

K 04/07/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)  
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DOCDATE: 04/05/78  
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DOCTYPE: LETTER NOTARIZED: YES  
SUBJECT:

COPIES RECEIVED  
LTR 3 ENCL 40

LICENSE NO DPR-67 APPL FOR AMEND: APPENDIX A TECH SPECS PROPOSED CHANGE  
CONCERNING ^SUPPORTING OPERATION OF THE CONTAINMENT SPRAY ADDITIVE SYSTEM  
SCHEDULED TO BE INSTALLED AT SUBJECT FACILITY DURING THE UPCOMING REFUELING  
OUTAGE (SPRING 1978)...NOTARIZED

*NO POSTMARK - HANDCARRIED*

PLANT NAME: ST LUCIE #1

REVIEWER INITIAL: XJM  
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\*\*\*\*\* DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS \*\*\*\*\*

GENERAL DISTRIBUTION FOR AFTER ISSUANCE OF OPERATING LICENSE.  
(DISTRIBUTION CODE A001)

FOR ACTION: BR CHIEF REID\*\*W/7 ENCL

INTERNAL: REG FILE\*\*W/ENCL  
I & E\*\*W/2 ENCL  
HANAUER\*\*W/ENCL  
EISENHUT\*\*W/ENCL  
BAER\*\*W/ENCL  
GRIMES\*\*W/ENCL  
J. MCGOUGH\*\*W/ENCL

*(Circled)*  
NRC PDR\*\*W/ENCL  
DEED\*\*LTR ONLY  
CHECK\*\*W/ENCL  
SHAD\*\*W/ENCL  
BUTLER\*\*W/ENCL  
J COLLINS\*\*W/ENCL

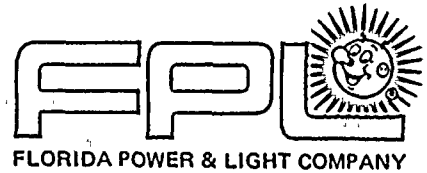
EXTERNAL: LPDR'S  
FT PIERCE, FL\*\*W/ENCL  
TIC\*\*W/ENCL  
NSIC\*\*W/ENCL  
ACRS CAT B\*\*W/16 ENCL

DISTRIBUTION: LTR 40 ENCL 39  
SIZE: 3P+6P

CONTROL NBR: 780970027

*AP 2  
SD*

\*\*\*\*\* THE END \*\*\*\*\*



April 5, 1978  
L-78-121

REGULATORY DOCKET FILE COPY

Director of Nuclear Reactor Regulation  
Attention: Mr. Victor Stello, Director  
Division of Operating Reactor  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Stello:

Re: St. Lucie Unit 1  
Docket No. 50-335  
Proposed Amendment to  
Facility Operating License DPR-67



In accordance with 10 CFR 50.30, Florida Power and Light Company submits herewith three (3) signed originals and forty (40) conformed copies of a request to amend Appendix A of Facility Operating License DPR-67.

The proposed amendment supports operation of the containment spray additive system scheduled to be installed at St. Lucie Unit 1 during the upcoming refueling outage (Spring 1978). The system will be installed to comply with Condition I.1 of Operating License DPR-67. The proposed amendment is described below and shown on the accompanying Technical Specification pages bearing the date of this letter in the lower right hand corner.

Page 3/4 5-5

Surveillance Requirements 4.5.2.d.3 and 4.5.2.d.4 are deleted. The requirements apply to the trisodium phosphate dodecahydrate (TSP) storage baskets. The function of the TSP (containment sump ph control) will be taken over by the NaOH spray additive system.

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New Specifications 3.6.2.2 and 4.6.2.2 apply to the planned NaOH containment spray additive system.

780970037

Mr. Victor Stello  
Page Two

Re: St. Lucie Unit 1  
Facility Operating License DPR-67

Page 3/4 6-17

The Specification number for the containment fan cooler Limiting Condition for Operation is changed from 3.6.2.2 to 3.6.2.3.

Page B 3/4 5-1

The discussion of TSP is deleted from the Bases for ECCS Subsystems.

Page B 3/4 6-3

Bases Section 3/4.6.2.2 is renumbered 3/4.6.2.3. A discussion of the Spray Additive System is added as Section 3/4.6.2.2.

