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July 22, 1988

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206  
10 CFR 50, Appendix J, Exemption Request for  
Amendment Application No. 139  
San Onofre Nuclear Generating Station  
Unit 1

By letter dated March 20, 1987, SCE submitted Amendment Application No. 139 requesting Technical Specification revisions to provide clarification of the applicable 10 CFR Part 50, Appendix J, leak testing requirements for personnel air locks. Subsequent to this submittal, SCE discussed the amendment application with the NRC Staff reviewers and was requested to provide the following:

- 1) quantitative justification for the reduction in pressure for the personnel airlock leak test from 10 psig to 3 psig, and
- 2) a formal 10 CFR 50 exemption request for the deviation from Appendix J.

The quantitative information to demonstrate adequate sensitivity of airlock leakage at the reduced test pressure of 3 psig is currently being generated. Comparative test data will be available and provided to you by September 30, 1988. In order to avoid unnecessary delay in issuance of the remaining requested changes, it is requested that this aspect of Amendment Application No. 139 be reviewed separately, and if approved, a subsequent amendment issued for the reduced test pressure.

Amendment Application No. 139 consists of several changes to Technical Specification 4.3.1 "Containment Testing." Two of these changes were identified as exemptions to 10 CFR 50 Appendix J. These exemption requests were:

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## Testing the personnel air lock:

- 1) within 72 hours following each closing (versus each opening), and
- 2) prior to establishing CONTAINMENT INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability at Pa.

Discussions with the NRC Staff reviewers indicated that the first item above does not constitute an exemption to Appendix J. The regulations contain specific requirements that the air locks be tested after being opened. However, the regulations allow sufficient latitude to interpret this requirement as following an opening or a closing. Therefore, the proposed specification does not constitute an exemption to Appendix J.

The second item above was proposed in order to incorporate a testing requirement not currently in the Technical Specifications. This requirement is based on Paragraph III.D.2(b)(ii) of Appendix J which requires performing a peak pressure (Pa) test on air locks opened during periods when containment integrity is not required by the Technical Specifications. The proposed revision requests an exemption to this requirement in that a Pa test would only be performed if maintenance was performed on the air lock during the period when containment integrity was not required. This proposed specification is consistent with Westinghouse Standard Technical Specification 4.6.1.3(b)(2). As part of Amendment Application No. 139, SCE has provided a Safety Analysis which evaluates the acceptability of this change. It is SCE's request that this exemption be provided in order to avoid unnecessary Pa testing of the air lock and perform leak testing consistent with Westinghouse STS requirements. Enclosure 1 to this letter provides SCE's formal request and justification for the proposed exemption to Appendix J.

It is noted that Amendment Application No. 139 used the term "Pa" to describe the peak containment pressure during a design basis LOCA. To be consistent with the remaining Technical Specifications this term should be replaced with the actual value of 49.4 psig. Therefore, for clarification purposes, Enclosure 2 of this letter contains the revised proposed Technical Specification 4.3.1. The revision replaces the term "Pa" with 49.4 psig, removes the exemption request relating to closing of the airlock versus opening, and revises the reduced pressure test from 3 psig to 10 psig pending resolution of this issue at a later date.

If you have any questions or require additional information, please let me know.

Very truly yours,



cc: J. B. Martin, Regional Administrator, NRC Region V  
F. R. Huey, NRC Senior Resident Inspector, San Onofre Units 1, 2 and 3

ENCLOSURE 1

DESCRIPTION AND JUSTIFICATION  
FOR REQUESTED EXEMPTION TO  
10 CFR 50, APPENDIX J

SAN ONOFRE NUCLEAR GENERATING STATION  
UNIT 1

### Description

As part of Amendment Application No. 139, SCE has proposed an exemption to 10 CFR Part 50, Appendix J. Specifically, Paragraph III.D.2(b)(ii) of Appendix J requires the following:

"Airlocks opened during periods when containment integrity is not required by the plant's Technical Specifications shall be tested at the end of such periods at not less than Pa."

As discussed below, SCE believes it is not necessary to comply with this regulation in order to satisfy the intent of this requirement. In lieu of the Appendix J requirement, SCE has proposed the following:

"Airlocks volumes between the doors are tested ... prior to establishing CONTAINMENT INTEGRITY when maintenance has been performed on the airlock that could affect the airlock sealing capability at Pa."

An exemption to the Appendix J requirement is proposed in order to eliminate a leak test requirement that SCE believes to be unnecessary. Existing leak test requirements establish adequate provisions to ensure the integrity of the personnel airlock is maintained during all phases of plant operation. The proposed specification will ensure the integrity of the airlock is verified by a Pa test subsequent to maintenance or modification prior to establishing containment integrity.

