

July 5, 1995

Mr. Leon R. Eliason  
Chief Nuclear Officer & President-  
Nuclear Business Unit  
Public Service Electric and Gas  
Company  
Post Office Box 236  
Hancocks Bridge, NJ 08038

SUBJECT: ISSUANCE OF EXEMPTION FROM THE REQUIREMENTS OF 10 CFR PART 50,  
APPENDIX J, FOR SALEM NUCLEAR GENERATING STATION, UNIT 1, REGARDING  
DEFERRAL OF NEXT REQUIRED CONTAINMENT INTEGRATED LEAK RATE TEST -  
(TAC NO. M92022)

Dear Mr. Eliason:

By letter dated April 4, 1995, Public Service Gas and Electric Company (PSB&G) requested an exemption to defer the performance of the Containment Integrated Leak Rate Test (CILRT), as required by 10 CFR Part 50, Appendix J, from the twelfth refueling outage to the thirteenth refueling outage.

The NRC staff has reviewed the information provided in support of your exemption request. On the basis of the submitted information and as discussed in the enclosed Exemption, the NRC staff has concluded that there is a high degree of confidence that the containment will not degrade to an unacceptable extent while this Exemption is in effect. Thus, the NRC staff has concluded that your request is justified and your request for an exemption to defer the performance of the CILRT until the thirteenth refueling outage is granted.

We find that granting the Exemption from the requirements of 10 CFR Part 50, Appendix J, Section III.D.1.(a), is authorized by law, will not present an undue risk to public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii).

A copy of the Exemption is enclosed. The Exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

Leonard N. Olshan, Project Manager  
Project Directorate I-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-272

Enclosure: Exemption

cc w/encl: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 5, 1995

Mr. Leon R. Eliason  
Chief Nuclear Officer & President-  
Nuclear Business Unit  
Public Service Electric and Gas  
Company  
Post Office Box 236  
Hancocks Bridge, NJ 08038

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A copy of the Exemption is enclosed. The Exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leonard N. Olshan".

Leonard N. Olshan, Project Manager  
Project Directorate I-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-272

Enclosure: Exemption

cc w/encl: See next page

Mr. Leon R. Eliason  
Public Service Electric & Gas  
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UNITED STATES OF AMERICANUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
PUBLIC SERVICE ELECTRIC AND	)	Docket No. 50-272
GAS COMPANY	)	
	)	
(Salem Nuclear Generating	)	
Station, Unit 1	)	

EXEMPTION

## I.

The Public Service Electric and Gas Company (the licensee) is the holder of Facility Operating License No. DPR-70, which authorizes operation of the Salem Nuclear Generating Station, Unit 1 (the facility). The license provides, among other things, that Salem, Unit 1 is subject to all rules, regulations, and Orders of the U.S. Nuclear Regulatory Commission (the Commission or NRC) now or hereafter in effect.

The facility is a pressurized water reactor, located at the licensee's site in Salem, New Jersey.

## II.

Section III.D.1.(a) of Appendix J to 10 CFR Part 50 requires the performance of three Type A containment integrated leakage rate tests (CILRTs), at approximately equal intervals during each 10-year service period. The third test of each set shall be conducted when the plant is shutdown for the 10-year plant inservice inspection.

III.

By letter dated April 4, 1995, the licensee requested relief from the requirement to perform a set of three Type A tests at approximately equal intervals during each 10-year service period. The requested exemption would permit an interval extension for the second Type A test and defer this test from the twelfth refueling outage, scheduled to begin September 1995, to the thirteenth refueling outage, scheduled to begin February 1997 and end no later than June 1997.

The licensee's request cites the special circumstances of 10 CFR 50.12, paragraph (a)(2)(ii), as the basis for the exemption. The underlying purpose of the requirement to perform three Type A CILRTs, at approximately equal intervals during each 10-year service period, is to assure that any potential leakage pathways through the primary reactor containment are identified within a time span that prevents significant degradation from continuing or becoming unknown. The licensee has stated that the existing Type B and C local leak rate test (LLRT) programs are not being modified by this request, and will continue to effectively detect containment leakage caused by the degradation of active containment isolation components as well as containment penetrations. It has been the consistent and uniform experience at Salem during the four Type A tests conducted from 1979 to date that any significant containment leakage paths are detected by the Type B and C testing. The Type A test results have only been confirmatory of the results of the Type B and C test results. Therefore, consistent with 10 CFR 50.12, paragraph (a)(2)(ii), application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule.

IV.

Section III.D.1.(a) of Appendix J to 10 CFR Part 50 states that a set of three Type A leakage rate tests shall be performed at approximately equal intervals during each 10-year service period.

