



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

April 15 1982 . 07

JAMES P. McGAUGHY, JR.  
ASSISTANT VICE PRESIDENT

Office of Inspection & Enforcement  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N.W.  
Suite 3100  
Atlanta, Georgia 30303



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

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station  
Units 1 and 2  
Docket Nos. 50-416/417  
File 0260/15525/15526  
PRD-82/10, Final Report, HCU  
Mounting Bolt Discrepancy  
AECM-82/126

On March 3, 1982, Mississippi Power & Light Company notified Mr. A. Hardin, of your office, of a Potentially Reportable Deficiency (PRD) at the Grand Gulf Nuclear Station (GGNS) construction site. The deficiency concerns a discrepancy in the installation of the Hydraulic Control Unit mounting bolts.

We have determined that this deficiency, had it remained uncorrected, could have affected the safety of operations of the nuclear power plant and is reportable under the provisions of 10CFR50.55(e). Since the deficiency did not involve a received component, it is not reportable under 10CFR21.

All details are included in our attached Final Report.

Yours truly,

for J. P. McGaughey, Jr.

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ATTACHMENT

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Mr. J. P. O'Reilly  
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AECM-82/126  
Page 2

cc: Mr. N. L. Stampley  
Mr. R. B. McGehee  
Mr. T. B. Conner

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 82/10

I. Description of the Deficiency

Forty-five (45) Hydraulic Control Units (HCU's) were identified that had one or more of the bolts used to mount the HCU's to the horizontal I beams for seismic support not installed as required. The deficiency affects the Control Rod Drive Hydraulic System (CRD) in Unit 1. It does not apply to Unit 2.

The deficiency was originally caused when the holes were drilled in the support steel before the HCU modules were onsite. The holes were drilled based on the drawing dimensions and did not take into account the as-built condition of the floor with its variation in elevation. When the HCU's were to be installed, the bolt holes in the HCU's did not match the holes in the support steel in every case. In some instances the holes were too close to the web of the beam to allow installation of the bolt and nut.

The problem was first identified in 1978 by RCI on their QC Hold No. 15-41 for three (3) HCU modules which were installed with only two (2) bolts rather than four (4) on the upper support steel. This QC Hold was dispositioned by RCI in 1978 to "use-as-is".

During an audit of RCI by Bechtel Power Corporation in September, 1980, an audit finding was issued documenting that there was no objective evidence of an engineering analysis having been performed prior to the dispositioning of QC Hold No. 15-41 to "use-as-is". This was contrary to a requirement for the RCI Quality Assurance Manager to consult with engineering and other interested parties prior to approving a disposition.

In answer to the audit finding, RCI stated that their report could not be found, but that their file still had all the data for the analysis. The report was rewritten and submitted to Bechtel and General Electric, the designer of the HCU's, for approval. At this point, in September, 1981, GE stated that the installed condition was not sufficient to provide adequate support.

RCI then undertook a 100% re-inspection of all the HCU's to identify any with missing bolts. This re-inspection was documented on QC Hold No. 105-41 and identified the forty five (45) HCU's with one or more missing bolts.

## II. Analysis of Safety Implications

General Electric has evaluated this deficiency and has determined that had it gone uncorrected it could have resulted in the reactor vessel pressure exceeding the design basis because of a longer scram time if accumulator pressure is prevented from reaching a control rod drive by a crimped or broken hydraulic line which was caused by motion of the HCU due to a force such as from seismic motion. Therefore, this deficiency could affect the safety of operations of the nuclear power plant and is reportable under the provisions of 10CFR50.55(e)(iii).

Since the condition existed due to the lack of a formal submittal of RCI's analysis to Bechtel and GE, which was contrary to a requirement of the RCI QA program, this also represents a significant breakdown in the quality assurance program and is reportable under the provisions of 10CFR50.55(e)(i).

## III. Corrective Actions Taken

To correct the identified deficiencies RCI submitted Supplier Deviation Disposition Request (SDDR) No. M-316.0-016 to Bechtel with the recommendation to weld the HCU to the support steel where the bolts are missing. Bechtel developed an acceptable weld detail which would give the needed support to the HCU's and co-ordinated it with GE. GE then issued Field Deviation Disposition Request (FDDR) JBI-471 which approved welding in those cases where it was physically impossible to install the bolts. In some cases it was possible to mate the bolt holes and install the bolts as originally designed. All of the work has been completed and RCI's QC Hold has been closed.

Since the modules for Unit 2 installation are already on site, they will be used to locate the proper placement for the bolt holes in the support steel.

All RCI holds that have been dispositioned for repair or use-as-is have been submitted to Bechtel for approval and RCI will continue to submit all future QC Holds of this nature. This will ensure that the QA program is being applied as required.