TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

January 16, 1984

WBRD-50-390/83-52

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 NUCLEAR PLANT UNIT 1 - LEAKING CONTAINMENT ISOLATION VALVES - WBRD-50-390/83-52 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Morris Branch on August 17, 1983 in accordance with 10 CFR 50.55(e) as NCR W-134-P. Our first interim report was submitted on September 13, 1983. Enclosed is our final report.

As discussed with NRC-OIE Inspector Paul Fredrickson on January 4, 1984, a new submittal date was established for the subject report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

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

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
LEAKING CONTAINMENT ISOLATION VAVLES
NCR WBN W-134-P
WBRD-50-390/83-52
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

During preoperational test TVA-28 on the primary sampling system, several containment isolation valves were found to leak excessively (seat leakage) or failed to seat in a fully closed position. Additionally, numerous pressure control valves for sample lines failed to control pressure as designed. The sample lines involved were as follows:

Reactor Coolant System Hot Leg Samples (4 lines)
SIS Cold Leg Accumulator Samples (4 lines)
Steam Generator Blowdown Samples (4 lines)
Pressurizer Liquid Sample (1 line).

The condition of valve seat leakage is attributed to the presence of a grit or debris of unknown origin present at the time of the tests wherein the deficiency was discovered. The grit was apparently present because the sampling lines could not be flushed with full system pressure at the time of construction testing and system transfer. This must be done after the primary systems are at operating pressure.

Safety Implications

Had this condition remained uncorrected, the isolation valves would fail to isolate containment during an event or transient, thereby possibly resulting in the release of high levels of radioactive material inside the Auxiliary Building or to the atmosphere. Thus, the safe operation of the plant could be adversely affected.

Corrective Action

The reactor vessel head was removed and the internals packages with associated full flow filters were removed for inspection. No evidence of debris or sand blasting material was found. TVA also removed and inspected the reactor coolant filter and seal injection filter and found no evidence of blasting grit present on these filters. Therefore, it is apparent that the grit did not originate in the primary system. At the time this NCR was originated it was thought that the debris originated from sand blasting. However, subsequent investigations have failed to substantiate this and, as such, the origin of the debris is unknown. To correct this problem the line valves were disassembled, cleaned, and/or flushed. To remove any residual debris TVA has performed additional high velocity flushes on the affected lines with the primary system at operating pressure.