APPENDIX 2

LIMERICK GENERATING STATION
UNIT 1 AND UNIT 2

D ɔket Nos.
50-352
50-353

License Nos.
NPF-39
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST
NO. 93-18-0

REVISED AFFECTED PAGE

UNIT 1	UNIT 2
3/4 6-3	3/4 6-3

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b. The combined leakage rate for all penetrations and all valves listed in Table 3.6.3-1, except for main steam line isolation valves* and valves which are hydrostatically tested per Table 3.6.3-1, subject to Type B and C tests to less than or equal to 0.60 L_a, and

c. The leakage rate to ≤11.5 scf per hour for any main steam isolation valve that exceeds 100 scf per hour, and restore the combined maximum pathway leakage to ≤200 scf per hour, and

d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves,

prior to increasing the reactor coolant system temperature above 200°F.

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 45.4-1972 and BN-TOP-1 and verifying the result by the Mass Point Methodology described in ANSI N56.8-1981:

a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 +/- 10 month intervals during shutdown at P_a, 44.0 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.**

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:

1. Confirms the accuracy of the test by verifying that the difference between the supplemental data and the Type A test data is within 0.25L_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 containment or bled from the containment during the supplemental test to be between 0.75 L_a and 1.25 L_a.

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* Exemption to Appendix "J" to 10 CFR Part 50.

** The interval between the second and third Overall Integrated Leakage Rate tests of the first 10-year service period will be extended to the sixth Unit 1 refueling outage. As a result, the duration of the first 10-year service period will be extended to the end of the sixth Unit 1 refueling outage.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b. The combined leakage rate for all penetrations and all valves listed in Table 3.6.3-1, except for main steam line isolation valves* and valves which are hydrostatically tested per Table 3.6.3-1, subject to Type B and C tests to less than or equal to 0.60 L_a, and

c. The leakage rate to ≤11.5 scf per hour for any main steam isolation valve that exceeds 100 scf per hour, and restore the combined maximum pathway leakage to ≤200 scf per hour, and

d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves,

prior to increasing the reactor coolant system temperature above 200°F.

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 45.4-1972 and BN-TOP-1 and verifying the result by the Mass Point Methodology described in ANSI N56.8-1981:

a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals during shutdown at P_a, 44.0 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.

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:

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 containment or bled from the containment during the supplemental test to be between 0.75 L_a and 1.25 L_a.

*Exemption to Appendix "J" to 10 CFR Part 50.

APPENDIX 3

LIMERICK GENERATING STATION
UNIT 1 AND UNIT 2

Docket Nos.
50-352
50-353

License Nos.
NPF-39
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST

NO. 93-18-0

"Increase the Allowable Leak Rate for the Main Steam
Isolation Valves and Delete the MSIV Leakage Control System"

General Electric Company Letter to PECO Energy Company
Dated May 27, 1994 - 2 PAGES

General Electric Company
175 Curtner Avenue, San Jose, CA 95125

OG94-423-09
May 27, 1994

Andy Winter
PECO Energy
965-55 Chesterbrook Boulevard
Wayne, PA 19087-5961

SUBJECT: LIMERICK GENERATING STATION MSIV LEAKAGE RADIOLOGICAL DOSE CALCULATION CORRECTION DUE TO REVISED DRAIN LINE VALVE FLOW AREA

Reference: Letter, Thomas Green from A. A. Winter, "Limerick Generating Station Data Input for BWROG MSIV Leakage Closure Committee Radiological Dose Calculation Correction", dated May 19, 1994

Attachment: Backup Calculation Sheet

We have evaluated the effect on the subject radiological dose assessment of a small change in the effective alternate drain line pathway minimum flow area (see Attachment). A change in the drain line valve effective diameter from 1.687 inches to 1.552 inches will increase the fractional flow to the high pressure turbine from 1.3% to 1.5%. However, since the dose contribution from the high pressure turbine is so small (0.16% of total thyroid dose) the effect on the total dose is insignificant (resulting increase less than 0.01 rem for both control room and low population zone).

If you have any questions regarding this verified information or want to discuss any aspects of the MSIV Leakage Closure Committee, please contact the undersigned.

Very truly yours,

Tom Green

T. A. Green
Senior Technical Project Manager
BWR Owners' Group Project
Tel: (408) 925-1308
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Mail Code 482

TAG/jz
Attachment

cc: SJ Stark, GE

BACKUP CALCULATION SHEET

Reference: MSIV Leakage Radiological Dose Calculations
for Limerick 1, 2; OG93-964-09 dated October 22, 1993
and the Associated Design Record File (DRF A00-04146 Section M)

Drain Line Valve Flow Area (Original Basis = 1.687 inch diameter)

$A = (\pi)\ (1.687)^2/4 = 2.235\ in^2$

Drain Line Valve Flow Area (Revised Basis = 1.552 inch diameter)

$A = (\pi)\ (1.552)^2/4 = 1.892\ in^2$

HP Turbine Valve Effective Leakage Area = $0.0288\ in^2$

$$\text{Flow Split (original basis)} = \frac{0.0288}{2.235 + 0.0288} = 0.0127\ (1.3\%)$$

$$\text{Flow Split (revised basis)} = \frac{0.0288}{1.892 + 0.0288} = 0.0150\ (1.5\%)$$

Basis: Limerick 1 Thyroid Results (HP Turbine pathway had no contribution to whole body calculations)

	CONTROL ROOM	*LOW POPULATION ZONE*
1. Total Dose (Original)	6.27 Rem	36.37 Rem
2. Contribution from HP Turbine (Original)	0.01 Rem	0.06 Rem
3. % Contribution of HP Turbine (Original)	0.16%	0.16%
4. Estimated Contribution from HP Turbine (Revised)	0.012	0.069
5. Total Dose (Revised)	6.27	36.38