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February 16, 1990

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Second Ten-Year Inservice Test Program Plan

REFERENCES: (a) Letter to Mr. G. C. Creel (BG&E) from Mr. S. A. McNeil (NRC), dated January 12, 1990, same subject

(b) Letter to Document Control Desk (NRC) from Mr. J. A. Tiernan (BG&E), dated October 18, 1988, ASME Section XI Pump and Valve Inservice Test (IST) Program

Gentlemen:

Reference (a) reported that the Nuclear Regulatory Commission (NRC) staff has completed its initial review of our revised inservice test (IST) program plan for safety-related pumps and valves as provided in Reference (b). Reference (a) went on to say that additional information is needed to support two ASME code relief requests, pump relief request number 6, and valve relief request number SI-4.

The additional information requested is provided in Enclosure (1) to this letter. If you have any further questions in this area we would be pleased to discuss them with you.

Very truly yours,

GCC/DLS/bjd

Enclosure

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ENCLOSURE (1)

REQUEST FOR ADDITIONAL INFORMATION
ASME SECTION XI PUMP AND VALVE INSERVICE TEST (IST) PROGRAM

A. PUMP RELIEF REQUEST NUMBER 6

NRC 1.

Please provide a list of all pumps for which relief is requested and component and loop accuracy ascribed to the flow meters used to test each pump.

BG&E RESPONSE (Numbers in parentheses are for Unit 2)

a. 11, 12, 13 (21, 22, 23) Salt Water Pumps
Instrument Used: Dietrich Standard Annubar and Transmitter
Instrument Accuracy: ± 1 % of reading
Loop Accuracy: ± 3.4 % of full scale

b. 11, 12, 13 (21, 22, 23) Service Water Pumps
Instrument Used: Controlotron Model 480
Instrument Accuracy: ± 1-3 % of reading
Loop Accuracy: ± 1-3 % of reading

c. 11, 12, 13 (21, 22, 23) Component Cooling Water Pumps
Instrument Used: Controlotron Model 480
Instrument Accuracy: ± 1-3 % of reading
Loop Accuracy: ± 1-3 % of reading

d. 11, 12, 13 (21, 22, 23) Charging Pumps
Indicator Used: Sigma 9222-20-ED (2 device level loop)
Indicator Accuracy: ± 0.5 % of span
Loop Accuracy: ± 3.4 % of span

e. 11, 12 (21, 22) Low Pressure Safety Injection Pumps
Indicator Used: Fischer 53EG3313 (4 device orifice plate flow loop)
Indicator Accuracy: ± 0.8 % of span
Loop Accuracy: ± 2.94 % of span

f. 11, 12 (21, 22) Containment Spray Pumps
Indicator Used: Fischer 53EG3313 (4 device orifice plate flow loop)
Indicator Accuracy: ± 0.8 % of span
Loop Accuracy: ± 2.94 % of span

g. 11, 12, 13 (21, 22, 23) High Pressure Safety Injection Pumps
Indicator Used: Sigma 9222-00-E (3 device orifice plate flow loop)
Indicator Accuracy: ± 0.52 % of span
Loop Accuracy: ± 3.80 % of span

h. 11, 12, 13 (21, 22, 23) Auxiliary Feedwater Pumps

Indicator Used:	Foxboro N2AX-M1IH (6 device orifice plate flow loop)
Indicator Accuracy:	± 2 % of span
Loop Accuracy:	± 4.0 % of span

The alternative requirement we proposed to commit to for loop accuracy was ± 4%.

NRC 2.

For flow instruments whose components are less accurate than ± 2%, provide a basis for your inability to provide a more accurate instrument.

BG&E RESPONSE

Although not specifically stated in the code, BG&E interprets that the intent of the ASME code accuracy requirements is for total loop accuracy to be within ± 2%, not component accuracy; hence we requested relief from the code requirements on this issue, proposing an alternative requirement of ± 4%. BG&E takes a very conservative approach to instrument loop accuracy determination. When determining the total flow error of a flow indicating loop we do not consider just basic instrument accuracy; we consider accuracy, drift, temperature, readability, repeatability, power supply and calibration procedure allowances. We do not feel our total loop accuracies are out of line with the rest of the industry. The accuracy and repeatability of our instrumentation is adequate to detect pump degradation when our whole program is taken into account. Our program includes pump performance testing and an enhanced vibration monitoring program (see Pump Relief Request No. 3 of Reference (b)).

