

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

TO: D.K. DAVIS	FROM: FLORIDIA POWER & LIGHT CO. MIAMI, FLORIDIA R.E. UHRIG	DATE OF DOCUMENT 6/27/77
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DESCRIPTION: *in accordance w/ their 3-2-77 commitment...*
SAFETY ANALYSIS REGARDING THE EFFECTS OF INCREASED FISSION GAS RELEASES ON CYCLE 1

(1 P & 1P)

PLANT NAME: ST. LUCIE # 1
SAB

ENCLOSURE

ACKNOWLEDGED
DO NOT REMOVE

SAFETY	FOR ACTION/INFORMATION	ENVIRONMENTAL
ASSIGNED AD:		ASSIGNED AD: V. MOORE (LTR)
BRANCH CHIEF:	<i>Davis (5)</i>	BRANCH CHIEF:
PROJECT MANAGER:	<i>Regues</i>	PROJECT MANAGER:
LICENSING ASSESTANT:	<i>D. J. S. S.</i>	LICENSING ASSISTANT:
		B. HARLESS

INTERNAL DISTRIBUTION			
REG FILES	SYSTEMS SAFETY	PLANT SYSTEMS	SITE SAFETY & ENVIRON ANALYSIS
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T & E (2)	SCHROEDER	BENAROYA	CRUTCHFIELD
OELD	ENGINEERING	LAINAS	ENVIRO TECH. ERNST
GOSSICK & STAFF	KNIGHT	IPPOLITO	BALLARD
HANAUER	BOSNAK	F. ROSA	YOUNGBLOOD
MTPC	SIHWELL	OPERATING REACTORS	STELLO
CASE	PAWLICKI	ELSENHUT	SHAO
BOYD		BAER	BUTLER
PROJECT MANAGEMENT	REACTOR SAFETY	GRIMES	SITE TECH. GAMMILL (2)
SKOVHOLT	ROSS		SITE ANALYSIS VOLLMER
P. COLLINS	NOVAK		BUNCH
HOUSTON	ROSZTGCZY		J. COLLINS
MELTZ	CHECK		KREGER
HELTEMES			
SK	AT&I		
	SALTZMAN		
	RUTBERG		

EXTERNAL DISTRIBUTION			CONTROL NUMBER
LPDR: Ft Pecos, Fla			MA 4 771860074
TIC	NSIC		
NAT LAB			
REG IV (J. HANCHETT)			
16 CYS ACRS SENT CATEGORY <i>B</i>			

1944

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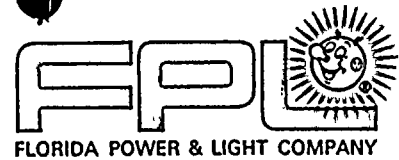
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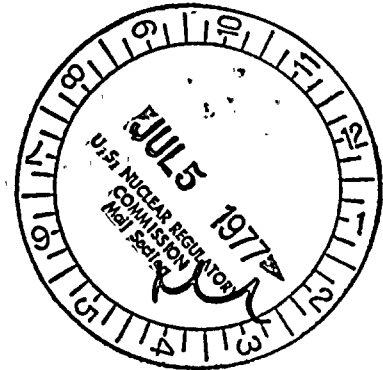
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June 27, 1977
L-77-194

Regulatory Docket File

Office of Nuclear Reactor Regulation
Attention: Mr. Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Dear Mr. Davis:

Re: St. Lucie Unit 1
Docket No. 50-335
Fission Gas Release

In accordance with our commitment of March 2, 1977 (L-77-72), information regarding the effects of increased fission gas releases on Cycle 1 of the St. Lucie Unit 1 safety analysis is attached.

The effects of increased fission gas releases on Cycles 2 and 3 will be addressed in their respective reload submittals.

Very truly yours,

Robert E. Uhrig
Robert E. Uhrig
Vice President

REU/MAS/MV/dm

Attachment

cc: Mr. Norman C. Moseley, Region II
Robert Lowenstein, Esquire

771860074

ATTACHMENT

St. Lucie Unit 1
Docket No. 50-335
Fission Gas Release

The NRC has described a new fission gas release model which releases more gas than the current FATES model for local burnups in excess of 20,000 MWD/MTU. Furthermore, the NRC has requested that assessments be made of the impact of this gas release model on ECCS performance. The effect of the additional gas release is to produce higher fuel rod pressures which could influence the clad rupture time. Accordingly, the ECCS performance analysis for St. Lucie Unit 1 Core 1 has been reviewed, with the conclusion that there is no adverse effect on the LOCA analysis due to the increased fission gas release.

An estimate of the exposure for the lead burnup rod at the end of Core 1 operation indicates that the burnup (21,300 MWD/MTU) just exceeds the 20,000 MWD/MTU threshold. At this exposure the NRC model will not result in a significant increase in gas release.

Therefore, the ECCS performance results (forwarded to the NRC with letter L-77-37 of February 1, 1977) to determine an allowable peak linear heat generation rate of 14.8 kw/ft are appropriate even if the NRC's "enhanced" gas release model is implemented.

Furthermore, a review of all other safety-related transients and accidents has established that the NRC model has no discernible effect on Cycle 1 of St. Lucie Unit 1.

