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 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.
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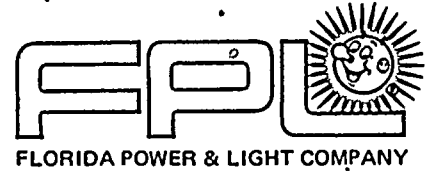
SUBJECT: Forwards addl info supporting proposed license amen request on PORV indication, per 830615 & 16 ltrs. Chronology of PORV events, current status & addl info on significant hazards consideration encl.

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	NRR/DSI/RAB 22	1 1	NRR/DSI/RSB 23	1 1
	<u>REG FILE</u> 04	1 1	RGN2	3 3
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EXTERNAL:	ACRS 41	6 6	BNL (AMDTS ONLY)	1 1
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June 17, 1983
L-83-365

Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit 2
Docket No. 50-389
Additional Information in Support of Proposed License Amendment
PORV Indication L-83-362 June 15, 1983 and L-83-363 June 16, 1983

In a telephone call with your Mr. V. Nerses, he requested additional supporting information for our amendment request on PORV Indication. Please find attached 1) a Chronology Of Events and Current Status (Justification of Occurrence and Need for Emergency Technical Specification Processing) and 2) additional information on our Significant Hazards Consideration.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/JNB/cab

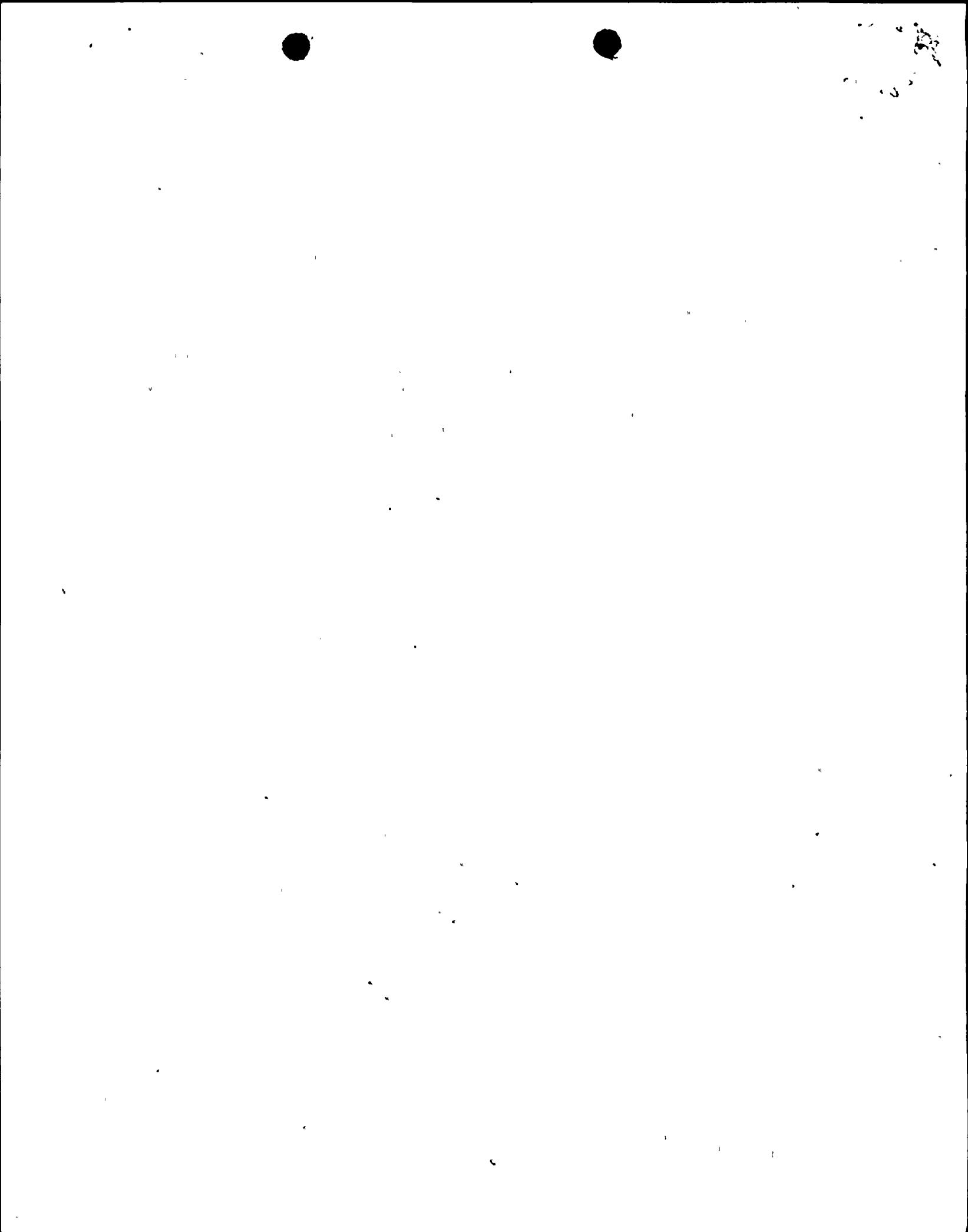
Attachments

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire

Uray Clark, Administrator
Radiological Health Services
Department of Health & Rehabilitative Services
1323 Winewood Boulevard
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ATTACHMENT I

Chronology of Events and Current Status Of PORV Position Indication Failures

All of the position indication failures that have occurred on the PORVs at St. Lucie Unit 2 have been caused by a faulty magnetic device which is installed in the valve and operates a reed switch.

The first failure occurred on April 30, 1983, on PORV 1475. The nuclear steam supplier and the valve manufacturer were informed and the valve manufacturer provided on-site assistance when an identical magnetic replacement device was installed. The valve was returned to service on May 7, 1983.

The second failure occurred on May 14, 1983, again on PORV 1475. The nuclear steam supplier and the valve manufacturer were notified. We were informed that the valve manufacturer had determined that the elevated temperatures, 450° to 500°F, were causing the magnetic device to de-Gauss and lose its magnetic properties. We were supplied with an annealed magnetic device as the new replacement which, according to the valve manufacturer, would solve the problem. The valve manufacturer's representative was again on-site for the reinstallation, and the valve was returned to service on May 19, 1983.

