

ENCLOSURE

WATTS BAR NUCLEAR PLANT - UNITS 1 AND 2
DEFICIENT INSTALLATION OF SEISMIC PIPE
HANGER ANCHORS
NCR CAQR M-31
FIRST INTERIM REPORT

Description of Deficiency

This deficiency is the failure in several different cases to properly install anchor bolts which attach seismic pipe hanger base plates to concrete walls. This deficiency was initially discovered by mechanical engineers providing normal surveillance of the installation of seismic pipe hangers. At the present time, six instances of improper anchor bolt installation have been found. Systems to be mounted on the hangers with deficiently installed anchors include Component Cooling Water (CCS) and Essential Raw Cooling Water (ERCW).

This deficiency was caused by the lack of concern on the part of some individual craftsmen installing seismic pipe hangers. If the installation of base plate anchor bolts was made difficult, either by interference with reinforcing steel in the concrete or some other reason, the craftsmen used nonapproved methods to install those anchor bolts.

Safety Implications

If this deficiency had remained uncorrected, the hanger plates with deficient anchor bolts may not have been able to resist loads associated with severe seismic events. Piping systems, such as ERCW and CCS, supported by these hangers might have been damaged. Thus, the safe operation of the plant could have been adversely affected.

Corrective Action

TVA will provide additional instructions for craftsmen at Watts Bar Nuclear Plant who are installing pipe hanger anchor bolts in concrete. All pipe hangers that have been discovered with improperly installed anchor bolts have been nonconformed.

The number of anchor bolts given full inspection during the installation process will be increased to at least one anchor per hanger. This will mean that approximately 15 percent of all anchors will be fully inspected.

All anchors installed by the craftsmen responsible for the improper installations will be inspected, and spot checks will be made on hangers installed by others. If the hangers installed by other craftsmen are found to have damaged anchors, an expanded inspection program will be instituted for seismic pipe hangers with bolted anchors.

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Corrective actions already taken include the removal of the individuals involved in the improper installations from hanger work, additional training for second shift personnel involved with the installation of hangers, and increased surveillance by mechanical engineers responsible for the installation activities.