



MISSISSIPPI POWER & LIGHT COMPANY

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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

July 28, 1984

NUCLEAR LICENSING & SAFETY DEPARTMENT

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 & 50-417
License No. NPF-13
File: 0260/L-860.0
Request for Exemption to
10 CFR 50, Appendix J
(Containment Air Lock
Testing)
AECM-84/0411

At the issuance of the Low Power Operating License for Grand Gulf Nuclear Station Unit 1 (June 16, 1982), an implicit exemption to the provisions of 10CFR50, Appendix J, Section III.D.2.b(ii) was granted in the form of a footnote to Section 4.6.1.3.b.2 of Appendix A to the License.

As a result of recent discussions with the NRC staff, MP&L is now requesting, pursuant to 10 CFR 50.12(a), that this implicit exemption be made explicit. The attachment to this letter provides the requisite information in support of this exemption request. It should be noted that MP&L hereby requests a permanent exemption in this regard which would apply throughout the licensed operating lifetime of the facility.

Sincerely,

L. F. Dale
Director, Nuclear Licensing & Safety

LFD/sad
Attachment

cc: (See Next Page)

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MISSISSIPPI POWER & LIGHT COMPANY

cc: Mr. J. B. Richard (w/o)
Mr. R. B. McGehee (w/o)
Mr. N. S. Reynolds (w/o)
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung (w/a)
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. J. P. O'Reilly (w/a)
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W., Suite 2900
Atlanta, GA 30323

JUSTIFICATION FOR THE REQUIRED EXEMPTION

NRC regulations provide for specific exemptions in 10 CFR 50.12(a). The Commission has provided additional guidance regarding this regulation in an order in the Shoreham proceeding¹, as modified by Commission action on July 25, 1984.²

In view of the standards in 10 CFR 50.12(a) and the Commission's guidance regarding the issuance of exemptions, we may synthesize the circumstances in which the requested exemption is warranted as follows: (1) the activities to be conducted are authorized by law, (2) operation with the exemption does not endanger life or property because such would involve no undue risk to the health and safety of the public, (3) the common defense and security are not endangered, and (4) the exemption is in the public interest because, on balance, there is good cause for granting it (e.g., to avoid unnecessary delay and consequent financial hardship) and the public health and safety are adequately protected.

As demonstrated by the discussion herein MP&L is entitled to the requested exemptions.

I. The Requested Exemption and the Activities Which Would Be Allowed Thereunder Are Authorized by Law

MP&L is currently authorized to operate GGNS Unit I at low power (5% or less of full power) pursuant to License No. NPF-13, which was issued in accordance with the Atomic Energy Act as amended. GGNS Unit I has completed low power tests and, with the exception of the matters for which exemptions are sought, is

1 Order, Long Island Lighting company (Shoreham Nuclear Power Station, unit I), CLI-84-8, May 6, 1984.

2 Staff Requirements Memorandum MB40725A, July 27, 1984.

essentially ready to perform the surveillance tests prerequisite to, and to commence, power ascension.

If the criteria established in 10 CFR 50.12(a) are satisfied, as they are in this case, and if no other prohibition of law exists to preclude the activities which would be authorized by the requested exemption, and there is no such prohibition, then the Commission is authorized by law to grant this exemption request.³

II. The Requested Exemption Will not Endanger Life or Property

Paragraph III.D.2(b) of Appendix J to 10 CFR 50 details three explicit air lock testing requirements which are further required to be included in the Technical Specifications. With one exception, Technical Specifications 4.6.1.3 items a, b.1, and b.2 correspond to and comply with those Appendix J requirements.

Technical Specification 4.6.1.3.b.1 requires that containment air locks be demonstrated operable by conducting a leak test every 6 months when containment integrity is required by pressurizing the interior of the air lock to P_d (the calculated peak containment internal pressure under design basis accident conditions, 11.5 psig for GGNS) and verifying that the leakage rate is within its limit. This is in compliance with Appendix J requirement III.D.2(b)(i).

A further Appendix J requirement in paragraph III.D.2(b)(iii) to test airlocks within 3 days after being opened (or at least once every 3 days for openings more frequent than every 3 days) specifies that air lock seal tests satisfy the 3 day test requirements. Technical Specification 4.6.1.3.a corresponds to and complies with this portion of Appendix J.