We are presently testing an improved ultrasonic flow instrument that will improve the accuracy and reliability of our non-obtrusive test instrumentation. We will continue to investigate ways to improve our pump and valve testing program.

B. VALVE RELIEF REQUEST NUMBER SI-4

NRC 1.

Describe the test methodology used in conducting leak rate tests on 1(2)CV-618 (628, 638, and 648).

BG&E RESPONSE

Please refer to Figure 1, page 5, which shows one of the four Safety Injection Tanks, and associated piping.

These valves are leak tested to assess maintenance needs prior to going into a maintenance outage. They are leak tested per Calvert Cliffs Operating Instruction Number 3, "Safety Injection, Shutdown Cooling, and Containment Spray," Section XXVIII. The method employed is to line up a flow path to the reactor coolant drain tank, pressurize the upstream side of the CV with a high pressure safety injection pump and look for leakage into the reactor coolant drain tank.

NRC 2.

Describe the surveillances, and their associated intervals including grace periods and allowable out-of-service times, for the pressure transmitters 1(2)PT-319 (329, 339, and 349) used to detect leakage past the safety injection pressure isolation valves from the reactor coolant loops 1(2)SI-217 (227, 237, and 247).

BG&E RESPONSE

a. These instruments indicate and alarm in the control room and are constantly under surveillance by the licensed control room operators.

b. 1(2)PT-319 (329, 339, and 349) are calibrated per PM's 1(2)-52-I-R-29, 1(2)-52-I-R-30, 1(2)-52-I-R-31, and 1(2)-52-I-R-32, respectively.

c. The frequency for these PM's is once per refueling shutdown. Per our control procedure for the PM program, we do not routinely apply grace periods to refueling interval PM's. On an exception basis, the system engineer is required by procedure to evaluate the impact of applying a grace period and based on that evaluation may allow up to a 25% schedule window.

d. These pressure transmitters are not required by our technical specifications so there is no specified allowable out-of-service time.

NRC 3.

Describe actions taken and operability restrictions imposed in the event that one of the aforementioned pressure transmitters is inoperable or out-of-service, including mode applicability.

BG&E RESPONSE

As stated in the previous question, these pressure transmitters, used for detecting check valve leakage, are not mentioned in our Technical Specifications. These transmitters are part of our control room instrumentation and as such, if they are inoperable, the impact of the inoperability is evaluated by our licensed operators. The impact is also evaluated by the IST group where the out-of-service date is considered to be the last test for the associated check valve and the ASME Section XI code requirements for that valve are then checked for compliance. There is no mode applicability assigned to non Technical Specification requirements but we will consider MODES 1-3 as applicable for this requirement.

NRC 4.

Please verify that no leakage paths exist that could mask pressure indications of primary leakage past the safety injection pressure isolation valves 1(2)SI-217 (227, 237, and 247), including any paths on the high pressure safety injection side of the containment isolation valves 1(2)SI-118 (128, 138, and 148).

BG&E RESPONSE

Please refer to Figure 1, page 5, which shows one of the four Safety Injection Tanks, and associated piping.

a. The leakage path through 1(2)SI-618 (628, 638, and 648) CV's is tested as described in item B.1. earlier. Any leakage past these valves will either go into the safety injection tank, which is evaluated every 4 hours for in-leakage, or to the reactor coolant drain tank, which is evaluated for in-leakage daily when gross reactor coolant system leakage is greater than 1 gpm.

