

Safety Analysis
Ginna Station
UFSAR Table 6.2-13 Changes

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Revision 1

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Revision Status Sheet

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Safety Analysis

1.0 Description and Scope

- 1.1 The purpose of this evaluation is to determine if there are any unreviewed safety questions related to updating UFSAR Table 6.2-13, Containment Piping Penetrations and Isolation Valves. This update is necessary to reflect information obtained during a detailed review of the containment isolation system and the result of the 1988 Inservice Test (IST) Program submittal to the NRC.

2.0 References

- 2.1 Updated Final Safety Analysis Report, Revision 5.
- 2.1.1 Section 6.2.4, Containment Isolation System.
- 2.1.2 Table 6.2-13, Containment Piping Penetrations and Isolation Valves.
- 2.2 R.E. Ginna Nuclear Power Plant Technical Specifications, dated April 12, 1990.
- 2.2.1 Section 3.6.3, Containment Isolation Valves.
- 2.2.2 Table 3.6-1, Containment Isolation Valves.
- 2.2.3 Section 3.8.1, Refueling.
- 2.3 Letter from J.E. Maier, RG&E, to D.M. Crutchfield, NRC, Subject: SEP Topic VI-4, Containment Isolation Valves (Systems); dated August 30, 1982.
- 2.4 Letter from L.D. White, RG&E, to D.L. Ziemann, NRC, Subject: Discussion of Lessons Learned Short Term Requirements; dated November 19, 1979.
- 2.5 Letter from L.D. White, RG&E, to B.H. Grier, NRC, Subject: IE Bulletins 79-06A and 79-06A Revision 1; dated June 22, 1979.
- 2.6 Letter from L.D. White, RG&E, to D.L. Ziemann, NRC, Subject: Followup Actions Resulting from the NRC Staff Reviews Regarding the TMI Unit 2 Accident; dated October 17, 1979.
- 2.7 Letter from D.M. Crutchfield, NRC, to J.E. Maier, NRC, Subject: Forwarding Final Evaluation Report of SEP Topic VI-4, Containment Isolation System for the Ginna Nuclear Power Plant; dated April 12, 1982.

- 2.8 Letter from J.E. Maier, RG&E, to D.M. Crutchfield, NRC, Subject: SEP Topic VI-4, Containment Isolation System; dated December 30, 1981.
- 2.9 NUREG-0821, Integrated Plant Safety Assessment, Systematic Evaluation Program, R.E. Ginna Nuclear Power Plant; dated December 1982.
- 2.10 RG&E Inter-Office Correspondence from G.J. Wrobel, to S.T. Adams, Subject: Necessary Clarifications Associated With Technical Specification Table 3.6-1; dated July 2, 1990.
- 2.11 RG&E Inter-Office Correspondence from G.J. Wrobel, to S.T. Adams, Subject: Containment Isolation Valves AOV 745 (Penetration 124a), MOV 749A (Penetration 127), and MOV 749B (Penetration 128); dated June 22, 1990.
- 2.12 RG&E Inter-Office Correspondence from G.J. Wrobel, to S.T. Adams, Subject: Technical Specification Interpretation of Containment Isolation Valves MOVs 749 A/B; dated June 21, 1990.
- 2.13 USNRC, Regulatory Guide 1.70, Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants; Revision 3, November 1978.
- 2.14 Letter from D.D. DiIanni, USNRC, to R.W. Kober, RG&E, Subject: SEP Topic VI-4, NUREG-0821 Section 4.22.2, Containment Isolation Valves; dated January 30, 1987.
- 2.15 NUREG-0800, Standard Review Plan, Section 6.2.4, Revision 2, July 1981.
- 2.16 Letter from R.C. Mecredy, RG&E, to A.R. Johnson, NRC, Subject: Operability of AOV 745 and MOVs 749A/B; dated July 9, 1990.
- 2.17 Letter from R.C. Mecredy, RG&E, to A.R. Johnson, NRC, Subject: Modification of Containment Penetration #2; dated March 13, 1990.
- 2.18 Ginna Station Procedure 0-2.3.1A, Containment Closure Capability in Two Hours During RCS Reduced Inventory Operations, Revision 5, dated April 28, 1990.
- 2.19 Ginna Station Quality Assurance Manual.
- 2.19.1 Appendix B, Inservice Inspection Program For the 1990-1999 Interval, Revision 0, dated January 1, 1990.
- 2.20 10CFR50, Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors.

3.0

Safety Analysis

3.1

The system affected by this UFSAR change is the containment isolation system. This system is designed to isolate non-essential process lines which penetrate the containment to ensure that the total leakage of activity will be within design limits in the event of an accident. In addition, the parent systems (e.g., Safety Injection) of the components contained in the containment isolation system can be considered affected by this UFSAR change. However, there is no change to the capability of these systems to perform their intended design function, only an update of their ability to isolate containment when required.

3.2

The updated UFSAR Table 6.2-13 is presented in Attachment A. Due to the significant number of changes, a marked-up version of the current UFSAR table was not generated. Instead, Attachment B provides a detailed listing of all changes made to the table. Attachment B is divided into four (4) sub tables.

- (1) The first table provides a listing of global notes which were applied as applicable to eliminate redundancy.
- (2) The second table provides a listing of changes made to the format and overall structure of the UFSAR table.
- (3) The third table lists the changes made to each individual penetration on the UFSAR table.
- (4) The fourth table identifies all changes made to the UFSAR table notes. However, since many modifications were made to the UFSAR table, most notes have been renumbered and revised. Consequently, to eliminate confusion, a change associated with the notes column for a particular penetration is only identified in Table 3 if a note has been added or deleted. There is no change identified in Table 3 if a note number has only been changed, if changes were made to the note itself, or if the note was deleted globally. Instead, these changes are provided in Table 4.

3.3

The changes to UFSAR Table 6.2-13 fall into three categories:

- (1) clarifications or corrections of typographical errors and omissions,
- (2) updates to better represent actual plant conditions, and
- (3) updates for consistency between the UFSAR, Technical Specifications, and previous commitments made by RG&E.

- 3.3.1 The correction of typographical errors and omissions does not involve any technical change to the UFSAR table nor the function and capability of the containment isolation system. All columns and rows in the table now contain either the necessary information or "NA". No blanks or "-" remain in the table. In addition, the clarifications made to the UFSAR table are minor and do not involve any technical changes. Significant clarifications are discussed below.
- 3.3.1.1 The Position At Postaccident column was changed to reflect plant conditions immediately following a Containment Isolation Signal (CIS). This column was modified since system configurations can be changed during recovery operations. If this column was not modified, it would require most valves to list "O/C". The column now provides a clear listing of the valve positions prior to any operator action (i.e., "immediate" post accident).
- 3.3.1.2 The Notes column was changed to only supplement UFSAR Section 6.2.4.4.2 text. All duplications of information contained in the UFSAR text was removed from the Notes. The Notes column now only identify exceptions, references, etc., not contained in the UFSAR text.
- 3.3.1.3 The Fluid Type and Temperature columns were removed from the table since they do not provide any information relevant to the UFSAR Table. This information can be obtained from other sources including Appendix B of the Ginna Station Quality Assurance Manual. Consequently, the information contained in these columns remains in other RG&E controlled documents.
- 3.3.1.4 The Position Indication In Control Room column was modified to show the type of indication instead of "Yes/No". This is a significant enhancement since the table now identifies if there is a white status light or a red/green light associated with the valve on the Main Control Board, or both.
- 3.3.2 The updates to the UFSAR table to better represent actual plant conditions are described below.
- 3.3.2.1 Penetration #2 was added to the table. This spare penetration was modified during the 1990 Refueling Outage to enhance containment closure during mid-loop operations. The penetration meets all current containment penetration criteria. See Reference 2.17.

3.3.2.2

Several valves had their positions as listed under the Position At columns in the UFSAR Table changed to a more conservative position. That is, the valve position changed from either a "O/C" to "C", "O" to "C", "O" to "LC", or "C" to "LC". (See Table 3 of Attachment B for a detailed description of these changes on a penetration by penetration basis.) For these cases, the valve is now identified as being in an isolated or closed position which is the function of a containment isolation valve. Valves (and penetration #) in this category include: 370B (#100), 879 (#110b), 371 (#112), 846 (#120a), 539 (#120b), 547 (#121a), 528 (121a), 508 (#121b), 743 (#124a), 745 (#124a), 1569 (#124b), 1571 (#124b), 1572 (#124b), 1574 (#124b), 759B (#125), 759A (#126), 749A (#127), 749B (#128), 1787 (#129), 1786 (#129), 7971 (#132), 1076B (#202), 1084B (#202), 1563 (#203b), 1565 (#203b), 1566 (#203b), 1568 (#203b), 5869 (#204), 966C (#205), 966B (#206a), 5735 (#206b), 966A (#207a), 5736 (#207b), 1080 (#210), 5879 (#300), 6151 (#301), 6165 (#301), 6175 (#303), 6152 (#303), 1076A (#304), 1084A (#304), 1554 (#305c), 1556 (#305c), 1557 (#305c), 1559 (#305c), 1560 (#305c), 1562 (#305c), 7141 (#310a), 921 (#332c), 922 (#332c), 923 (#332c), and 924 (#332c).

3.3.2.3

Several valves had their positions as listed under the Position At columns in the UFSAR Table changed to a comparable position. That is, the valve position changed from either a "O" to "O/C" or "O/C" to "O". (See Table 3 of Attachment B for a detailed description of these changes on a penetration by penetration basis.) For these cases where the valve was listed as open, the valve and penetration was required to be evaluated previously assuming that it was open since this was the most conservative position. Therefore, changing the valve's position for these cases does not negatively impact the penetration or containment isolation system since the valve was conservatively evaluated under open conditions previously. Valves (and penetration #) in this category include: 1723 (#107), 1728 (#107), 313 (#108), 1789 (#123 bottom), 1003A (#143), 1003B (#143), 5869 (#204), 5735 (#206b), 5736 (#207B), 5879 (#300), 4629 (#308), 4630 (#311), 4642 (#312), 4643 (#315), 4628 (#316), 4627 (#319), 4641 (#320), 4644 (#323), and 8418 (#324).

3.3.2.4

Several valves had their positions as listed under the Position At Cold Shutdown column in the UFSAR Table changed to a less conservative position. That is, the valve position changed from either a "C" to "O" or "C" to "O/C". (See Table 3 of Attachment B for a detailed description of these changes on a penetration by penetration basis.) However, containment integrity is not required in the Cold Shutdown condition (Technical Specification 3.6.1). In addition, during reduced RCS inventory operations, the position of these valves (or an automatic isolation valve in the same line) is verified by Reference 2.18. Thus, these valves can be closed if needed. Also, during Refueling Operations, Technical Specification 3.8.1 requires that all "automatic containment isolation valves shall be operable or at least one valve in each line shall be locked closed." Therefore, containment isolation is assured during refueling operations. Consequently, these changes do not negatively impact the penetration or the containment isolation system since administrative controls are in place. Valves (and penetration #) in this category include: 7970 (#132), 7971 (#132), 5393 (#310b), 7443 (#317), 5738 (#321), and 5737 (#322).

3.3.2.5

Several valves had their positions as listed under the Position At Normal Operation and Position At Immediate Postaccident columns in the UFSAR Table changed to a less conservative position. That is, the valve position changed either from a "C" to "O/C", or "O" to "LO". (See Table 3 of Attachment B for a detailed description of these changes on a penetration by penetration basis.) There are two categories of valves which meet this criteria (organized by justification).