3 See: U. S. vs. Allegheny-Ludlum Steel Corp., 406 U.S. 742, 755 (1972)

The portion of Appendix J to which the exception applies is paragraph III.D.2(b)(ii) which requires that "Air locks 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 P_a ." In lieu of this requirement, Technical Specification 4.6.1.3.b.2 requires that an overall air lock leakage test be conducted at P_a when maintenance has been performed on the air lock that could affect the air lock sealing capability. This Technical Specification contains a footnote stating that this requirement is an exemption to Appendix J of 10 CFR 50.

The existing air lock doors are so designed that a full pressure test at P_a of an entire air lock can only be performed after strong backs (structural bracing) have been installed on the inner door. This is due to the fact that the pressure exerted on the inner door during the test is in a direction opposite to that of force experienced during a postulated accident and the locking mechanisms are not designed to withstand such reverse forces associated with a pressure greater than 5 psig. Installing strong backs, performing the test, and removing the strong backs, is a cumbersome process requiring at least 12 hours per air lock (there are 2 air locks), during which access through the air lock is prohibited. The basic design of the Mark III containment permits frequent access in order to perform required surveillance and maintenance activities.

The periodic 6-month test of paragraph III.D.2(b)(i) of Appendix J and the 3-day test requirement of paragraph III.D.2(b)(iii) of Appendix J provide assurance that the air lock will not leak excessively just because it has been opened when containment integrity is not required if no maintenance which could affect the ability of the airlock to seal has been performed on the air lock and the air lock is properly engaged and sealed.

Furthermore, this exemption is included as a part of the Standard Technical Specifications (NUREG-0123) and is consistent with current regulatory practice and policy.

An exemption from paragraph III.D.2(b)(ii) of Appendix J, 10 CFR 50 is requested since this present Technical Specification is substantially as safe as the requirement itself and does not endanger life or property.

III. The Requested Exemptions Will Not Endanger the Common Defense and Security

The common defense and security are not implicated in this exemption request. Only the potential impact on public health and safety is at issue.

IV. The Requested Exemption is in the Public Interest

The requested exemption is in the public interest in that any delay in commencement of the power ascension program would cause a day-for-day delay in the attainment of commercial operation and since, as shown above, the health and safety of the public will be adequately protected.

Grand Gulf Unit I is physically complete in all essential respects and is ready for ascension to full power. Upon satisfactory completion of the power ascension program in accordance with the license and technical specifications, the facility will be placed in commercial operation. The requested exemption on air lock leakage testing has been recognized in numerous cases as well as in the Standard Technical Specifications (NUREG-0123) and explained by the NRC staff at the July 25 Commission meeting.

If literal compliance with the applicable provisions of Appendix J discussed in Section II above were mandated, either a cumbersome and unwarranted method must be used as described above or a major design change would be required in order to permit the inner door to withstand full containment pressure in the test direction without strong backs. The remaining Appendix J test requirements for containment airlock testing in conjunction with the current Technical Specification post-maintenance test requirement achieve substantial compliance with the purpose of the Appendix J requirements, which is to provide reasonable assurance that leakage will be detected.

If design changes were undertaken, a corresponding delay in commercial operation of Grand Gulf Unit I would be occasioned at this stage. Middle South Energy Inc., and South Mississippi Electric Power Association own undivided ownership interests of 90% and 10%, respectively, in Grand Gulf Nuclear Station Unit I. Any delay in the commercial operation of Grand Gulf Nuclear Station

Unit 1 would cause the cost of the unit to increase at the rate of more than \$20 million per month. Under standard ratemaking practices, these costs would eventually have to be borne by ratepayers of the affected utilities.

If full compliance with the Appendix J testing requirement is undertaken using the current design, then periodically over the remaining life of the plant, a cumbersome and lengthy (12 hours) test must be undertaken on one or both containment airlocks. The duration of these tests taken over the life of the plant during which the plant must be shutdown (since Appendix J requires the test at the end of each period during which containment integrity is not required and during which the air lock has been opened) is substantial. These tests would extend the duration of the outages by half a day or more several times a year. This would have a significant financial impact on the owners of Grand Gulf unit 1 and ultimately on the ratepayers as described above.

Either implementation of a full compliance test requirement with lost time over the life of the plant or a delay in commercial operation to implement a major design change has a substantial financial impact on the owners of Grand Gulf Nuclear Station Unit 1 and the customers of the utilities which will receive the output and is not warranted inasmuch as, as shown above, the public health and safety are adequately protected.