

Docket Nos. 50-338
and 50-339

December 7, 1988

Mr. W. R. Cartwright
Vice President - Nuclear
Virginia Electric and Power Company
Post Office Box 26666
Richmond, Virginia 23261

Dear Mr. Cartwright:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE:
CONTAINMENT LEAKAGE RATES (TAC NOS. 69090 AND 69091)

The Commission has issued the enclosed Amendment Nos. 108 and 94 to Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The amendments revise the Technical Specifications (TS) in response to your letter dated May 26, 1988.

The amendments modify the NA-1&2 Section 3/4.6, "Containment Systems" to reflect the use of the Mass Point method for calculating containment leakage rates, which is described in ANSI/ANS 56.8-1987, "Containment System Leakage Testing Requirements." Also, the Bases section reflects the use of the ANSI/ANS 56.8-1987 standard.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY

Leon B. Engle, Project Manager
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 108 to NPF-4
2. Amendment No. 94 to NPF-7
3. Safety Evaluation

cc w/enclosures:
See next page

LA: PDI-2
D. Engle
11/30/88

PM: PDI-2
LENGLE
11/30/88

D: PDI-2
HBerkow
11/30/88

OGC-WF
S H Lewis
12/4/88

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PDR ADOCK 05000338
P PNU

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AMENDMENT NO. 108 TO FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 94 TO FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

~~Plant File~~
NRC & Local PDRs

PDII-2 Reading

S. Varga, 14/E/4

G. Lainas, 14/H/3

H. Berkow

D. Miller

L. Engle

OGC-WF

D. Hagan, 3302 MNBB

E. Jordan, 3302 MNBB

B. Grimes, 9/A/2

T. Barnhart(8), P1-137

Wanda Jones, P-130A

E. Butcher, 11/F/23

Tech Branch that had input in package (Principal Contributor of SE)

ACRS (10)

GPA/PA

ARM/LFMB

PD Plant-specific file [Gray File]

B. Wilson, R-II

Others as required

cc: Plant Service list



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
December 7, 1988

Docket Nos. 50-338
and 50-339

Mr. W. R. Cartwright
Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Dear Mr. Cartwright:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE:
CONTAINMENT LEAKAGE RATES (TAC NOS. 69090 AND 69091)

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The amendments modify the NA-1&2 Section 3/4.6, "Containment Systems" to reflect the use of the Mass Point method for calculating containment leakage rates, which is described in ANSI/ANS 56.8-1987, "Containment System Leakage Testing Requirements." Also, the Bases section reflects the use of the ANSI/ANS 56.8-1987 standard.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink that reads "Leon B. Engle".

Leon B. Engle, Project Manager
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 108 to NPF-4
2. Amendment No. 94 to NPF-7
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. W. R. Cartwright
Virginia Electric & Power Company

North Anna Power Station
Units 1 and 2

cc:

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Mineral, Virginia 23117



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 108
License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated May 26, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

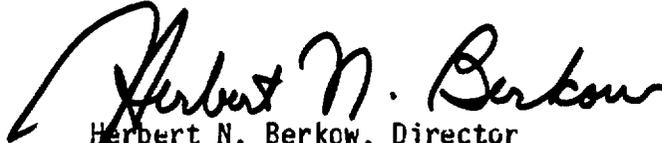
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.108 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 14 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 7, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 108

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Page

3/4 6-2

B 3/4 6-1

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that:
 1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1., and
 2. All equipment hatches are closed and sealed
- b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

*Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
 1. $\leq L_a$, 0.1 percent by weight of the containment air per 24 hours at $P_a \geq 40.6$ psig, or
- b. A combined leakage rate of $\leq 0.60 L_a$ for all penetrations and valves subject to Type B and C tests, when^a pressurized to $P_a \geq 40.6$ psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ or (b) with the measured combined leakage rate for all penetrations and^a valves subject to Type B and C tests exceeding $0.60 L_a$, restore the leakage rate(s) to within the limit(s) prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The 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 50 using the methods and provisions of either ANSI N45.4-1972 for leakage rate point data analysis or ANSI/ANS-56.8-1987 for mass point data analysis with a minimum test duration of 24 hours.

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at $P_a \geq 40.6$ psig during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.*

*The third test of the first 10-year service period shall be conducted during the 1989 Refueling/10-Year ISI Outage.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate Q_i is further limited to $\leq 0.75 L$ during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50. Due to the increased accuracy of the mass-point method for containment integrated leakage testing, the mass-point method referenced in ANSI/ANS 56.8-1987 can be used in lieu of the methods described in ANSI N45.4-1972.