- (a) 529 (#121b) - This penetration has an automatic isolation valve in the line to perform the necessary isolation function. In addition, since this check valve sees the same conditions as the associated automatic isolation valve, their positions should be the same. Consequently, the change does not negatively impact the penetration or the containment isolation system.

- (b) 4629 (#308), 4630 (#311), 4642 (#312), 4643 (#315), 4628 (#316), 4627 (#319), 4641 (#320), 4644 (#323) - These essential Service Water System penetrations operate at a higher pressure than the containment accident pressure and are missile protected inside containment. Consequently, the line is not required to isolate. See UFSAR Table Note 17. Therefore, the change in valve position does not negatively impact the penetration or the containment isolation system.

3.3.2.6

The Trip on CIS column was changed from a "Yes" to a "No" for valve 745 (#124a). The Maximum Isolation Time column was also changed from "60" to "NA". These changes are justified per Reference 2.16.

3.3.2.7

Several penetrations had valves added to the table, deleted, or both. These are described below by penetration number.

- (a) Penetration 103 - Valve 5129 was deleted from the table and replaced by a Blind Flange. This change enabled the elimination of the previous note of "No longer in use" that was associated with this penetration. The penetration now reflects the current configuration. The use of the Blind Flange is consistent with the previous locked-closed manual valve.
- (b) Penetration 111 - Added valve 959. The addition of this valve to the table ensures that all valves receiving a containment isolation signal are listed. This valve was previously missing from the table, but credit was not taken for the valve during the SEP (see Reference 2.7). Consequently, this is not considered an actual isolation valve and is not tested per Appendix J.
- (c) Penetration 112 - Valves 204A and 821 were deleted and replaced with valves 200A, 200B, and 202. Valve 427 was also added. The addition of these valves enables explicit compliance with GDC 55 versus the use of the two redundant isolation valves. These new valves are included in the current IST program (see Reference 2.19).
- (d) 123 (bottom) - Added valve 1600A. See explanation for 3.3.2.7 (b) above.

- (e) Penetration 141 - Deleted valve 851A and added valve 1813A. Valve 851A does not meet the selection criteria for 10CFR50 Appendix J, Section IIH, items 1 through 4. Consequently, the valve was deleted from the table. Valve 1813A was previously missing from the table. This valve is locked-closed with its breaker locked open.
- (f) Penetration 142 - Deleted valve 851B and added valve 1813B. See explanation for 3.3.2.7 (e) above.
- (g) Penetration 205 - Added valve 955. See explanation for 3.3.2.7 (b) above.
- (h) Penetration 206a - Added valve 953. See explanation for 3.3.2.7 (b) above.
- (i) Penetration 207a - Added valve 951. See explanation for 3.3.2.7 (b) above.
- (j) Penetration 210 - Added valves 10214S1 and 10215S1. These valves were previously missing from the table, but receive an isolation signal.

3.3.2.8

Penetration 332b - Deleted entire penetration branch from the table. This penetration branch contains double isolation, fits the criteria as a test connection, and performs no active function. Therefore, there is no requirement to test the valves as containment isolation valves. Consequently, this penetration branch was removed from the table.

3.3.3

Several updates were made to the UFSAR table to ensure consistency between the UFSAR, Technical Specifications, and previous commitments made by RG&E. These changes are typically only clarifications. The significant changes are described below.

3.3.3.1

Notes 7 and 19 were added to ensure that consistency is maintained between Technical Specification Table 3.6-1 and the UFSAR Table. These notes mainly provide clarification and do not involve a technical change.

3.3.3.2

The Maximum Isolation Time of several valves was changed to a more conservative duration. That is, the time was changed from "NA" to either "3" seconds for solenoid valves, or "60" seconds for AOVs and MOVs. (See Table 3 of Attachment B for a detailed description of these changes on a penetration by penetration basis.) The UFSAR Table now identifies an isolation time for all valves receiving a containment isolation signal. Valves (and penetration #) in this category include: 1787 (#129), 10211S1 (#202), 10213S1 (#202), 966C (#205), 966B (#206a), 5735 (#206b), 966A (#207a), 5736 (#207b), 10214S (#210), 10215S1 (#210), 10205S1 (#304), 10209S1 (#304), 1597 (#305a), 1599 (#305b), and 8418 (#324).

3.3.3.3

The Maximum Isolation Time of several valves was changed to a less conservative duration. There are three categories of valves which meet this criteria (organized by justification):

- (a) 749A (#127), 749B (#128) - These valves do not receive a containment isolation signal. Consequently, the Maximum Isolation Time was changed to "NA" since there is no need for a maximum isolation time.
- (b) 5869 (#204) - This valve does not require an isolation time since the associated blind flange acts as the isolation boundary. See UFSAR Table Note 19. Consequently, the Maximum Isolation Time was changed to "NA" since there is no need for a maximum isolation time.
- (c) 7970 (#132), 7971 (#132), 7478 (#309), and 7445 (#309) - The isolation time for these butterfly valves was changed from "2" seconds to "3" seconds. Technical Specification Table 3.6-1 allows five seconds with instrument delay. However, the Maximum Isolation Time column does not include instrument delay per Note "b". The instrument delay time for these valves is approximately 2 seconds. Consequently, the valve isolation time was changed to "3" seconds.

3.4

A review of the design basis events analyzed in the Ginna Station UFSAR and the events requiring analysis as described in USNRC Reg. Guide 1.70 was performed. The events related to this UFSAR change are:

- (a) Fires
- (b) Seismic Events
- (c) Radiological Release From a Subsystem or Component
- (d) Decrease in Reactor Coolant Inventory
- (e) Events Initiating a Safety Injection Signal

- 3.4.1 The changes as described in Section 3.3 and Attachment B do not affect the capability of the containment isolation system to perform its function during a fire. The changes to the UFSAR Table are mainly minor clarifications and updates to reflect current plant conditions. There is no physical modification to Ginna Station as a result of these changes. No fire barriers are affected by these changes, nor is there any increase in area fire loadings.
- 3.4.2 The changes as described in Section 3.3 and Attachment B do not affect the capability of the containment isolation system to perform its function during a seismic event. The changes to the UFSAR Table are mainly minor clarifications and updates to reflect current plant conditions. No changes are made with respect to the seismic design of the affected penetrations.
- 3.4.3 The changes as described in Section 3.3 and Attachment B do not affect the capability of the containment isolation system to respond to a radiological release within containment. The containment isolation system was reviewed in depth during the SEP and 1988 IST submittal. The changes to the UFSAR Table are mainly clarifications and updates to reflect current plant conditions. There is no physical modification to Ginna Station as a result of these changes. Consequently, the containment isolation system is still within its design basis limits.
- 3.4.4 The changes as described in Section 3.3 and Attachment B do not create the potential for the affected penetrations to cause a decrease in RCS inventory (i.e., a loss-of-coolant-accident). The containment isolation system was reviewed in depth during the SEP and 1988 IST submittal. The changes to the UFSAR Table are mainly clarifications and updates to reflect current plant conditions. No changes were made to capability of the parent systems (e.g., Residual Heat Removal) to perform their function. Consequently, the containment isolation system and associated parent systems remain within their design basis limits.

- 3.4.5 Events which initiate Safety Injection also result in the need for containment isolation. The changes to the UFSAR Table do not affect the capability of the containment isolation system to perform its function. All changes were reviewed to ensure continued compliance with the design basis for the containment isolation system and the Ginna Station Licensing Basis.

4.0 Preliminary Safety Evaluation

- 4.1 The proposed UFSAR changes will not increase the probability of occurrence of an accident previously evaluated in the UFSAR. The changes to the UFSAR Table are to correct typographical errors, provide additional clarification, and update the table to reflect actual plant conditions. All changes considered "less conservative" are acceptable and do not increase the probability of occurrence as discussed in Sections 3.3.2.4, 3.3.2.5, 3.3.2.6, and 3.3.3.3. All additions and deletions to the table are also acceptable and do not increase the probability of occurrence as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. Thus, there is no change in system function, nor a reduction in system reliability. The containment isolation and parent systems will remain within their design limits.
- 4.2 The proposed UFSAR changes will not increase the consequences of an accident previously evaluated in the UFSAR. The modification does not impact or increase the calculated radiological dose to the general public for any event evaluated in the UFSAR. All changes considered "less conservative" are acceptable and do not increase the consequences of an accident as discussed in Sections 3.3.2.4, 3.3.2.5, 3.3.2.6, and 3.3.3.3. All additions and deletions to the table are also acceptable and do not increase the consequences of an accident as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. Thus, the function and capability of the containment isolation system to isolate any radiological release within containment is not degraded.

- 4.3 The proposed UFSAR changes will not increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the UFSAR. All changes considered "less conservative" are acceptable and do not increase the probability of occurrence as discussed in Sections 3.3.2.4, 3.3.2.5, 3.3.2.6, and 3.3.3.3. All additions and deletions to the table are also acceptable and do not increase the probability of occurrence as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. Thus, the changes do not degrade the performance of the containment isolation system, nor the associated parent systems.
- 4.4 The proposed UFSAR changes will not increase the consequences of a malfunction of equipment important to safety previously evaluated in the UFSAR. The changes do not impact or increase the calculated radiological dose to the general public for any event evaluated in the UFSAR. All changes considered "less conservative" are acceptable and do not increase the consequences of a malfunction of equipment as discussed in Sections 3.3.2.4, 3.3.2.5, 3.3.2.6, and 3.3.3.3. All additions and deletions to the table are also acceptable and do not increase the consequences of a malfunction of equipment as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. Thus, the function and capability of the containment isolation system to isolate any radiological release from containment is not degraded.
- 4.5 The proposed UFSAR changes will not create the possibility of an accident of a different type than any previously evaluated in the UFSAR. These changes are mainly clarifications and updates to reflect current plant conditions. All changes considered "less conservative" are acceptable and do not increase the consequences of a malfunction of equipment as discussed in Sections 3.3.2.4, 3.3.2.5, 3.3.2.6, and 3.3.3.3. All additions and deletions to the table are also acceptable and do not increase the consequences of a malfunction of equipment as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. There are no adverse affects upon other systems, nor any new failure modes induced.
- 4.6 The proposed UFSAR changes will not create the possibility of a different type of malfunction of equipment important to safety than any previously evaluated in the UFSAR. The additions and deletions to the table are acceptable as discussed in Sections 3.3.1.3, 3.3.2.1, 3.3.2.7, and 3.3.2.8. The changes do not degrade the containment isolation or associated parent systems.

4.7

The proposed UFSAR changes will not reduce any margin of safety as defined in the basis of any technical specification. The functions and characteristics of the containment isolation system remains unchanged. However, changes are made to valve isolation times and the valves listed for specific penetrations. These changes will be addressed in the Amendment Request to remove Table 3.6-1 from the Technical Specifications and reference this updated UFSAR table.

4.8

Based on the above analysis, it has been determined that:

- (a) The margins of safety during normal operation and transient conditions anticipated during the life of the plant has not been reduced, and
- (b) The adequacy of structures, systems, and components provided for the prevention of accidents and for the mitigation of the consequences of accidents have not been affected.

