TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
500 Chestnut Street Tower II

83 SEP 26 A8:50

September 23, 1983

WBRD-50-390/83-55
WBRD-50-391/83-52
BLRD-50-438/83-46
BLRD-50-439/83-41

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR AND BELLEFONTE NUCLEAR PLANTS UNITS 1 AND 2 - CALCULATION OF SUPPORT DESIGN LOADS IN TRIPE - WBRD-50-390/83-55, WBRD-50-391/83-52, BLRD-50-438/83-46, BLRD-50-439/83-41 - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector P. E. Fredrickson on July 14, 1983 in accordance with 10 CFR 50.55(e) as NCR GEN CEB 8304. Enclosed is our first interim report. We expect to submit our next report on or about December 20, 1983.

NRC-OIE Inspector P. E. Fredrickson was notified on July 14, 1983 concerning the submittal date for the subject deficiency. Initially this deficiency was intended to be combined with NCR GEN CEB 8303 (BLRD-50-438,439/83-33,29 and WBRD-50-390,391/83-29). We are now submitting a separate report for this deficiency.

If you have any questions, please get in touch with B. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

8310030436 830923
PDR ADOCK 05000390
S PDR

Enclosure
cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center (Enclosure)
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

IE 27

ENCLOSURE

WATTS BAR AND BELLEFONTE NUCLEAR PLANTS UNITS 1 AND 2

CALCULATION OF SUPPORT DESIGN LOADS IN TRIPE

NUR GEN CER 8304

WBRD-50-390/83-55, WBRD-50-391/83-52

BLRD-50-438/83-46, BLRD-50-439/83-41

10 CFR 50.55(e)

FIRST INTERIM REPORT

Description of Deficiency

TRIPE does not calculate support design loads correctly in the special post-processor when more than one primary sustained load case (load group 1) is used in the normal condition. More than one primary sustained load is considered when the analysis requires evaluation of preloading of springs, bellows pressure loading and/or cold springing. The TRIPE special post-processor was not designed to process more than one primary stress load case in the normal condition. It will, however, incorrectly process more than one primary load case in the normal condition. Loads incorrectly processed as two or more normal primary stress load cases will correctly compute stresses, but support loads are not combined correctly. Special analyses such as cold spring, bellows loads, and preloaded springs were incorrectly combined with dead loads as normal condition primary stress load cases. Pipe stresses were calculated correctly. However, support loads may have been combined unconservatively.

Interim Progress

A procedure has been developed which will allow the analyst to recompute by hand the design loads for supports near localized phenomena such as cold spring, preload, and bellows load. Loads will be extracted from previously analyzed problems and recombined by the analyst. Analysts will be provided with written instruction for handling specialized load cases such as bellows loads, preloading of springs, and/or cold springing.