the systems permit a leaking system to be isolated from the containment during this period, and the possible consequences of leakage are minor relative to those of the Design Basis Accident[4]; however, their partial role in containment warrants surveillance of their leak-tightness.

The limiting leakage rates from the recirculation heat removal system are judgment values based primarily on assuring that the components could operate without mechanical failure for a period on the order of 200 days after a design basis accident. The test pressure, 350 psig, achieved either by normal system operation or hydrostatically testing, gives an adequate margin over the highest pressure within the system after a design basis accident. A recirculation heat removal system leakage of 2 gal/hr will limit off-site exposure due to leakage to insignificant levels relative to those calculated for leakage directly from the containment in the design basis accident.

The shield building ventilation system consists of two independent systems that have only a discharge point in common, the shield building vent. Both systems are normally activated and one alone must be capable of accomplishing the design function of the system. During the first operating cycle, tests will be performed to demonstrate the capability of both the separate and combined systems under different wind conditions up to 45 mph if possible.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once per operating cycle to verify operability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. A charcoal adsorber tray which can accommodate a sufficient number of representative adsorber sample modules for estimating the amount of penetration of the system adsorbent through its life is currently under development. When this tray is available, sample modules will be installed with the same batch characteristics as the system adsorbent and will be withdrawn for the methyl iodide removel efficiency tests. Each module withdrawn will be replaced or

blocked off. Until these trays can be installed, to guarantee a representative adsorbent sample, procedures should allow for the removal of a tray containing the oldest batch of adsorbent in each train, emptying of one bed from the tray, mixing the adsorbent thoroughly, and obtaining at least two samples. One sample will be submitted for laboratory analysis and the other held as a backup. If test results are unacceptable, all adsorbent in the train will be replaced. Adsorbent in the tray removed for sampling will be renewed. Any HEPA filters found defective will be replaced. Replacement charcoal adsorber and HEPA filters will be qualified in accordance with the intent of Regulatory Guide 1.52 - Rev. 1 June 1976.

If significant painting, fire, or chemical release occurs such that the HEPA filters or charcoal adsorbers could become contaminated from the fumes, chemicals, or foreign material, the same tests and sample analysis will be performed as required for operational use.

Operation of each train of the system for 10 hours every month will demonstrate operability of the system and remove excessive moisture which may build up on the adsorber.

Periodic checking of the inlet heaters and associated controls for each train will provide assurance that the system has the capability of reducing inlet air humidity so that charcoal adsorber efficiency is enhanced.

In-place testing procedures will be established utilizing applicable sections of ANSI N510 - 1975 standard as a procedural guideline only.

A minimum containment shell temperature of 30°F has been specified to provide assurance that an adequate margin above NDTT exists. Evaluation of data collected during the first fuel cycle of Unit No. 1 shows that this limit can be approached only when the plant is in cold shutdown. Requiring containment shell temperature to be verified to be above 30°F prior to plant heatup from cold shutdown provides assurance that this temperature is above NDTT prior to establishing conditions requiring containment integrity [7].

A maximum temperature differential between the average containment and annulus air temperatures of 44°F has been specified to provide assurance that offsite doses in the event of an accident remain below those calculated in the FSAR. Evaluation of data collected during the first fuel cycle of Unit No. 1 shows that this limit can be approached only when the plant is in cold shutdown. Requiring this temperature differential to be verified to be less than 44°F prior to plant heatup from cold shutdown provides assurance that this parameter is within acceptable limits prior to establishing conditions requiring containment integrity [7].

References

(1) FSAR, Section 5, and Appendix 14-C
(2) FSAR, Section 14, and Appendix G
(3) Safety Evaluation Report, Section 6.2 and 15.0
(4) FSAR, Section 14
(5) FSAR, Section 14.3.6
(6) Letter to NSP from AEC dated November 29, 1973
(7) NSP Report, "Prairie Island Containment Systems Special Analyses," dated April 9, 1976.

UNIT 1 AND UNIT 2 PENETRATION DESIGNATION FOR LEAKAGE TESTS

Penetration Number	Penetration Description	Penetration Designation (Note 3)	Type of Test
1	Pressure Relief Tank to Gas Analyzer	ABSVZ	C
2	Pressure Relief Tank Nitrogen Supply	Exterior	C
3A	Dead Weight Tester	Note (1)	-
3B	Pressure Instrument	Note (1)	-
4	Primary Vent Header	ABSVZ	C
5	RC Drain Tank Pump Discharge	ABSVZ	C
6A,6B	Steam lines	Note (2)	-
(6C, 6D in Unit 2)	Bellows	Annulus	B
7A,7B	Feedwater lines	Note (2)	-
(7C,7D in Unit 2)	Bellows	Annulus	B
8A,8B	Steam Gen Blowdown	Note (2)	-
(8C,8D in Unit 2)	Bellows	Annulus	B
9	RHR Loop Out	Note (5)	-
9	Bellows	Annulus	B
10	RHR Loop In	Note (5)	-
10	Bellows	Annulus	B
11	Letdown line	ABSVZ	C
11	Bellows	Annulus	B
12	Charging line	ABSVZ	C
13A,13B	RC Pump Seal Supply	ABSVZ	C
14	RC Pump Seal Return	ABSVZ	C
15	Pressurizer Steam Sample	ABSVZ	C
16	Pressurizer Liquid Sample	ABSVZ	C