Attachment A

System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec) ^a	UFSAR Figure	Class ^b	Notes (See end of table) ^c
							Normal Operation	Cold Shutdown	Immediate Postaccident ^a	Power Failure					
Steam Generator Inspection/Maintenance	2	NA	Blind Flanges	NA	NA	Both	C	O/C	C	NA	NA	NA	(add)	5	1, 2
Fuel Transfer Tube	29	NA	Blind Flange	NA	NA	Inside	C	O/C	C	NA	NA	NA	6.2-13	5	2, 3
Charging Line to B Loop	100	370B	Check	NA	NA	Inside	O	C	C	NA	NA	NA	6.2-14	3B	4
Safety Injection Pump 1B Discharge	101	870B	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-15	3B	4
		889B	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-15	3B	4
Alternate Charging to A Cold Leg	102	383B	Check	NA	NA	Inside	C	C	C	NA	NA	NA	6.2-16	3B	4
Construction Fire Service Water	103	NA	Blind Flange	NA	NA	Inside	C	C	C	NA	NA	NA	6.2-17	5	5
Containment Spray Pump 1A	105	862A	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-18	3B	4
Reactor Coolant Pump A Seal Water Inlet	106	304A	Check	NA	NA	Inside	O	O	C	NA	NA	NA	6.2-19	3B	4
Sump A Discharge to Waste Holdup Tank	107	1723	Diaphragm	Air	Status	Outside	O	O/C	C	FC	Yes	60	6.2-20	2	
		1728	Diaphragm	Air	Status	Outside	O	O/C	C	FC	Yes	60	6.2-20	2	
Reactor Coolant Pump Seal Water Return Line and Excess Letdown to VCT	108	313	Gate	Motor	Both	Outside	O	O/C	C	AI	Yes	60	6.2-21	1	4, 6
Containment Spray Pump 1B	109	862B	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-22	3B	4

Legend

AI - Fails As Is	MOV - Motor-Operated Valve
AOV - Air Operated Valve	MV - Manual Valve
C - Closed	O - Open
CIS - Containment Isolation Signal	O/C - Open or Closed
CV - Check Valve	R/G - Red / Green Light on Main Control Board
FC - Fails Closed	Status - White Status Light
FO - Fails Open	SOV - Solenoid Operated Valve
LC - Locked Closed	

- ^a Refers to position immediately following receipt of containment isolation signal and containment ventilation isolation signal.
- ^b The maximum isolation time does not include diesel start time nor instrument delay time.
- ^c Refers to classes defined in Section 6.2.4.4.2.
- ^d Notes only used to supplement Section 6.2.4.4.2.

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System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec) ^b	UFSAR Figure	Class ^c	Notes (See end of table) ^d
							Normal Operation	Cold Shutdown	Immediate Postaccident ^e	Power Failure					
Reactor Coolant Pump B Seal Water Inlet	110a (top)	304B	Check	NA	NA	Inside	O	O	C	NA	NA	NA	6.2-23	3B	4
Safety Injection Test Line	110b (bottom)	879	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-15	1	4
Residual Heat Removal to B Cold Leg	111	720 959	Gate Globe	Motor Air	R/G Status	Inside Outside	C C	O O/C	C C	AI FC	No Yes	NA NA	6.2-24 6.2-24	3B 3B	4, 7, 8 4, 7
Letdown to Nonregenerative Heat Exchanger	112	200A	Globe	Air	R/G	Inside	O/C	C	C	FC	Yes	60	6.2-25	1	10
		200B	Globe	Air	R/G	Inside	O/C	C	C	FC	Yes	60	6.2-25	1	10
		202	Globe	Air	R/G	Inside	C	C	C	FC	Yes	60	6.2-25	1	10
		371	Globe	Air	Both	Outside	O	O	C	FC	Yes	60	6.2-25	1	10
		427	Globe	Air	R/G	Inside	O	O/C	C	FO	Yes	NA	6.2-25	1	9
Safety Injection Pump 1A Discharge	113	870A	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-15	3B	4
		889A	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-15	3B	4
Standby Auxiliary Feedwater Line to Steam Generator 1A	119	9704A	Stop-Check	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-26	4	11
		9705A	Check	NA	NA	Inside	C	C	O	NA	NA	NA	6.2-26	4	11
Nitrogen to Accumulators	120a	846	Globe	Air	Both	Outside	C	O/C	C	FC	Yes	60	6.2-27	3A	
		8623	Check	NA	NA	Inside	O/C	O/C	C	NA	NA	NA	6.2-27	3A	
Pressurizer Relief Tank to Gas Analyzer	120b	539	Globe	Air	Status	Outside	C	O/C	C	FC	Yes	60	6.2-28	2	
		546	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-28	2	
Nitrogen to Pressurizer Relief Tank	121a	528	Check	NA	NA	Inside	C	O/C	C	NA	NA	NA	6.2-29	3A	
		547	Globe	Manual	No	Outside	LC	O/C	LC	NA	NA	NA	6.2-29	3A	12
Makeup Water to Pressurizer Relief Tank	121b	508	Diaphragm	Air	Both	Outside	C	O/C	C	FC	Yes	60	6.2-30	3A	
		529	Check	NA	NA	Inside	O/C	O/C	C	NA	NA	NA	6.2-30	3A	
Containment Pressure Transmitter PT945	121c	PT945	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-31	2	13
		1819A	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-31	2	
Containment Pressure Transmitter PT946	121d	PT946	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-31	2	13
		1819B	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-31	2	
Standby Auxiliary Feedwater Line to Steam Generator 1B	123 (top)	9704B	Stop-Check	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-26	4	11
		9705B	Check	NA	NA	Inside	C	C	O	NA	NA	NA	6.2-26	4	11

System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec) ^b	UFSAR Figure	Class ^c	Notes (See end of table) ^d
							Normal Operation	Cold Shutdown	Immediate Postaccident ^a	Power Failure					
Reactor Coolant Drain Tank to Gas Analyzer Line	123 (bottom)	1600A	Globe	Solenoid	No	Outside	O	O/C	C	FC	Yes	NA	6.2-32	2	9
		1655	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-32	2	
		1789	Diaphragm	Air	Status	Outside	O	O/C	C	FC	Yes	60	6.2-32	2	
Excess Letdown Heat Exchanger Cooling Water Supply & Return	124a	743	Check	NA	NA	Inside	O	C	C	NA	NA	NA	6.2-33	4	14
		745	Globe	Air	R/G	Outside	O	C	C	FC	No	NA	6.2-33	4	
Postaccident Air Sample to C Fan	124b	1569	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-34	5	
		1571	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-34	5	
		1572	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-34	5	
		1574	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-34	5	
Component Cooling Water from Reactor Coolant Pump 1B	125	759B	Gate	Motor	R/G	Outside	O	C	O	AI	No	NA	6.2-35	4	4
Component Cooling Water from Reactor Coolant Pump 1A	126	759A	Gate	Motor	R/G	Outside	O	C	O	AI	No	NA	6.2-36	4	4
Component Cooling Water to Reactor Coolant Pump 1A	127	749A	Gate	Motor	R/G	Outside	O	C	O	AI	No	NA	6.2-37	4	
		750A	Check	NA	NA	Inside	O	C	O	NA	NA	NA	6.2-37	4	
Component Cooling Water to Reactor Coolant Pump 1B	128	749B	Gate	Motor	R/G	Outside	O	C	O	AI	No	NA	6.2-38	4	
		750B	Check	NA	NA	Inside	O	C	O	NA	NA	NA	6.2-38	4	
Reactor Coolant Drain Tank and Pressurizer Relief Tank to Containment Vent Header	129	1713	Check	NA	NA	Outside	C	O/C	C	NA	NA	NA	6.2-39	3A	12
		1786	Diaphragm	Air	Status	Outside	O	C	C	FC	Yes	60	6.2-39	3A	
		1787	Diaphragm	Air	Status	Outside	O	C	C	FC	Yes	60	6.2-39	3A	
		1793	Diaphragm	Manual	No	Outside	LC	O/C	LC	NA	NA	NA	6.2-39	3A	
Component Cooling Water from Reactor Support Cooling	130	814	Gate	Motor	Both	Outside	O	O	C	AI	Yes	60	6.2-40	4	
Component Cooling Water to Reactor Support Cooling	131	813	Gate	Motor	Both	Outside	O	O	C	AI	Yes	60	6.2-40	4	
Containment Mini-Purge Exhaust	132	7970	Butterfly	Air	Both	Inside	O/C	O/C	C	FC	Yes	3	6.2-41	5	
		7971	Butterfly	Air	Both	Outside	C	O/C	C	FC	Yes	3	6.2-41	5	

System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec) ^b	UFSAR Figure	Class ^c	Notes (See end of table) ^d
							Normal Operation	Cold Shutdown	Immediate Postaccident ^e	Power Failure					
Residual Heat Removal Pump Suction from A Hot Leg	140	701	Gate	Motor	R/G	Inside	C	O	C	AI	No	NA	6.2-42	1	7, 8
Residual Heat Removal No. 1 Pump Suction from Sump B	141	850A 1813A	Gate	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-42	5	15
			Gate	Motor	R/G	Outside	C	O/C	C	AI	No	NA	6.2-42	5	8
Residual Heat Removal No. 2 Pump Suction from Sump B	142	850B 1813B	Gate	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-42	5	15
			Gate	Motor	R/G	Outside	C	O/C	C	AI	No	NA	6.2-42	5	8
Reactor Coolant Drain Tank Discharge Line	143	1003A 1003B 1721	Diaphragm	Air	Status	Outside	O	O/C	C	FC	Yes	60	6.2-43	2	
			Diaphragm	Air	Status	Outside	O	O/C	C	FC	Yes	60	6.2-43	2	
			Diaphragm	Air	Status	Outside	O	O	C	FC	Yes	60	6.2-42	2	
Reactor Compartment Cooling Units A and B	201 (top)	4757	Butterfly	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-44	4	16
	201 (bottom)	4636	Butterfly	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-45	4	17
B Hydrogen Recombiner (Pilot and Main)	202	1076B	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-46	5	
		1084B	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-46	5	
		1021151	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-46	5	18
		1021351	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-46	5	18
Containment Pressure Transmitter PT947 and PT948	203a	PT947	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-47	2	13
		PT948	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-47	2	13
		1819C	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-47	2	
		1819D	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-47	2	
Postaccident Air Sample to B Fan	203b	1563	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-48	5	
		1565	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-48	5	
		1566	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-48	5	
		1568	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-48	5	
Purge Supply Duct	204	NA	Blind Flange	NA	NA	Inside	C	O	C	NA	NA	NA	6.2-49	5	2, 19
		5869	Butterfly	Air	Both	Outside	C	O/C	C	FC	Yes	NA	6.2-49	5	19
Hot Leg Loop Sample	205	955	Globe	Air	Status	Inside	C	C	C	FC	Yes	NA	6.2-50	1	9
		956D	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-50	1	
		966C	Globe	Air	Status	Outside	C	C	C	FC	Yes	60	6.2-50	1	
Pressurizer Liquid Space Sample	206a (top)	953	Globe	Air	Status	Inside	C	C	C	FC	Yes	NA	6.2-51	1	9
		956E	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-51	1	
		966B	Globe	Air	Status	Outside	C	C	C	FC	Yes	60	6.2-51	1	
A Steam Generator Sample	206b (bottom)	5733	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-52	4	
		5735	Globe	Air	Status	Outside	O	C	C	FC	Yes	60	6.2-52	4	
Pressurizer Steam Space Sample	207a (top)	951	Globe	Air	Status	Inside	C	C	C	FC	Yes	NA	6.2-53	1	9
		956F	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-53	1	
		966A	Globe	Air	Status	Outside	C	C	C	FC	Yes	60	6.2-53	1	

