



MISSISSIPPI POWER & LIGHT COMPANY

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September 20, 1983

NUCLEAR PRODUCTION 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 and 50-417
License No. NPF-13
File 0260/L-860.0
Acceptable Test Method for Type
C Leakrate Testing
AECM-83/0592

In a recent review of testing procedures and results for containment isolation valve leakage testing, it was discovered that at least eighteen containment isolation valves were pneumatically tested to meet the requirements of 10CFR 50, Appendix J. In all cases the plant technical specifications called for the subject valves to be hydrostatically tested. Mississippi Power & Light (MP&L) considers that pneumatic testing is conservative in comparison to hydrostatic testing, for reasons discussed below, and requests your concurrence in this matter to facilitate final acceptance of the subject testing by the NRC Office of Inspection and Enforcement. This acceptance is required to permit the resumption of critical operations at Grand Gulf.

The relative conservatism of pneumatic testing is founded in the following points:

- 1) Only leakage detected in pneumatic testing is included in the reported local leakrate test totals.
- 2) Air, as a test medium, results in higher leakrates due to differences in viscosity.

Local leakrate testing is required by 10CFR 50, Appendix J. The combined leakage from all Type B and C testing, where a water seal is not preserved for 30 days following the design basis accident, must be less than 0.60 La, where La is the maximum allowable containment leakrate. Containment isolation valves, where a water seal meets 10CFR 50, Appendix J requirements, are generally hydrostatically tested, and the resulting leakage is not required to be included in the local leakrate totals. Any leakage from a valve which is pneumatically Type C

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tested, regardless of the penetration's capability to preserve a post accident water seal, is included in the local leakrate totals and must meet the Appendix J acceptance criterion of 0.60 La. The exclusion from the combined local leakrate of hydrostatically tested valves is consistent with the plant technical specifications (Reference: Specification 3.6.1.2, ACTION Statement "b").

Therefore, should containment isolation valves be pneumatically tested where hydrostatic testing is required as a minimum (i.e. hydrostatic testing specified in the plant technical specifications), the combined leakrate from Type B and C testing would be conservatively increased. Penetrations normally excluded from leakrate totals would be reviewed against the 10CFR 50, Appendix J acceptance criterion. It should be noted that the acceptance criterion for those valves which are hydrostatically tested is provided in Specification 3.6.1.2. As directed in that specification, the combined leakrate from hydrostatically tested valves shall not exceed 1 gpm, on the average.

Also, as mentioned earlier, the viscosity of air is significantly less than that of water under similar conditions. Due to this characteristic, the volumetric leakrate measured with air as the medium will be significantly larger than with water as the medium, using the same test pressure. With greater leakage expected from the use of an air medium, MP&L considers that pneumatic testing represents a more stringent test on valve leaktightness.

In conclusion, for reasons given above, MP&L requests your concurrence in establishing pneumatic testing as an acceptable, conservative alternative to hydrostatic testing.

As a point of clarification, the information presented here is considered to be consistent with recent discussions held with Containment System Branch (CSB) personnel in regard to the defense of hydrostatic testing of certain containment isolation valves on an interim basis. MP&L's commitments to the NRC, as documented in MP&L letter AECM-83/0540, dated September 12, 1983, to pneumatically test certain valves the next time leak testing is required to be conducted remains unchanged. Those commitments stem from CSB concerns that under certain conditions the preservation of a water seal cannot always be defended and consistent with the latest CSB guidance and 10CFR 50, Appendix J, the more conservative testing method should be employed, i.e., pneumatic testing.

Your review and concurrence is requested as soon as possible in that this issue must be resolved prior to next criticality.

Yours truly,

Sam H. Hobbs
for L. F. Dale
Manager of Nuclear Services

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cc: (See Next Page)

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MISSISSIPPI POWER & LIGHT COMPANY

cc: Mr. J. B. Richard
Mr. R. B. McGehee
Mr. T. B. Conner
Mr. G. B. Taylor

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