Condition of License I.1 requires that the NaOH spray additive system be installed either prior to startup following the first regularly scheduled refueling outage or by March 1, 1979, whichever occurs first. FPL fully intends to install the system during the present refueling outage. At the moment, however, we are experiencing difficulties in the procurement of materials, and completion before startup could be impacted. Should this occur, in order to not delay startup, we would propose to leave the TSP baskets and their pertinent technical specifications in place and to request that completion of the NaOH spray additive system be deferred until the 1979 refueling outage (expected to begin in April 1979). We shall keep you advised of the status of procurement and installation and will be prepared to discuss with you the bases for an extension of this Condition of License should that appear to be necessary.

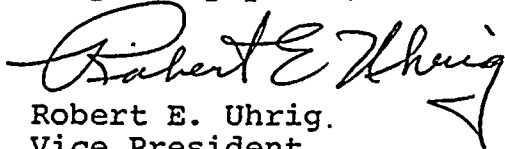
Since the proposed technical specification is being submitted in conjunction with the installation of the NaOH spray additive system as required by the Commission in its Safety Evaluation Report for St. Lucie 1 and Condition of License I.1, FPL believes that this amendment falls in the category described by Footnote 2 of 10 CFR 170.22 and is therefore exempt from the facility license amendment fee schedule.

Mr. Victor Stello  
Page Three

Re: St. Lucie Unit 1  
Facility Operating License DPR-67

The proposed amendment has been reviewed by the St. Lucie Facility Review Group and the Florida Power & Light Company Nuclear Review Board. They have concluded that it does not involve an unreviewed safety question.

Very truly yours,

  
Robert E. Uhrig.  
Vice President

REU:MAS:sl.  
Attachment

cc: Mr. Peter B. Erickson  
Mr. James P. O'Reilly, Region II  
Harold F. Reis, Esquire

## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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5. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
  6. Verifying that each ECCS subsystem is aligned to receive electrical power from separate OPERABLE emergency busses.
- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:
1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
  2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- d. At least once per 18 months by:
1. Verifying automatic isolation of the shutdown cooling system from the Reactor Coolant System when the Reactor Coolant System pressure is above 300 psig.
  2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

## CONTAINMENT SYSTEMS

### SPRAY ADDITIVE SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.6.2.2 The spray additive system shall be OPERABLE with:

- a. A spray additive tank containing a volume of greater than 4010 gallons of between 30 and 32 % by weight NaOH solution, and
- b. Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a containment spray system pump flow.

APPLICABILITY: MODES 1, 2, and 3\*.

#### ACTION:

With the spray additive system inoperable, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the spray additive system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.2.2 The spray additive system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 6 months by:
  1. Verifying the contained solution volume in the tank, and
  2. Verifying the concentration of the NaOH solution by chemical analysis.
- c. At least once per 18 months, during shutdown, by verifying that each automatic valve in the flow path actuates to its correct position on a CSAS test signal.

\*Applicable when pressurizer pressure 1750 psia.

## CONTAINMENT SYSTEMS

### CONTAINMENT COOLING SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.6.2.3 Four containment fan coolers shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

