

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

June 7, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

On May 25, 1983 representatives from Duke Power Company and the NRC/Containment Systems Branch met at the NRC's offices in Bethesda, Maryland to discuss certain Confirmatory Items identified in the Catawba Safety Evaluation Report.

The attached Catawba FSAR pages have been revised to respond to Confirmatory Items 14, 16 and 17. These pages will be included in Revision 8 to the FSAR.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

by PHB

ROS/php
Attachment

cc: (w/attachment)

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Mr. P. K. Van Doorn
NRC Resident Inspector
Catawba Nuclear Station

Mr. Robert Guild, Esq.
Attorney-at-Law
P. O. Box 12097
Charleston, South Carolina 29412

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Mr. Harold R. Denton, Director
June 7, 1983
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cc: (w/attachment)

Palmetto Alliance
2135½ Devine Street
Columbia, South Carolina 29205

Mr. Jesse L. Piley
Carolina Environmental Study Group
854 Henley Place
Charlotte, North Carolina 28207

Mr. Henry A. Presler, Chairman
Charlotte-Mecklenburg Environmental Coalition
943 Henley Place
Charlotte, North Carolina 28207

TABLE 1.1-2 (3)
CONTAINMENT ISOLATION VALVE AND ACTUATOR DATA (CON.)

| Item Number | Service | Pen. No. | 1.1.2.2 Valve Arrangements | Nominal Line Size Inches | Direction Relative to Containment | 1.1.2.3 Seal/Isol. Connection | | (6.15) Valve Number | (19) Valve Location | Type Valve & Size | 1.1.3 Actuation | | 1.1.4 Valve Position | | | | FSAR Figure No. | Vent And Drain For Type A Test | (18) Type I Leakage Test | Justification For Not Testing | |
|-------------|--|----------|-------------------------------|--------------------------|-----------------------------------|----------------------------------|---------|------------------------|------------------------|-------------------|--------------------|----------|-------------------------|--------|-----------|----------|-----------------|--------------------------------|-----------------------------|-------------------------------|---------------|
| | | | | | | Inside | Outside | | | | Type Actuator | Signal | Type | Normal | Fail-safe | Shutdown | | | | | Post Accident |
| 01 | Presturizer Relief Tank Makeup | M216 | B6 | 1 | In | No | No | NC57 | Inside | Check 3" | - | - | - | - | C | C | C | 5.1-2 | Yes | Yes | ---- |
| 02 | Nitrogen to Presturizer Relief Tank | M212 | A1 | 1 | In/Out | No | Yes | NC568 | Outside | Gate 3" | E | 1 | A,R,M | C | AI | C | C | 5.1-2 | Yes | Yes | ---- |
| 03 | NC Pump Motor Drain Tank Pump Dischg. | M327 | AA | 2 | Out | No | Yes | NC538 | Outside | Globe 1" | E | 1 | A,R,M | C | AI | C | C | 5.1-4 | Yes | Yes | ---- |
| 04 | NV Isolation Line | M347 | AA | 2 | Out | Yes | Yes | NC141 | Inside | Gate 2" | HW | - | M | LC | AI | C | C | 9.3.4-1 | No | Yes | ---- |
| | | | | | | | | NC142 | Outside | Gate 2" | HW | - | M | LC | AI | C | C | | | | |
| | | | | | | | | NV10A | Inside | Gate 2" | P | 1 | A,R | O | C | O | C | | | | |
| | | | | | | | | NV11A | Inside | Gate 2" | P | 1 | A,R | C | C | C | C | | | | |
| | | | | | | | | NV13A | Inside | Gate 2" | P | 1 | A,R | C | C | C | C | | | | |
| | | | | | | | | NV15B | Outside | Globe 3" | E | 1 | A,R,M | O | AI | O | C | | | | |
| | | | | | | | | NV18 | Inside | Relief 3" | - | 600 PSIG | - | C | AI | C | C | | | | |