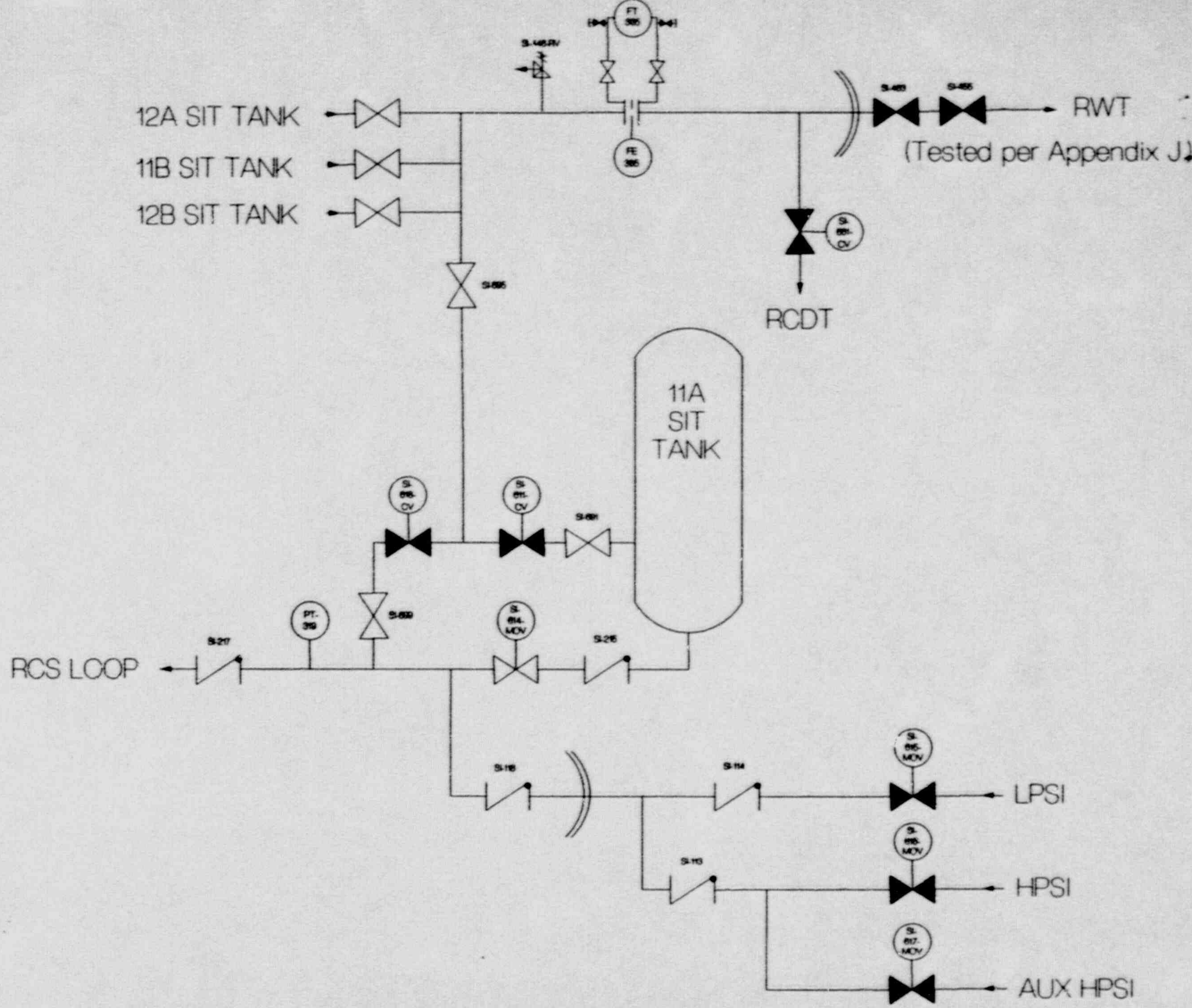
b. The leakage path through 1(2)SI-215 (225, 235, and 245): These valves are type AC and tested accordingly in the IST program; additionally any leakage past these valves will go to the safety injection tank which is evaluated every 4 hours for in-leakage.

c. The leakage path through 1(2)SI-118 (128, 138, and 148): These valves are type AC valves and tested accordingly in the IST Program; any leakage past these valves will be contained by the check valves 1(2)SI-114 (124, 134, and 144) or 1(2)SI-113 (123, 133, and 143). Although these are not type "A" valves they are part of the IST Program and tested for back leakage as the means for verifying valve closure in accordance with IWV-3410.

BG&E general comments concerning valve relief request number SI-4.

The valves in question, 1(2)SI-217, 227, 237, and 247, are check valves between the reactor coolant system and the safety injection system (see Figure 1). Any back leakage thru these valves will be accounted for and detected as reactor coolant system leakage. Per Technical Specifications, RCS leakage is determined at a minimum every 72 hours with limits of 1 gpm unidentified leakage.

Figure 1


12A SIT TANK
11B SIT TANK
12B SIT TANK
RWT
(Tested per Appendix J)
RCDT
11A
SIT
TANK
RCS LOOP
LPSI
HPSI
AUX HPSI