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TENNESSEE VALLEY AUTHORITY REGION II

CHATTANOOGA, TENNESSEE 37401

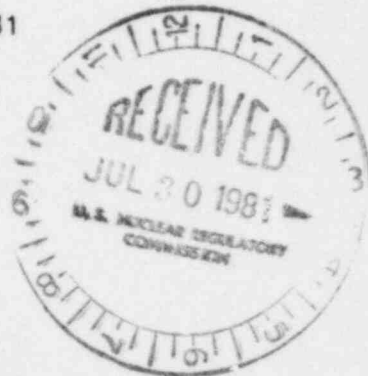
400 Chestnut Street Tower II

PBRD-50-553/81-05

81-004-03L✓

February 13, 1981

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303



Dear Mr. O'Reilly:

PHIPPS BEND NUCLEAR PLANT UNIT 1 - BASE METAL CRACK IN DRYWELL VENT
STRUCTURE - PBRD-50-553/81-05

The subject deficiency was initially reported to NRC-OIE, Region II, Inspector F. S. Cantrell on January 14, 1981, as NCR PBNP-166. In compliance with paragraph 50.55(e) of 10 CFR 50, we are enclosing the final report on this deficiency.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

cc: Mr. Victor Stello, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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ENCLOSURE
PHIPPS BEND NUCLEAR PLANT UNIT 1
BASE METAL CRACK IN DRYWELL VENT STRUCTURE
PBRD-50-553/81-05
REPORT NO. 1 (FINAL)

On January 14, 1981, TVA informed NRC-OIE, Region II, Inspector F. S. Cantrell, of a potentially reportable condition under 10CFR50.55(e) regarding a base metal crack in the drywell vent structure. This is the final report on this deficiency.

Description of Deficiency

During installation of the unit 1 drywell vent structure, a crack was discovered in segment DS-17 (plate mark number 12-1-2) which is shown on GE/C. F. Braun drawing S-046. The crack originated at the weld prep of TVA weld NO. DWVS00037A and propagated into the base metal (see attached sketch). The fracture exhibits no evidence of plastic deformation or thinning of the adjacent base metal. It is suspected that the fracture resulted from transient stresses in the structure caused by rapid lowering of the ambient temperature. The nature of the fracture is indicative of material with low notch toughness at the prevailing ambient temperatures.

Safety Implications

A crack in the drywell vent structure could lead to a degradation of its structural integrity to the point that it might not be capable of performing its intended function. Therefore, this condition could have adversely affected plant safety.

Corrective Action

The cracked area will be cut out and replaced with a plate which will be welded in accordance with Detail Weld Procedure SM-U-1B. All welds will be inspected per original specifications and all butt welds will be inspected per AWS D1.1, Section 9.25, requirements. This repair will be completed by February 28, 1981.

TVA has erected a temporary enclosure which consists of a plastic sheet draped over the drywell vent structure and has installed heating sources within this enclosure in order to reduce the effects of environmental changes.

ATTACHMENT

Nuclear Project:	NONCONFORMING CONDITION REPORT CONTINUATION PAGE	PBRD-50-553/81-05
Item No.	Remarks	

Approx to A2.
EL. 7

2'-8"

2" max into basemetal

weld deposit edge
weld prep. edge

E of weld deposit
TVA Weld # DWVS 00037A

MK 13-1
DS 17

MK 12-1
DS 16

SKETCH

R.J. O.R. 101-05-24

Mark Mallett
1-13-81