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400 Chestnut Street Tower II

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December 4, 1980

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

Deer Hr. O'Reilly:

HARTSVILLE NUCLEAR PLANT - REPORTABLE DEFICIENCY - INADEQUATE WEDGE BOLT EXPANSION ANCHORS BY RAWLPLUG (NCR HTN CDB 8002)

Initial notification of the subject deficiency was made to NRC-OIE, Region II, Inspector R. W. Wright on November 6, 1980. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the first interim report on the subject deficiency. We consider 10 CFR Part 31 applicable to this nonconformance. TVA anticipates transmitting the first report on or before March 25, 1981. If you have any questions regarding this matter, please call Jin Domer at FTS 857-2014.

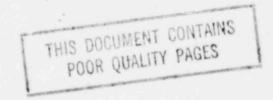
Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager Nuclear Regulation and Safety

Enclosure

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



## ENCLOSURE

## PARTSVILLE RUCLEAR PLANT INADEQUATE WEDGE BOLT EMPARSION ANCHORS BY RAWLPLUG 10CFR. 10.55(6) FEPORT NO. (ENTERIM) NCR HTHODESOO2

On November b, 1980, TVA Throwned NAC-UTE, Region II, Inspector h. w. Wright, of a potentially reportable condition under 10 CFR Part 50.55(e)
regarding inadequate wedge bolt expansion anchors supplied by the
Rawlplug Company, Incorporated, New Fochelle, New York, for use at the
Hartsville Nuclear Plant. This is the first interim report on the
subject reportable condition. The final report will be submitted on
or before March 25, 1981.

## Description of Deficiency

TVA General Construction Specification No. G-52 for Bolt Anchors Set in Hardened Concrete requires qualification tests to be performed on wedge tolt expansion anchors (hereinafter referred to as anchors) before their initial use. The qualification tests on Rawl-Stud anchors manufactured by the Rawlplug Company were performed in " 1978. The test results were acceptable, and the anchors were qualified. In recent qualification tests for another brand of anchors, all sizes of Rawl-Stud anchors were al. o tested for comparison with another brand. All sizes of Rawl-Stud anchors exceeded the qualification requirements except the one-inch, which developed only 75 percent of the required ultimate tensile capacity. Followsp tests in implace concrete were also unacceptable. Further investigation indicates that at some time since initial qualification, the manufacturer has hade a design change to the wedging device on the anchor or the manufacturer's quality system is inadequate. These anchors are used to install safety-related, surface-mounted plates throughout the plant.

## Interim Progress

Preliminary investigation indicates that the designer for STRIDE structures used a significantly lower allowable load for these anchors than the allowable load used to set the qualification load requirement in Specification G-32. The anchors installed in STRIDE structures apparently have an adequate factor of safety. TVA will verify the preliminary findings with the designer for STRIDE.

The design loads for the subject one-inch anchors will be reduced for their uses in TVA designs. Preliminary investigations indicate that few, if any, of the case-inch anchors have been installed in TVA-designed safety-related structures. TVA will review the designs utilizing the one-inch wadge bolt expansion anchors and will locate all of those already installed in TVA-designed safety-related structures.

Tennessee .		
PART 21 IDENTIFICATION NO		PANY NAME Dolley Curthonty
DATE OF LETTER 124160 DOCKET NO. 50-518		
DATE DISTRIBUTED 12/11/60 a.m. ORIGINAL REPORT & SUPPLEMENTARY		
DISTRIBUTION:		
REACTOR (R)	FUEL CYCLE &	SAFEGUARDS (S)
IE FILES	MATERIALS (M)	IE FILES
EES	IE FILES	AD/SG
	AD/FR'SI	AD/ROI
REGIONS I, II, III, IV, V	REGIONS I, II, III, IV, V	REGIONS I, II, III, IV, V
VENDOR BR. R-IV	VENDOR BR. R-IV	VENDOR BR. RIV
LOEB / MPA MNB 5715	NYSS / FOMS SS-396	NRR/DOL
AEOD MNB 7602	LOEB / MPA M.B 5715	NMSS / SG SS-881
NRR/DOE	AEOD MNB 7602	LOEB / MPA MB 5715
NRR/DSI	ASLBP E/N 450	AEOD MVB 7602
NRR/DST	SAP/SP. MB-7210A	ASLBP E/W 450
NRR/DOL	CENTRAL FILES 016	CENTRAL FILES 016
ASLBP E/W 450	CENTRAL FILES (CHRON)	CENTRAL FILES (CHRON)
CENTRAL FILES 016	PDR	CENTRAL FILES SS-395
CENTRAL FILES (CHRON)	LPDR	PDR
PDR	TERA	LPDR
LPDR		TERA
TERA		
ACTION: 2		
PRELIMINARY EVALUATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR		
FOLLOWUP AS SHOWN BELOW:		
IE X 8	. NRR	NMSS OTHER
EES		

PEV. 8/1/80 9/17/80