Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

JUN 20 1994

CDR-50-390/94-07

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of )
Tennessee Valley Authority )

Docket Nos. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - LOWER COMPARTMENT COOLERS - CDR-50-390/94-07

The purpose of this letter is to provide a report in accordance with 10 CFR 50.55(e). The subject deficiency, documented as Significant Corrective Action Report WBSCA940038, was initially reported to the NRC Operations Center on May 31, 1994. Enclosure 1 to this letter contains TVA's final report on this subject. Enclosure 2 provides a list of commitments made in this submittal.

If you have any questions, please telephone P. L. Pace at (615) 365-1824.

Sincerely,

Dwight E. Nunn
Vice President
New Plant Completion
Watts Bar Nuclear Plant

Enclosures
cc: See page 2

IE27
1/1

JUN 20 1994

cc (Enclosures):
INPO Record Center
700 Galleria Parkway
Atlanta, Georgia 30339

NRC Resident Inspector
Watts Bar Nuclear Plant
Rt. 2, Box 700
Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE 1

WATTS BAR NUCLEAR PLANT (WBN) - UNIT 1
LOWER COMPARTMENT COOLERS
CDR 50-390/94-07
FINAL REPORT

DESCRIPTION OF DEFICIENCY

During testing activities associated with the containment lower compartment coolers (LCC), excessive motor current was observed. Subsequent investigations identified that the weld joining the rotor shaft to the rotor lamination pack was broken allowing an approximate 3-inch misalignment between the rotor and the stator and that the grease retainer ring was cracked. Additionally, TVA determined that the four LCC motors supplied by the vendor were not correct for the orientation specified for installation in the plant (shaft down versus shaft up) and that one motor was improperly machined such that the inner diameter of the rotor hub was too large for a proper fit with the motor shaft.

SAFETY IMPLICATIONS

The LCCs are required to operate following a main steam line break (MSLB) inside containment in order to maintain the temperature in the lower compartment below the temperature specified in the environment qualification (EQ) analysis. Failure of the LCCs results in the potential failure of the EQ equipment located in the pressurizer compartment. These components include the pressurizer power operated relief valves (PORV), safety valves, and block valves.

Failure of the components described above, following a postulated MSLB inside containment, could result in the inadvertent opening of the pressurizer PORVs and/or safety valves, and the inability to isolate the system by use of the pressurizer block valves. This would result in additional depressurization of the reactor coolant system and subsequent discharge of reactor coolant to the containment through the pressurizer relief tank rupture disks.

CAUSE OF THE DEFICIENCY

The deficiency related to the shaft orientation was a result of the vendor (Reliance Motors) supplying improper components for the design specified. To address the remaining deficiencies related to the failed rotor, the improperly machined rotor guide, and the cracked retaining ring, TVA has requested that Reliance Motors perform a detailed root cause analysis. This request is being tracked under the WBN corrective action program (WBSCR940038).

CORRECTIVE ACTIONS

The extent of condition, beyond the four motors identified in this submittal, is presently under investigation at WBN. TVA will supplement this report, if appropriate, based on the results of this investigation.

TVA has returned the four LCC motors to Reliance Motors for recertification. Three of these motors have been recertified and returned to WBN. Reliance Motors was unable to recertify the fourth motor. However, it was reinstalled at WBN under a conditional release in order to support hot functional testing. TVA will replace this motor with a certified motor.

TVA has requested that Reliance Motors perform a root cause analysis to determine the cause of the improperly supplied motors and the other identified deficiencies (i.e., broken rotor shaft weld and cracked grease retaining ring). Additional corrective actions may be taken based on the result of this analysis.

The above corrective actions will be completed prior to the turn over of the system to Operations.

ENCLOSURE 2

LIST OF COMMITMENTS

1. TVA will supplement this report, if appropriate, based on the results of the investigation into the extent of condition.

2. Reliance Motors was unable to recertify the fourth motor. However, it was reinstalled at WBN under a conditional release in order to support hot functional testing. TVA will replace this motor with a certified motor.

These actions will be completed prior to system turnover to Operations.