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ACCESSION NBR:9205190027 DOC.DATE: 92/05/11 NOTARIZED: NO DOCKET #
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SUBJECT: Forwards addl info on Anomaly 8 re Relief Request VR-10,in response to request made in 920226 ltr transmitting safety evaluation for Rev 2 of facility IST program.

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P.O. Box 128, Ft. Pierce, FL 34954-0128

FPL

May 11, 1992

L-92-133
10 CFR 50.4

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

Re: St. Lucie Unit 1
Docket No. 50-335
NRC TAC NO. M74794
Additional Information - Relief Request VR-10
Inservice Testing Program - Revision 2

On February 26, 1992, the NRC transmitted the Safety Evaluation (SE) for Revision 2 of the St. Lucie Unit 1 Inservice Testing Program (IST). The SE identified a number of anomalies which required additional information from FPL. The NRC requested FPL to provide additional information on Anomaly #8 concerning Relief Request VR-10 within 90 days of the SE.

The additional information requested on Relief Request VR-10 is attached.

Please contact us if there are any questions about this submittal.

Very truly yours,

D. A. Sager
Vice President
St. Lucie Plant

DAS/GRM/kw

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #686-92

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St. Lucie Unit 1
Docket No. 50-335
NRC TAC NO. M74794
Additional Information - Relief Request VR-10
Inservice Testing Program - Revision 2

NRC Request:

In relief request VR-10 the licensee proposes to verify the reverse flow closure of the HPSI header to RCS injection line check valves, V-3113, V-3123, V-3133, V-3143, in conjunction with PIV leak testing at least once every two years. The system P&ID shows motor-operated isolation valves upstream of each check valve with drain lines tapping off between the isolation and check valves. Using these provisions, it might be practical to verify the reverse flow closure of these valves at the Code specified frequency. Unless verifying the reverse flow closure of these valves quarterly or during cold shutdowns is impractical or constitutes a hardship without a compensating increase in the level of quality and safety, they should be tested at the Code frequency. The licensee should respond to this concern within 90 days.

FPL Response:

The high pressure safety injection (HPSI) header to reactor coolant system (RCS) check valves are listed as pressure isolation valves (PIV) in the Unit 1 Technical Specification 4.4.6.2, Table 3.4.6-1, Primary Coolant System Pressure Isolation Valves. These valves are required to be leak tested at the following intervals:

1. Prior to entering Mode 2 after refueling.

2. Prior to entering Mode 2, whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months.

3. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

Administrative procedure (AP) 1-0010125A, Data Sheet # 25 is the present test procedure used to measure the leakage rate (reverse flow) of these check valves. The test utilizes the volume of pressurized water (200 - 250 psig) in a safety injection tank (SIT) to pressurize the down stream side of the check valves. The upstream motor operated valves (MOV) are closed and the drain lines located between each MOV and check valve pair are opened sequentially. Once the initial trapped volume of water is drained out, the check valve leakage is collected using plastic tubing and poly bottles. The leakage volumes and collection times are used to calculate the check valve leakage rates.

The drain valves for these tests are located along the north and south walls of the west end of the pipe tunnel in the Unit 1

reactor auxiliary building (RAB). This area of the RAB is designated as a high radiation area. The general area radiation levels vary from 20 to 30 mRem/Hr in the center of the hallway. Along the walls of the pipe tunnel where the drain valves are located, the contact radiation levels range from 200 mRem/Hr to 1,600 mRem/Hr. The test requires at least 3 test personnel for 1 to 2 hours to properly perform the procedure. In addition, the test personnel must handle up to several gallons of contaminated water per test, some of which could be under pressure when first vented. Performing this test procedure each quarter would result in unnecessary personnel radiation exposures and possible personnel contaminations.

The main reason for check valve closure tests is to prove that the check valve will return to the closed position once it has been cycled open. During normal power operation, the HPSI header check valves are cycled open only while the associated SIT is filled. Performing a reverse flow test on a check valve that has not been opened is not warranted. However, if these valves are cycled open, a pressure drop test should be performed to verify reverse flow closure. Since the SITs must be pressurized to perform the test, the test can only be performed during those operating modes which require the SITs to be operable.

Reverse flow testing is proposed in addition to the leakage testing required by the Technical Specifications. While in Modes 1, 2, and 3 (with pressurizer pressure > 1750 psia.), a pressure drop test will be performed on each check valve cycled open while filling an SIT. The test will be performed within 24 hours after the filling of the SIT.