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 CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 and 3/4.6.1.5 INTERNAL PRESSURE AND TEMPERATURE

The limitations on containment internal pressure and average air temperature ensure that

- 1) The containment pressure is prevented from reaching the containment lower design pressure of 5.5 psia for an inadvertent containment spray actuation,

CONTAINMENT SYSTEMS

BASES

- 2) That the peak clad fuel temperature will remain less than 2200°F for a LOCA and
- 3) That for either a LOCA or MSLB;
 - a) The peak containment pressure will be limited to the upper containment design pressure of 45 psig,
 - b) The containment internal pressure can be returned sub-atmospheric within 60 minutes, and
 - c) Safety related equipment within the containment will not experience temperatures greater than those to which they have previously been qualified.
 - d) It is a design criteria that the containment internal pressure remain subatmospheric after 60 minutes.

The limits shown in Figure 3.6-1 and Specification 3.6.1.5 are consistent with the assumptions of the accident analyses.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 40.6 psig in the event of a LOCA. The visual examination of the concrete and liner and the Type A leakage tests are sufficient to demonstrate this capability.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH AND RECIRCULATION SPARY SYSTEMS

The OPERABLILITY of the containment spray systems ensures that containment depressurization and subsequent return to subatmospheric pressure will occur in the event of a LOCA. The pressure reduction and resultant termination of containment leakage are consistent with the assumptions used in the accident analyses.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 94
License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company, et al., (the licensee) dated May 26, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

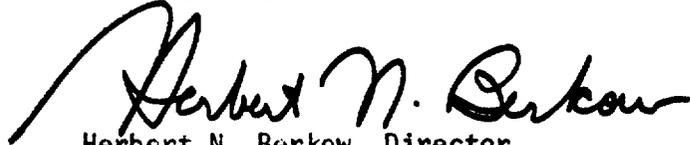
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 94 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 14 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 7, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 94
TO FACILITY OPERATING LICENSE NO. NPF-7
DOCKET NO. 50 339

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Page

3/4 6-2
B3/4 6-1

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1., and
- b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.
- c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals with gas at Pa, greater than or equal to 40.6 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 La.

* Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
 1. Less than or equal to L_a , 0.1 percent by weight of the containment air per 24 hours at P_a , greater than or equal to 40.6 psig, or
- b. A combined leakage rate of less than or equal to $0.60 L_a$ for all penetrations and valves subject to Type B and C tests, when pressurized to P_a , greater than or equal to 40.6 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding $0.60 L_a$, restore the overall integrated leakage rate to less than $0.75 L_a$ and the combined leakage rate for all penetrations subject to Type B and C tests to less than or equal to $0.60 L_a$ prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The 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 50 using the methods and provisions of either ANSI N45.4-1972 for leakage rate point data analysis or ANSI/ANS-56.8-1987 for mass point data analysis with a minimum test duration of 24 hours.

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at P_a greater than or equal to 40.6 psig during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.*

*The second test of the first 10-year service period shall be conducted during the 1989 Refueling Outage.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to $\leq 0.75 L$ during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50. Due to the increased accuracy of the mass-point method for containment integrated leakage testing, the mass-point method referenced in ANSI/ANS 56.8-1987 can be used in lieu of the methods described in ANSI N45.4-1972.

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 CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 and 3/4.6.1.5 INTERNAL PRESSURE AND TEMPERATURE

The limitations on containment internal pressure and average air temperature ensure that

CONTAINMENT SYSTEMS

BASES

- 1) The containment pressure is prevented from reaching the containment lower design pressure of 5.5 psia for an inadvertent containment spray actuation,
- 2) That the peak clad fuel temperature will remain less than 2200°F for a LOCA and
- 3) That for either a LOCA or MSLB:
 - a) The peak containment pressure will be limited to the upper containment design pressure of 45 psig,
 - b) The containment internal pressure can be returned subatmospheric within 60 minutes, and
 - c) Safety related equipment within the containment will not experience temperatures greater than those to which they have previously been qualified.
 - d) It is a design criteria that the containment internal pressure remain subatmospheric after 60 minutes.

