

LIMITING CONDITION FOR OPERATION

3.6.1.2 Primary containment leakage rates shall be limited to:

- except for the main steam line isolation valves #
- An overall integrated leakage rate of less than or equal to $0.75 L_a$, where L_a is 0.20 percent by weight of the primary containment air per 24 hours at P_a .
 - A combined leakage rate of less than or equal to $0.60 L_a$ for all penetrations and all valves, except for main steam line isolation valves # and valves which are hydrostatically leak tested, subject to Type B and C tests when pressurized to P_a .
 - Less than or equal to 25 scf per hour for any one main steam line through the isolation valves when tested at P_a .
 - A combined leakage rate of less than or equal to $0.0504 L_a$ for all penetrations that are secondary containment bypass leakage paths when pressurized to the required test pressure.
 - A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at greater than or equal to $1.10 P_a$.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, AND 3, with the reactor coolant system temperature greater than 200 °F.

ACTION:

With:

- except for the main steam line isolation valves #
- The measured overall integrated primary containment leakage rate exceeding $0.75 L_a$, or
 - The measured combined leakage rate for all penetrations and all valves except for main steam line isolation valves # and valves which are hydrostatically leak tested, subject to Type B and C tests exceeding $0.60 L_a$, or
 - The measured leakage rate exceeding 25 scf per hour for any one main steam line through the isolation valves, or
 - The combined leakage rate for all penetrations that are secondary containment bypass leakage paths exceeding $0.0504 L_a$, or
 - The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 1 gpm times the total number of such valves:

Restore the leakage rate to less than or equal to the above limit(s) within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Exemption to Appendix J of 10 CFR 50.

PERRY UNIT 1

3/4 6-3

Amendment No. AA 57,60

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.1.2 The primary containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 ~~using the methods and provisions of ANSI N45.4-1972 and BN-100-1; test results shall also be reported based on the Mass Point Methodology described in ANSI/ANS N56.8-1981:~~

Insert A

- a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals during shutdown at P_0 during each 10-year service period. ~~The third test of each set shall be conducted during the shutdown for the 10-year plant in-service inspection.~~
- b. If any periodic Type A test fails to meet $0.75 L_a$, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet $0.75 L_a$, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet $0.75 L_a$, at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:

Insert A

, except that the provisions of Bechtel Topical Report BN-TOP-1 may be used for Type A tests having a duration less than 24 hours.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1. Confirms the accuracy of the test by verifying that the difference between the supplemental data and the Type A test data is within $0.25 L_a$. The formula to be used is:
$$[L_o + L_{am} - 0.25 L_a] \leq L_c \leq [L_o + L_{am} + 0.25 L_a]$$
 where
 L_c = supplemental test result; L_o = superimposed leakage;
 L_{am} = measured Type A leakage.
2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
3. Requires the quantity of gas injected into the primary containment or bled from the primary containment during the supplemental test to be between $0.75 L_a$ and $1.25 L_a$.
- d. Type B and C tests shall be conducted with gas at P_a^* at intervals no greater than 24 months except for tests involving:
 1. Air locks,
 2. Main steam line isolation valves,
 3. Valves pressurized with fluid from a seal system,
 4. All containment isolation valves in hydrostatically tested lines which penetrate the primary containment, and
 5. Purge supply and exhaust isolation valves with resilient material seals.
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J of 10 CFR 50 Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least $1.10 P_a$ and the seal system capacity is adequate to maintain system pressure for at least 30 days.
- h. All containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.

*Unless a hydrostatic test is required.

No changes -
For Information

CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT (Continued)

Replace with Insert 'B'

3/4.6.1.2 CONTAINMENT LEAKAGE (Continued)

~~The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 with the exception of exemptions granted for testing the air locks after each opening.~~

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on PRIMARY CONTAINMENT INTEGRITY and the containment leakage rate given in Specifications 3.6.1.1 and 3.6.1.2. The specification makes allowances for the fact that there may be long periods of time when the air locks will be in a closed and secured position during reactor operation. Only one closed door in each air lock is required to maintain the integrity of the containment.

An allowance has been provided within Action a.1 for access into or through the containment air locks when an interlock mechanism in one or both air locks is inoperable. Action a.1 requires that at least one of the two OPERABLE doors for each affected air lock be maintained closed, and if the interlock mechanism has not been restored to OPERABLE status within 24 hours, one door must be locked closed. The provisions of footnote " may be utilized for entries and exits. The administrative controls of footnote " allow the unlocking and use of the air lock provided that an individual is stationed at the air lock, dedicated to assuring that at least one OPERABLE air lock door remains closed at all times. This allowance is provided to address those situations when the use of an air lock with only an inoperable interlock mechanism may be preferred over the use of the other air lock, such as when the other air lock has an inoperable door.

An allowance has also been provided in Action a.2 for access into or through the containment air locks when one air lock door in one or both air locks is inoperable. The first sentence of footnote " provides that entry and exit through the OPERABLE door on one or both air locks is permissible under administrative controls for the performance of repairs of the affected air lock components. The second sentence of footnote " provides for entry into and exit from the containment for activities other than just the repairs of affected air lock components under administrative controls, but only permits these entries when both air locks have an inoperable door, and limits such use to a 7 day period. The administrative controls for the second sentence shall define limits on entry and exit, in order to minimize openings of the OPERABLE door.