System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec)*	UFSAR Figure	Class*	Notes (See end of table)*
							Normal Operation	Cold Shutdown	Immediate Postaccident*	Power Failure					
B Steam Generator Sample	207b (bottom)	5734	Globe	Manual	No	Outside	O	C	O	NA	NA	NA	6.2-54	4	
		5736	Globe	Air	Status	Outside	O	C	C	FC	Yes	60	6.2-54	4	
Reactor Compartment Cooling Units A and B	209 (top)	4635	Butterfly	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-44	4	16
	209 (bottom)	4758	Butterfly	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-45	4	17
Oxygen Makeup to A & B Recombiners	210	1080A	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-55	5	
		10214S	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-55	5	18
		10214S1	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-55	5	18
		10215S	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-55	5	18
		10215S1	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-55	5	18
Purge Exhaust Duct	300	NA	Blind Flange	NA	NA	Inside	C	O	C	NA	NA	NA	6.2-56	5	2, 19
		5879	Butterfly	Air	Both	Outside	C	O/C	C	FC	Yes	NA	6.2-56	5	19
Auxiliary Steam Supply to Containment	301	6151	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-57	4	5
		6165	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-57	4	5
Auxiliary Steam Condensate Return	303	6152	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-57	4	5
		6175	Globe	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-57	4	5
A Hydrogen Recombiner (Pilot and Main)	304	1076A	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-58	5	
		1084A	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-58	5	
		10205S1	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-58	5	18
		10209S1	Globe	Solenoid	Status	Outside	C	C	C	FC	Yes	3	6.2-58	5	18
Containment Air Sample Out	305a (bottom)	1596	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-59	2	
		1597	Diaphragm	Air	Both	Outside	O	O	C	FC	Yes	60	6.2-59	2	
Containment Air Sample Inlet	305b (top)	1598	Diaphragm	Air	Both	Outside	O	O	C	FC	Yes	60	6.2-60	3A	
		1599	Diaphragm	Air	Both	Outside	O	O	C	FC	Yes	60	6.2-60	3A	
Containment Air Sample Postaccident	305C	1554	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
		1556	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
		1557	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
		1559	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
		1560	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
		1562	Diaphragm	Manual	No	Outside	LC	LC	LC	NA	NA	NA	6.2-61	5	
Fire Service Water	307	9227	Gate	Air	Both	Outside	C	O	C	FC	Yes	60	6.2-62	5	
		9229	Check	NA	NA	Inside	C	C	C	NA	NA	NA	6.2-62	5	
Service Water to A Fan Cooler	308	4629	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	17
Mini-Purge Supply	309	7445	Butterfly	Air	Both	Outside	O/C	C	C	FC	Yes	3	6.2-64	5	
		7478	Butterfly	Air	Both	Inside	O/C	C	C	FC	Yes	3	6.2-64	5	
Service Air to Containment	310a (bottom)	7141	Gate	Manual	No	Outside	LC	O/C	LC	NA	NA	NA	6.2-65	3A	
		7226	Check	NA	NA	Inside	C	O/C	C	NA	NA	NA	6.2-65	3A	

System	Penetration No.	Valve No.	Valve Type	Valve Operator Type	Position Indication In Control Room	Position Relative to Containment	Position At				Trip on CIS	Maximum Isolation Time (sec) ^b	UFSAR Figure	Class ^c	Notes (See end of table) ^d
							Normal Operation	Cold Shutdown	Immediate Postaccident ^a	Power Failure					
Instrument Air to Containment	310b (top)	5392 5393	Globe Check	Air NA	Both NA	Outside Inside	O O	O O	C C	FC NA	Yes NA	60 NA	6.2-66 6.2-66	3A 3A	
Service Water from B Fan Cooler	311	4630	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	16
Service Water to D Fan Cooler	312	4642	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	17
Leakage Test Depressurization	313	NA 7444	Blind Flange Butterfly	NA Motor	NA Status	Inside Outside	C C	C C	C C	NA AI	NA Yes	NA NA	6.2-67 6.2-67	5 5	19
Service Water from C Fan Cooler	315	4643	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	16
Service Water to B Fan Cooler	316	4628	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	17
Leakage Test Supply	317	NA 7443	Blind Flange Butterfly	NA Motor	NA Status	Inside Outside	C C	O O	C C	NA AI	NA Yes	NA NA	6.2-68 6.2-68	5 5	19
Deadweight Tester	318	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20
Service Water from A Fan Cooler	319	4627	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	16
Service Water to C Fan Cooler	320	4641	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	17
A Steam Generator Blowdown	321	5701 5738	Globe Globe	Manual Air	No Status	Outside Outside	O O	O O/C	O C	NA FC	NA Yes	NA 60	6.2-69 6.2-69	4 4	
B Steam Generator Blowdown	322	5702 5737	Globe Globe	Manual Air	No Status	Outside Outside	O O	O O/C	O C	NA FC	NA Yes	NA 60	6.2-70 6.2-70	4 4	
Service Water from D Fan Cooler	323	4644	Butterfly	Manual	No	Outside	LO	O/C	LO	NA	NA	NA	6.2-63	4	16
Demineralized Water to Containment	324	8418 8419	Globe Check	Air NA	Both NA	Outside Inside	C C	O/C O/C	C C	FC NA	Yes NA	60 NA	6.2-71 6.2-71	5 5	
Containment Pressure Transmitters PT944, PT949, and PT950	332a	PT944	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-72	2	13
		PT949	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-72	2	13
		PT950	NA	NA	NA	Outside	NA	NA	NA	NA	NA	NA	6.2-72	2	13
		1819E	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-72	2	
		1819F	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-72	2	
		1819G	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-72	2	

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							Normal Operation	Cold Shutdown	Immediate Postaccident ^c	Power Failure					
Hydrogen Monitor Instrumentation Lines	332c	921	Gate	Solenoid	Both	Outside	C	C	C	FC	Yes	3	6.2-74	5	21
		922	Gate	Solenoid	Both	Outside	C	C	C	FC	Yes	3	6.2-74	5	21
		923	Gate	Solenoid	Both	Outside	C	C	C	FC	Yes	3	6.2-74	5	21
		924	Gate	Solenoid	Both	Outside	C	C	C	FC	Yes	3	6.2-74	5	21
Main Steam from A Steam Generator	401	3505A	Gate	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-75	4	11
		3507	Gate	Manual	No	Outside	O	C	O	NA	NA	NA	6.2-75	4	11
		3517	Swing Check	Air	R/G	Outside	O	C	C	AI	No	NA	6.2-75	4	11
		3519	Check	NA	NA	Outside	O	C	C	NA	NA	NA	6.2-75	4	11
		3521	Gate	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-75	4	11
Main Steam from B Steam Generator	402	3504A	Gate	Motor	R/G	Outside	C	C	O	AI	No	NA	6.2-75	4	11
		3506	Gate	Manual	No	Outside	O	C	O	NA	NA	NA	6.2-75	4	11
		3516	Swing Check	Air	R/G	Outside	O	C	C	AI	No	NA	6.2-75	4	11
		3518	Check	NA	NA	Outside	O	C	C	NA	NA	NA	6.2-75	4	11
		3520	Gate	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-75	4	11
Feedwater Line to A Steam Generator	403	3993	Check	NA	NA	Outside	O	C	C	NA	NA	NA	6.2-76	4	11
		3995	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
		4000C	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-76	4	11
		4003	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-76	4	11
		4005	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
		4011	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
Feedwater Line to B Steam Generator	404	3992	Check	NA	NA	Outside	O	C	C	NA	NA	NA	6.2-76	4	11
		3994	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
		4000D	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-76	4	11
		4004	Check	NA	NA	Outside	C	C	O	NA	NA	NA	6.2-76	4	11
		4006	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
		4012	Globe	Manual	No	Outside	O	O	O	NA	NA	NA	6.2-76	4	11
Personnel Hatch	1000	NA	NA	NA	NA	Both	C	O/C	C	NA	NA	NA	3.8-31	NA	2
Equipment Hatch	2000	NA	NA	NA	NA	Both	C	O/C	C	NA	NA	NA	3.8-30	NA	2

Notes

- (1) Penetration Number 2 was added as a result of EMR 4998 to facilitate steam generator maintenance activities during mid-loop operation. This penetration is closed by a double-gasketed blind flange on both ends; however, only one of the two flanges are necessary for containment integrity purposes.
- (2) This penetration is provided with redundant seals and is closed during normal operation.
- (3) The end of the fuel transfer tube inside containment is closed by a double-gasketed blind flange, to prevent leakage of spent fuel pit water into the containment during plant operation. This flange also serves as protection against leakage from the containment following a loss-of-coolant accident.
- (4) This is a closed system outside containment. Verification of this closed system as a containment isolation boundary is accomplished via inservice and/or shutdown leakage checks. This applies to the following systems: Safety Injection, Containment Spray, Charging, Residual Heat Removal, and Component Cooling Water.
- (5) This penetration was only utilized during initial plant construction and is maintained inactive.
- (6) A second isolation barrier is provided by the volume control tank and connecting piping per letter from D.D. DiIanni, USNRC, to R.W. Kober, RG&E, dated January 30, 1987. This barrier is not required to be tested.
- (7) 10CFR50, Appendix J containment leakage testing is not required per L.D. White Jr. letter to D.L. Ziemann, USNRC, dated September 21, 1978.
- (8) MOVs 1813A, 1813B, 720, and 701 are maintained closed at power with their breakers locked off.
- (9) This valve receives a containment isolation signal; however, credit is not taken for this function. Therefore, this valve is not subjected to 10CFR50, Appendix J leakage testing, nor does it require a maximum isolation time.
- (10) Containment Isolation Signals were added to AOVs 200A, 200B, and 202 since AOV 427 fails open on loss of power. The isolation signal for these three valves is relayed from AOV 427.
- (11) The Main Steam, Main Feedwater, and Standby Auxiliary Feedwater isolation valves are not considered containment isolation valves. The containment boundary is the steam generator secondary side and tubes.
- (12) Manual valves 547 and 1793 are locked closed and leak tested to provide equivalent protection for GDC 56 and 57 (see UFSAR 6.2.4.4.1, Class 3A).
- (13) The pressure transmitter assembly, by its design, provides a containment pressure boundary. The integrity of this boundary is verified by annual leakage tests.
- (14) Operations is instructed to manually close AOV 745 following a Containment Isolation Signal until an automatic signal is installed through the necessary modification.
- (15) Sump lines are in operation and filled with fluid following an accident; therefore, 10CFR50, Appendix J leakage testing is not required for this penetration. See L.D. White Jr. letter to D.L. Ziemann, USNRC, dated September 21, 1978.
- (16) This manual valve is subjected to an annual hydrostatic leakage test and is not subject to 10CFR50, Appendix J leakage testing.
- (17) The Service Water System operates at a higher pressure than the containment accident pressure and is missile protected inside containment. Therefore, this manual valve is used for flow control only and is not subjected to 10CFR50 Appendix J leakage testing. See letter from J.E. Maier, RG&E, to D.M. Crutchfield, NRC, dated August 30, 1982.
- (18) This solenoid valve is maintained inactive in the closed position by removal of its DC control power.
- (19) The flanges and associated double seals provide containment isolation and ensure that containment integrity is maintained for all modes of operation above cold shutdown. When the flanges are removed, cold shutdown containment integrity is provided by the valves. These valves do not require 10CFR50, Appendix J leakage testing, nor a maximum isolation time.
- (20) This penetration is decommissioned and welded shut.
- (21) Acceptable isolation capability is provided for instrument lines by two isolation boundaries outside containment. One of the boundaries outside containment is a Seismic Class 1 closed system which is subjected to Type C leakage testing under 10CFR50, Appendix J.