The third failure occurred on May 23, 1983, on PORV-1474. Since this was the other PORV with the old non-annealed magnetic device we were not surprised by the failure and an annealed replacement was available. On or about May 25, 1983, the valve manufacturer notified us that, based on elevated temperature R&D that he was conducting, the annealed magnetic devices will last longer than the originals but that they were not the permanent long term fix. We were told that a permanent replacement would be available shortly. The annealed replacement was installed in PORV 1474, and the valve was returned to service on May 30, 1983.

The fourth failure occurred on June 3, 1983, on PORV 1475. This was the first installed annealed device. The valve manufacturer was contacted and we were told that the permanent replacement would be available within a few days. We no longer had any of the annealed replacements so it was decided that since the permanent replacement would be available shortly that we would use one of the remaining non-annealed devices. PORV 1475 was returned to service on June 10, 1983, with the non-annealed magnetic device installed.

The device that was returned to service on June 10 failed on June 11. At this time we were also informed by the valve manufacturer that the delivery date for the permanent replacements had slipped to two weeks. The delivery date has since slipped to one month. Licensing personnel were informed June 13, 1983 that a change to the license would be required in order to prevent plant shutdown on June 18, 1983. The change was prepared and approved by the Facility Review Group and Company Nuclear Review Board. It was then telecopied to the NRC on June 15, 1983.

Attachment I (continued)

We believe that our attempts to permanently correct the valve position indicator were appropriate based on data and information available at the time. At no time was there ever any consideration of delaying the filing of an amendment in order to take advantage of emergency licensing provisions. Failure to act in a timely manner will result in the shutdown of the St. Lucie Unit No. 2 nuclear power plant. We therefore believe that, pursuant to 10 CFR 50.91(a)(5), an emergency situation exists and request that NRC make a final No Significant Hazards Consideration and that the amendment be issued prior to June 18, 1983.

