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SUBJECT: Forwards St Lucie Unit 2 plant specific evaluation for  
 Generic Issue 94 addl LTOP protection as suppl to 901220  
 response to GL 90-06 re Generic Issues 70 & 94 concerning  
 PORV & block valve reliability & addl LTOP for LWRs.

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May 11, 1992

L-92-134  
10 CFR 50.4

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

RE: St. Lucie Unit 2  
Docket No. 50-389  
NRC TAC No. M77458  
Supplemental Response to  
Generic Letter 90-06

By Florida Power and Light Company (FPL) letter (L-90-435) dated December 20, 1990, FPL committed to provide the results of its evaluation of the potential risk reduction of an LTOP event which is engendered by limiting the allowed outage time for the PORVs as recommended in Enclosure B of GL 90-06. FPL has completed the plant specific evaluation for Unit 2. The plant specific core damage frequency (CDF) estimate due to LTOP transients is less than the 1E-6/Rx-YR screening value assumed by the NRC and thus the recommended actions would not be cost beneficial. A summary of the evaluation is attached for your information.

By Generic Letter 90-06, the NRC provided the proposed resolution of Generic Issue 70 "Power-operated Relief Valve and Block Valve Reliability," and Generic Issue 94, "Additional Low-Temperature Overpressure Protection for Light-Water Reactors," and required a response pursuant to 10 CFR 50.54 (f). The FPL response was submitted by FPL letter L-90-435 dated December 20, 1990.

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

Very truly yours,

*DASager*  
D. A. Sager  
Vice President  
St. Lucie Plant

DAS/GRM/kw

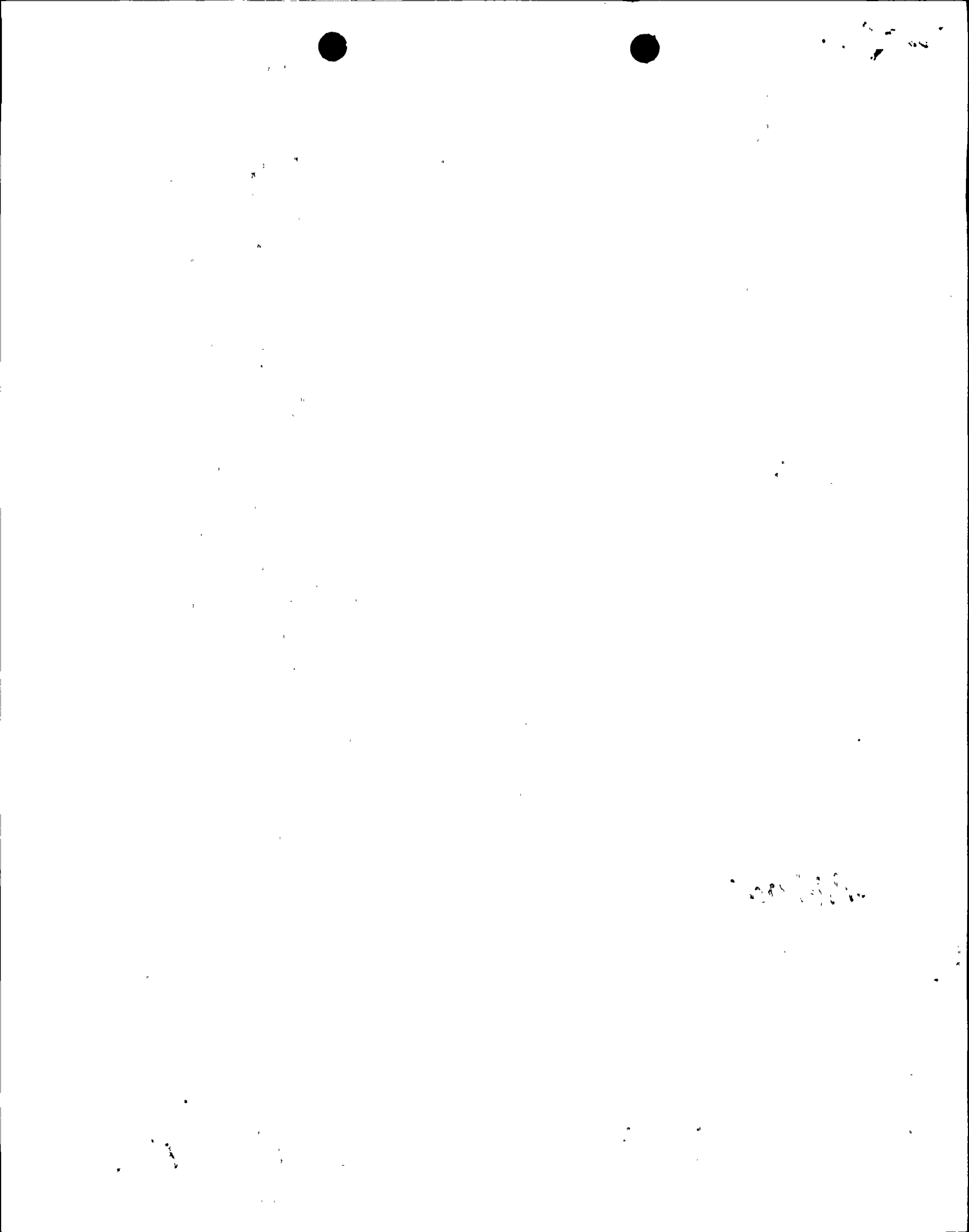
cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #687-92