Attachment B

Table 1 - Global Notes

No.	Change	Effect
1.	The blanks or "-" within columns were replaced with "NA".	Typographical clarification only. No technical change.
2.	(1) The blanks or "-" for the <u>Position At</u> columns were replaced with the representative position; (2) The "No" listed under <u>Position Indication in Control Room</u> was replaced with "NA".	(1) (2) The valve position and "NA" are more representative of the penetration configuration. In addition, consistency is maintained within the table. No technical change.
3.	The "AI" or blank for the <u>Power Failure</u> column for manual valves was replaced with "NA".	The "NA" is more representative of the penetration configuration since a manual valve does not receive any motive power. No technical change.
4.	The blank or "No" for <u>Trip On CIS</u> column was replaced with "NA".	The "NA" is more representative of the penetration configuration. In addition, consistency is maintained within the table. No technical change.
5.	The blank or "No" for <u>Maximum Isolation Time</u> was replaced with "NA".	The "NA" is more representative of the penetration configuration. In addition, consistency is maintained within the table. No technical change.



Table 2 - Format and Structure Changes

No.	Change	Effect
1.	Added "Cold" to <u>Position At Shutdown</u> column heading.	Minor clarification for consistency with Technical Specifications. No technical change.
2.	(1) Added "Immediate" to <u>Position At Postaccident</u> column heading; (2) Added Note "a".	(1) (2) Clarification of column since valve position can be potentially changed during post accident recovery operations. Column now provides clear definition of penetration configuration following receipt of a CIS.
3.	(1) Removed <u>Fluid Type</u> column from table; (2) Deleted definitions for "W" and "G" from table Legend.	(1) (2) Column did not provide any information relevant to table. Fluid type can be inferred from <u>System</u> column.
4.	Removed <u>Temperature</u> column and associated Note "c" from table.	Column did not provide any information relevant to table.
5.	Added definitions for "AOV", "CV", "MOV", "MV", and "SOV" to table Legend.	Correction of typographical omission. No technical change.
6.	(1) Modified <u>Position Indication in Control Room</u> column to reflect type of indication instead of "Yes" and "No"; (2) Added definition for "R/G" and "Status" to table Legend. "Both" indicates that a red/green light and status light exists.	(1) (2) The type of control room indication is more representative of the system configuration. This is a clarification only. No technical change.
7.	Moved Table Heading Notes "a", "b", "c", and "d" to first page of table.	Minor format change only. No technical change.

Table 2 - Format and Structure Changes

No.	Change	Effect
8.	(1) Renamed Note "a" to "b"; (2) Added "nor instrument delay time" to end of note.	(1) (2) Minor clarification only. Note is now consistent with Standard Review Plan Section 6.2.4. No technical change.
9.	Renamed Note "b" to "c".	No technical change.
10.	Deleted "Line" from <u>System</u> column heading.	No technical change.
11.	Added Note "d" to <u>Notes</u> column.	Minor clarification only. The <u>Notes</u> column is now only used to supplement the UFSAR text which provides more information. No technical change.



Table 3 - Penetration Changes

No.	Change	Effect
1.	Penetration 2 - Added penetration and necessary information to the table.	This spare penetration was modified to provide access for steam generator inspection and maintenance cabling during refueling outages to enhance containment closure during midloop operations. No new valves were added.
2.	Penetration 29 - (1) Global Note 1; (2) Added Note 2.	(1) (2) No technical change.
3.	Penetration 100 - (1) Global Notes 1, 2, and 4; (2) Added Note 4; (3) Changed <u>Position At Immediate Postaccident</u> from "O/C" to "C".	(1) (2) No technical change. (3) Update for better representation of system configuration since the Charging System is isolated upon receipt of a SI signal.
4.	Penetration 101 - (1) Global Notes 1, 2, 4, and 5; (2) Added Note 4; (3) Added "3B" under <u>Class</u> for valve 889B; (4) Reordered penetration valves.	(1) (2) No technical change. (3) Correction of typographical omission. No technical change. (4) Valves now in numeric order. No technical change.
5.	Penetration 102 - (1) Global Notes 1, 2, 4, and 5; (2) Added Note 4.	(1) (2) No technical change.
6.	Penetration 103 - Deleted valve 5129 (entire line in table) and replaced with Blind Flange.	Replaced Note of "No longer in use" to reflect accurate configuration status of Blind Flange. The use of the Blind Flange is consistent with the previously listed locked-closed manual valve.

Table 3 - Penetration Changes

No.	Change	Effect
7.	Penetration 105 - (1) Global Notes 1, 2, and 4; (2) Added Note 4.	(1) (2) No technical change.
8.	Penetration 106 - (1) Global Notes 1, 2, and 4; (2) Added Note 4; (3) Changed "supply" to "Inlet" under <u>System</u> .	(1) (2) No technical change. (3) Minor clarification only. No technical change.
9.	Penetration 107 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Status" for both valves; (2) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C" for both valves.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration.
10.	Penetration 108 - (1) Added "and Excess Letdown to VCT" under <u>System</u> ; (2) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both"; (3) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C"; (4) Added Note 4; (5) Added Note 6.	(1) Consistency with Technical Specification Table 3.6-1. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration since this line may or may not be used during cold shutdown conditions. (4) (5) No technical change.
11.	Penetration 109 - (1) Global Notes 1, 2, and 4; (2) Added Note 4.	(1) (2) No technical change.
12.	Penetration 110a - (1) Global Notes 1, 2, and 4; (2) Added Note 4.	(1) (2) No technical change.



Table 3 - Penetration Changes

No.	Change	Effect
13.	Penetration 110b - (1) Global Notes 3 and 4; (2) Added Note 4; (3) Changed <u>Position At Cold Shutdown</u> and <u>Position At Immediate Postaccident</u> from "C" to "LC".	(1) (2) No technical change. (3) Consistency with Ginna Administrative Control.
14.	Penetration 111 - (1) Added Note 7 to both valves; (2) Added Note 8 to valve 720; (3) Added Note 4 to both valves; (4) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G" for MOV 720; (5) Added valve 959 and necessary information.	(1) Consistency with Technical Specifications. (2) (3) No technical change. (4) Minor clarification only. No technical change. (5) Valve receives containment isolation signal and was previously missing from the table.
15.	Penetration 112 - (1) Deleted valves 204A and 821 (entire line in table) and replaced with valves 200A, 200B, and 202; (2) Added valve 427 and necessary information; (3) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both" for valve 371; (4) Changed <u>Position At Immediate Postaccident</u> from "O" to "C" for valve 371.	(1) (2) Present configuration status; the three new valves enable explicit compliance with GDC 55 vs. the use of redundant outboard isolation valves. The 200A, 200B, 202, and 427 valves have been successfully tested. (3) Minor clarification only. No technical change. (4) Update for better representation of system configuration since letdown is isolated upon receipt of a SI signal.
16.	Penetration 113 - (1) Global Notes 1, 2, and 4; (2) Added Note 4 to both valves; (3) Reordered penetration valves.	(1) (2) No technical change. (3) Valves now in numeric order. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
17.	Penetration 119 - (1) Global Notes 1, 2, 4, and 5; (2) Changed <u>Position Indication In Control Room</u> from "No" to "R/G" for valve 9704A; (3) Reordered penetration valves.	(1) No technical change. (2) Minor clarification only. No technical change. (3) Valves now in numeric order. No technical change.
18.	Penetration 120a - (1) Global Notes 1, 2, and 4 for valve 8623; (2) Changed valve 846 from "Gate" to "Globe"; (3) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both" for valve 846; (4) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 846; (5) Reordered penetration valves.	(1) No technical change. (2) Correction of typographical error. No technical change. (3) Minor clarification only. No technical change. (4) Update for better representation of system configuration. This valve remains closed unless the accumulator nitrogen blanket pressure decreases. (5) Valves now in numeric order. No technical change.
19.	Penetration 120b - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Status" for valve 539; (2) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 539; (3) Global Notes 3 & 4 for valve 546.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration. (3) No technical change.
20.	Penetration 121a - (1) Global Notes 1, 2, and 4 for valve 528; (2) Changed valve 547 from "Diaphragm" to "Globe"; (3) Changed <u>Position At Immediate Postaccident</u> from "O" to "LC" for valve 547; (4) Changed <u>Position At Normal Operation</u> from "O" to "C" for valve 528; (5) Global Notes 3 and 4 for valve 547; (6) Deleted reference to "old" Note 9; (7) Added Note 12 to valve 547.	(1) No technical change. (2) Correction of typographical error. No technical change. (3) Consistency with Ginna Administrative Control. (4) Update for better representation of system configuration. No technical change. (5) No technical change. (6) Correction of typographical error. No technical change. (7) No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
21.	Penetration 121b - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both" for valve 508; (2) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 508; (3) Changed <u>Position At Normal Operation</u> from "C" to "O/C" for valve 529; (4) Global Notes 1, 2, and 4 for valve 529; (5) Reordered penetration valves.	(1) Minor clarification only. No technical change. (2) (3) Update for better representation of system configuration. (4) No technical change. (5) Valves now in numeric order. No technical change.
22.	Penetration 121c - (1) Global Note 1 for PT945; (2) Global Notes 3 and 4 for valve 1819A; (3) Added "Gate" under <u>Valve Type</u> for valve 1819A.	(1) (2) No technical change. (3) Correction of typographical omission. No technical change.
23.	Penetration 121d - (1) Global Note 1 for PT946; (2) Global Notes 3 and 4 for valve 1819B.	(1) (2) No technical change.
24.	Penetration 123 (bottom) - (1) Added "to" before "Gas Analyzer Line" under <u>System</u> ; (2) Global Notes 3 and 4 for 1655; (3) Changed valve 1789 from "Globe" to "Diaphragm"; (4) Changed <u>Position Indication In Control Room</u> from "Yes" to "Status" for valve 1789; (5) Changed <u>Position At Normal Operation</u> from "O/C" to "O" for valve 1789; (6) Added valve 1600A; (7) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) No technical change. (3) Correction of typographical error. No technical change. (4) Minor clarification only. No technical change. (5) Update for better representation of system configuration since this line remains open. (6) Valve receives containment isolation signal and was previously missing from the table. (7) Valves now in numeric order. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
25.	Penetration 123 (top) - (1) Global Notes 1, 2, 4, and 5; (2) Changed <u>Position Indication In Control Room</u> from "No" to "R/G" for valve 9704B.	(1) No technical change. (2) Minor clarification only. No technical change.
26.	Penetration 124a - (1) Global Notes 1, 2, and 4 for valve 743; (2) Changed <u>Position At Immediate Postaccident</u> from "O" to "C" for valve 743; (3) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G" for valve 745; (4) Changed <u>Trip on CIS</u> from "Yes" to "No" for valve 745; (5) Changed <u>Maximum Isolation Time</u> from "60" to "NA" for valve 745; (6) Changed <u>Position At Cold Shutdown</u> from "O" to "C" for valve 745.	(1) No technical change. (2) Update for better representation of system configuration. Operations is instructed to manually isolate this line following receipt of a containment isolation signal. (3) Minor clarification only. No technical change. (4) (5) Correction of typographical error. See letter from R. Mecredy, RG&E, to A. Johnson, NRC, dated July 9, 1990. (6) Update for better representation of system configuration since excess letdown is not operational during cold shutdown conditions.
27.	Penetration 124b - (1) Added "to" before "C Fan" under <u>System</u> ; (2) Added "Diaphragm" under <u>Valve Type</u> for all four valves; (3) Changed <u>Position At Cold Shutdown</u> from "C" to "LC" for all four valves; (4) Changed <u>Position At Immediate Postaccident</u> from "O/C" to "LC" for all four valves; (5) Global Notes 3 and 4.	(1) Minor clarification. No technical change. (2) Correction of typographical omission. No technical change. (3) (4) Consistency with Ginna Administrative Control. (5) No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
28.	Penetration 125 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G"; (2) Changed <u>Position At Cold Shutdown</u> from "O" to "C"; (3) Added Note 4.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration since RCPs are not operating during cold shutdown conditions. (3) No technical change.
29.	Penetration 126 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G"; (2) Changed <u>Position At Cold Shutdown</u> from "O" to "C"; (3) Added Note 4.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration since RCPs are not operating during cold shutdown conditions. (3) No technical change.
30.	Penetration 127 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/B" for valve 749A; (2) Changed <u>Position At Cold Shutdown</u> from "O" to "C" for valve 749A; (3) Global Notes 1, 2, and 4 for valve 750A; (4) Changed <u>Maximum Isolation Time</u> from "60" to "NA" for valve 749A.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration since RCPs are not operating during cold shutdown conditions. (3) No technical change. (4) Correction of typographical error. No technical change.
31.	Penetration 128 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/B" for valve 749B; (2) Changed <u>Position At Cold Shutdown</u> from "O" to "C" for valve 749B; (3) Global Notes 1, 2, and 4 for valve 750B; (4) Changed <u>Maximum Isolation Time</u> from "60" to "NA" for valve 749B.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration since RCPs are not operating during cold shutdown conditions. (3) No technical change. (4) Correction of typographical error. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
32.	Penetration 129 - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 1787; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valves 1786 and 1787; (3) Changed <u>Position at Cold Shutdown</u> from "0" to "C" for valves 1786 and 1787; (4) Global Notes 1, 2, and 4 for valve 1713; (5) Global Notes 2, 3, and 4 for valve 1793; (6) Deleted "MOV 1793 used for long-term isolation" under <u>Notes</u> and replaced with Note 12; (7) Added "NA" under <u>Trip on CIS</u> for valve 1793; (8) Added "Outside" under <u>Position Relative To Containment</u> for valve 1793; (9) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration. (4) (5) No technical change. (6) Minor clarification. No technical change. (7) Correction of typographical omission. No technical change. (8) Correction of typographical omission. No technical change. (9) Valves now in numeric order. No technical change.
33.	Penetration 130 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both"; (2) Corrected associated valve number to 814.	(1) Minor clarification only. No technical change. (2) Correction of typographical error. No technical change.
34.	Penetration 131 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both"; (2) Corrected associated valve number to 813.	(1) Minor clarification only. No technical change. (2) Correction of typographical error. No technical change.