| 05 | Presturizer Aux. Spray Transient Line | M273 | B2 | 3 | In | Yes | Yes | NV861 | Inside | Check 2" | - | - | M | LC | - | O | C | 9.3.4-1 | No | No | (32) |
| 06 | NV Charging Line | M330 | B1 | 3 | In | Yes | Yes | NV862 | Outside | Globe 3" | HW | - | - | - | C | - | C | 9.3.4-1 | No | No | (33) |
| 07 | NC Pump Seal Water Return | M256 | A2 | 4 | Out | Yes | Yes | NV214B | Outside | Gate 3" | E | 5 | A,R,M | O | AI | O | C | 9.3.4-1 | No | Yes | ---- |
| | | | | | | | | NV89A | Inside | Gate 4" | E | 1 | A,R,M | O | AI | O | C | | | | |
| | | | | | | | | NV90 | Inside | Check 3/4" | - | - | - | C | - | - | - | | | | |
| 08 | NC Pump Seal Inj. Water 1A Supply | M343 | D6 | 2 | In | Yes | Yes | NV91B | Outside | Gate 4" | E | 1 | A,R,M | O | AI | O | C | 9.3.4-6 | No | No | (31) |
| 09 | NC Pump Seal Inj. Water 1C Supply | M339 | D6 | 2 | In | Yes | Yes | NV46 | Inside | Check 2" | - | - | - | O | - | O | O | 9.3.4-6 | No | No | (31) |
| 10 | NC Pump Seal Inj. Water 1C Supply | M344 | D6 | 2 | In | Yes | Yes | NV44A | Outside | Globe 2" | E | - | - | O | AI | O | O | 9.3.4-6 | No | No | (31) |
| 11 | NC Pump Seal Inj. Water 1C Supply | M344 | D6 | 2 | In | Yes | Yes | NV57 | Inside | Check 2" | E | - | - | O | - | O | O | 9.3.4-6 | No | No | (31) |
| 12 | NC Pump Seal Inj. Water 1C Supply | M350 | D6 | 2 | In | Yes | Yes | NV55A | Outside | Globe 2" | E | - | - | O | - | O | O | 9.3.4-6 | No | No | (31) |
| 13 | Reactor Makeup Water Flash Header | M259 | B1 | 1 | In | No | No | NV68 | Inside | Check 2" | - | - | - | O | - | O | O | 9.3.5-6 | Yes | Yes | ---- |
| | | | | | | | | NV79 | Inside | Check 2" | - | - | - | O | AI | O | O | | | | |
| 14 | Ice Condenser Ice Blowing Air | M194 | C3 | 5 | In | Note 9 | Note 9 | NV77A | Outside | Globe 2" | E | - | - | - | - | - | - | Not shown | No | No | (9) |
| 15 | Ice Condenser Ice Blowing Air | M395 | C3 | 6 | Out | Note 9 | Note 9 | NB262 | Inside | Check 3/4" | - | - | - | - | - | - | - | Not shown | No | No | (9) |
| 16 | Ice Condenser Glycol Pumps Dischg. Line | M371 | C3 | 6 | Out | Note 9 | Note 9 | NB268 | Outside | Globe 1" | E | 1 | A,R,M | C | AI | C | C | Not shown | No (Note 29) | Yes | ---- |
| 17 | Ice Condenser Glycol Pumps Suction Line | M372 | B1 | 4 | Out | No | No | NF278A | Outside | Gate 4" | P | 1 | A,R | O | C | O | C | Not shown | No (Note 29) | Yes | ---- |
| | | | | | | | | NF229 | Inside | Check 4" | - | - | - | O | - | O | C | | | | |
| | | | | | | | | NF238 | Inside | Gate 4" | E | 1 | A,R,M | O | AI | O | C | | | | |
| | | | | | | | | NF234A | Outside | Gate 4" | P | 1 | A,R | O | C | O | C | | | | |
| | | | | | | | | NF235 | Inside | Check 1/2" | - | - | - | C | - | C | C | | | | |
| 17 | Deleted | | | | | | | | | | | | | | | | | | | | |
| 18 | Deleted | | | | | | | | | | | | | | | | | | | | |
| 19 | Deleted | | | | | | | | | | | | | | | | | | | | |
| 20 | Containment Hydrogen Purge Inlet Blower Dischg. Line | M332 | B1 | 4 | In | Yes | No | VY15B | Outside | Gate 4" | E | 1 (14) | A,R,M | C | AI | C | C | 6.2.5-3 | No | Yes | ---- |
| | | | | | | | | VY16 | Inside | Check 4" | - | - | - | C | - | C | C | | | | |
| 21 | Containment Hydrogen Purge Outlet Line | M341 | A1 | 4 | In | Yes | Yes | VY17A | Inside | Gate 4" | E | 1 (14) | A,R,M | C | AI | C | C | 6.2.5-3 | No | Yes | ---- |
| | | | | | | | | VY18B | Outside | Gate 4" | E | 1 (14) | A,R,M | C | AI | C | C | | | | |

