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J. B. RICHARD  
SENIOR VICE PRESIDENT - NUCLEAR

June 21, 1984

U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N.W.  
Suite 2900  
Atlanta, Georgia 30323

Attention: Mr. J. P. O'Reilly, Regional Administrator

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station  
Units 1 and 2  
Docket No. 50-416/417  
License No. NPF-13  
File 0260/15525/15526/16694.4  
PRD-84/08, Final Report for Unit  
1 and 2, Containment & Drywell  
Personnel Air Lock Seismic  
Qualification  
AECM-84/0337

- References: (1) AECM-84/0237, 4/20/84  
(2) AECM-84/2-0010, 6/8/84

On April 16, 1984, Mississippi Power & Light Company (MP&L) notified Mr. R. Carroll, of your office, of a Reportable Deficiency at the Grand Gulf Nuclear Station (GGNS) Unit 1. The deficiency concerned a failure of the vendor, W. J. Woolley Co., to seismically qualify the containment personnel air lock pneumatic supply system. A Final 10CFR Part 21 Report (per reference 1) was submitted on April 20, 1984, for Unit 1.

On May 11, 1984, MP&L notified Mr. C. Julian, of your office, concerning reportability of the containment personnel air lock pneumatic supply system under 10CFR50.55(e) for Unit 2 and stated that the drywell personnel air lock pneumatic supply system was potentially reportable under 10CFR50.55(e) for Unit 2. An Interim Report (per reference 2) was submitted on June 8, 1984.

On June 19, 1984, MP&L again notified Mr. C. Julian concerning reportability of the drywell personnel air lock pneumatic supply system. Reference 2 indicated MP&L was continuing to investigate the reportability of the drywell personnel air lock pneumatic supply system for both units. We have determined that the drywell personnel air lock pneumatic supply system is reportable for Unit 1 under the provisions of 10CFR Part 21 and for Unit 2 under the provisions of 10CFR50.55(e).

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Mr. J. P. O'Reilly  
NRC

AECM-84/0337  
Page 2

Attached is our Final Report for the Unit 1 drywell personnel air lock pneumatic supply system and for the Unit 2 containment and drywell personnel air lock pneumatic supply systems.

Yours truly,



For J. B. Richard

RDC  
RDC:dr  
ATTACHMENT

cc: Mr. R. B. McGehee  
Mr. Nicholas S. Reynolds, Esq.  
Bishop, Liberman, Cook, Purcell & Reynolds  
1200 Seventeenth Street, N. W.  
Suite 700  
Washington, D. C. 20036

Mr. Richard C. DeYoung, Director  
Office of Inspection & Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. G. B. Taylor  
South Miss. Electric Power Association  
P. O. Box 1589  
Hattiesburg, MS 39401

FINAL REPORT FOR PRD-84/08

1. Name and address of the individual ... informing the commission:

J. B. Richard  
Senior Vice-President, Nuclear  
P.O. Box 23054  
Jackson, Mississippi 39205

2. Identification of the facility ... which ... contains a deficiency:

Grand Gulf Nuclear Station (GGNS) Units 1 and 2  
Port Gibson, Mississippi 39150

Containment personnel air lock pneumatic supply system is reportable under 10CFR Part 21 for Unit 1. Final Report submitted per AECM-84/0237.

Drywell personnel air lock pneumatic supply system is reportable under 10CFR Part 21 for Unit 1. Final Report submitted per AECM-84/0337.

Containment and Drywell personnel air lock pneumatic supply systems are reportable only under 10CFR50.55(e) for Unit 2. Interim Report submitted per AECM-84/2-0010 and Final Report submitted per AECM-84/0337.

3. Identification of the firm ... supplying the basic component which ... contains a deficiency:

The personnel air locks were fabricated by the W. J. Woolley Company, Oakbrook, Illinois, and supplied to Grand Gulf by Bechtel Power Corporation, Gaithersburg, Maryland.

