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

84 MAR 2 A10:00 March 29, 1984

BLRD-50-438/84-23
BLRD-50-439/84-22

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 UNITS 1 AND 2 - OVERPRESSURIZATION OF EMERGENCY RAW COOLING WATER PIPING BECAUSE OF TWO MECHANICAL FAILURES - BLRD-50-439/84-23, BLRD-50-439/84-22 - FIRST INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. Carroll on March 1, 1984 in accordance with 10 CFR 50.55(e) as NCR 2879. Enclosed is our first interim report. We expect to submit our next report by June 1, 1984.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

D S Kammer

for 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

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
OVERPRESSURIZATION OF EMERGENCY RAW COOLING WATER PIPING
BECAUSE OF TWO MECHANICAL MALFUNCTIONS
BLRD-50-438/84-23, BLRD-50-439/84-22
NCR 2879
10 CFR 50.55(e)
FIRST INTERIM REPORT

Description of Deficiency

During a hydrostatic test on February 16, 1984, a temporary pressure gauge snubber and relief valve failed and resulted in an overpressurization of a portion of the essential raw cooling water (ERCW) system. The pressure gauge has been calibrated on February 14, 1984, and was used to set the relief valve at 235 lb/in^2g on the same date.

During the hydrostatic test, a small double-acting, air-driven pump was used to pressurize the system to 90 lb/in^2g. The pressure was then raised to 100 lb/in^2g by several strokes of the pump and at this time the over-pressurized portion of the system was checked for leaks, with none occurring. The valve was opened, and the pump was started. When the pressure was near 180 lb/in^2g, it was noted that the pressure was increasing at an excessive rate. At that point, the pump was shut off, and the valve between the pump and test items was closed before the indicated pressure reached 230 lb/in^2g.

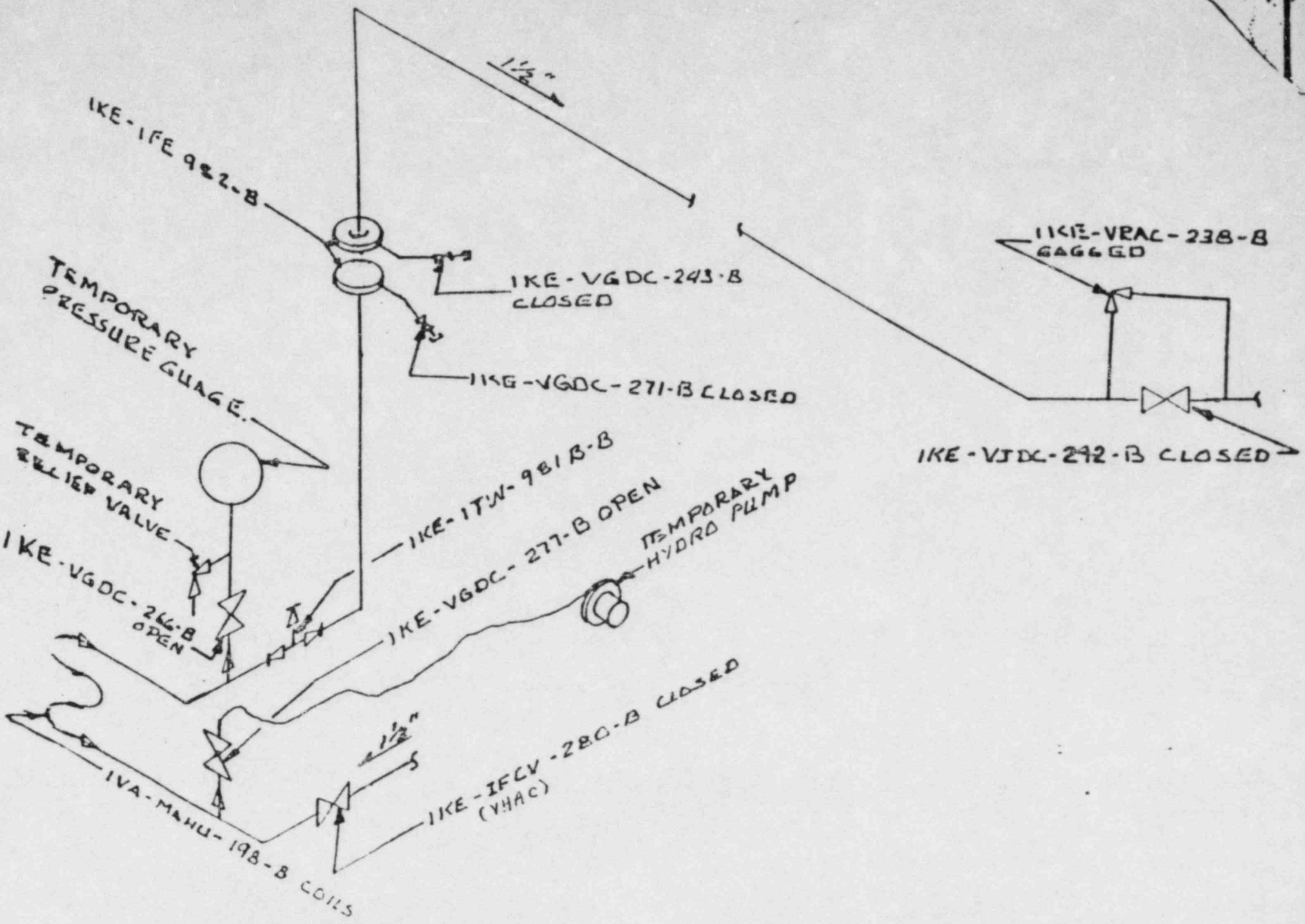
Due to a significant lag in the response of the pressure gauge the pressure indication continued to increase (above 235 lb/in^2g) and efforts were initiated to relieve the pressure (since the relief valve had apparently failed). The coupling on the relief valve was loosened and valve 1KE-VJDC-242-B (see attached sketch) was opened in the discharge side of the air handling unit (AHU). By the time the pressure was relieved, the gauge had begun to level off at approximately 480 lb/in^2g. Although the coils on AHU 1VA-MAHU-198-B and associated KE (ERCW) system piping between valves 1KE-VHAC-280 and 1KE-VJDC-242-B were subjected to a pressure estimated at 480 to 500 lb/in^2g, they are only hydrostatically qualified to a pressure of 300 lb/in^2g.

The valve and pressure gauge were purchased by TVA's Division of Construction as shelf items and are non-quality assurance items.

Interim Progress

TVA is investigating the possibility of damage to the AHU coils due to the higher pressure. The defective pressure gauge will be reworked and the defective valve has been discarded.

ATTACHMENT


1½"
IKE-IFE 982-B
IKE-VGDC-243-B CLOSED
IKE-VGDC-271-B CLOSED
TEMPORARY PRESSURE GUAGE
TEMPORARY RELIEF VALVE
IKE-VGDC-266-B OPEN
IKE-ITW-981B-B
IKE-VGDC-277-B OPEN
TEMPORARY HYDRO PUMP
1½"
IVA-MAHU-198-B COILS
IKE-IFCV-280-B CLOSED (YHAC)
IKE-VRAC-238-B GAGGED
IKE-VJDC-242-B CLOSED