ATTACHMENT I TO IPN-99-010

PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS 1.10, 3.6 & 4.4

REGARDING THE REMOVAL OF THE

CONTAINMENT ISOLATION VALVE TABLES

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

LIST OF TABLES

1.9.2 Instrument Channel Functional Test

Injection of a simulated signal into the channel to verify that it is operable, including alarm and/or trip initiating actions.

1.9.3 Instrument Channel Calibration

Adjustment of channel output such that it responds, with acceptable range and accuracy, to know values of the parameter which the channel measures. Calibration shall encompass the entire channel, including alarm or trip, and shall be deemed to include the channel functional test.

1.9.4 Logic Channel Functional Test

The operation of relays or switch contacts, in all the combinations required, to produce the required output.

1.10 CONTAINMENT INTEGRITY

Containment integrity is defined to exist when:

1.10.1 All non-automatic containment isolation valves which are not required to be open during accident conditions, except those opened under administrative control for normal plant operation or testing, are closed and blind flanges are installed where required.

1.10.2 The equipment door is properly closed.

1.10.3 Both doors in each personnel air lock are properly closed unless being used for entry, egress or maintenance, at which time at least one air lock door shall be closed.

1.10.4 All automatic containment isolation valves are either operable or in the closed position, or isolated by a closed manual valve or flange that meets the same design criteria as the isolation valve.

3.6 CONTAINMENT SYSTEM

Applicability

Applies to the integrity of reactor containment.

Objective

To define the operating statue of the reactor containment for plant operation.

Specification

A. Containment Integrity

1. The containment integrity (as defined in 1.10) shall not be violated unless the reactor is in the cold shutdown condition. However, those non-automatic valves referred to in Specification 1.10.1, may be opened if necessary for plant operation and only as long as necessary to perform the intended function.

2. The containment integrity shall not be violated when the reactor vessel head is removed unless the boron concentration is sufficient to maintain the shutdown margin equal to or greater than the requirements of specification 3.8.D.

3. If the containment integrity requirements are not met when the reactor is above cold shutdown, containment integrity shall be restored within one hour or the reactor shall be in the hot shutdown condition within six hours and in cold shutdown condition within the next 30 hours.

B. Internal Pressure

If the internal pressure exceeds 2.5 psig or the internal vacuum exceeds 2.0 psig, the condition shall be corrected or the reactor shutdown.

C. Containment Temperature

1. The reactor shall not be taken above the cold shutdown condition unless the containment ambient temperature is greater than 50°F.

2. Containment ambient temperature shall not exceed 130°F when the reactor is above the cold shutdown condition. If the temperature is greater than 130°F, reduce the temperature to within the limit within 8 hours, or be in hot shutdown within the next 6 hours and in cold shutdown within the following 30 hours.

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3. Containment ambient temperature as specified in 3.6.C.1 and 3.6.C.2 shall be the arithmetic average of temperatures measured at no fewer than 4 locations, at least once per 24 hours.

D. Containment Vent and Purge System

The reactor shall not be taken above the cold shutdown condition unless the containment vent isolation valves (PCV - 1190, - 1191, - 1192) are closed or limited to a maximum valve opening angle of 60° (90° - full open) by mechanical means.

The reactor shall not be taken above the cold shutdown condition unless the containment purge supply and exhaust isolation valves (FCV - 1170, - 1171, - 1172, - 1173) are closed.

If the above conditions cannot be met within one hour, the reactor shall be in the hot shutdown condition within six hours and in the cold shutdown condition within the next 30 hours.

Basis

The Reactor Coolant System must be in the cold shutdown condition in order to relax containment integrity. When the Reactor Coolant System is in the cold shutdown condition, the pressurizer may have an internal temperature above 200°F for purposes of drawing and maintaining a steam bubble, provided that the reactor has been subcritical for at least 24 hours. Operation in this manner ensures that, in case of an accidental RCS coolant release under cold shutdown conditions, the ensuing offsite radiation doses will be within the limits of 10 CFR 100.

The shutdown margins are selected on the type of activities that are being carried out. The shutdown margin requirement of specification 3.8.D when the vessel head bolts are less than fully tensioned precludes criticality during refueling. When the reactor head is not to be removed, the specified cold shutdown margin of 1% Δ k/k precludes criticality in any occurrence.

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Limiting maximum containment ambient temperature will ensure that the peak accident containment pressure does not exceed the design limit of 47 psig during steamline break or loss of coolant accidents. Environmentally and seismically qualified RTDs mounted on the crane wall above the containment fan cooler units inlet are normally used for measuring containment ambient temperature. Portable temperature sensing equipment may also be used, provided the criteria of 3.6.C.3 are met.

