TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

July 29, 1983

BLRD-50-438/82-80

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:

BELLEFONTE NUCLEAR PLANT UNIT 1 - RAW COOLING WATER CHILLER UNIT FLOW CONTROL VALVE DEFICIENCIES - BLRD-50-438/82-80 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector G. A. Belisle on November 26, 1982 in accordance with 10 CFR 50.55(e) as NCR's 2086, 2087, and 2088. This was followed by our interim reports dated December 27, 1982 and March 21, 1983. Enclosed is our third interim report. We expect to submit our next report on or about December 5, 1983. We consider 10 CFR Part 21 to be applicable to this deficiency.

If you have any questions concerning this matter, 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

BELLEFONTE NUCLEAR PLANT UNIT 1
RAW COOLING WATER CHILLER UNIT FLOW CONTROL VALVE DEFICIENCIES
10 CFR 50.55(e)
BLRD-50-438/82-80
NCR's 2086, 2087, 2088
THIRD INTERIM REPORT

Description of Deficiency

Two six-inch freon-activated raw cooling water (RCW) flow control valves (serial Nos. 24867 and 24865) failed to operate upon activation. This resulted in a high-pressure trip of the HVAC water chillers which are used to remove heat generated by components of the engineered safety features (ESF) system.

Investigation revealed that the failures occurred because of two separate conditions. One valve (serial No. 24867) failed because of a buildup of rust and scale on the valve's pilot seat contact surfaces. This inhibited the movement of the valve stem. On both valves, the valve stem nut was completely detached. This allowed the valve diaphragm to operate independently of the valve stem. These conditions degraded the valves' ability to perform their intended function.

In addition, the internal configuration of the valves supplied do not conform to the vendor's drawings. The drawings depict a two-way valve but the valves supplied are three-way valves with one lower port blocked to make it a two-way valve. In addition, the drawings show a lower diaphragm, diaphragm spacer, and diaphragm plate which are not on the valves supplied.

The valves in question were manufactured by Metrex Valve Corporation, Glendora, California, and supplied as components on the water chillers fabricated by Dunham-Bush, West Hartford, Connecticut.

Interim Progress

TVA has received and approved a drawing from the vendor accurately depicting the configuration of the valves supplied to BLN.

TVA is still reviewing the root cause and actions required to prevent recurrence (ARPR) relative to the corrosion problem. With regard to the valve stem nut problem, TVA is coordinating the details of the proposed resolution with the valve vendor. TVA will provide a final report upon resolution of these remaining concerns.