NRC FORM 195 (2-76)

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TO:	FROM:	DATE OF DOCUMENT
MR. VICTOR STELLO, JR.	FLORIDA POWER & LIGHT COMPANY MIAMI, FLORIDA MR. ROBERT E. UHRIG	5/25/76
		DATE RECEIVED: 5/28/76

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DESCRIPTION

LTR. RE THEIR 1/28/76 LTR..... TRANS THE FOLLOWING:

(1-P)

PLANT NAME:

TURKEY POINT 3 & 4

ENCLOSURE

FURNISHING PROPOSED AMDT. TO OL/W SUPPLEMENTAL INFORMATION SUBMITTED AS APPENDIX B OF SPENT FUEL STORAGE FACILITY MODIFICATION SAFETY ANALYSIS RPT.

(3-P)

ACKNOWLEDGED
DO NOT REMOVE

FOR ACTION/INFORMATION 6/1/76 RJL

	ASSIGNED AD:			ASSIGNED AD:	
X	BRANCH CHIEF:	LEAR (6)		BRANCH CHIEF:	
	PROJECT MANAGER:			PROJECT MANAGER:	
X	LIC. ASST.:	PARRISH		LIC. ASST.:	

INTERNAL DISTRIBUTION

X	REG FILE		SYSTEMS SAFETY		PLANT SYSTEMS		ENVIRO TECH
X	NRC PDR		HEINEMAN		TEDESCO		ERNST
X	I & E (2)		SCHROEDER		BENAROYA		BALLARD
X	OELD				LAINAS		SPANGLER
	GOSSICK & STAFF		ENGINEERING		IPPOLITO		
	MIPC		MCCARY				SITE TECH
	CASE		KNIGHT		OPERATING REACTORS		CAMPBELL
	HANAUER		SIHWEIL		STELLO		STEPP
	HARLESS		PAWLICKI				HULMAN
					OPERATING TECH		
	PROJECT MANAGEMENT		REACTOR SAFETY	X	EISENHUT		SITE ANALYSIS
	BOYD		ROSS	X	SHAO		VOLLMER
	P COLLINS		NOVAK	X	BAER		BUNCH
	HOUSTON		ROSZTOCZY	X	SCHWENCER	X	J. COLLINS
	PETERSON		CHECK	X	GRIMES		KREGER
	MELTZ						
	HELTEMES		AT & I		SITE SAFETY & ENVIRO		
	SKOVHOLT		SALTZMAN		ANALYSIS		
			RUTBERG		DENTON & MULLER		

EXTERNAL DISTRIBUTION

X	LPDR: MIAMI, FLA.		NATL LAB	BROOKHAVEN NATL LAB
X	TIC		REG. V-IE.	ULRIKSON (ORNL)
X	NSIC		LA PDR	
	ASLB		CONSULTANTS	
X	ACRS 16 ~~HOLDING~~/SENT = PARRISH			

CONTROL NUMBER: 5382

NRC FORM 195 (2-76)

FLORIDA POWER & LIGHT COMPANY

L-76-201

May 25, 1976

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

Dear Mr. Stello:

Re: Turkey Point Plant Units 3 and 4
Docket Nos. 50-250 and 50-251
Proposed Amendment to Facility Operating
Licenses DPR-31 and DPR-32
Supplemental Information

Attached herewith is supplemental information related to our proposed modification of our spent fuel storage facility originally submitted on January 28, 1976. This information is submitted as Appendix B of our Spent Fuel Storage Facility Modification Safety Analysis Report.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President

REU/GDW/hlc

Attachment

cc: Jack R. Newman, Esq.

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APPENDIX B

This section provides additional information relative to the cask handling crane. It is intended to supplement the information provided in the body of this report, and our letters to Mr. Goller dated August 23, 1974 and January 10, 1975.

An analysis has been completed of the cask handling crane using the following initial conditions:

1. A single element cask having a weight of 51,200 lbs., (includes the weight of a single PWR fuel assembly, water, yoke, and crane hook), and a maximum diameter 47.13 inches. The dry weight of the cask is 45,500 lbs.

2. Cask being lowered at the maximum possible main hoist speed of seven feet per minute.

3. Simultaneous setting of both DC magnetic electric shoe brakes.

4. Each brake has an actual capacity of 219.45 tons.

The results of this analysis are as follows:

	ACTUAL LOAD (Static plus dynamic)	Load Required To Initiate Yielding
TRUNNION	28,400 lbs. per Trunnion	119,400 lbs. per Trunnion
YOKE		
Top Section	56,800 lb. total	253,400 lbs.
Lower Section	28,400 lb. per arm	81,100 lb. per arm
HEAD BOLTS	Not applicable to cask lift stresses since the trunnions transmit their load directly to the cask body and not to the cask head (and, hence, the cask bolts).	

The deceleration forces which result from the DC magnetic electric shoe brakes being simultaneously applied while a cask is being lowered at seven feet per minute are imparted to the cask and yoke. These forces are less than the forces required to initiate yielding in the yoke and trunnions. The low deceleration forces are attributable to the ability of the supporting wire ropes to elongate and, hence, absorb the kinetic energy of the cask. A conservative length of fifty (50) inches of wire rope was assumed for this calculation. The dynamic and static loads imposed on the wire rope will have no deleterious effect on the rope.

As stated in our letter to Mr. Goller of January 10, 1975:

> "A two blocking situation which would result from raising the load too high is prevented by two sets of screw type limit switches. The first set limits the cask height such that the cask will clear the fuel pool wall by approximately six inches. The second set, normally furnished to prevent blocking, will now act as a redundant stop. The operator viewing from the cab, as well as other observers, will add further assurance that this or any other non-routine maneuver will be avoided. "Dead Man" protection is accomplished by spring returns on all the crane's master function switches. This protective function removes power from all drive sources."

There is approximately fifteen (15) feet between the setpoint and the upper limit of hook travel. The fifteen feet allows ample room to accommodate setpoint tolerances. Moreover, ample time is provided for the crane operator to secure power to the crane in the unlikely event that both limit switches failed and, therefore, prevent two-blocking from occurring.

The alleyway* between Units 3 and 4 above which the cask will be moving during the transfer of fuel elements between the two units, and all the critical piping that crosses it underground, and underground cable duct banks have been analyzed for the cask drop. Adequate protection for the areas of interest will be provided as required by a combination of the compacted soil, a concrete slab four inches thick, or other suitable protective covering such as steel plates or wooden timbers. The two pipe trenches, 2'0" and the 4'9" wide trench are covered with 1" thick steel plate which provide adequate protection for the piping from a cask drop. The other five foot wide trench will be provided with a suitable cover to ensure protection for the piping from a cask drop.

With the precautions mentioned above, we have concluded that the safe shutdown of both reactors will not be precluded in the unlikely event of a spent fuel cask drop during transfer from one unit to the other.

Figure B-1 shows the loci of possible impact points in the unlikely event of a cask tip. For this loci of points, we assumed that the cask hit the Spent Fuel Building wall as it was being transferred, the yoke disengaged, and the cask tipped and fell horizontally into the pool.

Florida Power & Light Company will limit the decay time of the elements inside the cross-hatched area of Figure 1 to 1000 hours or greater during evolutions involving spent fuel cask handling inside the Fuel Handling Building.

*Alley refers to the clear north-south passage that is located just east of the Unit Nos. 3 and 4 auxiliary building.

FIGURE B-1

SPENT FUEL PIT

LOCI OF CASK TIP IMPACT POINTS