During periods of normal plant operations requiring containment integrity[4], some containment isolation valves, which include locked or sealed closed valves, may be opened either continuously or intermittently depending on requirements of the particular protection, safeguards or essential service systems. Those valves to be open intermittently are under administrative controls and are open only as long as necessary to perform their intended function. In all cases, however, those containment isolation valves not required to be opened post accident are closed during the post accident period in accordance with plant procedures and consistent with requirements of the related protection, safeguards, or essential service systems. The exception to the application of these administrative controls are the 36 inch containment purge flow paths. Due to the size of these containment purge line penetrations and the fact that these penetrations exhaust directly from the containment atmosphere to the environment, the penetration flow path containing these purge valves may not be opened under administrative controls.

The opening angle of the containment vent isolation valves is being limited as an analysis demonstrates valve operability against accident containment pressures provided the valves are limited to a maximum opening angle of 60°. The containment purge supply and exhaust isolation valves are required to be closed during plant operation above cold shutdown.

REFERENCES

(1) FSAR - Section 14.3.6
(2) FSAR - Appendix 5A, Section 3.1.8
(3) FSAR - Section 5.1.1.1
(4) FSAR - Section 5.2

TABLE 3.6-1

DELETED

E. Containment Isolation Valves

1. Verify the combined leakage rate for all containment bypass leakage paths (except those verified by Specifications 4.4.E.2 or 4.4.E.3) is $\leq$0.6La when pressurized $\geq$Pa, in accordance with the Containment Leakage Rate Testing Program.

2. Verify the leakage rate of water from the Isolation Valve Seal Water System is $\leq$14,700 cc/hr when pressurized $\geq$1.1 Pa, in accordance with the Containment Leakage Rate Testing Program.

3. Verify the leakage rate of water into the containment from isolation valves sealed with the service water system is $\leq$0.36 gpm per fan cooler unit when pressurized $\geq$1.1 Pa, in accordance with the Containment Leakage Rate Testing Program.

TABLE 4.4-1

DELETED

ATTACHMENT II TO IPN-99-010

SAFETY EVALUATION OF THE

PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS 1.10, 3.6 & 4.4

REGARDING THE REMOVAL OF THE

CONTAINMENT ISOLATION VALVE TABLES

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

Section I - Description of Changes

This application for amendment to the Indian Point 3 Technical Specification proposes to:

1. Revise Specification 1.10.1 to remove the reference to Table 3.6-1which is in regards to non-automatic containment isolation valves (CIV) which are open continuously or intermittently for plant operations.
2. Revise Specification 3.6.A.1 to remove the reference to Table 3.6-1.
3. Revise Bases 3.6 to remove all references to Table 3.6-1.
4. Delete Table 3.6-1, "Non-Automatic Containment Isolation Valves Open Continuously or Intermittently for Plant Operations."
5. Revise Specification 4.4.E to remove the reference to Table 4.4-1.
6. Delete Table 4.4-1, "Containment Isolation Valves."

Also included for information is page "vii" of table of contents, revised to reflect the deletion of Tables 3.6-1 and 4.4-1. The changes to this page also include a correction to the title for Table 3.4-1 for the spelling of "neutron".

Section II - Evaluation of Changes

Current Technical Specifications (TS) Tables 3.6-1 and 4.4-1 identify Non-Automatic Containment Isolation Valves (CIVs) open continuously or intermittently during plant operation when containment integrity is required and CIVs that are tested, respectively. These tables have been classified by the NRC as component listings which may be evaluated for relocation to a licensee controlled document, as per Generic Letter (GL) 91-08, "Removal of Component Lists from Technical Specifications" (Reference 1). Removing these lists from TS is a line item change.

GL 91-08 indicates that the removal of these component listings as a line-item improvement would prove beneficial to both the NRC and to licensees. NRC has deemed the removal of such lists as acceptable since it would not alter existing TS requirements or those components to which they apply. The removal of component lists from the TS would permit administrative control, subject to the provisions of 10 CFR 50.59, of subsequent changes to these lists without requiring the processing of a license amendment, as is required to update/revise TS component listings. This provides an adequate means of controlling future changes without retaining the component lists within the TS because 10 CFR 50.59 requires changes to be evaluated, which includes evaluating compliance with the TS.

GL 91-08 provides specific guidance for relocating tables regarding CIVs from the TS. An important part of this removal includes the references to these Tables made in the Limiting Conditions for Operation (LCO) and the corresponding Surveillance Requirement (SR) sections. With this TS change, the LCO (i.e. - §3.6.A.1), remedial actions, and surveillance requirements (i.e. - §4.4.E) will apply for all valves that are classified as CIVs by the plant licensing basis and not just those identified in a particular Table. Note, that the list of CIVs in the TS, Table 4.4-1, does not include all valves that are classified as containment isolation valves by the plant licensing basis.