| Item Number | Service | Pen. No. | (12,17) Valve Arrangement | Nominal Line Size Inches | Flow Direction Relative to Containment | (7) Seismic Connections | | (6,15) Valve Number | (19) Valve Location | Type Valve & Size | (2,3) Actuation | | (4) Valve Position | | FSAR Figure No. | Vent And Drain For Type A Test | (18) Type C Leakage Test | Justification For Not Testing |
|-------------|-----------------------------------|----------|---------------------------|--------------------------|--|-------------------------|---------|---------------------|---------------------|-------------------|----------------------|---------|--------------------|------------------|-------------------|--------------------------------|--------------------------|-------------------------------|
| | | | | | | Inside | Outside | | | | (4,16) Type Actuator | Signal | Type | Normal Fail-safe | Shutdown Accident | | | |
| 22 | ND Pump Suction A from Loop | M276 | 05 | 12 | Out | Yes | Yes | N02A | Inside | Gate 12" | E | (10) | A,R,M | C | AI | 0 | C | |
| 23 | ND Pump Suction B from Loop | M315 | 05 | 12 | Out | Yes | Yes | N03 | Inside | Relief 4" | - | 450PSIG | A,R,M | C | - | C | C | 5.4.7-1 |
| 24 | Boron Inj. Tank Line to Cold Legs | M351 | 04 | 4 | In | No | Yes | N037A | Inside | Gate 12" | E | (10) | A,R,M | C | AI | 0 | C | 5.4.7-2 |
| | | | | | | | | N038 | Inside | Relief 4" | - | 450PSIG | - | C | - | C | C | |
| | | | | | | | | N19A | Outside | Gate 4" | E | S | A,R,M | C | AI | 0 | C | 6.3.2-1 |
| | | | | | | | | N110B | Outside | Gate 4" | E | S | A,R,M | C | AI | 0 | C | |
| | | | | | | | | N111 | Inside | Globe 3/4" | D | - | R | C | C | C | C | |
| | | | | | | | | N112 | Inside | Check 3" | - | - | - | C | - | C | C | |
| | | | | | | | | N13 | Outside | Globe 1" | HW | - | M | C | C | C | C | |
| 25 | Nitrogen to Accumulators | M331 | 01 | 1 | In | No | No | N148 | Inside | Check 1" | - | - | - | C | - | C | C | 6.3.2-2 |
| 26 | Safety Injection Test Line | M322 | A1 | 3/4 | In | No | No | N147A | Outside | Globe 1" | E | T | A,R,M | C | AI | 0 | C | 6.3.2-2 |
| | | | | | | | | N195A | Inside | Globe 3/4" | E | T | A,R,M | C | AI | 0 | C | 6.3.2-2 |
| | | | | | | | | N196B | Outside | Globe 3/4" | E | T | A,R,M | C | AI | 0 | C | 6.3.2-2 |
| 27 | ND Crossover Dischg. to Hot Legs | M207 | 05 | 12 | In | No | Yes | N120B | Outside | Globe 3/4" | E | T | A,R,M | C | AI | 0 | C | 6.3.2-3 |
| | | | | | | | | N1154B | Inside | Globe 3/4" | E | T | A,R,M | C | AI | 0 | C | 6.3.2-3 |
| | | | | | | | | N1180B | Outside | Gate 12" | E | - | R,M | C | AI | 0 | C/O | |
| | | | | | | | | N1125 | Inside | Check 8" | - | - | - | C | - | C | C/O | |
| | | | | | | | | N1129 | Inside | Check 8" | - | - | - | C | - | C | C/O | |
| 28 | NI Pump B Dischg. to Hot Legs | M320 | 05 | 4 | In | No | Yes | N1152B | Outside | Gate 4" | E | - | R,M | C | AI | 0 | C | 6.3.2-3 |
| | | | | | | | | N1153A | Inside | Globe 3/4" | E | T | A,R,M | C | AI | 0 | C | |
| | | | | | | | | N1156 | Inside | Check 2" | - | - | - | C | - | C | C/O | |
| | | | | | | | | N1159 | Inside | Check 2" | - | - | - | C | - | C | C/O | |
| 29 | NI Pump A Dischg. to Hot Legs | M317 | 05 | 4 | In | No | Yes | N1121A | Outside | Gate 4" | E | - | - | C | - | C | C/O | |
| | | | | | | | | N1122B | Inside | Globe 3/4" | E | T | R,M | C | AI | 0 | C/O | 6.3.2-3 |
| | | | | | | | | N1124 | Inside | Check 2" | - | - | A,R,M | C | AI | 0 | C | |
| | | | | | | | | N1128 | Inside | Check 2" | - | - | - | C | - | C | C/O | |
| 30 | ND HX A Dischg. to Cold Legs | M336 | 05 | 8 | In | No | Yes | N1173A | Outside | Gate 8" | E | - | R,M | 0 | AI | 0 | 0 | 6.3.2-4 |
| | | | | | | | | N1174 | Inside | Globe 3/4" | D | - | R,M | C | C | C | C | |
| | | | | | | | | N1175 | Inside | Check 6" | - | - | - | C | - | C | 0 | |
| | | | | | | | | N1176 | Inside | Check 6" | - | - | - | C | - | C | 0 | |
| 31 | ND HX B Dischg. to Cold Legs | M307 | 05 | 8 | In | No | Yes | N1178B | Outside | Gate 8" | E | - | R,M | 0 | AI | 0 | 0 | 6.3.2-4 |
| | | | | | | | | N1179 | Inside | Globe 3/4" | D | - | R,M | C | C | C | C | |
| | | | | | | | | N1180 | Inside | Check 6" | - | - | - | C | - | C | 0 | |
| | | | | | | | | N1181 | Inside | Check 6" | - | - | - | C | - | C | 0 | |
| 32 | NI Pumps AMB Dischg. to Cold Legs | M352 | 05 | 4 | In | No | Yes | N1162A | Outside | Gate 4" | E | - | R,M | 0 | AI | 0 | 0 | 6.3.2-4 |
| | | | | | | | | N1163 | Inside | Globe 3/4" | D | - | R,M | C | C | C | C | |
| | | | | | | | | N1165 | Inside | Check 2" | - | - | - | C | - | C | O/C | |
| | | | | | | | | N1167 | Inside | Check 2" | - | - | - | C | - | C | O/C | |
| | | | | | | | | N1169 | Inside | Check 2" | - | - | - | C | - | C | O/C | |
| | | | | | | | | N1171 | Inside | Check 2" | - | - | - | C | - | C | O/C | |
| 33 | Containment Sump Recirc. Line A | M303 | C1 | 18 | Out | No | Yes | N1185A | Outside | Gate 18" | E | - | R,M | C | AI | 0 | C/O | 6.3.2-4 |
| 34 | Containment Sump Recirc. Line B | M210 | C1 | 18 | Out | No | Yes | N1184B | Outside | Gate 18" | E | - | R,M | C | AI | 0 | C/O | 6.3.2-4 |
| 35 | Upper Head Injection Line | M407 | 01 | 12 | In | Yes | Yes | N1245A | Outside | Gate 12" | E | (11) | A,R,M | 0 | AI | 0 | C/O | 6.3.2-5 |

