

ENCLOSURE

YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2
IMPROPER DOCUMENTATION AND UTILIZATION
OF COMPUTER PROGRAM "INERTIA"
NCR YCN CEB 8004 (FORMERLY NCR CEB 80-17)
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

Improper documentation and utilization of the TVA computer program "INERTIA" have resulted in incorrect shear-related, cross-sectional property calculations for the control building. The computer program incorrectly calculates the eccentricity of open sections.

The dynamic structural response calculations used for the building structural member and anchor rod designs have been determined to be nonconservative. The instructure response spectra are also affected.

During the investigation of the applicability of this problem to Watts Bar, Bellefonte, Hartsville, and Phipps Bend Nuclear Plants, it was discovered that "INERTIA" is used as a subroutine in the computer program "BIGDYNA." "BIGDYNA" is a structural analysis program that calculates the modal frequency and mode shape of a structure and determines structural response to dynamic loads by the modal superposition method.

Interim Progress

It has been determined that the "BIGDYNA" computer program was properly utilized for Browns Ferry and Sequoyah Nuclear Plants. TVA is investigating the applicability of this problem to Watts Bar, Hartsville, Phipps Bend, and Bellefonte Nuclear Plants.

Future reports on TVA investigation into the applicablity of "BIGDYNA" will be included in the reports on "INERTIA."