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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 AUTHOR AFFILIATION
UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Forwards addl info re steam generator repairs, in response to NRC 810129 ltr, Drawing of steam generator leg assembly encl.

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P. O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

February 17, 1981
L-81-40

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 and 4
Docket Nos. 50-250 and 50-251
Steam Generator Repairs

Attached you will find Florida Power and Light Company's responses to the requests for additional information which were enclosed with your letter of January 29, 1981.

Please notify us if we can supply additional information.

Very truly yours,

R. E. Uhrig
Vice President
Advanced Systems & Technology

REU/LFR/ah

Attachment

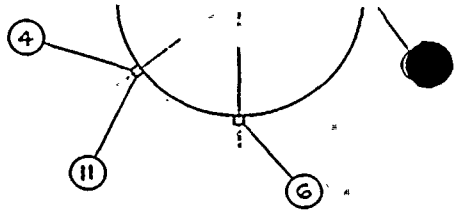
cc: Neil Chonin, Esquire
Norman A. Coll, Esquire
Henry Harnage, Esquire
Mark P. Oncavage
J. P. O'Reilly, Director, Region II
Harold F. Reis, Esquire
Burt L. Saunders, Esquire

A001
S
3/3

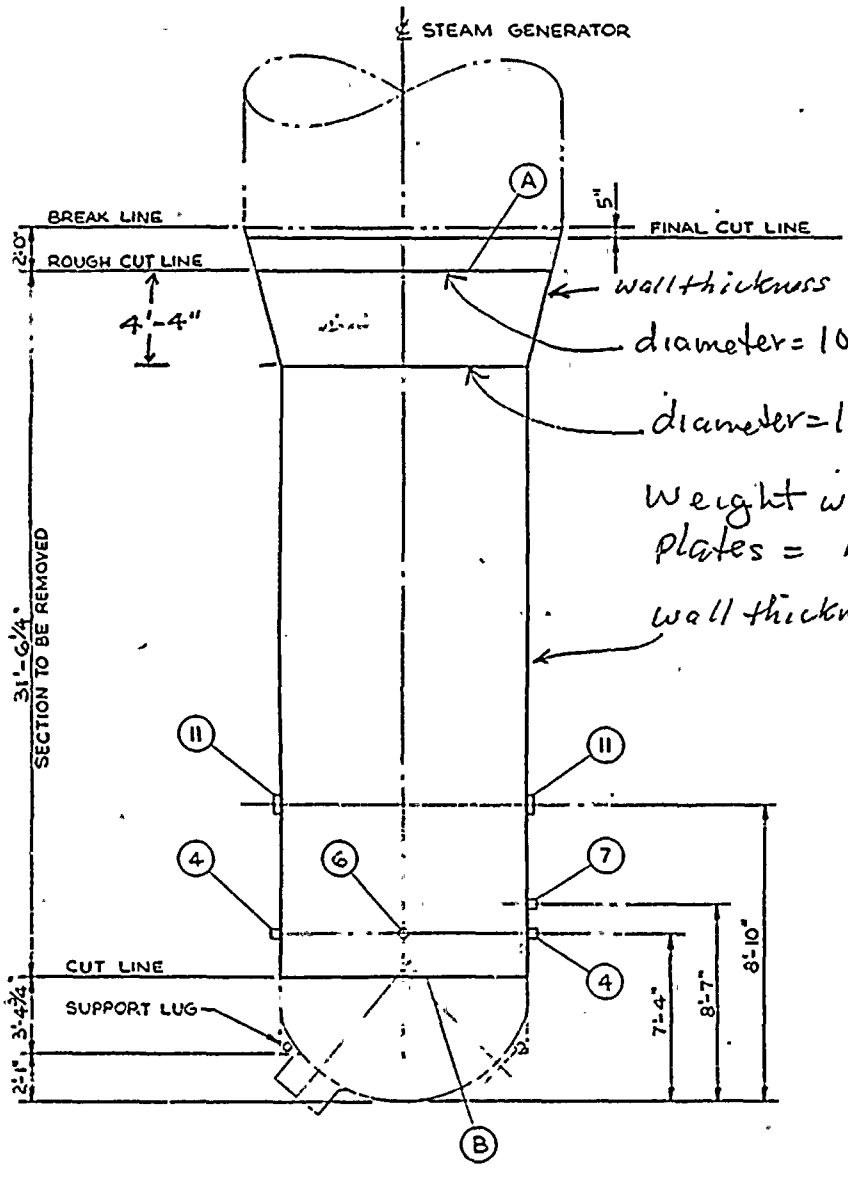
(1) The drawing of the steam generator assembly SGRR figure 3.3-7 does not have dimensions of the steam generator assembly. Provide the dimensions necessary to calculate the volume of the assembly.

