



# MISSISSIPPI POWER & LIGHT COMPANY

*Helping Build Mississippi*

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JAMES P. McGAUGHY, JR.  
ASSISTANT VICE PRESIDENT

SEP 21 1981  
September 16, 1981

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, Director

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station  
Units 1 and 2  
Docket Nos. 50-416/417  
File 0260/15525/15526  
PRD-80/43, Final Report  
Undersized Socket Welds  
AECM-81/323

References: 1) PRD-80/43  
a) AECM-81/58, 2/4/81  
b) AECM-80/190, 8/15/80  
2) IE Inspection 50-416/80-13  
a) AECM-80/201, 8/29/80

On July 18, 1980, Mississippi Power & Light Company notified Mr. F. Cantrell, of your office, of a Potentially Reportable Deficiency (PRD) at the Grand Gulf Nuclear Station (GGNS) construction site. The deficiency concerns ASME III socket welds which were identified during IE Inspection 50-416/80-13.

Our investigation has shown that this deficiency is generic in nature and is reportable under 10CFR50.55(e). It is not reportable under 10CFR21 as explained in the attached final report.

Yours truly,

for J. P. McGaughy, Jr.

KDS:dr  
ATTACHMENT

cc: See page 2

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Mr. J. P. O'Reilly  
NRC

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cc: Mr. N. L. Stampley  
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FINAL REPORT FOR PRD-80/43

I. Description of the Deficiency

A generic problem with the leg size of installed fillet and socket welds was discovered on the GGNS jobsite. It affects all piping systems, supports, and structural steel installations previously installed in both Unit 1 and Unit 2.

This deficiency does not affect the NSSS vendor.

II. Analysis of Safety Implication

To determine the extent of the condition, our Constructor initiated an investigation. A total of five hundred thirteen (513) socket welds were reinspected. Fifty three (53) of these welds were identified as being in noncompliance with the applicable ASME Code. Evaluation by our Architect/Engineer showed that although the welds in question were in noncompliance to the ASME code minimum size criteria, all welds were structurally adequate. Although failure of the welds in the original sample would not have adversely affected the safety of operations of the nuclear power plant, the deficiency is reportable under 10CFR50.55(e) since an extensive evaluation would be required to establish the adequacy of all the welds to perform their intended safety function.

In the course of our investigation it was decided that structural welds should be considered also. A random selection of typical structural fillet welds was evaluated. No unacceptable conditions were found.

The deficiency is not reportable under 10CFR21 because the affected components had not been turned over to MP&L.

III. Corrective Actions Taken

The cause of the deficiency was the utilization by our Constructor of the practice of visually inspecting fillet welds and measuring with a fillet gauge at several points along the length of the weld and where the weld size appeared to be borderline.

The deficiency is generic and affects all piping systems, supports, and structural steel installations.

All accessible Q ASME III socket welds which had been accepted by our Constructor prior to August 11, 1980, were reinspected. Those which did not pass the inspection were dispositioned to be used "as is" or were reworked as necessary. All rework on Unit 1 has been completed. Work on Unit 2 will be completed prior to fuel load.

Several hundred of the welds in question were inaccessible and could not be reinspected. These welds were embedded in concrete, were inside piping or other equipment, or were underground. All of these welds were dispositioned to be used "as is" because of known external design loading or because they had previously passed hydro tests.

To preclude recurrence of the deficiency our Constructor issued the welders a chart which identifies the minimum fillet weld sizes for sockets and flanges. All active pipefitter welders have been instructed regarding the minimum requirements for fillet weld sizes for sockets and flanges. Our Constructor also issued Information Bulletin W-038 to all active pipefitter welders. Each person signed a signature sheet signifying they had read and understood the contents of this bulletin. This training was conducted by Welding Engineering.

Information Bulletin W-038 will be incorporated into Revision 2 of Construction Work Plan Procedure WP/P-28, Appendix B. For the interim, change request No. 248 to WP/P-28, Revision 1, was generated to incorporate W-038.

All welders currently working for our Constructor who weld on safety-related equipment and structures, were issued a fillet weld gauge and instructed in its proper use. Our Constructor's welding Quality Control (QC) engineers have been reinstructed regarding minimum fillet sizes for sockets and flanges and proper use of fillet weld gauges. There is increased monitoring of in-process socket welding by our Constructor's QC engineers. This will allow QC to detect and possibly prevent any potential problem which may occur. The welding Quality Control engineers will be readily available to assist welders regarding minimum fillet sizes and proper use of fillet gages.