The guidance of GL 91-08 for relocation of these CIV lists and how IP3 meets this guidance is explained as follows:

1. The TS should be revised to include an explicit description of those components for which the TS requirements apply. For CIVs, an alternative is to state "Each containment isolation valve shall be operable."

   The IP3 TS meets this requirement in the definition of TS 1.10 and the LCO of 3.6.A.

2. Although some components from these CIV lists may be listed in the Final Safety Analysis Report (FSAR), the FSAR should not be the sole means for identifying these components and associated criteria. A list of those components must be included in the plant procedures that are subject to the change control provisions for plant procedures in the Administrative Controls Section of the TS. The TS bases may reference the plant procedures where these lists are located. It would also be inappropriate for a TS LCO to reference the FSAR or any other document to specify those individual components to which the TS requirements apply.

   Indian Point 3 (IP3) lists both the non-automatic CIV's that are open continuously or intermittently for plant operation (Table 3.6-1) and the required CIV's in verifying the combined leakage rate for all containment bypass leakage paths (Table 4.4-1) in various locations which are subject to 10 CFR 50.59 change control provisions. This includes the FSAR, several plant valve check-off lists, selected surveillance test procedures, and various other system operating procedures. FSAR Table 5.2-3 includes the majority of the information of both Tables 3.6-1 and 4.4-1 and references various FSAR Chapter 5 Containment Isolation System schematics to illustrate the valve numbers and line penetration numbers. The test medium is discussed in both Table 5.2-3 as well as via TS 6.14 references, such as ANS 56.8-1994, "Containment Leakage Rate Testing Program" and implementing surveillance procedures.

3. Footnotes typically associated with such TS tables, which may modify the TS requirements for these valves, must be incorporated into the associated LCO so that they will remain in effect when the table containing these footnotes is removed from the TS. An example of this would be a footnote for valves that are exempt from the requirements of Specification 3.0.4, as denoted in the Standard Technical Specifications (STS) (Reference 2), which precludes entry into an operational mode or condition when an LCO would not be met without reliance on the provisions of the action requirements.

   For IP3 there are no associated footnotes for Table 3.6-1 and of the nine (9) footnotes found with Table 4.4-1 only Notes 8 and 9 meet the criteria presented in GL 91-08 for retention. The remaining seven are of a descriptive/informative nature only to provide a clarification. Disposition of notes 8 and 9 of Table 4.4-1 are discussed below.

Note 8 permits a relaxation: "The minimum test pressure may be reduced by 2 psig until the current requirements associated with the Boron Injection Tank are removed (see Tech Spec 3.3.A.3.b)." However, Specification 3.3.A.3.b was deleted with TS Amendment 139 which was intended to remove references to the Boron Injection Tank (BIT). This footnote should have been deleted along with the removal of other references to the BIT. Therefore, this removal of the CIV tables from the TS does not have to retain footnote 8 in the SR and footnote 8 does not have to be relocated.

Note 9, incorporated into the TS with Amendment 184 permits a relaxation of Type C testing, until startup from refuel outage 10, for seven CIVs that are located on lines that are expected to be filled with water for thirty days after a postulated design basis accident. This relaxation is a one-time allowance for valves that are normally required to be pneumatically tested per the Table. To preclude a shutdown, Amendment 184 was obtained in accordance with 10CFR 50.91(a)(5) which granted relief from further leakage rate testing of these seven CIVs until refueling outage 10 (currently scheduled to start September 1999). Since this footnote is a one-time allowance, it will not require retention. Following the removal of the Table, the CIVs will require testing, including testing during the upcoming refuel outage, in accordance with Appendix J and IP3's Appendix J testing program as per TS 6.14, "Containment Leakage Rate Testing Program" and the NRC Safety Evaluation (Amendment No. 184 to IP3 Operating License) that approved this note.

4. The TS bases should describe specifically those considerations that constitute acceptable administrative controls for opening locked or sealed closed containment isolation valves.

   IP3 TS bases presently discuss administrative controls being required for specific non-automatic CIVs being opened continuously or intermittently. These administrative controls were approved as part of the post Three Mile Island (TMI) review of containment isolation provisions and this review included the accessibility of valves for closure post LOCA. The proposed change will retain the existing requirements since the existing requirements have been reviewed and approved by the NRC staff and meet the intent of GL 91-08. IP3 is further addressing this need via this TS change proposal by also indicating in the bases of TS 3.6 that administrative controls are to include locked or sealed closed CIVs. However, this change does not specify the exact considerations for these controls, since there are several different types of administrative controls that can be safely employed. To state that an operator must always be stationed for opening appropriate CIVs when containment integrity is required, would go beyond present IP3 licensing basis and prove unduly burdensome for some of the valves. For example, AC-732, Residual Heat Removal (RHR) suction isolation from Loop 32 Hot Leg, is locked closed but is opened under administrative controls for initiation of RHR. Thus, the adoption of the specific administrative controls considerations would require re-licensing of locked closed requirements, since IP3 is not a "General Design Criteria (GDC) plant" and some isolation provisions differ from the GDC. Additionally, the current, approved Standard Technical Specifications (STS), NUREG 1431, also address administrative controls required for containment isolation valves, including those of the locked or sealed closed variety, similar to current IP3 specifications, without the detail provided in GL 91-08.