Response

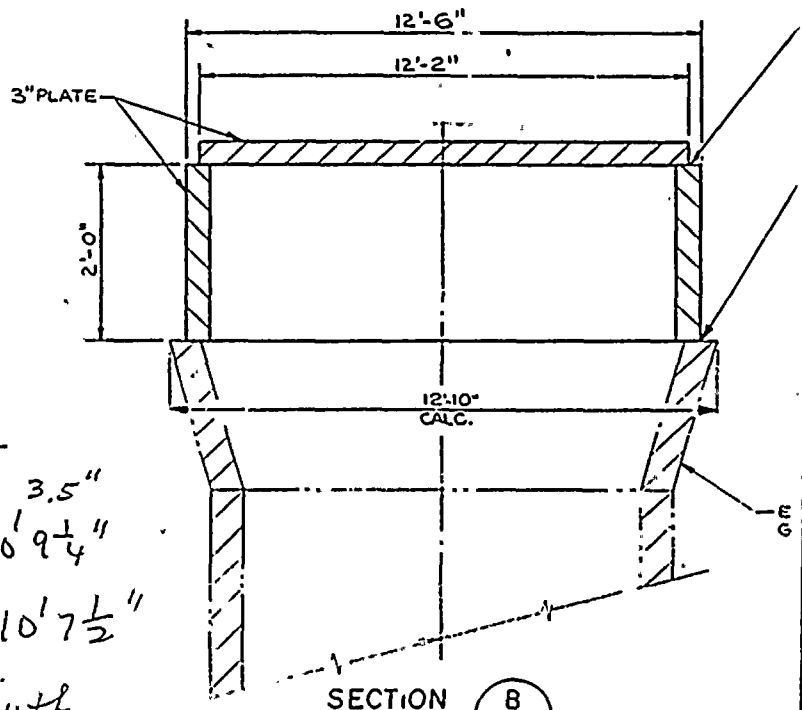
A drawing of the SGLA is attached with the necessary dimensions and the weight written in.



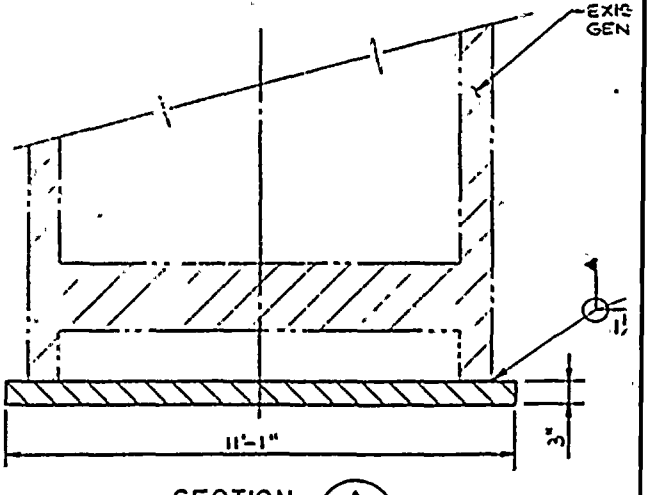
PLAN



ELEVATION



DET
TOP CL



DE
BOTTOM C

TITLE	SIZE	CLOSURE DETAIL	CLOSURE MATERIAL
TTOM BLOWDOWN	2"	1	ASTM A-36
TTOM BLOWDOWN	2"	1	
ELL DRAIN	1"	1	
NG RANGE LEVEL TAP	3/4"	1	
NDHOLE (SECONDARY)	6" I.D.	4	
NDHOLE (SECONDARY)	6" I.D.	4	
P CUT OPENING	N/A	2	
TTOM CUT OPENING	N/A	3	

(2) The number of workers given in the SGRR on p. 6-1 is 300. If that is not the total work force on the repair program, provide the total number of workers, i.e., anyone that is issued a film badge and dosimeter.

Response

This number (300 workers) is not the total work force on the repair. This is a conservative average daily number of people (both FPL and contractor) who may obtain some radiation exposure inside and outside containment. Of these, approximately 190 are craft personnel and 110 are supervisory, health physics, quality assurance/quality control, etc.

The total number of people who are issued a film badge and dosimeter is difficult to estimate with accuracy because there will be a turnover due to workers completing their assigned work and being no longer required, and to workers quitting or being discharged. In addition, it is projected that some workers may reach their quarterly radiation exposure limit, in which case they may be reassigned to work not involving radiation exposures until the end of the quarter, or until they are again required after the end of the quarter. Further, non-craft and management persons may be present on an irregular basis.

A rough approximation to the total number of people issued a badge and dosimeter during the repair of one unit can be calculated as follows:

It is assumed that the period for the repair of one unit is approximately 9 months working two ten-hour shifts per day, six days per week. It is also assumed that, for the reasons indicated above, approximately 60 new persons are issued a badge and dosimeter during each 30-day period. That is, after the first 30-day period, 360 persons would have been issued a badge and dosimeter, 420 persons after the second period, and so on. This would result in a total, which we believe to be conservative, of 840 different workers issued a badge and dosimeter for work in connection with the repair of one unit.