Table 3 - Penetration Changes

No.	Change	Effect
35.	Penetration 132 - (1) Changed <u>Maximum Isolation Time</u> from "2" to "3" for both valves; (2) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 7971; (3) Changed <u>Position At Cold Shutdown</u> from "C" to "O/C" for both valves; (4) Changed <u>Position Indication In Control Room</u> from "Yes" to "Both" for both valves.	(1) Consistency with Technical Specifications. Valve design allows closure as rapid as 2 (two) seconds. Minimum closure time required by Technical Specifications is 5 (five) seconds with instrument delay. (2) (3) Update for better representation of system configuration. Mini-Purge system only designed for use during shutdown conditions. (4) Minor clarification only. No technical change.
36.	Penetration 140 - (1) Added Note 6; (2) Added Note 7; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "R/G".	(1) Consistency with Technical Specification Table 3.6-1 Note 20. (2) No technical change. (3) Minor clarification only. No technical change.
37.	Penetration 141 - (1) Deleted valve 851A (entire line in table); (2) Added valve 1813A and necessary information; (3) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G" for valve 850A; (4) Added Note 8 to valve 1813A.	(1) Valve 851A does not meet the selection criteria of 10CFR50 Appendix J, Section IIH, items 1 through 4. Therefore, valve was deleted from table. (2) Valve 1813A was previously missing from table. (3) Minor clarification only. No technical change. (4) No technical change.



Table 3 - Penetration Changes

No.	Change	Effect
38.	Penetration 142 - (1) Deleted valve 851B (entire line in table); (2) Added valve 1813B and necessary information; (3) Changed <u>Position Indication In Control Room</u> from "Yes" to "R/G" for valve 850B; (4) Added Note 8 to valve 1813B.	(1) Valve 851B does not meet the selection criteria of 10CFR50 Appendix J, Section IIH, items 1 through 4. Therefore, valve was deleted from table. (2) Valve 1813B was previously missing from table. (3) Minor clarification only. No technical change. (4) No technical change.
39.	Penetration 143 - (1) Changed <u>Position Indication In Control Room</u> from "Yes" to "Status" for all three valves; (2) Changed <u>Position At Normal Operation</u> from "O/C" to "O" for valves 1003A and 1003B; (3) Reordered penetration valves.	(1) Minor clarification only. No technical change. (2) Update for better representation of system configuration. (3) Valves now in numeric order. No technical change.
40.	Penetration 201top - Global Notes 3 and 4.	No technical change.
41.	Penetration 201bottom - Global Notes 3 and 4.	No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
42.	<p>Penetration 202 - (1) Changed valves 1076B and 1084B from "Globe" to "Diaphragm"; (2) Changed <u>Position At Normal Operation, Cold Shutdown, Immediate Postaccident</u> from "C" to "LC" for valves 1076B and 1084B; (3) Global Notes 3 and 4 for valves 1076B and 1084B; (4) Added "No" under <u>Position Indication in Control Room</u> for valves 1076B and 1084B; (5) Changed <u>Valve No.</u> for IV-3B and IV-5B to 10211S1 and 10213S1, respectively; (6) Added "Status" under <u>Position Indication in Control Room</u> for valves 10211S1 & 10213S1; (7) Changed <u>Position At Power Failure</u> from "-" to "FC" for valves 10211S1 and 10213S1; (8) Changed <u>Trip on CIS</u> from "No" to "Yes" for valves 10211S1 and 10213S1; (9) Changed <u>Maximum Isolation Time</u> from "NA" to "3" for 10211S1 and 10213S1; (10) Reordered penetration valves.</p>	<p>(1) Correction of typographical error. No technical change. (2) Consistency with Ginna Administrative Control. (3) No technical change. (4) Correction of typographical omission. No technical change. (5) Update to new valve number only. No technical change. (6) Correction of typographical omission. No technical change. (7) (8) Update for better representation of system configuration. Valves receive containment isolation signal. (9) Correction of typographical error. No technical change. (10) Valves now in numeric order. No technical change.</p>
43.	<p>Penetration 203a - (1) Included separate lines in table for valves 1819C and 1819D; (2) Added "Outside" to <u>Position Relative to Containment</u> for PT947 and PT948; (3) Added "Globe" under <u>Valve Type</u> for valves 1819C and 1819D; (4) Global Note 1 for PT947 and PT948; (5) Global Notes 3 and 4 for valves 1819C and 1819D.</p>	<p>(1) Minor clarification - there are two valves. No technical change. (2) (3) Correction of typographical omission. No technical change. (4) (5) No technical change.</p>

Table 3 - Penetration Changes

No.	Change	Effect
44.	Penetration 203b - (1) Global Notes 3 and 4; (2) Added "Diaphragm" under <u>Valve Type</u> for all four valves; (3) Changed <u>Position At Cold Shutdown</u> and <u>Position At Immediate Postaccident</u> from "C" to "LC" for all four valves.	(1) No technical change. (2) Correction of typographical omission. No technical change. (3) Consistency with Ginna Administrative Control.
45.	Penetration 204 - (1) Added Note 2 to Blind Flange; (2) Global Note 1 for Blind Flange; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for valve 5869; (4) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 5869; (5) Changed <u>Position At Cold Shutdown</u> from "O" to "O/C" for 5869; (6) Changed <u>Maximum Isolation Time</u> from "5" to "NA" for valve 5869; (7) Added Note 19.	(1) (2) No technical change. (3) Minor clarification only. No technical change. (4) (5) Update for better representation of system configuration. Penetration only used during cold shutdown conditions. Mini-purge system now used in place of purge system. (6) The Blind Flange acts as the isolation boundary. Therefore, no isolation time is required for the valve. (7) No technical change.
46.	Penetration 205 - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 966C; (2) Added valve 955 and necessary information; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 966C; (4) Changed <u>Position At Normal Operation</u> and <u>Position At Cold Shutdown</u> from "O/C" to "C" for valve 966C; (5) Global Notes 3 and 4 for valve 956D; (6) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Valve receives containment isolation signal and was previously missing from the table. (3) Minor clarification only. No technical change. (4) Update for better representation of system configuration. Sampling system normally isolated. (5) No technical change. (6) Valves now in numeric order. No technical change.



1
2
3
4
5

Table 3 - Penetration Changes

No.	Change	Effect
47.	Penetration 206a - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 966B; (2) Added valve 953 and necessary information; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 966B; (4) Changed <u>Position At Normal Operation</u> and <u>Position At Cold Shutdown</u> from "O/C" to "C" for valve 966B; (5) Global Notes 3 and 4 for valve 956E; (6) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Valve receives containment isolation signal and was previously missing from the table. (3) Minor clarification only. No technical change. (4) Update for better representation of system configuration. Sampling system normally isolated. (5) No technical change. (6) Valves now in numeric order. No technical change.
48.	Penetration 206b - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 5735; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 5735; (3) Changed <u>Position At Normal Operation</u> from "O/C" to "O" for valve 5735; (4) Changed <u>Position At Cold Shutdown</u> from "O/C" to "C" for valve 5735; (5) Global Notes 3, 4, and 5 for valve 5733; (6) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Minor clarification only. No technical change. (3) (4) Update for better representation of system configuration. (5) No technical change. (6) Valves now in numeric order. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
49.	Penetration 207a - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 966A; (2) Added valve 951 and necessary information; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 966A; (4) Changed <u>Position At Normal Operation</u> and <u>Position At Cold Shutdown</u> from "O/C" to "C" for valve 966A; (5) Global Notes 3 and 4 for valve 956F; (6) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Valve receives containment isolation signal and was previously missing from the table. (3) Minor clarification only. No technical change. (4) Update for better representation of system configuration. Sampling system normally isolated. (5) No technical change. (6) Valves now in numeric order. No technical change.
50.	Penetration 207b - (1) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 5736; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 5736; (3) Changed <u>Position At Normal Operation</u> from "O/C" to "O" for valve 5736; (4) Changed <u>Position At Cold Shutdown</u> from "O/C" to "C" for valve 5736; (5) Global Notes 3 and 4 for 5734; (6) Reordered penetration valves.	(1) Consistency with Technical Specification Table 3.6-1. (2) Minor clarification only. No technical change. (3) (4) Update for better representation of system configuration. (5) No technical change. (6) Valves now in numeric order. No technical change.
51.	Penetration 209top - (1) Global Notes 3 and 4; (2) Reordered penetration valves.	(1) No technical change. (2) Valve order now consistent with other penetrations. No technical change.
52.	Penetration 209bottom - (1) Global Notes 3 and 4; (2) Reordered penetration valves.	(1) No technical change. (2) Valve order now consistent with other penetrations. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
53.	<p>Penetration 210 - (1) Added "A & B" before "Recombiners" under <u>System</u>; (2) Added <u>Position Indication in Control Room</u> to "Status" for all solenoid valves; (3) Added "Yes" under <u>Trip on CIS</u> for all solenoid valves; (4) Added valves 10214S1 and 10215S and necessary information; (5) Changed <u>Position At Power Failure</u> from "-" to "FC" for all solenoid valves; (6) Changed <u>Position At Normal Operation, Cold Shutdown, Immediate Postaccident</u> from "C" to "LC" for 1080A; (7) Global Notes 3 and 4 for valve 1080A; (8) Changed <u>Valve No.</u> for IV-2A and IV-2B to 10214S and 10215S1, respectively; (9) Added Note 18 to solenoid valves; (10) Changed <u>Maximum Isolation Time</u> from "NA" to "3" for all solenoid valves.</p>	<p>(1) Consistency with Technical Specification Table 3.6-1. (2) Minor clarification only. No technical change. (3) Correction of typographical omission. No technical change. (4) Valve receive containment isolation signal and was previously missing from the table. (5) Update for better representation of system configuration. Valves receive containment isolation signal. (6) Consistency with Ginna Administrative Control. (7) No technical change. (8) Update to new valve number only. No technical change. (9) No technical change. (10) Correction of typographical error. No technical change.</p>
54.	<p>Penetration 300 - (1) Added Note 19 for both valve and flange; (2) Added Note 2 to Blind Flange; (3) Global Note 1 for Blind Flange; (4) Changed <u>Position At Normal Operation</u> from "O/C" to "C" for valve 5879; (5) Changed <u>Position At Cold Shutdown</u> from "O" to "O/C" for valve 5879;</p>	<p>(1) No technical change. (2) Consistency with Technical Specifications. No technical change. (3) (4) Update for better representation of system configuration. Penetration only used during cold shutdown conditions. Mini-purge system now used in place of purge system.</p>