The proposed bases follow the criteria given in the STS Action statement for CIVs, in that administrative controls are required for intermittently unisolating penetration flow paths. Further, these CIVs are open only as long as necessary to perform their intended operational function. The current provisions for employing administrative controls do not prevent IP3 from providing rapid isolation should the need for containment isolation be warranted. Therefore, the proposed bases for this license amendment meet the intent of the GL recommended discussion of considerations to be covered for administrative controls.

Section III - No Significant Hazards Evaluation

In accordance with the requirements of 10CFR50.92, the enclosed application is judged to involve no significant hazards based upon the following information:

1. **Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

   Response: No. Operation of Indian Point 3 in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The removal of the two component listings (i.e., Tables 3.6-1 and 4.4-1) and the TS references to them from the TS requested by this submittal is performed in accordance with the guidance provided by the NRC in GL 91-08. As established by the NRC, in the aforementioned GL, such a change will not alter existing TS requirements or those components to which they apply. Required information contained in the two tables being removed is duplicated in the FSAR and other appropriate plant procedures. Any subsequent changes regarding the individual components (i.e., the containment isolation valves) or their operation (e.g., valve positioning under administrative controls) would be addressed in accordance with the requirements specified in the Administrative Controls section of the TS regarding changes to plant procedures and/or changes to the FSAR (i.e., 10CFR 50.59). These changes will not alter any structure, system, or component and, therefore, will not result in the possibility of an increase in probability or consequence of an accident previously evaluated.

2. **Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

   Response: No. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. The deletion of two component listings (i.e., Tables 3.6-1 and 4.4-1) and the TS references to them from the Technical Specifications and the removal of all references made in the TS regarding these two listings will not alter how the individual components (i.e. – the containment isolation valves) identified in the tables are designed, operated, tested, or maintained. Testing of CIVs will be performed as required by 10 CFR 50, Appendix J and IP3 TS 6.14.

In accordance with the guidance provided by GL 91-08, which specifically addresses the issues regarding the removal of containment isolation valve listings from the TS, the conditions, actions, and requirements of the TS will apply to those valves which are classified as containment isolation valves (CIVs) by the plant licensing basis. Required specifications/requirements of the tables, and associate footnotes, remain applicable and there are no changes to any parameter(s) used in prior accident analyses. Therefore, these changes to the TS will not create the possibility of a new or different kind of accident from any previously evaluated.

3. **Does the proposed amendment involve a significant reduction in a margin of safety?**

Response: No. The proposed license amendment does not involve a significant reduction in a margin of safety. The proposed changes are in accordance with recommendations provided by NRC in Generic Letter 91-08 and the Standard Technical Specifications, NUREG 1431. These changes will maintain current safety margins while reducing the regulatory/administrative burdens to both the NRC and to the Power Authority. As stated, the changes will not result in changes to the design, operation, or maintenance of the CIVs, and the testing of the CIVs will be in accordance with 10 CFR 50 Appendix J and IP3 TS 6.14.

Section IV - Impact of Changes

These changes will not adversely impact the following:

1. ALARA Program
2. Security and Fire Protection Programs
3. Emergency Plan
4. FSAR or SER Conclusions
5. Overall Plant Operations and the Environment

Section V - Conclusions

The incorporation of these changes: a) will not significantly increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not create the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not significantly reduce the margin of safety as defined in the Bases for any Technical Specification; and d) involves no significant hazards considerations as defined in 10CFR50.92.

Section VI - References

1. NRC Generic Letter 91-08, "Removal of Component Lists from Technical Specifications," dated May 6, 1991.

2. NRC NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, dated April 1995.

3. NRC Letter, N.F. Conicella to R.E. Beedle (NYPA) regarding the "Issuance of Amendment for Indian Point Nuclear Generating Unit No. 3," Amendment 139, dated October 15, 1993.

4. NRC Letter, G.F. Wunder to J. Knubel (NYPA) regarding the "Issuance of Emergency Amendment for Indian Point Nuclear Generating Unit No. 3," Amendment 184, dated November 27, 1998.

