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United States Nuclear Regulatory Commission
Region I
631 Park Avenue
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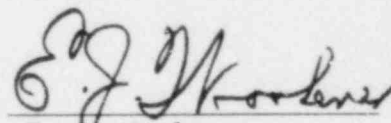
ATTENTION: Mr. R. Haynes, Administrator

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Linear Indications in Gib Gusset Welds in Reactor Vessel
Structural Support (Neutron Shield Tank)
Significant Deficiency Report No. 80-03

Gentlemen:

Pursuant to the requirements of 10CFR50.55(e), the "Final Report on Linear Indications in Gib Gusset Welds in Reactor Vessel Structural Support (Neutron Shield Tank)" is attached for your review. If you have any questions concerning this report, we are available to meet with the USNRC personnel at their convenience.

Duquesne Light Company

By 
E. J. Woolever
Vice President

Enclosure

cc: Mr. D. Young, Director (15)
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FINAL REPORT
ON
LINEAR INDICATIONS IN GIB GUSSET WELDS IN REACTOR VESSEL
STRUCTURAL SUPPORT (NEUTRON SHIELD TANK)
AT
BEAVER VALLEY POWER STATION - UNIT NO. 2

1.0 SUMMARY

A linear indication was found by magnetic particle (MP) examination of a weld connecting a gib gusset to the Reactor Vessel Support Structure (RVSS) top plate. The indication was partially excavated and the defect was found to be extensive in that weld. MP examination of other similar welds revealed additional linear indications. The initial indication was further investigated, the results were evaluated, and notification of a potentially reportable deficiency was made to the NRC Region I on July 17, 1980, under the provisions of 10CFR50.55(e). Metallographic analyses of weld samples were made and an extensive reinspection of the RVSS was made. The extent of weld deficiencies was found to be limited to the top plate of the RVSS.

A program was developed for replacement of all gibs and gib gussets (See Interim Report No. 2 dated November 3, 1980 on this subject), and a heavy weldment fabricator, Babcock & Wilcox, Mt. Vernon, Indiana, was selected (See Interim Report No. 3 dated December 12, 1980) to replace all the gibs and gib gussets at their site in accordance with the aforementioned replacement program.

All existing deficiencies have been eliminated and the RVSS has been returned to Beaver Valley Power Station Unit No. 2 site and is in place in the Reactor Containment.

2.0 ACTION TAKEN

A heavy weldment fabricator (Babcock & Wilcox, Mt. Vernon, Indiana) was selected to replace all the gibs and gib gussets in accordance with the repair procedure submitted in Interim Report No. 2. A nondestructive examination program was performed to inspect all the welds on the RVSS.

The defective gibs and gib gussets, located on the top portion of the RVSS, have been totally replaced. In addition, a complete reinspection of all the welds on the RVSS was performed, and as a result of the weld reinspection program, all the weld deficiencies identified were addressed. The majority of the excavations were minor (approximately 1/16 in. in depth) and required only blend grinding. A limited number of weld excavations required weld repair with subsequent non-destructive examination.

3.0 DESCRIPTION OF DEFICIENCY

A complete description of the deficiency has been provided in the Interim Report dated August 14, 1980 and is further supplemented by Interim Report No. 2 dated November 3, 1980.

4.0 SAFETY IMPLICATIONS

If deficiencies described herein had been left uncorrected, the structural integrity of the RVSS could be reduced and it may have been unable to satisfy design conditions.

The replacement of all the gibs/gussets and the weld repair of all significant weld deficiencies has restored the RVSS to an acceptable level of structural integrity to satisfy all design conditions.

5.0 CORRECTIVE ACTION

All corrective actions described in the Interim Reports have been completed and no further corrective action is required.

6.0 ADDITIONAL REPORT

The issuance of this final report closes out all the weld discrepancies reported under Significant Deficiency Report Nos. 80-03.

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