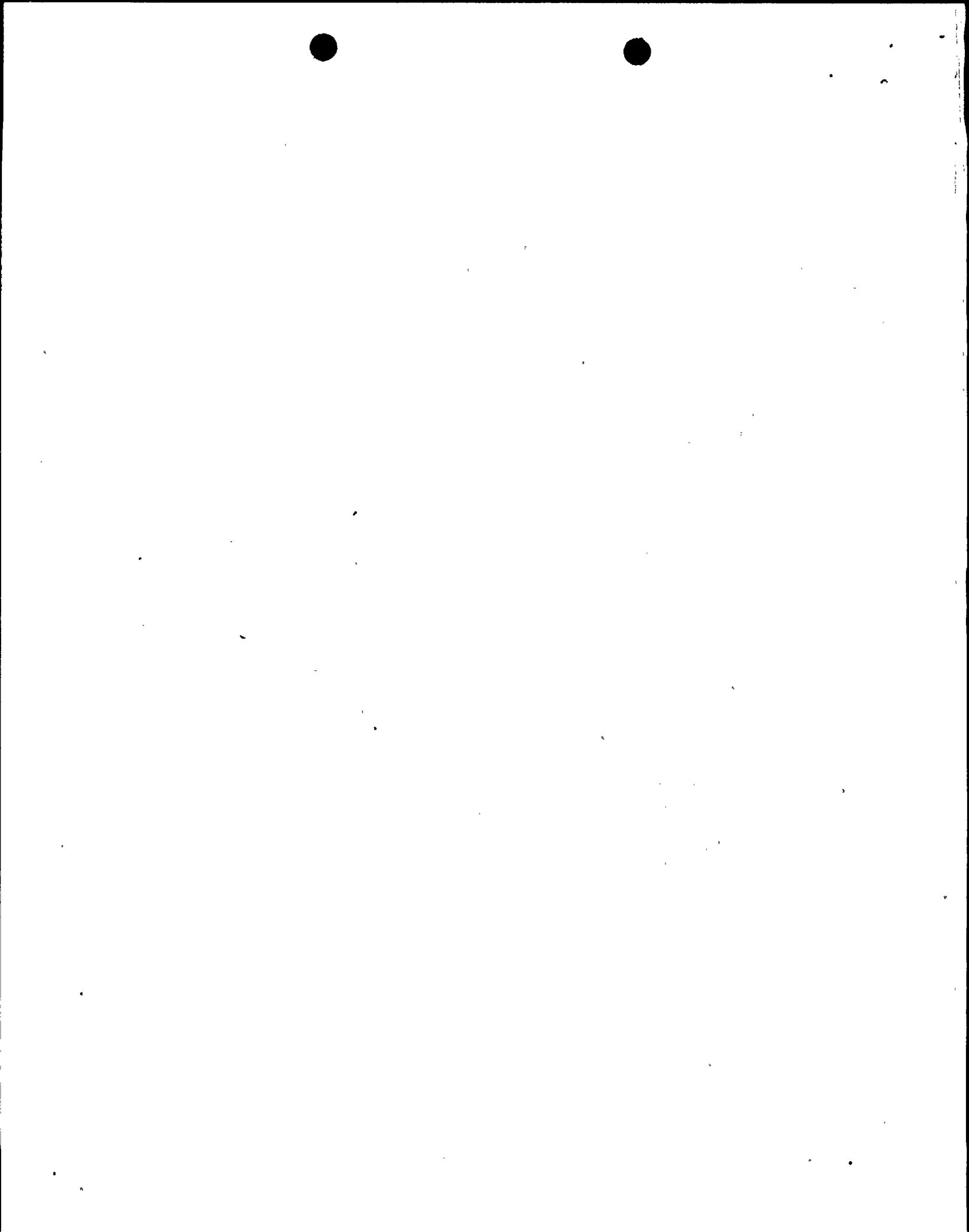
- a. With one containment fan cooler inoperable and both containment spray systems OPERABLE, restore the inoperable fan cooler to OPERABLE status within 30 days or be in HOT SHUTDOWN within the next 12 hours.
- b. With one containment fan cooler inoperable and one containment spray system inoperable, restore either the inoperable fan cooler or the inoperable spray system to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.2.3 Each containment fan cooler shall be demonstrated OPERABLE at least once per 31 days on a STAGGERED TEST BASIS by:

- a. Starting each unit from the control room;
- b. Verifying that each unit operates for at least 15 minutes, and
- c. Verifying a cooling water flow rate of  $\geq$  1200 gpm to each cooling unit.





### 3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

#### BASES

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#### 3/4.5.1 SAFETY INJECTION TANKS

The OPERABILITY of each of the RCS safety injection tanks ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on safety injection tank volume, boron concentration and pressure ensure that the assumptions used for safety injection tank injection in the accident analysis are met.

The limit of one hour for operation with an inoperable safety injection tank minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional safety injection tank which may result in unacceptable peak cladding temperatures.

#### 3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate and independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

## CONTAINMENT SYSTEMS

### BASES

#### 3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between (8.5) and (11.0) for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