5. Indian Point 3 Nuclear Power Plant Updated Final Safety Analysis Report, Revision 11, dated December 1997.

6. Indian Point 3 Technical Specification 6.14, "Containment Leakage Rate Testing Program".

7. ANS-56.8-1994, "Containment Leakage Rate Testing Program".

ATTACHMENT III TO IPN-99-010

MARK-UP OF TECHNICAL SPECIFICATION PAGES

FOR THE PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS 1.10, 3.6 & 4.4

REGARDING THE REMOVAL OF THE

CONTAINMENT ISOLATION VALVE TABLES

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64

LIST OF TABLES

1.9.2 Instrument Channel Functional Test

Injection of a simulated signal into the channel to verify that it is operable, including alarm and/or trip initiating actions.

1.9.3 Instrument Channel Calibration

Adjustment of channel output such that it responds, with acceptable range and accuracy, to know values of the parameter which the channel measures. Calibration shall encompass the entire channel, including alarm or trip, and shall be deemed to include the channel functional test.

1.9.4 Logic Channel Functional Test

The operation of relays or switch contacts, in all the combinations required, to produce the required output.

1.10 CONTAINMENT INTEGRITY

Containment integrity is defined to exist when:

1.10.1 All non-automatic containment isolation valves which are not required to be open during accident conditions, except those ~~required to be~~ open**ed under administrative control** for normal plant operation or testing ~~as identified in Table 3.6-1~~, are closed and blind flanges are installed where required.

1.10.2 The equipment door is properly closed.

1.10.3 Both doors in each personnel air lock are properly closed unless being used for entry, egress or maintenance, at which time at least one air lock door shall be closed.

1.10.4 All automatic containment isolation valves are either operable or in the closed position, or isolated by a closed manual valve or flange that meets the same design criteria as the isolation valve.

3.6 CONTAINMENT SYSTEM

Applicability

Applies to the integrity of reactor containment.

Objective

To define the operating statue of the reactor containment for plant operation.

Specification

A. Containment Integrity

1. The containment integrity (as defined in 1.10) shall not be violated unless the reactor is in the cold shutdown condition. However, those non-automatic valves ~~listed in Table 3.6-1~~ **referred to in Specification 1.10.1**, may be opened if necessary for plant operation and only as long as necessary to perform the intended function.

2. The containment integrity shall not be violated when the reactor vessel head is removed unless the boron concentration is sufficient to maintain the shutdown margin equal to or greater than the requirements of specification 3.8.D.

3. If the containment integrity requirements are not met when the reactor is above cold shutdown, containment integrity shall be restored within one hour or the reactor shall be in the hot shutdown condition within six hours and in cold shutdown condition within the next 30 hours.

B. Internal Pressure

If the internal pressure exceeds 2.5 psig or the internal vacuum exceeds 2.0 psig, the condition shall be corrected or the reactor shutdown.

C. Containment Temperature

1. The reactor shall not be taken above the cold shutdown condition unless the containment ambient temperature is greater than 50°F.

2. Containment ambient temperature shall not exceed 130°F when the reactor is above the cold shutdown condition. If the temperature is greater than 130°F, reduce the temperature to within the limit within 8 hours, or be in hot shutdown within the next 6 hours and in cold shutdown within the following 30 hours.

3. Containment ambient temperature as specified in 3.6.C.1 and 3.6.C.2 shall be the arithmetic average of temperatures measured at no fewer than 4 locations, at least once per 24 hours.

D. Containment Vent and Purge System

The reactor shall not be taken above the cold shutdown condition unless the containment vent isolation valves (PCV - 1190, - 1191, - 1192) are closed or limited to a maximum valve opening angle of 60E (90E - full open) by mechanical means.

The reactor shall not be taken above the cold shutdown condition unless the containment purge supply and exhaust isolation valves (FCV - 1170, - 1171, - 1172, - 1173) are closed.

If the above conditions cannot be met within one hour, the reactor shall be in the hot shutdown condition within six hours and in the cold shutdown condition within the next 30 hours.

Basis

The Reactor Coolant System must be in the cold shutdown condition in order to relax containment integrity. When the Reactor Coolant System is in the cold shutdown condition, the pressurizer may have an internal temperature above 200EF for purposes of drawing and maintaining a steam bubble, provided that the reactor has been subcritical for at least 24 hours. Operation in this manner ensures that, in case of an accidental RCS coolant release under cold shutdown conditions, the ensuing offsite radiation doses will be within the limits of 10 CFR 100.

The shutdown margins are selected on the type of activities that are being carried out. The shutdown margin requirement of specification 3.8.D when the vessel head bolts are less than fully tensioned precludes criticality during refueling. When the reactor head is not to be removed, the specified cold shutdown margin of 1% Δ k/k precludes criticality in any occurrence.