The licensee proposes an exemption to this section which would provide an interval extension for the next Type A test. The Commission has determined that pursuant to 10 CFR 50.12(a)(1) this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(ii), are present justifying the exemption; namely, that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule.

The NRC staff has reviewed the basis and supporting information provided by the licensee in the exemption request. The NRC staff has noted that the licensee has a good record of ensuring a leak-tight containment. All Type A tests were within the acceptance limits. The only penetrations with a history of unacceptable, as found, leakage have been the containment air lock shaft seals, and during the eleventh refueling outage a new type shaft seal was installed. The licensee has noted that the results of the Type A testing have been confirmatory of the Type B and C tests, which will continue to be performed. The licensee has stated to the NRC Project Manager that they will perform the general containment inspection although it is only required by Appendix J (Section V.A) to be performed in conjunction with Type A tests. The NRC staff considers that these inspections and system enhancements, though limited in scope, provide an important added level of confidence in the continued integrity of the containment boundary.

The NRC staff has also made use of the information in a draft staff report, NUREG-1493, which provides the technical justification for the present Appendix J rulemaking effort which also includes a 10-year test interval for Type A tests. The integrated leakage rate test, or Type A test, measures overall containment leakage. However, operating experience with all types of containments used in this country demonstrates that essentially all containment leakage can be detected by local leakage rate tests (Type B and C). According to results given in NUREG-1493, out of 180 ILRT reports covering 110 individual reactors and approximately 770 years of operating history, only about 3% of leakage that exceeds current requirements is detectable only by CILRTs, and those few failures were only marginally above prescribed limits. This study agrees well with previous NRC staff studies which show that Type B and C testing can detect a very large percentage of containment leaks. The Salem experience has also been consistent with these results.

The Nuclear Management and Resources Council (NUMARC), now the Nuclear Energy Institute (NEI), collected and provided the NRC staff with summaries of data to assist in the Appendix J rulemaking effort. NUMARC collected results of 144 ILRTs from 33 units; 23 ILRTs exceeded  $1.0L_a$ . Of these, only nine were not due to Type B or C leakage penalties. The NEI data also added another perspective. The NEI data show that in about one-third of the cases exceeding allowable leakage, the as-found leakage was less than  $2L_a$ ; in one case the as-found leakage was less than  $3L_a$ ; one case approached  $10L_a$ ; and in one case the leakage was found to be approximately  $21L_a$ . For about half of the failed ILRTs the as-found leakage was not quantified. These data show that, for those ILRTs for which the leakage was quantified, the leakage values are small

in comparison to the leakage value at which the risk to the public starts to increase over the value of risk corresponding to  $L_a$  (approximately  $200L_a$ , as discussed in NUREG-1493). Therefore, based on these considerations, it is unlikely that an extension of one cycle for the performance of the Appendix J, Type A test at Salem would result in a significant degradation of the overall containment integrity. As a result, the application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of the rule.

Based on generic and plant specific data, the NRC staff finds the basis for the licensee's proposed exemption to allow a one-time exemption to permit a schedular extension of one cycle for the performance of the Appendix J Type A test to be acceptable.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this Exemption will not have a significant impact on the quality of the human environment (60 FR 34560 ).

This Exemption is effective upon issuance and shall expire at the completion of the thirteenth refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION  
/S/

Steven A. Varga, Director  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 5th day of July 1995

\*SEE PREVIOUS CONCURRENCE

OFFICE	PDI-2/LA <i>SMN for 6/29/95</i>	PDI-2/PM	*SCSB:C	*OGC	PDI-2/D	<i>APPE/D</i>
NAME	<i>MO:BA Den</i>	LOIshan:mw	CBerlinger	EHoller	JStatz	<i>S. Varga</i>
DATE	<i>1/95</i>	<i>7/5/95</i>	06/21/95	06/27/95	6/30/95	<i>7/3/95</i>

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in comparison to the leakage value at which the risk to the public starts to increase over the value of risk corresponding to  $L_a$  (approximately  $200L_a$ , as discussed in NUREG-1493). Therefore, based on these considerations, it is unlikely that an extension of one cycle for the performance of the Appendix J, Type A test at Salem would result in a significant degradation of the overall containment integrity. As a result, the application of the regulation in these particular circumstances is not necessary to achieve the underlying purpose of the rule.

Based on generic and plant specific data, the NRC staff finds the basis for the licensee's proposed exemption to allow a one-time exemption to permit a schedular extension of one cycle for the performance of the Appendix J Type A test, provided that the general containment inspection is performed, to be acceptable.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this Exemption will not have a significant impact on the quality of the human environment (60 FR 34560 ).

This Exemption is effective upon issuance and shall expire at the completion of the thirteenth refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Steven A. Varga, Director  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 5th day of July 1995

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