#### 3/4.6.2. CONTAINMENT COOLING SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

#### 3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

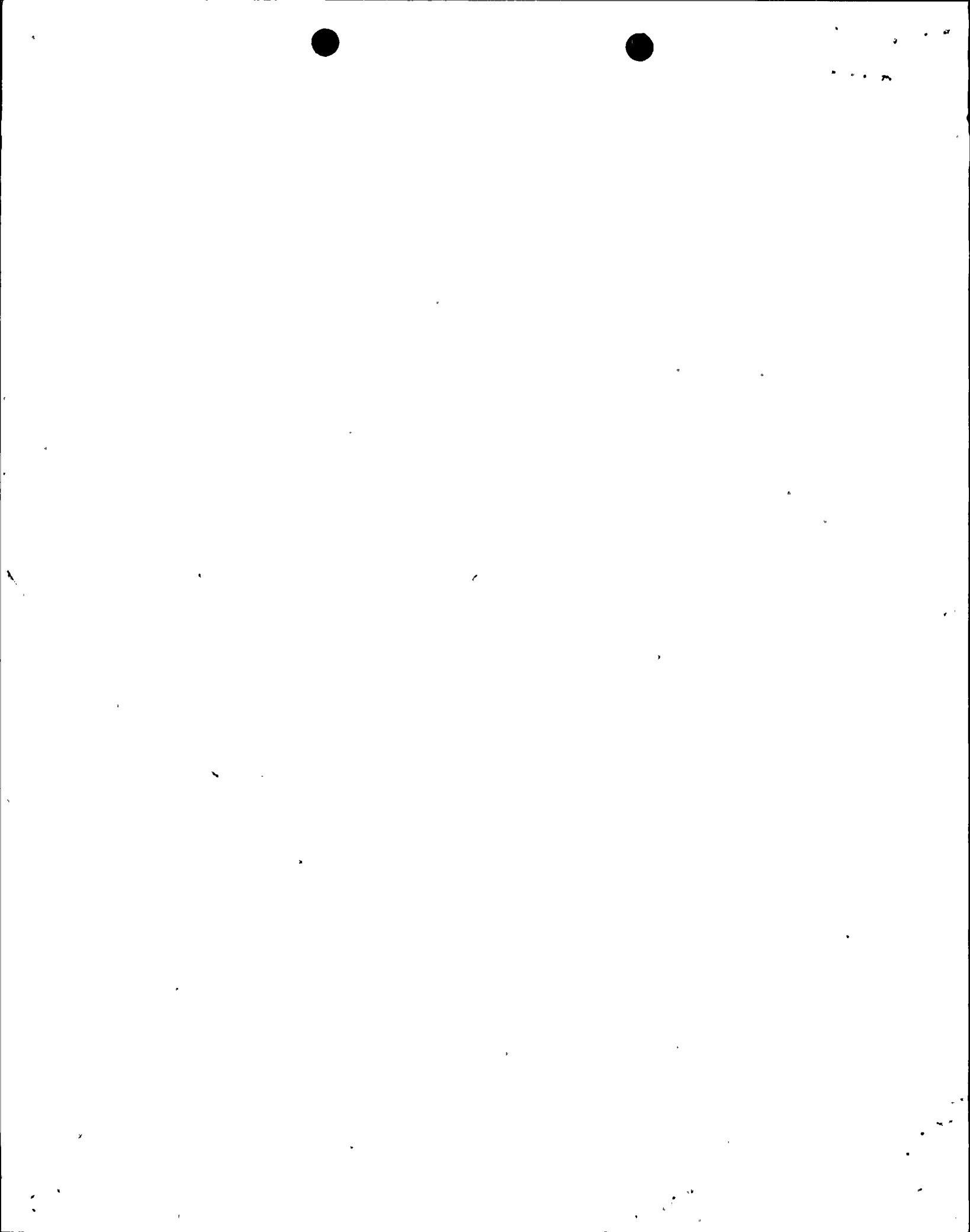
#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment.

The containment fan coolers are used in a secondary function to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.

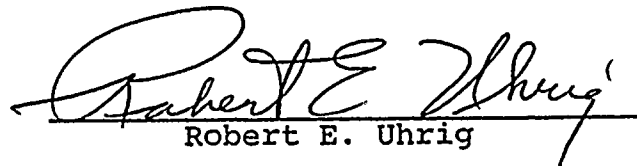
#### 3/4.6.5 VACUUM RELIEF VALVES

The OPERABILITY of the containment vessel to annulus vacuum relief valves ensures that they will open at a pressure differential of  $2.25 \pm 0.25$  inches Water Gauge. This condition is necessary to prevent exceeding the containment design limit for internal pressure differential of 0.70 psi.

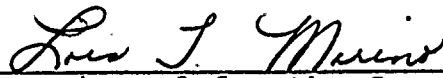


STATE OF FLORIDA    )  
                          )  
COUNTY OF DADE    )        ss.

Robert E. Uhrig, being first duly sworn, deposes and says:  
That he is a Vice President of Florida Power & Light Company,  
the Licensee herein;  
That he has executed the foregoing document; that the state-  
ments made in this said document are true and correct to the  
best of his knowledge, information, and belief, and that he  
is authorized to execute the document on behalf of said  
Licensee.

  
Robert E. Uhrig

Subscribed and sworn to before me this  
5th day of April, 19 78

  
NOTARY PUBLIC, in and for the County of Dade,  
State of Florida

My commission expires: NOTARY PUBLIC STATE OF FLORIDA at LARGE  
MY COMMISSION EXPIRES AUGUST 24, 1981  
BONDED THRU MAYNARD BONDING AGENCY