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St. Lucie Unit 2  
Docket No. 50-389  
NRC TAC No. M77458  
Supplemental Response to  
Generic Letter 90-06

ST. LUCIE UNIT 2 PLANT SPECIFIC  
EVALUATION FOR GENERIC ISSUE 94  
ADDITIONAL LTOP PROTECTION

Generic Letter (GL) 90-06 concluded that low temperature overpressure protection (LTOP) system unavailability is the dominant contributor to risk from LTOP transients and thus improvement in LTOP system availability when the potential for an overpressure transient is the highest should be achieved through improved administrative restrictions on the LTOP system unavailability. GL 90-06 proposes that this be accomplished by Technical Specification revisions restricting the maximum allowable out-of-service time for a single LTOP channel in modes 4 and 5 or 6 with the head installed and the reactor coolant system (RCS) not vented.

The NRC states that the contribution to the total core damage frequency (CDF) from LTOP events should be less than  $1.0E-6$  per reactor-year (/Rx-Yr). Based on industry data, an estimated CDF of  $3.04E-6$ /Rx-Yr was calculated by the NRC (NUREG-1326). This calculation takes into account the LTOP challenge frequency, LTOP system unavailability, and the probability of reactor vessel failure due to the LTOP transient.

Since St. Lucie Unit 2 has had zero LTOP events within the NRC data window (1983-1991), it was necessary to perform a Bayesian estimation calculation in order to obtain a plant specific LTOP challenge frequency. A Bayesian estimation updates past data (i.e., generic industry wide data) with plant specific experience and thus has the effect of "specializing" the prior data to a specific plant. The Bayesian estimated St. Lucie Unit 2 LTOP challenge frequency was calculated to be .01/Rx-Yr in lieu of the .094/RX-Yr "generic frequency calculated by the NRC. The plant specific LTOP unavailability was found to be much less than the "generic" value calculated by the NRC since no events were identified where there were less than the required number of LTOP mitigating systems operable. The plant specific unavailability is based on a review of the operating logs, equipment out-of-service logs, NPRDS reports and nuclear job planning system (NJPS) reports. The LTOP mitigating system availability considers the number of hours one or both of the required LTOP channels (PORVs and/or SDCRVs) were out-of-service during modes 4,5, and 6 with the reactor head on for the data window of 1986-1991.

A conservative calculation based on the use of Unit 2 specific LTOP challenge frequency and the NRC "generic" LTOP system unavailability yielded a St. Lucie Unit 2 CDF estimate due to LTOP transients of  $3.23\text{E-}7/\text{Rx-Yr}$  compared to the  $3.04\text{E-}6/\text{Rx-Yr}$  frequency calculated by the NRC. When taking into account the actual high Unit 2 LTOP system availability, the CDF would be even lower. The plant specific CDF is below the  $1\text{E-}6/\text{Rx-Yr}$  screening value assumed by the NRC and thus the recommended Technical Specification change would not be cost beneficial.