The proposed requirement conforms with the Westinghouse Standard Technical Specifications (STS). It is SCE's position that the proposed specifications will satisfy the intent of Appendix J and that the exemption request will not present undue risk to the public health and safety.

### Justification

In accordance with 10 CFR 50.12(a)(1), the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of the regulations of this part, which are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security.

10 CFR 50.12(a)(2) provides guidelines for demonstrating the existence of special circumstances required for Commission approval of exemptions. These guidelines are defined in 50.12(a)(2)(i) through (vi) of the rule. The following evaluation describes the special circumstances related to the requested exemption.

50.12(a)(2)(ii) - "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule."

The underlying purpose of the rule (10 CFR 50, Appendix J, Paragraph III.D.2(b)(ii)) is to assure proper isolation of the airlock prior to return to power operation. The rule stipulates that airlocks shall be tested at Pa if they were opened during periods when containment integrity is not required. SCE has provisions for testing the personnel airlock as part of the establishment of containment integrity. This test is performed at a lower test pressure (less than Pa) since the SONGS 1 personnel airlock is not equipped with testable door seals. In addition, the personnel airlock is tested at the lower pressure within 72 hours of being used whenever containment integrity is being maintained, and every six months at Pa using strongbacks to keep the door seated. These testing provisions, in addition to the proposed specification to perform a Pa test subsequent to maintenance that could affect the airlock sealing capability, will ensure the underlying purpose of the rule is achieved. These tests are sufficiently comprehensive to detect any malfunction or degradation of the airlock during all phases of plant operation.

50.12(a)(2)(iii) - "Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated."

The personnel airlock at SONGS 1 is not equipped with testable door seals. Consequently, performance of a Pa leak test requires the use of strongbacks to hold the inner door seated during the test. Otherwise, the pressure between the doors, acting opposite to the direction of pressure that the inner door would experience if containment is pressurized, is sufficient to push the inner door off the door seat. Installation of the strongbacks requires several man-hours for preparation, proper installation, and removal subsequent to the test. In addition, the pressurization to Pa and the duration of the Pa test are significantly longer than the time required to pressurize testable seals. The importance of these time periods is amplified if the testing is a critical path task required for power operation.

Based on the above considerations, SCE believes that compliance with the rule would result in significantly greater cost than other plants with personnel airlocks equipped with testable seals.

It is also noted that the Westinghouse STS have included an exemption to Paragraph III.D.2(b)(ii) of Appendix J. In lieu of this requirement, the STS requires performance of a Pa test after a unit shutdown only if maintenance was performed on the airlock that could affect the sealing capability. SCE proposes to also incorporate this requirement in lieu of the Appendix J rule. Compliance with the proposed specification will ensure that appropriate testing will be performed to verify that maintenance or modification to the airlock will not adversely impact the airlock sealing capability.

ENCLOSURE 2

REVISED PROPOSED CHANGES TO  
SECTION 4.3.1, "CONTAINMENT TESTING"  
OF APPENDIX A TECHNICAL SPECIFICATIONS

SAN ONOFRE UNIT 1

## 4.3 CONTAINMENT SYSTEMS

### 4.3.1 CONTAINMENT TESTING

APPLICABILITY: Applies to containment leakage.

OBJECTIVE: To verify that leakage from the containment sphere is maintained within specified values.

SPECIFICATION: 1. Integrated Leakage Rate Tests, Type A

#### A. Test Pressure

In order to verify leakage from the containment sphere, a Type A test shall be performed. Type A tests shall consist of a peak pressure test or a reduced pressure test.

Peak pressure tests are conducted at a test pressure greater than or equal to 49.4 psig, and reduced pressure tests are conducted at a test pressure greater than or equal to 24.7 psig.

#### B. Acceptance Criteria

For the peak pressure test program the containment sphere leakage rate measured is less than 0.090 wt%/24 hours of the initial content of the containment air at the calculated peak pressure of 49.4 psig. For the reduced pressure test program to be conducted at 24.7 psig, the measured leakage rate shall be less than 0.064 wt%/24 hours of the initial content of the containment atmosphere at the calculated peak pressure of 49.4 psig.

The accuracy of each Type A test is verified by a supplemental test which (1) confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 25% of 0.12 wt%/24 hours for the peak pressure test or 0.085 wt%/24 hours for the reduced pressure test, and (2) requires the quantity of air bled from or injected into the containment during the supplemental test to be equivalent to at least 75 percent of the total allowable leakage rate at 49.4 psig.

