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 VARGA, S.A. Operating Reactors Branch 1

SUBJECT: Forwards addl info on Guideline 4, "Special Lifting Devices"
 & Guideline 7, "Crane Design," per draft technical
 evaluation repton control of heavy loads at facilities.

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Subject: Forwarded addl info on Guideline A, "Special Lifting Devices" & Guideline 7, "Crane Design" per draft technical evaluation rpt on control of heavy loads at facilities.

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February 11, 1983
L-83-71

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 & 50-251
Draft Technical Evaluation Report

In our letter (L-82-346) dated August 10, 1982, we provided additional information on the items in the Draft Technical Evaluation Report on Control of Heavy Loads at Turkey Point Units 3 & 4.

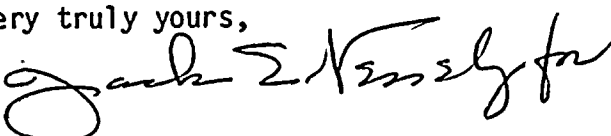
The purpose of this letter is to provide additional information on Guideline 4 (Special Lifting Devices) and Guideline 7 (Crane Design).

Our evaluation of FPL designed lifting devices is attached. The Westinghouse designed lifting devices have been evaluated by Westinghouse and we have received a preliminary copy of their report. We are still in the process of reviewing the detailed recommendations contained in the report. We expect to complete our review and provide the evaluations by March 15, 1983.

For Guideline 7 we have received schedules from the crane manufacturers for evaluations of the crane designs. We expect to be able to submit these evaluations by August 15, 1983.

Should you or your staff have any questions on this information, please contact us.

Very truly yours,


Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/PKG/js
Attachment

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PDR ADOCK 05000250
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A033

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire
PNS-LI-83-099-1

TURKEY POINT UNITS 3 & 4
REACTOR AND PRESSURIZER MISSILE SHIELD SLINGS
EVALUATION WITH RESPECT TO NUREG 0612 GENERAL GUIDELINES

A special lifting rig consisting of six (6) wire rope slings is used at Turkey Points 3 and 4 for handling of the reactor and pressurizer missile shields and the reactor coolant pump hatch covers in the containment. The lifting rig consists of two parts, each composed of three (3) slings and a 2 1/8" diameter choker. Although these slings are dedicated to handling these loads, the slings are standard "off-the-shelf" items with no special design. Therefore NUREG 0612 General Guideline (5) "Lifting Devices that are not Specially Designed" is considered the applicable evaluation criteria.

The following is a summary of pertinent sling, load and crane properties:

CONSTRUCTION	1 1/4" DIAMETER	6 X 36 IWRC WIRE ROPE
RATED CAPACITY	24,000#	Assumed Per ANSI B30.9.71
ULTIMATE STRENGTH (MIN)	120,000#	Table 3 - Per Sling
REACTOR MISSILE SHIELD WT	97,000#	
PRESSURIZER MISSILE SHIELD WT	51,300#	
CRANE MAIN HOOK (MIN SPEED AT RATED LOAD)	5 fpm	

In order to account for the NUREG 0612 Section 5.1.1(5) dynamic load factor, it will be conservatively assumed that the maximum lifting speed during missile shield handling is 20 fpm. Using the factors in CMAA #70 for dynamic contribution, this constitutes a 10% increase in load (i.e., 1/2 % per 1 fpm. Thus, the following safety factors are calculated:

F.S. (Reactor Missile Shield)	= 5.2	(40° Angle from vertical, 6 slings)
F.S. (Pressurizer Missile Shield)	= 7.7	(25° Angle from vertical, 4 slings)

Note that NUREG 0612 Guideline 5 requires a minimum factor of safety of 5.0.

The above factors of safety are calculated by dividing the sling ultimate strength by the adjusted actual load weight. The load is adjusted to account for the sling angle from the vertical and the previously mentioned dynamic contribution.

The slings are assumed to be constructed of Improved Plow Steel and the working load values are obtained from ANSI B30.9. There is, however, no documentation available to verify what the actual sling material is or that it conforms to this ANSI standard.