ATTACHMENT 2

Additional Information On Significant Hazards Consideration For Proposed License Amendment on PORV Indication L-83-362, June 15, 1983 and L-83-363, June 16, 1983.

The amendment, as proposed, requires that in the event that the number of operable PORV indication channels become less than the REQUIRED NUMBER OF CHANNELS, two per PORV, the operator must monitor the pressure, temperature and level instrumentation on the quench tank and the temperature instrumentation on the valve discharge piping. This additional information provides an additional diverse means for detecting steam flow through the PORV(s). In the event that the number of operable channels becomes less than the MINIMUM CHANNELS OPERABLE, the operator would isolate the affected PORV by closing the PORV Block Valve and removing power to the Block Valve operator.

The postulated accident of record, and potentially of concern with regard to this proposed amendment, is a Loss of Coolant Accident via the inadvertent opening of a PORV. The evaluation of this event is provided in Appendix 15C to Chapter 15 of the St. Lucie Unit No. 2 FSAR at section 15C-6, pages 15C-63 through 15C-88. As concluded in this accident evaluation, the offsite consequences are well within the guidelines of 10 CFR 100, none of the fuel experiences DNBR and there are no fuel failures.

This amendment deals exclusively with PORV position indication, valve discharge piping temperature indication and quench tank temperature, pressure and level indication. None of these instrument channels are in the PORV opening circuitry. It is therefore concluded that the probability of generating an automatic/spurious opening of a PORV is unaffected by this proposed change. Further, there is no potential malfunction of the quench tank instrumentation which would cause a trained operator to open a PORV. Hence the probability of a PORV being opened, because of operator error, is unaffected by this proposed change. It is therefore concluded that this change does not involve a significant increase in the probability of an accident previously evaluated (10 CFR 50.92(c)(1)).

As stated above, the consequences of the spurious opening of a PORV as provided in the FSAR are well within core safety and regulatory licensing criteria. The accident evaluation assumes that the PORV is isolated by the operator taking action and closing the PORV Block Valve. Since this proposed change deals exclusively with indicating instrumentation none of these channels have input into the closing circuitry of the PORV Block Valve. It is therefore concluded that the probability of the Block Valve not going closed upon demand is unaffected by this proposed change. The referenced FSAR analysis for the spurious opening of the PORV assumes that the operator is able to diagnose that the PORV is open within 10 minutes following Reactor Trip which occurs at 62 seconds. This assumption is in line with the recommendations of ANS 58.8, ANSI 660 Rev. 2 "Time Response Design Criteria Safety Related Operator Action." The Post TMI operator training program for St. Lucie Unit 1 & 2 operators emphasizes diagnostics and the possibility of an

ATTACHMENT 2 (Continued)

inadvertent RCS boundary valve opening. This training and its emphasis on the possibility of a PORV opening (since this was the TMI accident initiator) assures that the assumed 10 minutes is sufficient even with postulated instrumentation malfunctions. The Quench tank pressure, temperature, and level instrumentation would go to the alarm state shortly after the PORV opens, which coupled with the discharge piping high temperature alarm and the remaining PORV indicating channel, assures that the operator will have sufficient redundant diagnostic information. The simultaneous failure of all five of these available alarm conditions is not considered credible. It is therefore concluded that a post-PORV-opening operator action time of 10 minutes is not affected by this proposed amendment hence there is no increase in the consequence of an accident previously evaluated (10 CFR 50.92(c)(1)).

Since this proposed amendment pertains to indicating instrumentation only, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated (10 CFR 50.92(c)(2)).

Further, since postulated failures(s) of this indicating instrumentation during normal operation will not adversely impact the continued safe operation of the plant, or credible failures in the indicating instrumentation will not adversely impact post-accident required automatic or operator actions, it is concluded that the proposed change does not involve a significant reduction in a margin or safety (10 CFR 50.92(c)(3)).

We therefore conclude that pursuant to 10 CFR 50.92(c), this proposed amendment does not involve a significant Hazards Consideration.