4. Nature of the deficiency ... and the safety hazard which ... could be created by such a deficiency ...:

A. Description of the Deficiency

The containment and drywell personnel air locks consist of a cylindrical steel shell with steel bulkheads at each end, with one steel door in each bulkhead. Sealing of the doors is accomplished by two continuous inflatable seals which surround each door edge. When the door is closed, the air lock pneumatic supply system provides air to the seals, two seals on each door are inflated outwardly from the door. The seals impinge against a smooth stainless steel sealing surface. The pneumatic supply system also actuates the latching mechanism for the doors.

The air lock and its associated components were to be seismically qualified by the supplier per GGNS Purchase Specification 9645-C-153.0. However, it has been determined that the personnel air locks pneumatic supply system (tubing, supports, and instrumentation) between the check valve upstream of the accumulators and the seals had not been seismically qualified.

B. Analysis of Safety Implications

Failure of any component in the pneumatic supply system between the check valve upstream of the accumulators and the seals, as a result of a seismic event, could result in deflation of the containment and drywell air lock seals due to loss of air through the failed components. For the containment air locks, deflation of all seals could result in loss of the containment boundary integrity.

For the drywell air lock, it is postulated that should failure of all four of the drywell air lock pneumatic supply systems occur coincident with a seismic event and a drywell LOCA, the possibility for the drywell bypass leakage to exceed its design value exists, and therefore, the potential exists for the primary containment integrity to be violated.

5. The date on which the information of such deficiency ... was obtained.

Bechtel informed MP&L on April 5, 1984, of the unqualified pneumatic air supply systems for the personnel air locks. An evaluation of the containment personnel air locks determined that this deficiency was reportable under 10CFR Part 21 for Unit 1. This information was reported to Mr. R. Carroll, of your office, on April 16, 1984. Further evaluation showed that the deficiency concerning the containment personnel air locks was reportable under 10CFR50.55(e) for Unit 2. This was reported to Mr. C. Julian, of your office, on May 11, 1984.

An evaluation of the drywell personnel air locks determined that these were reportable under 10CFR Part 21 for Unit 1 and 10CFR50.55(e) for Unit 2. This information was given to Mr. C. Julian, of your office, on June 19, 1984.

The MP&L "Responsible Officer," at the time of the determination of reportability of the containment air lock seals, Mr. J. P. McGaughey, Jr., has been notified. The present MP&L "Responsible Officer," Mr. J. B. Richard, will be notified of the reportability of the drywell air lock seals when he returns to his office.

6. In the case of the basic component ... the number and location of all such components.

GGNS Units 1 and 2 have two containment personnel air locks and one drywell personnel air lock each. We do not have knowledge of the location of defective equipment located other than GGNS.

7. The corrective action which has been taken ... the name of the individual ... responsible for the action; and the length of time that has been ... taken to complete the action.

A. Corrective Actions Taken

For Unit 1, MNCR 00380-84 and MNCR 00381-84 were generated documenting the containment and drywell personnel air lock pneumatic supply system nonconformances. The corrective actions were specified in DCP 84/4506 for the containment air locks and DCP 84/4507 for the drywell air lock.

The actions that have been taken are:

- 1) Seismically support the pneumatic system from the inflatable seals to the check valves upstream of the accumulators.
- 2) Replace existing tubing with heavier wall tubing.
- 3) Replace unqualified components (valves and instruments) with qualified components.
- 4) Perform air test of pneumatic supply system modifications.

Unit 2 corrective actions will be the same as for Unit 1 and are being tracked by Bechtel QAR-F-486 for the drywell personnel air lock pneumatic supply system and MCAR-153 for the containment personnel air lock pneumatic supply system.

B. Responsible Individual

J. B. Richard  
Senior Vice President, Nuclear  
Grand Gulf Nuclear Station  
Mississippi Power & Light Company

C. Length of Time to Complete Actions

All corrective actions on DCP-84/4506 and DCP-84/4507 for the containment and drywell personnel air lock pneumatic supply system have been completed for Unit 1. Unit 2 corrective actions for both the containment and drywell personnel air lock pneumatic supply systems are scheduled to be completed prior to Unit 2 fuel load.

8. Any advice related to the deficiency ... that has been, is being, or will be given to purchasers or licensees:

As the deficiency did not originate with MP&L, we have no advice to offer.