TABLE 6.2.4-1
CONTAINMENT ISOLATION VALVE AND ACTUATOR DATA (PAGE 3)

| Item Number | Service | Pen No | (1,17) Valve Arrangements | Nominal Line Size Inches | (1) Direction Relative to Containment | (7) Seismic Connections | | (6,15) Valve Number | (19) Valve Location | Type Valve & Size | (2,3) Actuation | | (4) Valve Position | | | | PSAR Figure No | Vent And Drain For Type A Test | (18) Type C Leakage Test | Justification For Not Testing | |
|-------------|---|--------|---------------------------|--------------------------|---------------------------------------|-------------------------|---------|---------------------|---------------------|-------------------|----------------------|-----------|--------------------|--------|----------|----------|----------------|--------------------------------|--------------------------|-------------------------------|---------------|
| | | | | | | Inside | Outside | | | | (4,16) Type Actuator | Signal | Type | Normal | Failsafe | Shutdown | | | | | Post Accident |
| 36 | Upper Head Injection Line | M406 | B1 | 12 | In | Yes | Yes | N1255B | Outside | Globe 2" | E | T | A, R, M | C | A1 | C | C | 6.3.2-5 | No | No | (16) |
| | | | | | | | | N1249 | Inside | Check 12" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N1258A | Outside | Globe 3/4" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | N1243A | Outside | Gate 12" | E | (11) | A, R, M | C | A1 | C | C | | | | |
| 37 | Upper Head Injection Test Line | M454 | A6 | 2 | In | No | No | N1248 | Inside | Check 12" | - | - | - | - | - | - | - | 6.3.2-5 | Yes | Yes | ----- |
| | | | | | | | | N1266A | Inside | Globe 2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | N1267A | Inside | Globe 2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | N1264B | Outside | Globe 2" | E | T | A, R, M | C | A1 | C | C | | | | |
| 38 | Containment Spray Line | M362 | B1 | 8 | In | Yes | Yes | N1336 | Inside | Relief 2" | E | 2485 PSIG | - | - | - | - | - | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N532A | Outside | Gate 8" | - | - | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | N533 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N529A | Outside | Gate 8" | E | P | A, R, M | C | A1 | C | C | | | | |
| 39 | Containment Spray Line | M370 | B1 | 8 | In | Yes | Yes | N530 | Inside | Check 8" | - | - | - | - | - | - | - | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N515B | Outside | Gate 8" | E | P | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | N516 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N512B | Outside | Gate 8" | E | P | A, R, M | C | A1 | C | C | | | | |
| 40 | Containment Spray Line | M380 | B1 | 8 | In | Yes | Yes | N513 | Inside | Check 8" | - | - | - | - | - | - | - | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N543A | Outside | Gate 8" | E | - | R, M | C | A1 | C | C | | | | |
| | | | | | | | | N546 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N538B | Outside | Gate 8" | E | - | R, M | C | A1 | C | C | | | | |
| 41 | Containment Spray Line | M387 | B1 | 8 | In | Yes | Yes | N541 | Inside | Check 8" | - | - | - | - | - | - | - | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| 42 | ND Containment Spray Line A | M369 | B1 | 8 | In | Yes | Yes | N543A | Outside | Gate 8" | E | - | R, M | C | A1 | C | C | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N546 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N538B | Outside | Gate 8" | E | - | R, M | C | A1 | C | C | | | | |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| 43 | ND Containment Spray Line B | M381 | B1 | 8 | In | Yes | Yes | N538B | Outside | Gate 8" | E | - | R, M | C | A1 | C | C | 6.2.2-1 | No | No | (25) |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | N541 | Inside | Check 8" | - | - | - | - | - | - | - | | | | |
| 44 | Reactor Coolant Drain Tank Gas Space to MG System | M348 | A1 | 3/4 | In/Out | No | No | WL450A | Inside | Globe 3/4" | E | T | A, R, M | C | A1 | C | C | 11.2.2-9 | Yes | Yes | ----- |
| | | | | | | | | WL451B | Outside | Globe 3/4" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | WL805A | Inside | Gate 3" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | WL807B | Outside | Gate 3" | E | T | A, R, M | C | A1 | C | C | | | | |
| 45 | Reactor Coolant Drain Tank Heat Exchanger Dischg. | M345 | A9 | 3 | Out | No | Yes | WL806 | Inside | Check 1/2" | - | - | - | - | - | - | - | 11.2.2-9 | No | No | (26) |
| | | | | | | | | WL806 | Inside | Check 1/2" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | WL806 | Inside | Check 1/2" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | WL806 | Inside | Check 1/2" | - | - | - | - | - | - | - | | | | |
| 46 | Ventilation Unit Condensate Drain Mdr. | M221 | A9 | 6 | Out | No | No | WL867A | Inside | Gate 4" | E | P (14) | A, R, M | C | A1 | C | C | 11.2.2-10 | Yes | Yes | ----- |
| | | | | | | | | WL869B | Outside | Gate 4" | E | P (14) | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | WL868 | Inside | Check 1" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | WL825A | Inside | Gate 4" | E | T (14) | A, R, M | C | A1 | C | C | | | | |
| 47 | Cont. Floor Sump and Incore Instrumentation Sump Pump Dischg. | M374 | A9 | 4 | Out | No | No | WL827B | Outside | Gate 4" | E | T (14) | A, R, M | C | A1 | C | C | 11.2.2-13 | No | No | (26) |
| | | | | | | | | WL321 | Inside | Gate 3/4" | - | - | - | - | - | - | - | | | | |
| | | | | | | | | WL827B | Outside | Gate 4" | E | T (14) | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | WL321 | Inside | Gate 3/4" | - | - | - | - | - | - | - | | | | |
| 48 | Steam Generator Drain Pump Dischg. | M359 | A9 | 3 | Out | No | No | WL821 | Inside | Gate 3" | HW | - | M | LC | - | - | - | 11.2.2-15 | No | No | (26) |
| | | | | | | | | WL822 | Inside | Check 3/4" | - | - | M | C | - | - | - | | | | |
| | | | | | | | | WL824 | Outside | Gate 3" | HW | - | M | LC | - | - | - | | | | |
| | | | | | | | | WL824 | Outside | Gate 3" | HW | - | M | LC | - | - | - | | | | |
| 49 | Equipment Decontamination Line (Note 13) | M356 | A4 | 1 | In | No | No | WE20 | Outside | Globe 1" | HW | - | M | LC | - | - | - | None | Yes | Yes | ----- |
| | | | | | | | | WE22 | Inside | Globe 1" | HW | - | M | LC | - | - | - | | | | |
| | | | | | | | | WE22 | Inside | Globe 1" | HW | - | M | LC | - | - | - | | | | |
| | | | | | | | | WE22 | Inside | Globe 1" | HW | - | M | LC | - | - | - | | | | |
| 50 | Fuel Transfer Tube | - | C2 | 24 | None | Yes | Yes | - | Inside | Double Seal | - | - | - | - | - | - | - | 9.3.3-1 | No | No | (27) |
| | | | | | | | | - | Inside | Double Seal | - | - | - | - | - | - | - | | | | |
| | | | | | | | | - | Inside | Double Seal | - | - | - | - | - | - | - | | | | |
| | | | | | | | | - | Inside | Double Seal | - | - | - | - | - | - | - | | | | |
| 51 | Refueling Water Pump Suction | M358 | A4 | 4 | Out | Yes | No | FW11 | Inside | Plug 4" | HW | - | M | LC | - | - | - | 9.2.2-1 | Yes | Yes | ----- |
| | | | | | | | | FW13 | Outside | Plug 4" | HW | - | M | LC | - | - | - | | | | |
| | | | | | | | | FW4 | Outside | Gate 6" | HW | - | M | LC | - | - | - | | | | |
| | | | | | | | | FW6 | Inside | Check 6" | - | - | - | - | - | - | - | | | | |
| 52 | Refueling Cavity Fill Line | M377 | B2 | 6 | In | Yes | No | FW3 | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | 9.2.2-1 | Yes | Yes | ----- |
| | | | | | | | | FW6 | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | FW3A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | FW6A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |
| 53 | Pressurizer Sample | M235 | A6 | 1/2 | Out | Yes | No | FW3A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | 9.3.2-1 | Yes | Yes | ----- |
| | | | | | | | | FW6A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | FW3A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |
| | | | | | | | | FW6A | Inside | Globe 1/2" | E | T | A, R, M | C | A1 | C | C | | | | |