UNIT 1 AND UNIT 2 PENETRATION DESIGNATION FOR LEAKAGE TESTS

Penetration Number	Penetration Description	Penetration Designation (Note 3)	Type of Test
17	Loop B Hot Leg Sample	ABSVZ	C
18	Fuel Transfer Tube(4)	ABSVZ	B
18	Bellows	Annulus	B
19	Service Air (4)	ABSVZ	B
20	Instrument Air	Exterior	C
21	RC Drain Tank to Gas Analyzer	ABSVZ	C
22	Containment Air Sample In	ABSVZ	C
23	Containment Air Sample Out	ABSVZ	C
24	Spare		
25A	Containment Purge Exhaust(4)	ABSVZ	B
25B	Containment Purge Supply(4)	ABSVZ	B
26	Containment Sump "A" Discharge	ABSVZ	C
27A-1, 27A-2	Steam Generator Blowdown Sample	Note (2)	-
27B (51 in Unit 2)	Fire Protection (4)	ABSVZ	B
27-1, 27-2 (27C-1 and 27C-2 in Unit 2)	OILT Instruments	ABSVZ	B
27D	Spare		-
28A,28B	Safety Injection	Note (5)	-
29A,29B	Containment Spray	ABSVZ	C
30A,30B	Low Head SI Suction from Sump B	ABSVZ	C

UNIT 1 AND UNIT 2 PENETRATION DESIGNATION FOR LEAKAGE TESTS

Penetration Number	Penetration Description	Penetration Designation (Note 3)	Type of Test
31	Accumulator Nitrogen	Exterior	C
32A,32B	CC to RC Pumps	Note (5)	-
33A,33B	CC from RC Pumps	Note (5)	-
34	Electrical Penetration	Annulus	B
35	SI and Accumulator Test Line	Note (5)	-
36A,B,C,E	Spares		-
36D (50 in Unit 2)	Instrumentation	Note (1)	-
37A,B,C,D	Cooling Water to Fan Coil Units	Note (5)	-
38A,B,C,D	Cooling Water from Fan Coil Units	Note (5)	-
39	CC to Excess Letdown Heat Exchanger	Note (5)	-
40	CC from Excess Letdown Heat Exchanger	Note (5)	-
41A,41B	Containment Vacuum Breakers	Annulus	C
41C	Spare		-
42A-1	Post-LOCA Hydrogen Control Air Supply	Annulus	C
42A-2	Post-LOCA Hydrogen Control Vent	Annulus	C
42A-3	Sample to Gas Analyzer	Exterior	C

UNIT 1 AND UNIT 2 PENETRATION DESIGNATION FOR LEAKAGE TESTS

Penetration Number	Penetration Description	Penetration Designation (Note 3)	Type of Test
42B (53 in Unit 2)	Inservice Purge Supply Valves(6)	ABSVZ	C
42B (53 in Unit 2)	*Inservice Purge Supply Blind Flange(4)	Annulus	B
42C (54 in Unit 2)	Containment Heating Steam (4)	ABSVZ	B
42D, 42E	Spare		-
42F-1 (42E-1 in Unit 2)	Heating Steam Condensate Return(4)	ABSVZ	B
42F-2 (42E-2 in Unit 2)	Heating Steam Return Vent(4)	ABSVZ	B
42G	Spare		-
43A (52 in Unit 2)	Inservice Purge Exhaust Valves(6)	ABSVZ	C
43A (52 in Unit 2)	*Inservice Purge Exhaust Blind Flange(4)	Annulus	B
43B,C,D	Spares		-
44	Containment Vessel Pressurization (4)	ABSVZ	B
45	Reactor Makeup to Pressurizer Relief Tank	ABSVZ	C
46A,46B (46C,46D in Unit 2)	Auxiliary Feedwater	Note (2)	-
47	Electrical Penetration	Annulus	B
48	Low Head SI	Note (5)	-
49A	Instrumentation	Note (1)	-
49B (55 in Unit 2)	Demineralized Water (4)	ABSVZ	B

* Testing required following modification to inservice purge system of each unit during 1983 refueling outages.

UNIT 1 AND UNIT 2 PENETRATION DESIGNATION FOR LEAKAGE TESTS

Penetration Number	Penetration Description	Penetration Designation (Note 3)	Type of Test
50-1	Post-LOCA Hydrogen Control Air Supply	Annulus	C
50-2	Post-LOCA Hydrogen Control Vent	Annulus	C
50-3	Sample to Gas Analyzer	Exterior	C
	Equipment Door	Annulus	B
	Personnel Airlock	Annulus	B
	Maintenance Airlock	Annulus	B

Notes:

1. Instrumentation lines. No Type B or C testing required.

2. Steam and feedwater lines. Type C testing not required since valves are not relied upon to prevent containment leakage.

3. Penetration Designations
   - ABSVZ - pipes connected to systems that are located in the Auxiliary Building Special Ventilation Zone
   - Exterior - pipes connected to systems that are exterior to the Shield Building and ABSVZ
   - Sealed - pipes that will be sealed by water in space between isolation barriers following LOCA
   - Annulus - penetration that would leak to the Shield Building annulus following LOCA

4. These penetrations have blank flanges. Penetrations 18, 25A, 25B, 27-1, 27-2, 27C-1, and 27C-2 have blind flanges on the inside only. Penetrations 42B, 43A, 52, and 53 have a blind flange in the annulus only.

5. Safety injection, RHR, cooling water, and closed cooling water system valves not relied upon to prevent containment leakage.

6. The leakage test for this penetration is only required prior to use of the inservice purge system.