The limits shown in Figure 3.6-1 and Specification 3.6.1.5 are consistent with the assumptions of the accident analyses.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 40.6 psig in the event of a LOCA. The visual examination of the concrete and liner and the Type A leakage tests are sufficient to demonstrate this capability.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 108 AND 94 TO

FACILITY OPERATING LICENSE NO. NPF-4 AND NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

DOCKET NOS. 50-338 AND 50-339

INTRODUCTION

By letter dated May 26, 1988, the Virginia Electric and Power Company (the licensee) requested an exemption from 10 CFR Part 50, Appendix J, Paragraph III.A.3, which requires that all Containment Integrated Leakage Rate Tests (CILRTs) be performed in accordance with the American National Standard ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." ANSI N45.4-1972 requires that leakage rate calculations be performed using either the Total Time method or the Point-to-Point method. The licensee's requested exemption would allow use of the Mass Point method to calculate the containment leakage rates. The Mass Point method is described in a more recent standard, ANSI/ANS 56.8-1987, "Containment System Leakage Testing Requirements." Also, in order to maintain consistency between the Technical Specifications (TSs) and the requested exemption, the licensee proposed to revise Section 3/4.6, "Containment Systems" of the North Anna Units 1 and 2 (NA-1&2) TSs.

On November 15, 1988, a Final Rule was published in the Federal Register (53 FR 45890), effective November 15, 1988, amending 10 CFR Part 50, Appendix J, to explicitly permit the use of the Mass Point method specified in ANSI/ANS 56.8-1987. Therefore, the licensee's requested exemption is no longer necessary and the evaluation below addresses the licensee's request for changes to the NA-1&2 TS only.

EVALUATION

The current TSs for NA-1&2 limit the licensee to use the methods recommended by ANSI N45.4-1972 for containment leakage rate testing. However, advances in leakage rate testing technology have provided improved test methods, including a newer method of evaluating the test data, which is called the Mass Point method. The Mass Point method was incorporated in a newer ANSI/ANS 56.8-1987 standard. Therefore, the licensee has requested to revise the TSs for NA-1&2, which will allow the use of the Mass Point method for calculating containment leakage rates.

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It has been recognized by the professional community that the Mass Point method is superior to the Point-to-Point and Total Time methods which are referenced in ANSI N45.4-1972. The Mass Point method calculates the air mass at a series of points in time, and plots it against time. A linear regression line is plotted through the mass-time, using a least square fit. The slope of this line is divided by the intercept of this line, and the result is multiplied by an appropriate constant to obtain the calculated leakage rate.

The superiority of the Mass Point method becomes apparent when it is compared with the two other methods. In the Total Time method, a series of leakage rates are calculated on the basis of containment air mass differences between an initial data point and each individual data point thereafter, and an average of these leakage rates is then determined. If, for any reason, the initial data point is not accurate (e.g., instrument error, lack of temperature equilibrium, ingassing, or outgassing), the results of the test will be affected. In the Point-to-Point method, the leakage rates are based on the mass difference between each pair of consecutive data points, and these leakage rates are then averaged to yield a single leakage rate estimate. Mathematically, this can be shown to be the difference between the air mass at the beginning of the test and the air mass at the end of the test, expressed as a percentage of the containment air mass. It follows from the above that the Point-to-Point method ignores any mass reading taken during the test and thus the leakage rate is calculated on the basis of the difference in mass between two measurements taken at the beginning and at the end of the test, which are 24 hours apart.

In addition to the method of calculation, consideration of the length of the test should also be included in the overall program. In accordance with Section 7.6 of ANSI N45.4-1972, a test duration of less than 24 hours is only allowed if approved by the NRC staff, and the only currently approved methodology for such a test is contained in Bechtel Topical Report BN-TOP-1, Revision 1, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants," dated November 1, 1972. This approach only allows use of the Total Time method. Therefore, the staff requires a minimum test duration of 24 hours when the Mass Point method is used. In the licensee's letter dated May 26, 1988, the licensee's proposed TS change specifies that a minimum test duration of 24 hours will be utilized when the Mass Point method is used. Also, the NA-1&2 TS Bases 3.4.6.1 specifies that the latest revision of ANSI/ANS 56.8, 1987 Revision, will be used in lieu of the methods described in ANSI N45.4-1972.

As noted above, a Final Rule was published (53 FR 45890) and became effective on November 15, 1988 which permits the use of the Mass Point method specified in ANSI/ANS 56.8-1987 when used with a test duration of at least 24 hours. Therefore, the staff finds the proposed changes to the NA-1&2 TS to be acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously

published a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(9). Pursuant to 10 CFR §51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: December 7, 1988

Principal Contributor:

L. B. Engle