TABLE 9.2-4-1

CONTAINMENT ISOLATION VALVES AND ACTUATOR DATA (PWR 9)

| Item Number | Service | Pen. No. | (1.17) Valve Arrangement | Nominal Line Size (Inches) | Flow Direction Relative to Containment | (7) Isolation Connections | | (9.15) Valve Number | (19) Valve Location | Type Valve & Size | (12.1) Actuation | | (4) Valve Function | | | | Figure No. | Vent And Drain For Type A Test | (16) Type C Leakage Test | Justification For Not Testing | |
|-------------|---|----------|--------------------------|----------------------------|--|---------------------------|---------|---------------------|---------------------|-------------------|------------------|-----------|--------------------|--------|-----------|----------|------------|--------------------------------|--------------------------|-------------------------------|----------|
| | | | | | | Inside | Outside | | | | Type Actuator | Signal | Type | Normal | Fail-safe | Shutdown | | | | | Accident |
| 54 | Reactor Coolant Hot Leg Sample | M310 | A6 | 1/2 | Out | Yes | Yes | MM57 | Inside | Relief 3/4" | - | 24RS PSIG | - | C | - | C | C | 9.3.2-1 | Yes | Yes | ---- |
| | | | | | | | No | MM70 | Outside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM22A | Inside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM25A | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM26B | Outside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| 55 | Safety Injection Accumulator Sample | M236 | A6 | 1/2 | Out | Yes | No | MM68 | Inside | Relief 3/4" | - | 24RS PSIG | - | C | - | C | C | 9.3.2-2 | No | Yes | ---- |
| | | | | | | | No | MM72B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM75B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM78B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM81B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| 56 | Steam Generator 1A Sample | M335 | A6 | 1/2 | Out | Yes | No | MM89 | Inside | Relief 3/4" | - | 700 PSIG | - | C | - | C | C | 9.3.2-3 | No | No | (23) |
| | | | | | | | No | MM82A | Outside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM187A | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM190A | Inside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM191B | Outside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| 57 | Steam Generator 1B Sample | M338 | A6 | 1/2 | Out | Yes | No | MM255 | Inside | Relief 3/4" | - | 118S PSIG | - | C | - | C | C | 9.3.2-5 | No | No | (23) |
| | | | | | | | No | MM197B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| | | | | | | | No | MM200B | Inside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM201A | Outside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM256 | Inside | Relief 3/4" | - | 118S PSIG | - | C | - | C | C | | | | |
| 58 | Steam Generator 1C Sample | M340 | A6 | 1/2 | Out | Yes | No | MM207A | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | 9.3.2-5 | No | No | (23) |
| | | | | | | | No | MM210A | Inside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM211B | Outside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM257 | Inside | Relief 3/4" | - | 118S PSIG | - | C | - | C | C | | | | |
| | | | | | | | No | MM217B | Inside | Globe 1/2" | E | T | A,R,M | C | AI | C | C | | | | |
| 59 | Steam Generator 1D Sample | M341 | A6 | 1/2 | Out | Yes | No | MM220B | Inside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | 9.3.2-5 | No | No | (23) |
| | | | | | | | No | MM221A | Outside | Globe 1/2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | MM258 | Inside | Relief 3/4" | - | 118S PSIG | - | C | - | C | C | | | | |
| | | | | | | | No | KC322 | Inside | Check 4" | - | - | - | O | - | O | C | | | | |
| | | | | | | | No | KC320A | Outside | Gate 4" | E | T | A,R,M | O | AI | O | C | | | | |
| 60 | Component Cooling to RC Drain Tank HS | M376 | B6 | 4 | In | Yes | Yes | KC326 | Inside | Gate 4" | E | T | A,R,M | O | AI | O | C | 9.2.2-4 | No | No | (37) |
| 61 | Component Cooling from Drain Tank HS | M355 | A9 | 4 | Out | Yes | Yes | KC332A | Outside | Gate 4" | E | T | A,R,M | O | AI | O | C | 9.2.2-4 | No | No | (37) |
| 62 | Component Cooling to Reactor Vessel Support & RCP Coolers | M328 | B6 | 8 | In | Yes | Yes | KC333A | Outside | Gate 4" | E | T | A,R,M | O | AI | O | C | 9.2.2-4 | No | No | (37) |
| | | | | | | | No | KC338B | Outside | Gate 8" | E | F | A,R,M | O | AI | O | C | | | | |
| 63 | Component Cooling from Reactor Vessel Support & RCP Coolers | M321 | A9 | 8 | Out | Yes | Yes | KC340 | Inside | Gate 8" | E | F | A,R,M | O | AI | O | C | 9.2.2-4 | No | No | (37) |
| | | | | | | | No | KC474B | Inside | Gate 8" | E | F | A,R,M | O | AI | O | C | | | | |
| 64 | Component Cooling to Excess Letdown HS | M218 | D2 | 4 | In | Yes | Yes | KC475A | Outside | Gate 8" | E | F | A,R,M | O | AI | O | C | 9.2.2-4 | No | No | (37) |
| | | | | | | | No | KC275 | Inside | Check 1" | - | - | - | C | - | C | C | | | | |
| 65 | Component Cooling from Excess Letdown HS | M217 | D2 | 4 | Out | Yes | Yes | KC305B | Outside | Gate 4" | E | T | A,R,M | C | AI | C | C | 9.2.2-4 | No | No | (37) |
| | | | | | | | No | KC315B | Outside | Gate 4" | E | T | A,R,M | C | AI | C | C | | | | |
| 66 | Component Cooling to Component Cooling Drain Sump | M323 | A7 | 2 | Out | No | Yes | KC47 | Inside | Check 3/4" | - | - | - | C | - | C | C | 9.2.2-6 | Yes | Yes | ---- |
| | | | | | | | No | KC429B | Inside | Globe 2" | E | T | A,R,M | O | AI | O | C | | | | |
| | | | | | | | No | KC430A | Outside | Globe 2" | E | T | A,R,M | O | AI | O | C | | | | |

