

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8301070097 DOC. DATE: 83/01/03 NOTARIZED: NO DOCKET #
 FACIL: 50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
 AUTH. NAME: UHRIG, R. E. AUTHOR AFFILIATION: Florida Power & Light Co.
 RECIP. NAME: CLARK, R. A. RECIPIENT AFFILIATION: Operating Reactors Branch 3

SUBJECT: Forwards evaluation of special lifting devices designed by
 util re NUREG-0612, Guideline 4, "Special Lifting Devices" &
 Guideline 9, "Crane Design." Proposals & schedules on crane
 design received. Evaluation will be provided by Aug 1983.

DISTRIBUTION CODE: A033S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: OR Submittal: USI A-36 Control of Heavy Load Near Spent Fuel

NOTES:

	RECIPIENT ID CODE/NAME		COPIES		RECIPIENT ID CODE/NAME		COPIES	
			L	T			L	T
	NRR ORB3 BC		7	7	NRR CLEMENSON01		4	4
INTERNAL:	NRR REQUA, G 09		1	1	NRR/DI/ORAB 12		1	1
	NRR/DSI/AEB		1	1	<u>REG. FILE</u> 04		1	1
	RGN2		1	1				
EXTERNAL:	ACRS 13		6	6	LPDR 03		1	1
	NRC PDR 02		1	1	NSIC 06		1	1
	NTIS		1	1				

TOTAL NUMBER OF COPIES REQUIRED: LTR 26 ENCL 26

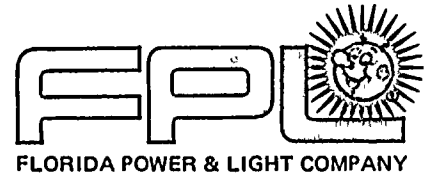
... of the ...
... of the ...
... of the ...
... of the ...
... of the ...

... of the ...
... of the ...
... of the ...
... of the ...

... of the ...
... of the ...

...

...
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5



January 3, 1983
L-83-3

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

Dear Mr. Clark:

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

Our letter (L-82-440) dated October 12, 1982, provided information concerning responses we are preparing on NUREG 0612 Guideline 4 (Special Lifting Devices) and Guideline 9 (Crane Design) for St. Lucie Unit 1.

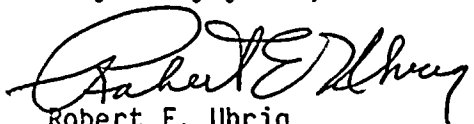
We have completed our evaluation of the special lifting devices designed by Florida Power & Light and this evaluation is attached.

We have not received a formal response to our request for proposal from our lifting device supplier. We know that they are processing the request and expect a schedule in the near future. We will provide this schedule when it becomes available.

We have received proposals and schedules from the crane manufacturers to provide evaluation of the Reactor Polar Crane, the Fuel Cask Crane, and the Intake Crane. Based on the information we have received, we would expect to be able to provide these evaluations in August 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/PLP/js

Attachment

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire
PNS-LI-82-535

A033

8301070097 820103
PDR ADECK 05000335
PDR

ST. LUCIE UNIT #1

REACTOR AND PRESSURIZER MISSILE SHIELD SLINGS

EVALUATION WITH RESPECT TO NUREG 0612 GENERAL GUIDELINES

A special lifting rig consisting of 4 wire rope slings with shackles is used at St Lucie Unit 1 for handling the reactor and pressurizer missile shields in the containment (see SK-128-9.3000). The use of these slings is dedicated to these missile shields. The slings are standard "off-the-shelf" items with no special design, as such, NUREG 0612 General Guideline (5)-"Lifting devices that are not specially designed" -is considered as the applicable evaluation criteria.

SYSTEM DATA:

Sling Construction	1 3/4" diameter 6 x 36 IWRC RRL Wire rope with crescent thimble one end, std eye other end. Extra Improved Plow Steel.
Rated Capacity	53,200#
Ultimate Strength (req'd)	266,000#
Ultimate Strength (actual based upon test)	306,000#
Proof Test (2x rated)	112,000#
Shackle Rated Load (FS-5)	50,000#
Missile Shield Wt (max)	137,900# (34,475#/sling)
Crane Main Hook (min. speed at rated load)	5 fpm

Evaluation Summary:

Maximum Shield Weight* (Adjusted)	$\frac{137,900 \times 1.1}{\cos 25.9^\circ} = 168,630\# (42,160\#/sling)$
Sling Safety Factor	$\frac{\text{Ultimate Strength}}{\text{Max. Shield Weight}} = \frac{266,000}{42,160} = 6.3$
Shackle Safety Factor	$\frac{\text{Ultimate Strength}}{\text{Max. Shield Weight}} = \frac{50,000 \times 5}{42,160} = 5.9$

