ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
POTENTIAL EXCESSIVE WATER HAMMER
FORCES IN THE MAIN FEEDWATER SYSTEM
NCR MEB 79-7
FIRST INTERIM REPORT

Description of Deficiency

Westinghouse informed TVA of the potential for excessively high water hammer forces associated with the main feedwater line check valves. This deficiency involves excessively high water hammer forces generated by slamming of the three main feedwater line check valves as a result of a postulated pipe rupture in the other main feedwater line. The water hammer forces caused by slamming of the three check valves might be high enough to adversely affect the integrity of those three check valves and hence lead to a multiple steam generator blowdown.

The failure of TVA to evaluate in detail at the design stage the capability of the main feedwater check valves to absorb the water hammer forces associated with closure of those valves following a postulated break in one leg of the main feedwater system piping resulted in this deficiency.

Corrective Actions

TVA is now evaluating the capability of the main feedwater check valves to absorb the energy of closure of the disc without failure following a worst-case pipe rupture in the main feedwater system. In the final report on this deficiency, TVA will provide a comparison of the results of the study of the check valve loads following a postulated main feedwater line rupture with the hydrodynamic analysis values for the main feedwater system check valves. Also, details of the fix, if required, to the main feedwater check valves will be provided at that time.