| Item Number | Service | Valve No. | Nominal Line Size Inches | Flow Direction Relative to Containment | (7) Sensor Connections | | (8,15) Valve Number | (9) Valve Location | Type Valve & Size | (12,13) Actuation | | (14) Valve Position | | | PSAR Figure No. | Vent And Drain For Type A Test | (18) Type C Leakage Test | Justification For Not Testing |
|--|---------|-----------|--------------------------|--|------------------------|---------|---------------------|--------------------|-------------------|-------------------|-----------|---------------------|----------|-------------------|-----------------|--------------------------------|--------------------------|-------------------------------|
| | | | | | Inside | Outside | | | | Type Actuation | Signal | Normal | Failsafe | Shutdown Accident | | | | |
| 97 Main Steam ID | | M423 | 02 | 18 | Out | Yes | SM1 | Outside | Gate 24" | P | P | A,R | C | C | 0 | C | | (23) |
| | | | | | | | SV2 | Outside | Safety 6" | - | 1175 PSIG | - | C | - | C | C | | |
| | | | | | | | SV3 | Outside | Safety 6" | - | 1190 PSIG | - | C | - | C | C | | |
| | | | | | | | SV4 | Outside | Safety 6" | - | 1205 PSIG | - | C | - | C | C | | |
| | | | | | | | SV5 | Outside | Safety 6" | - | 1220 PSIG | - | C | - | C | C | | |
| | | | | | | | SV6 | Outside | Safety 6" | - | 1230 PSIG | - | C | - | C | C | | |
| | | | | | | | SV1 | Outside | Globe 6" | D | P | A,R | C | C | C | C | | |
| | | | | | | | SM9 | Outside | Globe 3" | D | P | A,R | C | C | C | C | | |
| | | | | | | | SM19 | Outside | Globe 2" | HW | - | - | C | - | C | C | | |
| | | | | | | | SM70 | Outside | Globe 1" | HW | - | - | LC | - | C | C | | |
| | | | | | | | SM748 | Outside | Gate 2" | E | M | R | 0 | - | C | C | | 10.3.2-1 |
| | | | | | | | SM102 | Outside | Globe 2" | HW | - | - | C | - | C | C | | 10.3.2-1 |
| | | | | | | | SM118 | Inside | Globe 2" | HW | - | - | LC | - | C | C | | 10.3.2-1 |
| | | | | | | | SM140 | Outside | Globe 1" | HW | - | - | C | - | C | C | | 10.3.2-1 |
| 98 Interior Fire Protection | | M316 | 06 | 6 | In | No | RF398 | Outside | Gate 4" | E | T | A,R,M | C | AI | C | C | | 9.5.1-4 |
| | | | | | | | RF392 | Inside | Check 4" | - | - | - | C | - | C | C | | |
| 99 Demineralized Water | | M337 | 01 | 2 | In | No | VM1198 | Outside | Globe 2" | E | T | A,R,M | 0 | AI | 0 | C | | 9.2.3-2 |
| | | | | | | | VM121 | Inside | Check 2" | - | - | - | 0 | - | 0 | C | | |
| 100 Instrument Air | | M220 | 01 | 2 | In | No | VI778 | Outside | Diaphragm 2" | - | P | A,R,M | 0 | C | 0 | C | | 9.3.1-2 |
| | | | | | | | VI779 | Inside | Check 2" | - | - | - | 0 | - | 0 | C | | |
| | | | | | | | VI312A | Outside | Globe 2" | E | T | A,R,M | 0 | AI | 0 | C | | |
| 101 Station Air | | M219 | 01 | 3 | In | No | V5548 | Outside | Gate 3" | E | T | A,R,M | 0 | AI | 0 | C | | |
| | | | | | | | V556 | Inside | Check 3" | - | - | - | C | - | 0 | C | | |
| 102 Breathing Air | | M215 | 01 | 2 | In | No | V8818 | Outside | Diaphragm 2" | E | T | A,R,M | 0 | AI | 0 | C | | 9.3.1-8 |
| | | | | | | | V885 | Inside | Check 2" | - | - | - | 0 | - | 0 | C | | |
| 103 Cont. Press Sensing | | | 04 | 1/4 | None | None | None | - | - | - | - | - | - | - | - | - | | |
| 104 Cont. Press Sensing | | | 04 | 1/4 | None | None | None | - | - | - | - | - | - | - | NONE | No | No | (40) |
| 105 Cont. Press Sensing | | | 04 | 1/4 | None | None | None | - | - | - | - | - | - | - | NONE | No | No | (40) |
| 106 Cont. Press Sensing | | | 04 | 1/4 | None | None | None | - | - | - | - | - | - | - | NONE | No | No | (40) |
| 107 Equipment Hatch | | | C2 | 240 | None | None | None | - | - | - | - | - | - | - | NONE | No | No | (40) |
| | | | | | | | No | - | Double Seal | - | - | - | - | - | - | - | | |
| 108 Personnel Hatch | | | C2 | 115 | None | No | No | - | Blind Flange | - | - | - | - | - | - | - | | |
| (NOTE 5) | | | | | | | No | - | Double Seal | - | - | - | - | - | - | - | | |
| 109 Reactor Coolant Pump Motor Oil Fill | | M329 | A5 | 2 | In | No | NC1958 | Outside | Gate 2" | E | T | A,R,M | C | AI | C | C | | 5.1-4 |
| | | | | | | | NC1964 | Inside | Gate 2" | E | T | A,R,M | C | AI | C | C | | |
| 110 Reactor Building Sprinklers | | M361 | B6 | 6 | In | No | RF4478 | Outside | Gate 8" | E | T | A,R,M | C | AI | C | C | | 9.5.1-4 |
| | | | | | | | RF440 | Inside | Check 4" | - | - | - | C | - | C | C | | |
| 111 Containment Valve Inj. Water "A" Train | | M257 | 01 | 1 | In | Yes | NW35A | Outside | Globe 1" | E | T | A,R,M | C | AI | C | C | | 6.2.4-2 |
| | | | | | | | NW37 | Inside | Check 1" | - | - | - | - | - | C | C | | |
| 112 Containment Valve Inj. Water "B" Train | | M243 | 01 | 1 | In | Yes | NW1058 | Outside | Globe 1" | E | T | A,R,M | C | AI | C | C | | 6.2.4-2 |
| | | | | | | | NW107 | Inside | Check 1" | - | - | - | - | - | C | C | | |
| 113 Standby Makeup Pump Discharge Line | | M228 | 01 | 2 | In | No | NW87A | Outside | Globe 2" | E | T | A,R,M | C | AI | C | C | | 9.3.4-9 |
| | | | | | | | NW87A | Inside | Check 2" | - | - | - | - | - | C | C | | 9.3.4-9 |