Regarding internal pressure limitations, the containment design pressure of 47 psig would not be exceeded for a major loss-of-coolant accident or for a main steam line break accident.[1] The loss-of-coolant accident event bounds the main steam line break accident from the containment peak pressures standpoint. The initial pressure condition used in the containment analysis was 2.5 psig.[1] The containment can withstand an internal vacuum of 3 psig.[2] The 2.0 psig vacuum specified as an operating limit avoids any difficulties with motor cooling.

The requirement of a 50EF minimum containment ambient temperature is to assure that the minimum service metal temperature of the containment liner is well above the NDT + 30EF criterion for the liner material.[3]

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Limiting maximum containment ambient temperature will ensure that the peak accident containment pressure does not exceed the design limit of 47 psig during steamline break or loss of coolant accidents. Environmentally and seismically qualified RTDs mounted on the crane wall above the containment fan cooler units inlet are normally used for measuring containment ambient temperature. Portable temperature sensing equipment may also be used, provided the criteria of 3.6.C.3 are met.

~~Table 3.6-1 lists non-automatic valves that are designated as part of the containment isolation function.[4]~~ During periods of normal plant operations requiring containment integrity[4], ~~valves on this Table will be open~~ **some containment isolation valves, which include locked or sealed closed valves, may be opened** either continuously or intermittently depending on requirements of the particular protection, safeguards or essential service systems. Those valves to be open intermittently are under administrative control**s** and are open only as long as necessary to perform their intended function. In all cases, however, ~~the valves listed in Table 3.6-1~~ **those containment isolation valves not required to be opened post accident** are closed during the post accident period in accordance with plant procedures and consistent with requirements of the related protection, safeguards, or essential service systems. **The exception to the application of administrative controls are the 36 inch containment purge flow paths. Due to the size of the containment purge line penetrations and the fact that these penetrations exhaust directly from the containment atmosphere to the environment, the penetration flow path containing these valves may not be opened under administrative controls.**

The opening angle of the containment vent isolation valves is being limited as an analysis demonstrates valve operability against accident containment pressures provided the valves are limited to a maximum opening angle of 60E. The containment purge supply and exhaust isolation valves are required to be closed during plant operation above cold shutdown.

REFERENCES

(1) FSAR - Section 14.3.6
(2) FSAR - Appendix 5A, Section 3.1.8
(3) FSAR - Section 5.1.1.1
(4) FSAR - Section 5.2

TABLE 3.6-1

NON-AUTOMATIC CONTAINMENT ISOLATION VALVES
OPEN CONTINUOUSLY OR INTERMITTENTLY FOR PLANT OPERATION

VALVE NO.	VALVE NO.	VALVE NO.
AC-MOV-744	SI-MOV-850C	SWN-51-4
AC-MOV-1870	SI-MOV-1835A	SWN-44-5
AC-MOV-743	SI-MOV-1835B	SWN-51-5
SP-990C	SI-859A	SWN-71-1
AC-732	SI-859C	SWN-71-2
SI-MOV-885A	AC-752F	SWN-71-3
SI-MOV-885B	AC-753F	SWN-71-4
SI-MOV-888A	AC-752J	SWN-71-5
SI-MOV-888B	AC-753J	SA-24-1
CH-MOV-205	SWN-41-1	SA-24-2
CH-MOV-226	SWN-43-1	PS-PCV-1111-1
CH-227	SWN-41-2	PS-PCV-1111-2
CH-MOV-250A	SWN-43-2	SP-MOV-990A
CH-MOV-441	SWN-41-3	SP-MOV-990B
CH-MOV-250B	SWN-43-3	SI-1814A
CH-MOV-442	SWN-41-4	SI-1814B
CH-MOV-250C	SWN-43-4	SI-1814C
CH-MOV-443	SWN-41-5	PS-7
CH-MOV-250D	SWN-43-5	PS-8
CH-MOV-444	SWN-44-1	PS-9
SI-869A	SWN-51-1	PS-10
SI-869B	SWN-44-2	
SI-878A	SWN-51-2	
SI-878B	SWN-44-3	
SI-MOV-851A	SWN-51-3	
SI-MOV-850A	SWN-44-4	

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Amendment No. 56, 102, 105, 115, 152,

E. Containment Isolation Valves

1. Verify the combined leakage rate for all containment bypass leakage paths~~, Table 4.4 1 lists required isolation valves,~~ **(except those verified by Specifications 4.4.E.2 or 4.4.E.3)** is ≤ 0.6La when pressurized ≥ Pa, in accordance with the Containment Leakage Rate Testing Program.

2. Verify the leakage rate of water from the Isolation Valve Seal Water System is ≤ 14,700 cc/hr when pressurized ≥ 1.1 Pa, in accordance with the Containment Leakage Rate Testing Program.

3. Verify the leakage rate of water into the containment from isolation valves sealed with the service water system is ≤ 0.36 gpm per fan cooler unit when pressurized ≥ 1.1 Pa, in accordance with the Containment Leakage Rate Testing Program.

