UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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| In the Matter of | ) | |
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| GEORGIA POWER COMPANY, ET AL. | ) | Docket No. 50-424 |
| | ) | |
| (Vogtle Electric Generating Plant, Unit 1) | ) | |

EXEMPTION

I.

Georgia Power Company, et al. (the licensee) is the holder of Facility Operating License No. NPR-68, which authorizes operation of the Vogtle Electric Generating Plant (VEGP), Unit 1. The license provides, among other things, that the licensee is subject to all rules, regulations, and orders of the Commission now or hereafter in effect.

The facility consists of a pressurized water reactor, VEGP Unit 1, at the licensee's site located near Waynesboro, Georgia.

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 (ILRTs), at approximately equal intervals during each 10-year service period of the primary containment. The third test of each set shall be conducted when the plant is shutdown for the 10-year inservice inspection of the primary containment.

III.

By letter dated May 12, 1995, as supplemented by letter dated June 6, 1995, the licensee requested temporary relief from the requirement to perform

a set of three Type A tests at approximately equal intervals during each 10-year service period of the primary containment. The requested exemption would permit a one-time interval extension of the third Type A test by approximately 18 months (from the March, 1996, refueling outage, to the September, 1997, refueling outage) and would permit the third Type A test of the second 10-year inservice inspection period to not correspond with the end of the current American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) inservice inspection interval.

The licensee's request cites the special circumstances of 10 CFR 50.12, paragraph (a)(2)(ii), (iii) and (vi) as the basis for the exemption. They point out that the existing Type B and C testing 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 experience at Vogtle Unit 1 during the three Type A tests (one preoperational and two during the first 10 year inservice inspection period) conducted from 1986 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, application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule.

Additionally, the licensee stated that their exemption request meets the requirements of 10 CFR 50.12 for the following reasons:

10 CFR 50.12 Requirements

In accordance with 10 CFR 50.12, the Commission may grant an exemption to the requirements of the regulations of 10 CFR 50 if the exemption is authorized by law, will not present an undue risk

to the public health and safety, is consistent with the common defense and security, and special circumstances are present.

The Requested Exemption is Authorized by Law

There is no known law that would be violated by the granting of the proposed exemption. 10 CFR 50.12 provides the basis for granting exemptions to the requirements of 10 CFR 50 regulations. The NRC has granted similar exemptions in the past. Therefore, the exemption is authorized by law.

The Requested Exemption Does Not Present an Undue Risk to the Public Health and Safety

10 CFR 50, Appendix J states that the purpose of the regulation is to assure that leakage through primary containment and systems and components penetrating containment does not exceed allowable values, as specified in the Technical Specifications or associated bases, and that proper maintenance and repair are performed throughout the service life of the containment boundary components. The ILRT history for VEGP, Unit 1 during the first 10 year service period inspection interval indicated that the containment structure has not experienced degradation. The NRC has conducted a detailed study of integrated leak rate tests performed from 1987 to 1993. That study, documented in draft NUREG-1493, determined that 97% of the leakage rate tests that exceed the acceptance criteria are identified by LLRT programs. The LLRT program at VEGP, Unit 1 has been successful in maintaining low Type B and C containment leakage. Since there has been no identified containment structural leakage, the LLRT program has contributed to the successful ILRTs. Therefore, as shown in the NRC study and as indicated by the VEGP, Unit 1 containment performance history, postponing the ILRT by one refueling cycle remains consistent with the intent of the regulation and will not present an undue risk to the public health and safety.

The Requested Exemption Will Not Endanger the Common Defense and Security

GPC interprets the term "common defense and security" as referring principally to the safeguarding of special nuclear material, the absence of foreign control over the applicant, and the protection of restricted data. The granting of the requested exemption will not affect any of those matters, and thus, the granting of the exemption is consistent with the common defense and security of the United States.

Special Circumstances are Present Which Necessitate the Request for an Exemption to the Regulations of 10 CFR 50, Appendix J, Section III.A.5(b)(2)

The special circumstances of 10 CFR 50.12(a)(2)(ii), (iii), and (vi) apply to this requested exemption.

50.12(a)(2)(ii) Application of the Regulation is Not Necessary to Achieve the Underlying Purpose of the Rule

The underlying purpose of 10 CFR 50, Appendix J will still be served if a third ILRT is not conducted during the first 10-year service period. Appendix J states that the leakage test requirements provide for periodic verification by tests of the leak tight integrity of the primary reactor containment. The Appendix further states that the purpose of the tests is to assure that leakage through the primary reactor containment shall not exceed the allowable leakage rate values as specified in the Technical Specifications or associated bases.