TABLE 6.2.4-1 (Page 9)

Containment Isolation Valve and Actuation Data

NOTES:

1. Valve arrangements are shown in Figure 6.2.4-1.

2. Definition of Actuation Signals

S - Safety Injection Signal (T signal also activated by S signal)

T - Containment Isolation Signal (Phase A containment isolation)

P - Containment High-High Pressure Signal (Phase B containment isolation)

3. Deleted

4. Symbols:

Valve Position Abbreviations

| | |
|-----|--|
| O | Open |
| C | Closed |
| A | Automatic |
| R | Remote Operation |
| M | Manual Local Operation |
| LC | Locked Closed |
| C/O | Closed prior to Sump or Hot Leg Recirculation; Open after Sump or Hot Leg Recirculation |
| LO | Locked Open |
| AI | Fails As is |

Actuator Type

| | |
|----|---|
| E | Motor (Power Source - Electricity) |
| D | Pneumatic Diaphragm (Power Source - Compressed Air) |
| P | Pneumatic Piston (Power Source - Compressed Air) |
| HW | Handwheel (Power Source - Manual) |

5. Each Personnel Lock will have double doors with an interlocking system to prevent both doors being opened simultaneously.

6. System Identification from valve number.

| | |
|----|--|
| BB | - Steam Generator Blowdown System |
| BW | - Steam Generator Wet Layup Recirculation System |
| CA | - Auxiliary Feedwater System |
| CF | - Feedwater System |
| FW | - Refueling Water System |
| KC | - Component Cooling System |
| KF | - Spent Fuel Cooling System |
| NB | - Boron Recycle System |

TABLE 6.2.4-1 (Page 10)

Containment Isolation Valve and Actuator Data

NC - Reactor Coolant System
 ND - Residual Heat Removal System
 NF - Ice Condenser System
 NI - Safety Injection System
 NM - Nuclear Sampling System
 NS - Containment Spray System
 NV - Chemical and Volume Control System
 RF - Fire Protection System
 RN - Nuclear Service Water System
 SA - Main Steam to Auxiliary Equipment
 SM - Main Steam System
 SV - Main Steam Vent to Atmosphere
 VB - Breathing Air System
 VE - Annulus Ventilation System
 VI - Instrument Air System
 VP - Containment Purge System
 VQ - Containment Air Release and Addition System
 VS - Station Air System
 VV - Containment Hydrogen Sample and Purge System
 VX - Containment Air Return Exchange and Hydrogen Skimmer System
 WE - Equipment Decontamination System
 WG - Waste Gas System
 WL - Liquid Radwaste System
 YM - Demineralized Water System

7. The given response indicates whether or not the penetration is connected to Seismic Category 1 equipment inside and/or outside containment.
8. The Containment pressure control isolation valves are also automatically closed by high containment radiation.
9. Connected Piping is temporary and is removed before startup. Penetrations are closed with blind flanges during all modes containment integrity is required. A Type B Test will be performed on these penetrations per 10CFR50, Appendix J.
10. See FSAR Section 6.3 for automatic actuation signals for these valves.
11. See Section 6.3 for Accumulator Water level signal used to close these valves after initial injection.
12. Open for startup, closed when plant reaches ~ 30% power.
13. As documented in Engineering Justification Report SES-JR-10, the one inch containment isolation valves for this system were purchased as Duke Class F instead of Duke Class B. This was necessary due to the high system design pressure (8000 psig) which exceeded the pressure/temperature ratings of the ASME section III Code.

TABLE 6.2.4-1 (Page 11)

Containment Isolation Valve and Actuator Data

14. Valve closes upon receipt of a high radiation signal.
15. The following systems are considered Engineered Safety Feature systems:
 - FW - Refueling Water System
 - NB - Boron Recycle System
 - NC - Reactor Coolant System
 - ND - Residual Heat Removal System
 - NF - Ice Condenser System
 - NI - Safety Injection System
 - NS - Containment Spray System
 - NV - Chemical and Volume Control System
 - VE - Annulus Ventilation System
16. Power Source - Refer to Note 4.
17. General Design Criteria met -

Any valve arrangement designated with an "A" or "B" prefix meets the specifications of GDC 55 and 56 of 10CFR50, Appendix A. Valve arrangements with a "D" prefix meet GDC 57.

Valve arrangements with a "C" prefix fall into a miscellaneous category in which the piping is considered a part of the containment and meeting GDC 50. In addition, the 'C2' arrangement (the fuel transfer tube) also meets GDC 51, 52, and 53 (see Section 6.2.4.2.1). 'C1' and 'C3' arrangements are considered closed to outside atmosphere. See Note 9 concerning specifics on arrangement 'C3'.
18. All potential bypass leakage paths in dual containment plants are required a Type C test per Position No. 7, Section B, of Branch Technical Position CSB 6-3, "Determination of Bypass Leakage Paths In Dual Containment Plants."
19. Piping, isolation valves, and actuators in the Containment Isolation System outside Containment are located inside a Seismic Category 1 enclosure complex, and are located as close as practical to the Containment wall; i.e., in almost all cases, isolation valves will be located immediately after the penetration assembly. There will, however, be exceptions, such as the case of the main steam lines which require a series of safety valves before the isolation valve. Also, there will be some exceptions due to normal structural design arrangements. Actual lengths of pipe from penetrations to the isolation valves outside Containment have been kept to a minimum.
20. Deleted
21. Deleted

TABLE 6.2.4-1 (Page 12)

Containment Isolation Valve and Actuator Data

22. During the injection phase of safety injection, these valves are closed. Water from the refueling water storage tank (FWST) provides approximately 48 feet of head on these valves (~ 20.8 psig). This head will preclude any leakage through this penetration. During the recirculation phase of safety injection, these valves are open to provide flow to ND pump suction.
23. The main steam, feedwater, auxiliary feedwater, sample and blowdown lines are all connected to the secondary side of the steam generator which is kept at a higher pressure than the primary side soon after a LOCA occurs. Any leakage between the primary and secondary sides of the steam generator is directed inward to the containment.
24. Deleted
25. Type C leak test not required by 10 CFR 50, Appendix J because these containment isolation valves:
 - a. Do not provide a direct connection between the inside and outside atmospheres of the primary reactor containment under normal operation.
 - b. Are not required to close automatically upon receipt of a containment isolation signal in response to controls intended to effect containment isolation, and
 - c. Are not required to operate intermittently under post accident conditions.