TABLE 4.4-1 (Page 1 of 7)

CONTAINMENT ISOLATION VALVES			
Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure (PSIG)[8]
RC-AOV-549	1	Water[4]	47
RC-AOV-548	1	Water[4]	47
RC-518	2	Gas	43
RC-AOV-550	2	Gas	43
RC-AOV-552	3	Water[4]	47
RC-AOV-519	3	Water[4]	47
AC-741	4	Water[5]	47[3]
AC-MOV-744	4	Nitrogen[4][9]	43[3]
SI-MOV-888A	5	Nitrogen[4][9]	43
SI-MOV-888B	5	Nitrogen[4][9]	43
AC-AOV-958	5	Nitrogen[4][9]	43
SP-AOV-959	5	Nitrogen[4]	43
SP-990C	5	Nitrogen[4]	43
AC-MOV-1870	5	Nitrogen[4][9]	43
AC-MOV-743	5	Nitrogen[4][9]	43
AC-732	6	Nitrogen[4][9]	43[3]
SI-MOV-885A	7	Water[5]	47
SI-MOV-885B	7	Water[5]	47
CH-AOV-201	8	Water[4]	47
CH-AOV-202	8	Water[4]	47
CH-MOV-205	9	Water[4]	47
CH-MOV-226	9	Water[4]	47
CH-227	9	Water[4]	47
CH-MOV-250A	10	Water[4]	47
CH-MOV-441	10	Water[4]	47
CH-MOV-250B	10	Water[4]	47
CH-MOV-442	10	Water[4]	47
CH-MOV-250C	10	Water[4]	47

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CONTAINMENT ISOLATION VALVES			
Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure(PSIG)[8]
CH-MOV-443	10	Water[4]	47
CH-MOV-250D	10	Water[4]	47
CH-MOV-444	10	Water[4]	47
CH-MOV-222	11	Water[4]	47
SP-AOV-956E	12	Water[4]	47
SP-AOV-956F	12	Water[4]	47
SI-869A	14	Water[4]	47
SI-867A	14	Gas	43
SI-878A	14	Gas	43
SI-869B	14	Water[4]	47
SI-867B	14	Gas	43
SI-878B	14	Gas	43
SI-MOV-1835A	15	Nitrogen[4]	43
SI-MOV-1835B	15	Nitrogen[4]	43
SI-MOV-851A	15	Water[4]	47
SI-MOV-850A	15	Water[4]	47
SI-MOV-850C	15	Water[4]	47
SI-859A	16	Water[4]	47
SI-859C	16	Water[4]	47
NNE-1610	17	Gas	43
NNE-AOV-863	17	Gas	43
SP-AOV-956G	18	Water[4]	47
SP-AOV-956H	18	Water[4]	47
WD-AOV-1786	19	Water[4]	47
WD-AOV-1787	19	Water[4]	47

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CONTAINMENT ISOLATION VALVES

Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure (PSIG)[8]
WD-AOV-1610	19	Gas	43
WD-1616	19	Gas	43
WD-AOV-1788	20	Water[4]	47
WD-AOV-1789	20	Water[4]	47
WD-AOV-1702	21	Water[4]	47
WD-AOV-1705	21	Water[4]	47
AC-MOV-796	22	Water[4]	47
AC-MOV-769	22	Water[4]	47
AC-MOV-784	23	Water[4]	47
AC-MOV-786	23	Water[4]	47
AC-FCV-625	24	Water[4]	47
AC-MOV-789	24	Water[4]	47
AC-AOV-791	29	Water[4]	47
AC-AOV-798	29	Water[4]	47
AC-AOV-796	30	Water[4]	47
AC-AOV-793	30	Water[4]	47
WD-AOV-1728	31	Water[4]	47
WD-AOV-1723	31	Water[4]	47
VS-PCV-1234	32	Gas[7]	43
VS-PCV-1235	32	Gas[7]	43
VS-PCV-1236	33	Gas[7]	43
VS-PCV-1237	33	Gas[7]	43
CA-PCV-1229	34	Gas[7]	43
CA-PCV-1230	34	Gas[7]	43
BD-PCV-1215	37	Water[4]	47
BD-PCV-1215A	37	Water[4]	47
BD-PCV-1214	37	Water[4]	47
BD-PCV-1214A	37	Water[4]	47
BD-PCV-1216	37	Water[4]	47
BD-PCV-1216A	37	Water[4]	47
BD-PCV-1217	37	Water[4]	47
BD-PCV-1217A	37	Water[4]	47