Table 3 - Penetration Changes

No.	Change	Effect
55.	Penetration 301 - (1) Global Notes 3 and 4; (2) Changed <u>Position At Cold Shutdown</u> and <u>Position At Immediate Postaccident</u> from "O" to "LC" for both valves; (3) Added Note 5 to both valves.	(1) No technical change. (2) Consistency with Ginna Administrative Control. (3) No technical change.
56.	Penetration 303 - (1) Global Notes 3 and 4; (2) Changed <u>Position At Cold Shutdown</u> and <u>Position At Immediate Postaccident</u> from "O" to "LC" for both valves; (3) Added Note 5 to both valves; (4) Changed both valves from "Diaphragm" to "Globe"; (5) Reordered penetration valves.	(1) No technical change. (2) Consistency with Ginna Administrative Control. (3) No technical change. (4) Correction of typographical error. No technical change. (5) Valves now in numeric order. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
57.	<p>Penetration 304 - (1) Changed valves 1076A and 1084A from "Solenoid" to "Diaphragm"; (2) Changed <u>Position At Normal Operation, Cold Shutdown, and Immediate Postaccident</u> from "C" to "LC" for valves 1076A and 1084A; (3) Added "No" under <u>Position Indication In Control Room</u> for valves 1076A and 1084A; (4) Global Notes 3 and 4 for valves 1076A and 1084A; (5) Changed <u>Valve No.</u> for IV-3A and IV-5A to 10205S1 and 10209S1, respectively; (6) Added "Status" under <u>Position Indication in Control Room</u> for valves 10205S1 & 10209S1; (7) Changed <u>Position At Power Failure</u> from "-" to "FC" for valves 10205S1 and 10209S1; (8) Changed <u>Trip on CIS</u> from "No" to "Yes" for valve 10205S1 and 10209S1; (9) Added Note 17 for valves 10205S1 and 10209S1; (10) Changed <u>Maximum Isolation Time</u> from "NA" to "3" for valves 10205S1 and 10209S1; (11) Reordered penetration valves.</p>	<p>(1) Correction of typographical error. No technical change. (2) Consistency with Ginna Administrative Control. (3) Correction of typographical omission. No technical change. (4) No technical change. (5) Update to new valve number only. No technical change. (6) Minor clarification only. No technical change. (7) (8) Update for better representation of system configuration. Valves receive containment isolation signal. (9) No technical change. (10) Correction of typographical error. No technical change. (11) Valves now in numeric order. No technical change.</p>
58.	<p>Penetration 305a (bottom) - (1) Changed <u>System</u> to "Containment Air Sample Out"; (2) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 1597; (3) Changed valve 1596 from "Diaphragm" to "Globe"; (4) Global Notes 3 and 4 for valve 1597; (5) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for valve 1597; (6) Reordered penetration valves.</p>	<p>(1) Consistency with UFSAR Drawing Title. No technical change. (2) Consistency with Technical Specification Table 3.6-1. (3) Correction of typographical error. No technical change. (4) No technical change. (5) Minor clarification only. No technical change. (6) Valves now in numeric order. No technical change.</p>

Table 3 - Penetration Changes

No.	Change	Effect
59.	Penetration 305b (top) - (1) Changed <u>System</u> to "Containment Air Sample Inlet"; (2) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 1599; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for valves 1598 and 1599; (4) Reordered penetration valves.	(1) Consistency with UFSAR Drawing Title. (2) Consistency with Technical Specification Table 3.6-1. (3) Minor clarification only. No technical change. (4) Valves now in numeric order. No technical change.
60.	Penetration 305c - (1) Changed <u>System</u> to "Containment Air Sample Postaccident"; (2) Added "Diaphragm" under <u>Valve Type</u> for all six valves; (3) Changed <u>Position At Cold Shutdown</u> and <u>Position At Immediate Postaccident</u> from "C" to "LC" for all six valves; (4) Global Notes 3 and 4; (5) Reordered penetration valves.	(1) Consistency with UFSAR Drawing Title. (2) Correction of typographical omission. No technical change. (3) Consistency with Ginna Administrative Control. (4) No technical change. (5) Valves now in numeric order. No technical change.
61.	Penetration 307 - (1) Switched <u>Valve No.</u> for valves 9227 and 9229; (2) Added "Gate" under <u>Valve Operator Type</u> for valve 9227; (3) Global Notes 1, 2, and 4 for valve 9229; (4) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for valve 9227.	(1) Correction of typographical error. No technical change. (2) Correction of typographical omission. No technical change. (3) No technical change. (4) Minor clarification only. No technical change.
62.	Penetration 308 - (1) Changed <u>Valve No.</u> to 4629; (2) Global Notes 3 and 4; (3) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "O" to "LO"; (4) Changed <u>Position At Cold Shutdown</u> from "O" to "O/C" (5) Added Note 17.	(1) Correction of typographical error. No technical change. (2) No technical change. (3) Consistency with Ginna Administrative Control. (4) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown. (5) No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
63.	Penetration 309 - (1) Changed <u>Maximum Isolation Time</u> from "2" to "3" for both valves; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for both valves; (3) Reordered penetration valves.	(1) Consistency with Technical Specifications. Valve design allows closure as rapid as 2 (two) seconds. Minimum closure time required by Technical Specifications is 5 (five) seconds. (2) Minor clarification only. No technical change. (3) Valves now in numeric order. No technical change.
64.	Penetration 310a - (1) Changed valve 7141 from "Diaphragm" to "Gate"; (2) Changed <u>Position At Immediate Postaccident</u> from "C" to "LC" for valve 7141; (3) Global Notes 3 and 4 for valve 7141; (4) Global Notes 1, 2, and 4 for valve 7226; (5) Reordered penetration valves.	(1) Correction of typographical error. No technical change. (2) Consistency with Ginna Administrative Control. (3) (4) No technical change. (5) Valves now in numeric order. No technical change.
65.	Penetration 310b - (1) Changed valve 5392 from "Diaphragm" to "Globe"; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for valve 5392; (3) Changed <u>Position At Cold Shutdown</u> from "C" to "O" for valve 5393; (4) Global Notes 1, 2, and 4 for 5393; (5) Added "O" under <u>Position At Cold Shutdown</u> for valve 5392; (6) Added "C" under <u>Position At Immediate Postaccident</u> for valve 5392; (7) Changed <u>Position at Power Failure</u> from "-" to "FC" for valve 5392; (8) Reordered penetration valves.	(1) Correction of typographical error. No technical change. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration since IA is used during cold shutdown conditions. (4) No technical change. (5) (6) (7) Update for better representation of system configuration. Valve receives containment isolation signal. (8) Valves now in numeric order. No technical change.



Table 3 - Penetration Changes

No.	Change	Effect
66.	Penetration 311 - (1) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C"; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "0" to "LO"; (3) Global Notes 3 and 4.	(1) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions. (2) Consistency with Ginna Administrative Control. (3) No technical change.
67.	Penetration 312 - (1) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C"; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "0" to "LO"; (3) Global Notes 3 and 4.	(1) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions. (2) Consistency with Ginna Administrative Control. (3) No technical change.
68.	Penetration 313 - (1) Added "Blind" before "Flange" under <u>Valve Type</u> ; (2) Global Notes 1, 2, and 4 for Blind Flange; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 7444; (4) Changed <u>Trip on CIS</u> from "No" to "Yes" for valve 7444; (5) Added Note 19.	(1) Correction of typographical omission. No technical change. (2) No technical change. (3) Minor clarification only. No technical change. (4) Correction of typographical error. No technical change. (5) No technical change.
69.	Penetration 315 - (1) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C"; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "0" to "LO"; (3) Global Notes 3 and 4.	(1) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions. (2) Consistency with Ginna Administrative Control. (3) No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
70.	Penetration 316 - (1) Changed <u>Position At Cold Shutdown</u> from "O" to "O/C"; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "O" to "LO"; (3) Global Notes 3 and 4.	(1) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions. (2) Consistency with Ginna Administrative Control. (3) No technical change.
71.	Penetration 317 - (1) Added "Blind" before "Flange" under <u>Valve Type</u> ; (2) Global Notes 1, 2, and 4 for Blind Flange; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 7443; (4) Changed <u>Trip on CIS</u> from "No" to "Yes" for valve 7443; (5) Changed <u>Position At Cold Shutdown</u> from "C" to "O" for valve 7443; (6) Added Note 19.	(1) Correction of typographical omission. No technical change. (2) No technical change. (3) Minor clarification only. No technical change. (4) Correction of typographical error. No technical change. (5) Update for better representation of system configuration. Penetration used during cold shutdown. (6) No technical change.
72.	Penetration 318 - (1) Global Note 1; (2) Deleted "Decommissioned, welded shut" from <u>Notes</u> and replaced it with Note 20.	(1) (2) No technical change.
73.	Penetration 319 - (1) Changed <u>Valve No.</u> to "4627"; (2) Global Notes 3 and 4; (3) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "O" to "LO"; (4) Changed <u>Position At Cold Shutdown</u> from "O" to "O/C".	(1) Correction of typographical error. No technical change. (2) No technical change. (3) Consistency with Ginna Administrative Control. (4) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions.

Table 3 - Penetration Changes

No.	Change	Effect
74.	Penetration 320 - (1) Global Notes 3 and 4; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "0" to "LO"; (3) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C".	(1) No technical change. (2) Consistency with Ginna Administrative Control. (3) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions.
75.	Penetration 321 - (1) Global Notes 3 and 4 for valve 5701; (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 5738; (3) Changed <u>Position At Cold Shutdown</u> from "C" to "O/C" for valve 5738; (4) Reordered penetration valves.	(1) No technical change. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration. (4) Valves now in numeric order. No technical change.
76.	Penetration 322 - (1) Global Notes 3 and 4 for valve 5702. (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Status" for valve 5737; (3) Changed <u>Position At Cold Shutdown</u> from "C" to "O/C" for valve 5737; (4) Reordered penetration valves.	(1) No technical change. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration. (4) Valves now in numeric order. No technical change.
77.	Penetration 323 - (1) Global Notes 3 and 4; (2) Changed <u>Position At Normal Operation</u> and <u>Position At Immediate Postaccident</u> from "0" to "LO"; (3) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C".	(1) No technical change. (2) Consistency with Ginna Administrative Control. (3) Update for better representation of system configuration since fan coolers may be isolated for maintenance during cold shutdown conditions.