10 CFR 50, Appendix J, Section III.D.1(a) states that a set of three periodic tests shall be performed at approximately equal intervals during each 10-year period and that the third test shall be conducted when the plant is shutdown for the 10-year plant inservice inspections. The proposed exemption would permit delaying of the scheduled Type A test and permit performance of the Type A test after the completion of the first 10-year inservice inspection interval in accordance with the schedule to be provided in the proposed revision to Appendix J. The methodology, acceptance criteria, and Technical Specifications leakage limits for performance of the Type A test will not change.

The testing history, structural capability of the containment, and the risk assessment discussed previously establish that 1) VEGP, Unit 1 has had acceptable containment leakage rate test results, 2) the structural integrity of containment is assured, and 3) there is negligible risk impact in changing the Type A test schedule on a one-time basis.

Thus, there is significant assurance that the extended interval between Type A tests in concert with the Type B and C testing continue to provide periodic verification of the leak tight integrity of the containment.

10 CFR 50.12(a)(2)(iii) - Compliance with the Regulation Would Result in Undue Hardship or Other Costs that are Significantly in Excess of Those Contemplated When the Regulation was Adapted

Postponing the ILRT for VEGP, Unit 1 will eliminate unnecessary testing without any reduction in plant safety. The ILRT typically requires two-to-three days to perform, with the possibility of significant extended time requirements. Outage activities are severely impacted during the preparation period prior to the ILRT and during the performance of the ILRT. A cost savings can be realized by a reduction in outage time, eliminating the impact of the ILRT on other outage activities, and direct costs related to obtaining equipment and services necessary for performance of the ILRT. This proposed exemption could result in a total cost benefit of about $1,100,000, by eliminating one ILRT.

10 CFR 50.12(a)(2)(vi) - Presence of Material Circumstances not considered When the Regulation was Adopted

Certain material circumstances were not considered when the regulation was adopted. The benefit of time has provided experience and information that give a better perspective about containment integrity. Two important material circumstances are testing history and the development of probabilistic risk assessments (PRAs).

Since the promulgation of 10 CFR 50, Appendix J, in 1973, more than 20 years of nuclear power plant operating experience has been obtained. A review of industry data did not find any instances where a Type A test failed to meet Appendix J acceptance criteria as a result of a containment structural leak not due to initial fabrication or a plant modification. That operating history provides a significant indicator that containment structural integrity (passive structure) is not a significant safety concern.

Plant specific PRAs were not available in 1973, and therefore, were not considered when the regulation requiring compliance with Appendix J [10 CFR 50.54(o)] was adopted. Overall plant risk due to containment leakage is relatively small given the small probability of containment leakage itself. The predominant contributor to degraded containment integrity is the phenomenological effects of a severe accident, not pre-existing containment integrity conditions. An assessment of the risk impact in the exemption request indicates that there is no undue risk to the public health and safety as a result of the proposed scheduler extension of the Type A test.

There have been no modifications to the containment structure or liner that would impact the overall containment integrity and leak tightness.

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 a one-time interval extension for the Type A test by approximately 18 months. 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. Specifically, these circumstances are that application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The purpose of the tests is to assure that leakage through the primary reactor containment shall not exceed allowable leakage rate values. The staff has concluded, for the reasons set forth herein, that the purpose of the rule will continue to be achieved with the licensee's proposed exemption.

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 of the Type A tests have passed and 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 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, 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 a draft staff report, NUREG-1493, which provides the technical jusification 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 5 ILRT failures were found which local leakage rate testing could not detect. This is 3% of all failures. This study agrees well with previous NRC staff studies which show that Type B and C testing can detect a very large prcentage of containment leaks.

The Nuclear Management and Resources Council (NUMARC), now the Nuclear Energy Institute (NEI), collected and provided the NRC staff with summaries of data to asssist 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 leakage was found to be approximately $2L_a$; 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).

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 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 environment (60 FR 44514 ).

This Exemption is effective upon issuance and shall expire at the completion of the 1997 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 29th day of August 1995

This Exemption is effective upon issuance and shall expire at the completion of the 1997 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

**ORIGINAL SIGNED BY:**

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

Dated at Rockville, Maryland,
this 29th day of August 1995

* see previous concurrences

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