### C. Frequency

A set of 3 periodic Type A tests are performed at  $40 \pm 10$  month intervals during each 10-year service period. The third test of each set is performed when the plant is shut down for the 10-year plant inservice inspection. The permissible period for Type A testing shall be limited to periods when the plant facility is nonoperational and secured in the shutdown condition.

If any periodic Type A test fails to meet the acceptance criteria above, the test schedule applicable to subsequent Type A tests shall be submitted to the NRC for review and approval. If two consecutive periodic Type A tests fail to meet the above acceptance criteria, a Type A test is performed at each plant shutdown for refueling or approximately every 18 months, whichever occurs first, until two consecutive Type A tests meet the acceptance criteria, after which time the normal test schedule may be resumed.

## II. Containment Penetration Leakage Rate Tests (Type B)

### A. Test Pressure

Type B tests are conducted at a test pressure at or above 49.4 psig. Personnel airlocks are tested every six months at or above 49.4 psig. In addition, a lower pressure test at or above 10 psig is performed on the personnel airlocks as required by Section II.C.

### B. Acceptance Criteria

The combined leakage rate of all penetrations subject to Type B tests and all containment isolation valves subject to Type C tests is less than 0.072 wt%/24 hours of the initial content of the containment atmosphere at the calculated peak pressure of 49.4 psig.

### C. Test Schedule

Type B tests, except for airlocks, are performed during every reactor shutdown for refueling, or other convenient intervals, but in no case at intervals greater than two years.

Airlocks volumes between the doors are tested:

- (1) at least every six months at 49.4 psig,

- (2) within 72 hours following each closing, except when the airlock is being used for multiple entries, then at least once per 72 hours, at or above 10 psig test pressure, and
- (3) prior to establishing CONTAINMENT INTEGRITY when maintenance has been performed on the airlock that could affect the airlock sealing capability at 49.4 psig.\*

### III. Containment Isolation Valve Leakage Rate Tests (Type C)

#### A. Test Pressure

Type C tests are conducted in accordance with the criteria specified in Appendix J of 10 CFR 50.

These Type C tests are conducted at a test pressure at or above 49.4 psig.

#### B. Acceptance Criteria (Maximum acceptable value)

The combined leakage rate of all penetrations subject to Type B tests and all containment isolation valves subject to Type C tests is less than .072 wt%/24 hours of the initial content of the containment atmosphere at the calculated peak pressure of 49.4 psig.

#### C. Test Schedule

Type C tests are performed during each reactor shutdown for refueling, or other convenient intervals, but in no case at intervals greater than two years.

Seal tests conducted on active containment ventilation isolation valves shall be performed every three months.

Seal tests conducted on passive containment ventilation isolation valves shall be performed every six months.

### IV. Recirculation System

#### A. Test Pressure

Leak tests shall be performed on portions of the Safety Injection System used for recirculation at a

\*Exemption to Appendix J of 10 CFR 50

pressure equal to or greater than the operating pressure under accident conditions. The test fluid shall be water.

B. Acceptance Criteria

Visual inspection for leakage shall be made and if leakage can be detected, measurements of such leakage shall be made. The maximum effective leakage shall be maintained in accordance with Section 3.3.1.A(4) of Appendix A Technical Specifications.

C. Test Schedule

Visual inspections of the recirculation loop outside containment (including the Containment Spray System) shall be made at intervals not to exceed the normal plant refueling interval. In addition, pumps and valves of the recirculation loop outside containment which are used during normal operation, shall be visually inspected for leakage at intervals not to exceed once every six months.

V. Test Result Report

The results of Type A, B, and C leakage rate tests are submitted to the NRC in a summary technical report approximately three months after the conduct of the Type A tests. This report contains an analysis and interpretation of the Type A test results and a summary of periodic Type B and C tests performed since the last Type A test. Leakage rate test results from Type A tests that fail to meet the acceptance criteria specified in Section I.B above are reported in a separate attached summary report that includes an analysis of the test data, an instrumentation error analysis, and the structural conditions of the containment or components, if any, which contributed to failure in meeting the acceptance criteria. Results and analysis of the supplemental verification test used to demonstrate the validity of the Type A test measurements are included.

VI. Containment Modification

Any major modification or replacement of a component that is part of the containment boundary is followed by Type A, B, or C tests as applicable. The results of such tests are included in the test result report described above and meet the respective acceptance criteria. Minor modifications or replacements performed directly prior to the conduct of a scheduled Type A test do not require a separate test.