Bases: Insert B

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 with the exception of the exemptions listed below. Additionally, Bechtel Topical Report BN-TOP-1 may be utilized for ILRTs with a duration of less than 24 hours in accordance with Section 7.6 of ANSI N45.4-1972 (Reference 1).

- a) Section III.D.2(b)(ii) - The air lock seal leakage test of Section III.D.2(b)(iii) of Appendix J may be substituted (following normal air lock door opening) for the full-pressure test provided that no maintenance has been performed that would affect the air locks sealing capability (Reference 2).
- b) Sections III.A.1(d), III.A.5(b)(2), and III.B.3 and III.C.3 - The main steam lines between the inboard and outboard MSIVs (including the volume up to the outboard MSIV before seat drain line valves) are not required to be vented and drained for Type A testing, and the main steam line isolation valve leak rates are exempted from inclusion in the overall integrated primary containment leak rate and the combined local leak rate (Reference 3).
- c) Section III.D.1(a) - The third Type A test for each 10-year service period is not required to be conducted when the plant is shutdown for the 10-year plant inservice inspection (Reference 4).

References

- (1) Letter from NRC (B.J. Youngblood) to CEI (M.R. Edelman), "Performance of the Preoperational Containment Integrated Leakage Rate Test - Perry Nuclear Power Plant, Unit 1," dated June 10, 1985.
- (2) PNPP Safety Evaluation Report Supplement 7, Section 6.2.6 "Containment Leakage Testing," November 1985.
- (3 through 4) [Exemption approval letters from the NRC.]

SIGNIFICANT HAZARDS CONSIDERATION

The standards used to arrive at a determination that a request for amendment involves no significant hazards considerations are included in the Commission's Regulations, 10 CFR 50.92, which state that the operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any previously evaluated; or (3) involve a significant reduction in a margin of safety.

A separate Significant Hazards Consideration has been provided for each major change presented as part of this Technical Specification change request. The proposed amendment has been reviewed with respect to these three factors and it has been determined that the proposed changes do not involve a significant hazard as shown in the following.

Part A - Formalize the Approval for Excluding the Main Steam Line Isolation Valve Leakages from Inclusion in i) the Overall Integrated Primary Containment Leak Rate and ii) the Combined Local Leak Rate, and Clarify that the Main Steam Lines are Not Required to be Vented and Drained for Type A Testing

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Since Appendix J was originally envisioned, alternative means of meeting the intent of these requirements have been developed which provide an equivalent level of protection of the public health and safety. However, since some of these alternatives deviate from the specific wording of Appendix J, exemptions are appropriate for these alternatives. Implicit in the FSAR treatment of the main steam line leakage, as well as the TS requirements for main steam line leakage, are several deviations from the specific requirements of Appendix J. Although PNPP's methods and practices for Appendix J testing have been previously described in correspondence to the NRC, a formal exemption was not recognized to be needed at that time in that the NRC's approval was perceived to be received by the issuance of the PNPP TS. Exemption to four separate paragraphs of 10 CFR 50 Appendix J will document the approvals previously received and incorporated into the TS for main steam line isolation valve testing during the initial licensing of the PNPP. This TS change adds references to footnotes within the TS LCO 3.6.3.1 to clarify which conditions represent exemptions to Appendix J. These exemptions are described in the Bases.

PNPP utilized the criteria described in the Standard Review Plan (SRP), Section 15.6.5, Appendix D, "Radiological Consequences of a Design Basis Loss-of-Coolant Accident: Leakage from Main Steam Isolation Valve Leakage Control System (Rev. 1 - July 1981)." This is an alternative, NRC approved method for assessing the MSIV leakage contribution and determining the radiological consequences.

In accordance with the SRP, the safety analysis for a design basis LOCA includes the maximum main steam line leak rate separately from the maximum containment leak rate. Within Appendix J it is implied that

Type A tests are intended to measure the primary containment overall integrated leak rate, but this was before the SRP Section was developed which allows the MSIV contribution to be accounted for separately in the safety analysis. Therefore, the MSIV leak rate should not be included in the measurement of the ILRT. Including the MSIV leakage in the combined local leak rate limit is also not necessary since a specific Type C MSIV leak rate has been specified in TS 3.6.1.2.

In summary, there is no change in the probability or consequences of any accident since the addition of the references and footnotes to clarify the TS LCO and Actions do not change the design of the plant, nor the operational characteristics of any plant system, nor the procedures by which the Operators run the plant. These changes only cite formal Appendix J exemptions which are requested to document the approval previously received. A formal request for exemption to the applicable paragraphs of 10 CFR 50 Appendix J is also being submitted in a separate letter in conjunction with this proposed TS change.

2. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. There are no design changes being made that would create a new type of accident or malfunction, and the method and manner of plant operation remains unchanged. The only change being made is an exemption to 10 CFR 50 Appendix J which will be cited in the TS to document the implicit and explicit approvals of the PNPP design and testing methods for main steam line isolation valves. The requirements and bases for which the formal exemption is sought are currently presented and implemented in the licensing basis and the TS for PNPP. The objective of the regulation is being met and will continue to be met. The exemption to 10 CFR 50 Appendix J is being submitted in a separate letter in conjunction with this proposed TS change.

3. The proposed changes do not involve a significant reduction in a margin of safety.

These changes do not involve a significant reduction in the margin of safety because they are administrative in nature. The proposed change will only cite the NRC exemption that grants the deviation from Appendix J. The proposed changes do not affect any USAR design bases or accident assumptions. Therefore, the proposed changes do not reduce the margin of safety as defined in the bases for any Technical Specification.

Part B - Revise Surveillance Requirement 4.6.1.2 to Eliminate Unnecessary References and Clarify the Use of BN-TOP-1

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Surveillance Requirement 4.6.1.2 is proposed to be revised to eliminate the direct reference to the ANSI Standards N45.4 and N56.8 within the text, because these same Standards are listed within Appendix J. It is

unnecessary to repeat the references to the Standards within the Technical Specifications because the PNPP is still required to be in compliance with the regulations. No additional benefits are gained and licensee flexibility to upgrade to later versions of the Standards is reduced since a Technical Specification change is necessary to change the version of the Standard to which PNPP is committed. This change removes a redundant requirement to list these Standards in the Technical Specifications. Therefore, this change cannot involve a significant increase in the probability or consequences of an accident because the regulation is still required to be met.

A reference to Topical Report BN-TOP-1 continues to be retained within Surveillance Requirement 4.6.1.2, and the use of the report is clarified to be for test durations less than 24 hours. This reference is retained within the TS since a reference to BN-TOP-1, though not specifically included within Appendix J, is allowed by Section 7.6 of ANSI N45.4-1972 and has been approved for PNPP use by the NRC. The TS Bases are also proposed to be revised to include a statement that the use of BN-TOP-1 is in accordance with Appendix J.

These changes result in no changes to plant systems and have no effect on accident conditions or assumptions. These proposed changes do not affect possible initiating events for accidents previously evaluated, or any system functional requirements. Hence, these changes are purely administrative in that they are designed to eliminate a redundant requirement and clarify the applicability and acceptability of an alternative leak rate testing provision within the TS. These changes do not affect plant operation in any way. Therefore, the proposed changes do not affect the probability or consequences of any accident previously evaluated.

2. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

There are no design changes being made that would create a new type of accident or malfunction, and the method and manner of plant operation remains unchanged. These changes eliminate a redundant requirement and clarify the applicability and acceptability of alternative leak rate testing provisions within the TS. Since the alternative leak rate testing provisions have been approved by the NRC, the objective of the regulation continues to be met. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed changes do not involve a significant reduction in a margin of safety.

These changes do not involve a significant reduction in the margin of safety because they are administrative in nature and either eliminate a redundant requirement or clarify the applicability and acceptability of an alternative, NRC approved, leak rate testing provision within the TS. The proposed changes do not affect any USAR design bases or accident assumptions. Therefore, the proposed changes do not reduce the margin of safety as defined in the Bases for any Technical Specification.

Part C - Decouple Performance of the Third Type A Test from the Shutdown for the 10-Year Plant Inservice Inspection

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change revises Surveillance Requirement 4.6.1.2.a by removing the second sentence requiring that the third test of each containment Integrated Leak Rate Test (ILRT) set be conducted during the shutdown for the 10-year plant inservice inspection. A request for an exemption to 10 CFR 50 Appendix J, Paragraph III.D.1(a) is also being submitted in conjunction with this proposed change. Note that this change is also included in the proposed Appendix J rule changes currently under consideration and has been approved for several other plants. The deletion of this requirement from the Technical Specifications does not impact plant safety because the 10 CFR 50 Appendix J requirement that three Type A containment ILRT tests to be performed over a 10 year period is not affected. This change only removes an unnecessary connection between the two regulations.

The proposed change results in no changes to plant systems. The proposed change has no effect on accident conditions or assumptions. The proposed change does not affect possible initiating events for accidents previously evaluated, or any system functional requirements. Hence, the proposed change removes an unnecessary tie between regulations and does not affect plant operation in any way.

In summary, there is no change in the probability or consequences of any accident since the revision of the existing Surveillance Requirement to reflect the removal of an unnecessary tie between regulations does not change the design of the plant, nor the operational characteristics of any plant system, nor the procedures by which the Operators run the plant.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change removes an unnecessary tie between regulations. The objective of the regulation continues to be met. There are no design changes being made that would create a new type of accident or malfunction, and the method and manner of plant operation remains unchanged. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

The proposed change does not involve a significant reduction in the margin of safety because they are administrative in nature and remove an unnecessary tie between requirements. The proposed change does not affect any USAR design bases, accident assumptions, or Technical

Specification Bases. Therefore, the proposed change does not reduce the margin of safety as defined in the bases for any TS.

Based upon the above considerations, it has been concluded that the proposed changes do not involve significant hazards considerations.