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 URRIG, R.E.    Florida Power & Light Co.  
 RECIP. NAME    RECIPIENT AFFILIATION  
 MILLER, J.R.    Operating Reactors Branch 3

SUBJECT: Forwards supplemental response to NRC request for addl info re NUREG-0612 General Guideline 7, "Crane Design." Outstanding concerns resolved.

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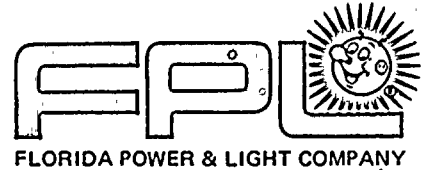
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August 26, 1983  
L-83-463

Office of Nuclear Reactor Regulation  
Attention: Mr. James R. Miller, Chief  
Operating Reactors Branch #3  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Miller:

Re: St. Lucie Unit 1  
Docket No. 50-335  
Control of Heavy Loads (TER)

Reference: FPL Letter No. L-82-316 to the NRC, dated 7/28/82

In our initial response of July 28, 1982 to the Draft Technical Evaluation Report (TER) prepared for St. Lucie Unit 1, we had partially responded to your concerns pertaining to NUREG-0612, General Guideline 7, "Crane Design".

We have since contacted the applicable crane manufacturers and have resolved the outstanding TER concerns as noted in the attached supplemental response.

Very truly yours,

Robert E. Uhrig  
Vice President  
Advanced Systems and Technology

REU/PLP/cab

Attachment

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PDR ADDCK 05000335  
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*Aug 31*

SUPPLEMENT TO THE ST. LUCIE 1 RESPONSE  
TO  
THE NRC'S REQUEST FOR ADDITIONAL INFORMATION  
PERTAINING TO  
NUREG 0612 -- CONTROL OF HEAVY LOADS

INTRODUCTION

On December 22, 1980, the NRC issued generic letter 81-07 to Florida Power and Light Company (FPL) requesting a review of the provisions for handling and control of heavy loads at St. Lucie Unit 1, an evaluation of these provisions with respect to the guidelines of NUREG 0612 and providing additional information as required to determine conformance with these guidelines. On July 2, 1981, FPL provided its initial response to this request. On October 9, 1981, Franklin Research Center (FRC), a consultant to the NRC, issued a draft Technical Evaluation Report (TER) on this initial response. On July 28, 1982, FPL provided a supplemental response to address the TER's request for additional information. In this response, FPL noted that the concerns pertaining to Guideline 7, "Crane Design," could not be fully addressed until additional information was received from the applicable crane manufacturers. The purpose of this supplement is to provide the balance of the crane design information not addressed in our July 28, 1982 response.

Draft TER Section 2.1.7 Crane Design  
(Guideline 7, NUREG-0612, Article 5.1.1 (7))

a) FRC Conclusions and Recommendations

St. Lucie Unit 1 does not comply with Guideline 7. In order to comply, FPL should evaluate the existing crane designs to determine compliance with the fourteen (14) design condition specified in the TER.

b) FPL Position

The following cranes are considered to fall within the scope of NUREG 0612, Guideline 7:

1. Reactor Building Polar Crane
2. Fuel Cask Crane
3. Intake Structure Crane

In our July 28, 1982 response, we fully addressed the following TER design conditions as they apply to the subject cranes (as such, our response to these conditions will not be repeated here):

1. Impact Allowance (CMAA-70, Article 3.3.2.1.1.3)
2. Torsional Forces (CMAA-70, Article 3.3.2.1.3)
3. Fatigue considerations (CMAA-70, Article 3.3.3.1.3)
4. Hoist rope requirements (CMAA-70, Article 4.2.1)
5. Gear design (CMAA-70, Article 4.5)
6. Bridge brake design (CMAA-70, Article 4.7.2.2)
7. Restart protection (CMAA-70, Article 5.6.2).

The following is a breakdown of the remaining TER design conditions as they apply to the subject cranes

1. Longitudinal Stiffeners (CMAA-70, Article 3.3.3.1)

The crane manufacturer has determined that the longitudinal stiffeners supplied on the Reactor Building Polar Crane do not conform to CMAA-70, Articles 3.3.3.1.2.1 and 3.3.3.1.2.3 (concerning the location and moment of inertia of these stiffeners). However, the manufacturer has also stated that an equivalent design procedure has been used in lieu of these articles. As such, we have determined that this crane complies with CMAA longitudinal stiffener requirements.

Based on information received from the manufacturers of the Fuel Cask Crane and Intake Structure Crane, we have determined that these cranes comply with CMAA longitudinal stiffener requirements.

2. Allowable compressive stress (CMAA-70, Article 3.3.3.1.3)

Based upon information received from the crane manufacturers, we have determined that these cranes comply with the allowable compressive stress specified by CMAA-70.

3 & 4 Drum Design (CMAA-70, Articles 4.4.1 & 4.4.3)

Based upon information received from the crane manufacturers, we have determined that these cranes comply with the drum design requirements specified by CMAA-70.

5. Hoist brake design (CMAA-70, Article 4.7.4.2)

Based upon information received from the crane manufacturers, we have determined that these cranes comply with the hoist brake design requirements specified by CMAA-70.

6. Bumper and Stops (CMAA-70, Article 4.12)

The crane manufacturer has determined that safety cables for the trolley chocks on the Reactor Building Polar Crane have not been provided in accordance with the requirements of CMAA-70, Article 4.12.3.2. We are in the process of procuring these safety cables and we will advise the NRC of the schedule for installation when determined.

Based upon information received from the manufacturers of the Fuel Cask Crane and the Intake Structure Crane, we have determined that these cranes comply with the CMAA-70 requirements applicable to bumpers and stops.

7. Static control systems (CMAA-70, Article 5.4.6)

Based upon information received from the crane manufacturers, we have determined that these cranes comply with the static control system requirements of CMAA-70.

Upon completion of the modification to the Reactor Building Polar Crane, noted herein, all applicable St. Lucie Unit 1 cranes will conform to the requirements of NUREG 0612.