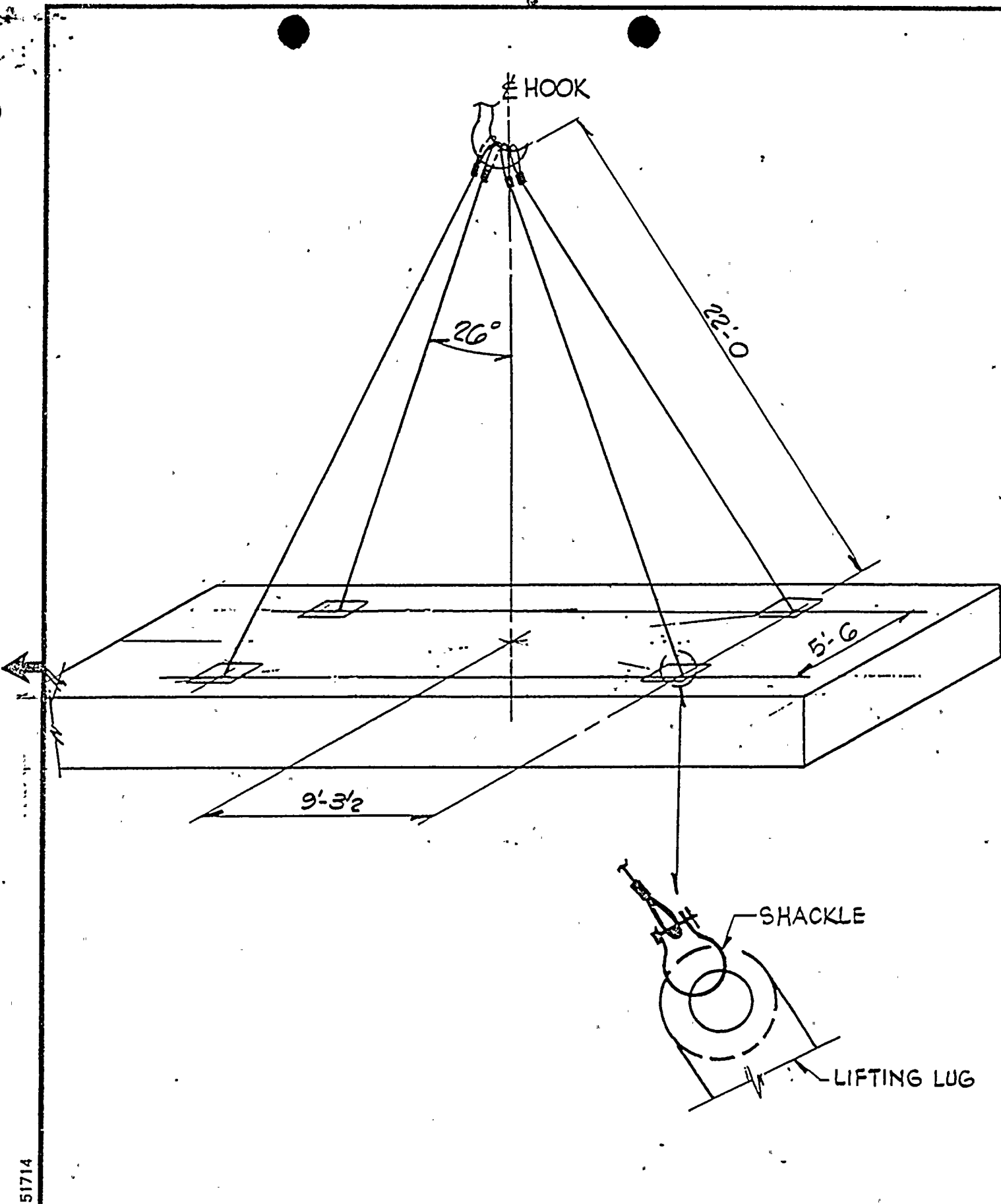
* (1) In order to account for NUREG 0612 Section 5.1.1(5) dynamic load factor, it will be conservatively assumed that the maximum lifting speed during missile shield handling is 20fpm. Using the factors in CMAA #70 for dynamic contribution, this constitutes a 10% increase in load (i.e., 1/2% per 1 fpm).

(2) 25.9° is the sling angle from the vertical. See sketch SK128.9.3000 for additional details.

Since the factors of safety calculated for this lift rig exceed five, it can be concluded that the slings satisfy the requirements of NUREG 0612 Guideline 5.

References: (Available upon request)

1. FPL - Purchase Order No. 46043-38018P
2. INDUSCO Certificate of Proof Test Serial Nos. I-01592 through I-01595, dated 3/29/79
3. INDUSCO Wire Rope Tensile Strength Certificate No. 2685621, dated 3/21/79.
4. EBASCO Letter No. SL-BF-82-542, "RCB Missile Shield Weights" dated 12/2/81.
5. EBASCO Specification FLO. 8770.750 "Reactor Building Bridge Crane".



BRUNING 40-5353 51714

EBASCO SERVICES INCORPORATED		APPROVED	FLORIDA POWER & LIGHT CO.	SK 128-9,3000
DIV. <u>CIVIL</u> DR. <u>RG</u>			HUTCHINSON ISLAND PLANT	
CH. <u>JTE</u>			UNIT NO. 1	
DATE <u>11/30/82</u>			REACTOR MISSILE SHIELD SLINGS	SHEET



~~SECRET~~