Table 3 - Penetration Changes

No.	Change	Effect
78.	Penetration 324 - (1) Changed valve 8418 from "Diaphragm" to "Globe"; (2) Changed <u>Position At Cold Shutdown</u> from "0" to "O/C" for valve 8418; (3) Changed <u>Position Indication in Control</u> from "Yes" to "Both" for valve 8418; (4) Global Notes 1, 2, and 4; (5) Changed <u>Maximum Isolation Time</u> from "NA" to "60" for valve 8418; (6) Reordered penetration valves.	(1) Correction of typographical error. No technical change. (2) Update for better representation of system configuration. (3) Minor clarification only. No technical change. (4) No technical change. (5) Correction of typographical error. No technical change. (6) Valves now in numeric order. No technical change.
79.	Penetration 332a - (1) Global Note 1 for pressure transmitters; (2) Added "Globe" under <u>Valve Type</u> for the three manual valves; (3) Global Note 3 for the manual valves; (4) Reordered penetration valves.	(1) No technical change. (2) Correction of typographical omission. No technical change. (3) No technical change. (4) Valves now in numeric order. No technical change.
80.	Penetration 332b - Deleted entire penetration from table.	Penetration has double isolation and meets the criteria for a test connection. Therefore, this penetration is not required to be tested per 10CFR50 Appendix J and does not belong on the table.
81.	Penetration 332c - (1) Added "6.2-74" under <u>UFSAR Figure</u> for all valves other than 922. (2) Changed <u>Position Indication in Control Room</u> from "Yes" to "Both" for all four valves; (3) Changed <u>Position At Immediate Postaccident</u> from "O/C" to "C" for all valves.	(1) Correction of typographical omission. No technical change. (2) Minor clarification only. No technical change. (3) Update for better representation of system configuration. System isolated upon receipt of containment isolation signal.

Table 3 - Penetration Changes

No.	Change	Effect
82.	Penetration 401 - (1) Added Note 11 to all valves other than 3517; (2) Changed <u>Valve Type</u> to "Swing Check" for valve 3517; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "R/G" for valves 3505A and 3517; (4) Global Notes 1, 2, 3, 4, and 5; (5) Reordered penetration valves.	(1) Correction of typographical omission. No technical change. (2) Correction of typographical error. No technical change. (3) Minor clarification only. No technical change. (4) No technical change. (5) Valves now in numeric order. No technical change.
83.	Penetration 402 - (1) Added Note 11 to all valves other than 3516 and 3518; (2) Changed <u>Valve Type</u> to "Swing Check" for valve 3516; (3) Changed <u>Position Indication in Control Room</u> from "Yes" to "R/G" for valves 3504A and 3516; (4) Global Notes 1, 2, 3, 4, and 5; (5) Reordered penetration valves.	(1) Correction of typographical omission. No technical change. (2) Correction of typographical error. No technical change. (3) Minor clarification only. No technical change. (4) No technical change. (5) Valves now in numeric order. No technical change.
84.	Penetration 403 - (1) Global Notes 1, 2, 3, 4, and 5; (2) Changed <u>UFSAR Figure</u> from "6.2-75" to "6.2-76" for valve 3995; (3) Added "6.2-76" under <u>UFSAR Figure</u> for all valves after valve 3995; (4) Added Note 11 to all valves other than valve 3995; (5) Added "4" under <u>Class</u> for all valves other than 3995; (6) Reordered penetration valves.	(1) No technical change. (2) Correction of typographical error. No technical change. (3) (4) (5) Correction of typographical omission. No technical change. (6) Valves now in numeric order. No technical change.
85.	Penetration 404 - (1) Global Notes 1, 2, 3, 4, and 5; (2) Changed <u>UFSAR Figure</u> from "6.2-75" to "6.2-76" for valve 3994; (3) Added Note 9 to all valves other than 4000D; (4) Reordered penetration valves.	(1) No technical change. (2) Correction of typographical error. No technical change. (3) Correction of typographical omission. No technical change. (4) Valves now in numeric order. No technical change.

Table 3 - Penetration Changes

No.	Change	Effect
86.	Penetration 1000 - (1) Global Notes 1, 2, 4, and 5; (2) Added "Both" to <u>Position Relative to Containment</u> ; (3) Added "3.8-31" to <u>UFSAR Figure</u> .	(1) No technical change. (2) (3) Correction of typographical omission. No technical change.
87.	Penetration 2000 - (1) Global Notes 1, 2, 4, and 5; (2) Added "Both" to <u>Position Relative to Containment</u> ; (3) Added "3.8-30" to <u>UFSAR Figure</u> .	(1) No technical change. (2) (3) Correction of typographical omission. No technical change.

Table 4 - Note Changes

No.	Change	Effect
1.	(1) Deleted last sentence of "old" Note 1 and moved it to "new" Note 2; (2) Renumbered remaining "old" Note 1 as Note 3.	(1) (2) The deleted sentence of the note is still applied to necessary penetrations. No technical change.
2.	Deleted "old" Note 2.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
3.	Deleted "old" Note 3.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
4.	(1) Deleted first two sentences of "old" Note 4; (2) Modified last sentence to reflect system configuration; (3) Renumbered "old" Note 4 as Note 6.	(1) These two sentences only duplicated UFSAR text. No technical change. (2) Sentence now accurately reflects wording of the January 30, 1987 letter. (3) No technical change.
5.	Deleted "old" Note 5.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
6.	Deleted "old" Note 6.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
7.	Deleted "old" Note 7.	Note was only a duplication of the UFSAR text. No technical change.
8.	Deleted "old" Note 8.	Note was only a duplication of the UFSAR text. No technical change.

Table 4 -- Note Changes

No.	Change	Effect
9.	(1) Modified "old" Note 9; (2) Renumbered "old" Note 9 as Note 13.	(1) (2) Minor clarification only. Note now describes in detail the use of the pressure transmitter as a boundary. No technical change.
10.	Deleted "old" Note 10.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
11.	Deleted "old" Note 11.	Note was only a duplication of the UFSAR text. See "new" Note 4. No technical change.
12.	(1) Modified "old" Note 12; (2) Renumbered to "new" Note 15.	Minor clarification only. No technical change.
13.	Deleted "old" Note 13.	Note was only a duplication of the UFSAR text. No technical change.
14.	(1) Deleted last two sentences of "old" Note 14 and moved it to "new" Note 16; (2) Modified remaining "old" Note 14; (3) Renumbered "old" Note 14 as Note 17.	(1) The deleted sentence of the note is still applied to necessary penetrations. No technical change. (2) (3) Minor clarification of note only. No technical change.
15.	Deleted "old" Note 15.	Note was only a duplication of the UFSAR text. No technical change.
16.	Deleted "old" Note 16.	Note is incorrect and no longer applicable.
17.	(1) Modified "old" Note 17; (2) Renumbered "old" note 17 as Note 21.	(1) (2) Minor clarification of note only. No technical change.



Table 4 - Note Changes

No.	Change	Effect
32.	Added Note 20.	Minor clarification only. Note provides additional information related to penetration's use. No technical change.

Table 4 - Note Changes

No.	Change	Effect
18.	(1) Modified "old" Note 18; (2) Renumbered "old" Note 10 as Note 11.	(1) (2) Minor clarification of note only. No technical change.
19.	Added Note 1.	Note provides clarification on use of the penetration. See letter from R. Mecredy, RG&E, to A. Johnson, NRC, dated March 13, 1990.
20.	Added Note 2.	Note provides generic description of penetration seals. Note originally part of "old" Note 1. No technical change.
21.	Added Note 4.	Minor clarification only. Note originally part of "old" Notes 2, 3, 5, 6, 10, and 11. Note now used on a global basis. No technical change.
22.	Added Note 5.	Minor clarification only. Note provides additional information related to penetration's use. No technical change.
23.	Added Note 7.	Note provides consistency with Technical Specification Table 3.6-1 Note 20. No technical change.
24.	Added Note 8.	Minor clarification only. Note provides additional information related to MOV breaker status. No technical change.

2000



Table 4 - Note Changes

No.	Change	Effect
25.	Added Note 9.	Minor clarification only. Note provides additional information related to function of the valve. No technical change.
26.	Added Note 10.	Minor clarification only. Note provides detailed description of penetration valves. No technical change.
27.	Added Note 12.	Minor clarification only. No technical change.
28.	Added Note 14.	Note provides additional information related to penetration. See letter from R. Mecredy, RG&E, to A. Johnson, NRC, dated July 9, 1990.
29.	Added Note 16.	Note provides clarification of leakage test requirements. Note originally part of "old" Note 14. No technical change.
30.	Added Note 18.	Minor clarification only. Note provides additional information related to solenoid status. No technical change.
31.	Added Note 19.	Note provides consistency with Technical Specification Table 3.6-1 Note 22 and notes related to penetrations 313 and 317. No technical change.

Table 1
Technical Specification Changes

<u>Changes</u>	<u>Effect</u>
1. Section 3.6.3.1 references UFSAR Table 6.2-13 instead of Technical Specification Table 3.6-1.	No technical change.
2. Table 3.6-1 removed from Technical Specifications and information placed in UFSAR Table 6.2-13.	Valve listing remains in a licensee controlled document under 10CFR50.59 program.
3. Revised inoperable definition of Section 3.6.3.1.	No technical change. Clarification only consistent with 10CFR50 Appendix J.
4. Removed note associated with Technical Specification 3.6.5.	Mini-purge valves have been installed so the Technical Specification can be considered effective. No technical change.
5. Added "Pt" and necessary definitions to Technical Specification 4.4.1.4 section a.	Addition of "Pt" provides clarification of testing type consistent with 10CFR50, Appendix J. All terms in 4.4.1.4, section a now fully defined. No technical change.
6. Added to the definition of "Lt" in Technical Specification 4.4.1.4 section b.	Added definition "Lt" provides clarification consistent with 10CFR50, Appendix J. All terms in 4.4.1.4, section b now fully defined. No technical change.
7. Added definition of "Pa" and "Lam" in Technical Specification 4.4.1.4 section c.	Addition of "Pa" and "La" provides clarification consistent with 10 CFR 50, Appendix J. All terms in 4.4.1.4, section c now fully defined. No technical change.
8. Added steam generator inspection/maintenance penetration to Technical Specification 4.4.1.5 section a (ii).	Addition of this penetration provides testing criteria similar to the equipment hatch and containment air locks.
9. Revised first line of Technical Specification 4.4.1.5, section a (ii).	Minor clarification only. No technical change.

10. Removed notes associated with Technical Specification 4.4.2.4 section a. Deleted reference to section d.

Mini-purge valves have been installed so the Technical Specification can be considered effective. Section d will be removed from Technical Specifications. No technical change.

11. Added steam generator inspection/maintenance penetration to Technical Specification 4.4.2.4 section b.

Addition of this penetration provides testing criteria similar to the equipment hatch and containment air locks.

12. Removed Technical Specification 4.4.2.4 section d and associated note.

Blind flanges have been installed so the Technical Specification can be considered effective. No technical change.

13. Changed Reference from Table 3.6-1 to UFSAR 6.2-13 in section 4.4.5.1.

Valve listing remains in a licensee controlled document under 10CFR50.59 program.

14. Changed Reference from Table 3.6-1 to UFSAR 6.2-13 in section 4.4.6.2.

Valve listing remains in a licensee controlled document under 10CFR50.59 program.

