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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
 AUTH. NAME: URRIG, R.E. AUTHOR AFFILIATION: Florida Power & Light Co.
 RECIP. NAME: VARGA, S.A. RECIPIENT AFFILIATION: Operating Reactors Branch 1

SUBJECT: Supplements 820810 response to NRC 801222 request for addl info re draft technical evaluation rept on Guideline 7, "Crane Design" of NUREG-0612, info obtained from crane manufacturer should resolve item.

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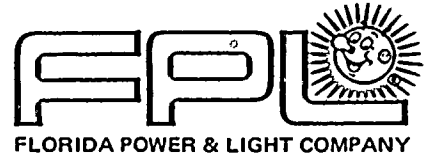
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Manufacturer should resolve item.
"Some version" of Model-601, info obtained from crane
info re draft technical evaluation sent on envelope A.
4-23-61: Supplemental response to W.C. 559100 re request for audit

FILE: BK SUBMITTAL: C01 A-30 Control of Heavy Load Near
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August 15, 1983
L-83-449

Office of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Varga:

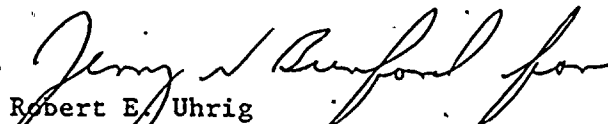
Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 and 50-251
Control of Heavy Loads
Draft Technical Evaluation Report

Reference: FPL Letter No. L-82-346 to the NRC, dated 8/10/82

In the initial response of August 10, 1982 to the Draft Technical Evaluation Report (TER) prepared for Turkey Point Units 3 & 4, FPL noted that the concerns pertaining to Guideline 7, "Crane Design," could not be addressed until additional information was received from the applicable crane manufacturers.

FPL subsequently contacted the crane manufacturers and has resolved the TER concerns pertaining to crane design as noted in the attached supplemental response.

Very truly yours,


Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/SAV

Attachment

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PDR ADOCK 05000250
PDR

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SUPPLEMENT TO THE TURKEY POINT 3 & 4 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 a generic letter to Florida Power and Light Company (FPL) requesting a review of the provisions for handling and control of heavy loads at Turkey Point Units 3 & 4, 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 September 4, 1981, FPL provided its initial response to this request. On December 29, 1981 and January 6, 1983, Franklin Research Center (FRC), a consultant to the NRC, issued draft Technical Evaluation Reports (TER) on this initial response. On August 10, 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 addressed until additional information was received from the applicable crane manufacturers. The purpose of this supplement is to provide the crane design information not addressed in our August 10, 1982 response.

Draft TER Section 2.1.8 Crane Design
(Guideline 7, NUREG-0612, Article 5.1.1 (7))

a) FRC Conclusions and Recommendations

Turkey Point Units 3 & 4 do not comply with Guideline 7. In order to comply, FPL should evaluate the existing crane designs to determine compliance with the fourteen (14) design conditions 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 Cranes
2. Fuel Cask Crane
3. Intake Structure Crane
4. Turbine Gantry Cranes *

The following is a breakdown of our responses to the TER design concerns as they apply to the subject cranes:

- * We do not, however, plan to routinely use the Unit land 2 cranes in the vicinity of safety related equipment. We will develop criteria for their use which meets our commitments to NUREG-0612.

1. Impact Allowance (CMAA-70, Article 3.3.2.1.1.3)

Based upon information received from the crane manufacturers, we have determined that these cranes comply with the impact allowance criteria specified in CMAA-70.

2. Torsional Forces (CMAA-70, Article 3.3.2.1.3)

Based upon information received from the crane manufacturers, we have determined that these cranes have been designed to withstand the torsional forces specified in CMAA-70.

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

The crane manufacturers of the Fuel Cask Crane, Turbine Gantry Cranes and Reactor Polar Cranes have determined that these cranes 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 manufacturers have also stated that equivalent design procedures have been used in lieu of these articles. As such, we have determined that these cranes comply with the CMAA-70 requirements for longitudinal stiffeners.

Based upon information received from the manufacturer of the Intake Crane, we have determined that this crane complies with the intent of the CMAA longitudinal stiffener requirements.

4. 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 criteria specified in CMAA-70.

5. Fatigue considerations (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 considerations for fatigue loads specified in CMAA-70.

6. Hoist rope requirements (CMAA-70, Article 4.2.1)

Based upon information received from the crane manufacturers, we have determined that the hoist ropes on these cranes comply with CMAA-70 requirements.

7 & 8. Drum Design (CMAA-70, Articles 4.4.1 and 4.4.3)

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

9. Gear Design (CMAA-70, Article 4.5)

Based upon the information received from the crane manufacturers, gear design can be divided into two categories: 1) strength horsepower rating and 2) durability horsepower rating.

A) Strength horsepower rating

The crane manufacturers have determined that these cranes, with exception of the Unit 1 & 2 Turbine Gantry Crane, comply with the strength horsepower rating requirements specified in CMAA-70.

The strength horsepower rating for the auxiliary hoist drum set of the Unit 1 & 2 Turbine Gantry Crane does not comply with CMAA requirements. We are in the process of procuring a carburized gear set for this crane in order to comply with CMAA-70.

B) Durability horsepower rating

The crane manufacturers have stated that a durability failure of a gear is a non-catastrophic occurrence. Well before any failure can take place, severe pitting of the gear face will be present. This pitting can be easily detected upon visual inspection. To preclude any potential problems in this area, we have incorporated into our maintenance procedures for these cranes, a periodic inspection of the gears. Should this inspection indicate any undue wear or pitting, the gears will be replaced in compliance with CMAA-70 requirements.

10. Bridge Brake Design (CMAA-70, Article 4.7.2.2)

Based upon information received from the crane manufacturers, we have determined that bridge motion braking systems on these cranes comply with CMAA-70 requirements.

11. Hoist Brake Design (CMAA-70, Article 4.7.4.2)

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

12. Bumpers and Stops (CMAA-70, Article 4.12)

Based upon information received from the crane manufacturers, we have determined that the Reactor Polar Cranes, Fuel Cask Crane, Intake Crane, and Unit 3 & 4 Turbine Gantry Crane comply with CMAA-70 requirements for bumpers and stops.

The crane manufacturer of the Unit 1 & 2 Turbine Gantry Crane has determined that safety cables on the trolley chocks have not been provided in accordance with CMAA-70, Article 4.12.3.2. This non-conformance will not affect the load handling ability of this crane, nor will the failing of the chocks affect any other safety related system. As such, we have determined that this crane complies with the NUREG 0612 requirements for bumpers and stops.

13. 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.

14. Restart Protection (CMAA-70, Article 5.6.2)

Based upon information received from the crane manufacturers, we have determined that these cranes, with the exception of the Unit 1 & 2 Turbine Gantry Crane, comply with the restart protection requirements of CMAA-70.

In order to prevent accidental restart of the Unit 1 & 2 Turbine Gantry Crane, we are in the process of procuring the necessary materials to modify this crane to comply with the requirements of CMAA-70, Article 5.6.2.

Upon completion of the modifications noted in this response, all applicable Turkey Point crane designs will conform to the requirements of NUREG 0612.