CONTAINMENT ISOLATION VALVES			
Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure (PSIG)[8]
BD-PCV-1224	38	Water[4]	47
BD-PCV-1224A	38	Water[4]	47
BD-PCV-1223	38	Water[4]	47
BD-PCV-1223A	38	Water[4]	47
BD-PCV-1225	38	Water[4]	47
BD-PCV-1225A	38	Water[4]	47
BD-PCV-1226	38	Water[4]	47
BD-PCV-1226A	39	Water[6]	47
SWN-41-1	39	Water[6]	47
SWN-43-1	39	Water[6]	47
SWN-42-1	39	Water[6]	47
SWN-41-2	39	Water[6]	47
SWN-43-2	39	Water[6]	47
SWN-42-2	39	Water[6]	47
SWN-41-3	39	Water[6]	47
SWN-43-3	39	Water[6]	47
SWN-42-3	39	Water[6]	47
SWN-41-4	39	Water[6]	47
SWN-43-4	39	Water[6]	47
SWN-42-4	39	Water[6]	47
SWN-41-5	39	Water[6]	47
SWN-43-5	39	Water[6]	47
SWN-42-5	40	Water[6]	47
SWN-44-1	40	Water[6]	47
SWN-51-1	40	Water[6]	47
SWN-44-2	40	Water[6]	47
SWN-51-2	40	Water[6]	47
SWN-44-3	40	Water[6]	47
SWN-51-3	40	Water[6]	47
SWN-44-4	40	Water[6]	47
SWN-51-4			

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CONTAINMENT ISOLATION VALVES			
Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure (PSIG)[8]
SWN-44-5	40	Water[6]	47
SWN-51-5	40	Water[6]	47
SWN-71-1	40	Water[6]	47
SWN-71-2	40	Water[6]	47
SWN-71-3	40	Water[6]	47
SWN-71-4	40	Water[6]	47
SWN-71-5	40	Water[6]	47
SA-24-1	41	Water[4]	47
SA-24-2	41	Water[4]	47
VS-FCV-1170	48	Gas[7]	43
VS-FCV-1171	48	Gas[7]	43
VS-FCV-1172	49	Gas[7]	43
VS-FCV-1173	49	Gas[7]	43
VS-FCV-1190	50	Gas[7]	43
VS-FCV-1191	50	Gas[7]	43
VS-FCV-1192	50	Gas[7]	43
SP-MOV-990A	51	Nitrogen[4]	43
SP-MOV-990B	51	Nitrogen[4]	43
SP-AOV-956A	52	Water[4]	47
SP-AOV-956B	52	Water[4]	47
SP-AOV-956C	53	Water[4]	47
SP-AOV-956D	53	Water[4]	47
SI-1814A	54	Gas	43
SI-1814B	55	Gas	43
SI-1814C	56	Gas	43
SP-SOV-506	57	Gas	43
SP-SOV-507	57	Gas	43

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CONTAINMENT ISOLATION VALVES			
Valve No.	Penetration Number[1]	Test Fluid[2]	Minimum Test Pressure (PSIG)[8]
SP-SOV-508	57	Gas[7]	43
SP-SOV-509	57	Gas[7]	43
SP-SOV-510	57	Gas[7]	43
SP-SOV-511	57	Gas[7]	43
SP-SOV-512	57	Gas[7]	43
SP-SOV-513	57	Gas[7]	43
SP-SOV-514	57	Gas[7]	43
SP-SOV-515	57	Gas[7]	43
SP-SOV-516	57	Gas[7]	43
IA-39	64	Gas	43
IA-PCV-1228	64	Gas	43
PS-7	65	Gas[7]	43
PS-10	65	Gas[7]	43
PS-8	65	Gas[7]	43
PS-9	65	Gas[7]	43
CB-1	69	Gas	43
CB-2	69	Gas	43
CB-3	69	Gas[7]	43
CB-4	69	Gas[7]	43
CB-5	68	Gas	43
CB-6	68	Gas	43
CB-7	68	Gas[7]	43
CB-8	68	Gas[7]	43
DW-AOV-1	70	Water[4]	47
DW-AOV-2	70	Water[4]	47

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CONTAINMENT ISOLATION VALVES

NOTES:

1. Reference: FSAR Table 5.2-1, Penetration No.
2. Gas Test Fluid indicates either nitrogen or air as test medium.
3. Testable only when at cold shutdown.
4. Isolation Valve Seal Water System.
5. Sealed by Residual Heat Removal System fluid.
6. Sealed by Service Water System.
7. Sealed by Weld Channel and Penetration Pressurization System.
8. The minimum test pressure may be reduced by 2 psig until the current requirements associated with the Boron Injection Tank are removed (see Tech Spec 3.3.A.3.b).
9. Type C testing is not required until startup from refuel outage 10 because the lines and valves are filled with water for thirty days after a postulated design basis accident and therefore do not constitute a potential containment atmospheric pathway.