In addition, these penetrations have been evaluated per 10CFR50, Appendix J, III.A.d. It was concluded that testing was not required.

26. These valves are sealed against leakage by the Containment Valve Injection Water System as discussed in Section 6.2.4.4.
27. Type B test performed per 10 CFR 50, Appendix J.
28. Deleted
29. This system is required to be in operation during the Type A test in order to maintain the unit in a safe condition. Therefore, this penetration will not be vented and drained.
30. This penetration is a part of a closed system inside containment. All piping inside containment is seismic Category 1 and therefore not subject to rupture as a result of a LOCA. This penetration will not be drained and vented for the Type A test.

TABLE 6.2.4-1 (Page 13)

Containment Isolation Valve and Actuator Data

31. These penetrations are left open during an accident in order to provide reactor coolant pump seal water flow from the centrifugal charging pumps.
32. This penetration is effectively water sealed against any leakage directed out of containments by the residual heat removal pumps discharge pressure.
33. This penetration is effectively water sealed against any leakage directed out of containment by the centrifugal charging pumps discharge pressure.
34. An effective fluid seal on these penetrations, provided by the suction sources to the residual heat removal pumps during and following an accident.
35. This penetration is left open during an accident to provide flow from the centrifugal charging pumps to the reactor vessel.
36. An effective fluid seal on these penetrations prevents any leakage directed out of containment. Residual upper head injection accumulator pressure ($> \text{Pa}$) would direct any leakage through this penetration into containment.
37. System presents a Seismic Category I closed pressure boundary to the containment atmosphere following a LOCA and is not a part of the reactor coolant system pressure boundary. In addition, the outside containment isolation valve for each penetration is supplied by the Containment Valve Injection Water System as discussed in Section 6.2.4.4, which provides a seal against any leakage through the valve.
38. These penetrations are in use during and following an accident to provide Containment Valve Injection Water System flow to certain containment isolation valves. In the event that the containment isolation valve on these penetrations should fail to open, an effective water seal would be maintained on the penetration at a pressure $> \text{Pa}$ by the Containment Valve Injection Water Surge Chamber.
39. These penetrations will either be in use following an accident, or will be sealed against leakage by a water seal against the outside of the penetrations. In addition, the following steps are taken to provide additional assurance of penetration integrity:
 - a. The outside containment isolation valves are supplied by the Containment Valve Injection Water Systems, as discussed in Section 6.2.4.4, which provides a seal against leakage.
 - b. The check valves which provide the inside isolation, are tested per Technical Specification 4.4.7.2.2, which requires a water leak test for Reactor Coolant System Pressure Isolation Valves.

TABLE 6.2.4-1 (Page 14)

Containment Isolation Valve and Actuator Data

The use of the above features to assure the integrity of these penetrations avoids the necessity of installing block valves in the injection flow path. Such valves would add an increased probability of flow path blockage during an accident.

40. The leakage through these lines will be included in the results of the Type A test.

Table 6.2.4-2 (Page 2)

Comparison of Containment Purge System
With Branch Technical Position
CSB 6-4, Revision 2

| <u>Paragraph</u> | <u>Compliance Status</u> |
|------------------|---|
| | the probability of debris entrainment in the valves. |
| B-2 | In Compliance. See description of Containment Purge System in Section 9.4.5. |
| B-3 | In Compliance. See description of Containment Auxiliary Charcoal Filter System in Section 9.4.6. |
| B-4 | In Compliance. See Sections 6.2.4 and 6.2.6. |
| B-5-a B-5-b | The loss-of-coolant accident analysis does not assume the purge valves are open at the onset of the postulated LOCA. Purge system operation is limited to ≤ 90 hours per year in accordance with SRP 6.2.4 guidelines. Lower compartment purge valves are closed during power, startup, hot standby and shutdown modes of operation (Modes 1-4). |
| B-5-c | If the system is in operation at the start of an accident the amount of air lost while the valves are closing is insignificant. (See response to Question 42.64, McGuire FSAR) The minimum containment pressure analysis is presented in Section 6.2.1.5. |
| B-5-d | An allowable leak rate for these valves will be developed in the Type "C" test program. |

Table 6.2.4-2 (Page 1)

Comparison of Containment Purge System
With Branch Technical Position
CSB 6-4, Revision 2

| <u>Paragraph</u> | <u>Compliance Status</u> |
|------------------|---|
| B-1-a | The Containment Isolation System is described in Section 6.2.4. Operability of the containment purge isolation valves is currently under review by the Equipment Qualifications Branch. (Reference E. G. Adensan's April 1, 1982 letter to W. O. Parker.) |
| B-1-b | The system has a total of nine supply and exhaust penetrations (as shown on Figure 9.4.5-1) in order to serve the upper and lower compartments of the ice condenser containment and to limit the penetration sizes. |
| B-1-c | Containment penetration and isolation valve sizes are listed in Table 6.2.4-1. Note that SRP 6.2.4 states that the 8 inch maximum duct diameter recommendation is not applicable since purge system operation is Technical Specification limited to ≤ 90 hours per year during power, startup, hot standby and shutdown modes of operation (Modes 1-4). |
| B-1-d | In Compliance. See Section 6.2.4. |
| B-1-e | In Compliance. See Section 6.2.4. |
| B-1-f | In Compliance. See Section 6.2.4. |
| B-1-g | The potential for entrainment of debris in the containment purge isolation valves is minimized by the ice condenser containment design. Since the lower containment purge isolation valves will be closed during power, startup, hot standby and shutdown modes of operation (Technical Specification requirement), any debris generated from the postulated LOCA would be confined to the lower compartment by the ice condenser's filtering the debris. The upper containment isolation valves are not in the ice condenser blowdown stream, further reducing |