(3) The analysis of the drop of the steam generator indicated the maximum drop is 12 feet. However, according to D-1-1 of the SGRR the assemblies will be lowered into the storage facility which apparently has 22 foot high walls. Clarify the apparent discrepancy.

Response

The analysis of the drop of the steam generator was provided in connection with our "Environmental Evaluation of Offsite Shipment of the Turkey Point Steam Generator Lower Assemblies", which was submitted with our Letter L-80-364, R. E. Uhrig to Steven A. Varga, October 31, 1980, as revised by our Letter-80-386, R. E. Uhrig to Steven A. Varga, November 21, 1980. The 12 foot drops (at either the Turkey Point or the Barnwell sites) discussed therein are the maximum drops that can be postulated if the alternative is chosen to ship the steam generators offsite.

The possibility of accidents in connection with the onsite storage alternative was previously analyzed in the Steam Generator Repair Report, Section 3.4.7, "Accident Considerations Associated with Onsite Storage." At the time this section was written, it was planned to build three walls and the floor of the steam generator storage compound (SGSC), slide the steam generator lower assemblies (SGLA's) into the SGSC, then build the fourth wall and the roof. Consequently, no analysis of a drop was performed. However, we believe this approach may not maintain radiation doses to personnel as low as reasonably achievable (ALARA). Therefore, we presently plan, if the onsite storage alternative is chosen, to build all four walls and floor of the SGSC, lift the SGLA's into the SGSC, then install the roof. The walls of the SGSC would be approximately 22 feet high. (See p.D.1.1, Steam Generator Repair Report).

The probability of dropping an SGLA during such a lift is extremely low. If, nevertheless, we assume that an SGLA is dropped, the welds sealing the cover plates could be breached. However, the extent of such a breach would be limited because the cover plates for the SGLA will be approximately three inches thick and they will then be attached with 1½ inch fillet welds, and because the fill surrounding the SGSC is not an unyielding surface.

The doses at the Turkey Point North site boundary may be calculated, with large factors of conservatism, as follows:

It is assumed that the accident occurs approximately 80 days after reactor shutdown. The proposed location of the SGSC is about 1,470 meters from the North site boundary, and the corresponding $\overline{X}/Q$ is 1.66×10^{-4} sec/m^3. It is further assumed that 1% of the activity within the SGLA escapes, becomes airborne, and floats (in the calm conditions inherent in the given $\overline{X}/Q$) 1,470 meters to the site boundary.

Under these assumptions, the resultant dose to the lung of a teenager standing for two hours at the North site boundary would be approximately 138 millirem. This is well below limits for accidental releases.

(4) Contention 5e refers to condenser retubing cost. Page A-19-1 of the SGRR indicates that the main condensers have already been retubed with Titanium tubes. When was this done? What was the cost? Is there another retubing of the condenser imminent?

Response

The total cost of retubing of the condensers with titanium tubing was approximately $8,000,000. This was previously reported in our response to Intervenor's interrogatory 11-15. The dates on which retubing was performed are as follows.

Turkey Point Unit 3	Outage Dates
Water Box A North	Nov. 16, 1976 - Jan. 20, 1977
Water Box B North	Dec. 1, 1978 - Feb. 6, 1979
Water Box A South	Nov. 24, 1977 - Feb. 17, 1978
Water Box B South	Dec. 1, 1978 - Feb. 6, 1979

Turkey Point Unit 4	Outage Dates
Water Box A North	Aug. 13, 1978 - Oct. 5, 1978
Water Box B North	Apr. 18, 1976 - June 10, 1976
Water Box A South	Apr. 5, 1979 - June 22, 1979
Water Box B South	Apr. 26, 1980 - June 16, 1980

It is not expected that another retubing will be required in the foreseeable future. Please note that the Licensing Board has numbered the pertinent contention as contention 11e., not 5e.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket No. 50-250-SP
	)	50-251-SP
FLORIDA POWER AND LIGHT COMPANY	)	(Proposed Amendments to
	)	Facility Operating License
(Turkey Point Nuclear Generating	)	to Permit Steam Generator
Unit Nos. 3 and 4)	)	Repairs)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT copies of the letter of this date addressed to the members of the Board and the foregoing "Testimony of Frederick G. Flugger, Habib H. Jabali, and P. K. Wan Relating to Contention 4B" were served on the individuals whose names appear on the attached service list by deposit in the United States mail, first class, properly stamped and addressed, on the date shown below. Additional service by hand or courier was made upon the individuals next to whose name an asterisk (*) appears.

Harold F. Reis

Harold F. Reis

Lowenstein, Newman, Reis & Axelrad
1025 Connecticut Avenue, N.W.
Washington, D.C. 20036
Telephone: (202) 862-8410

May 15, 1981

Attachment

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 50-250-SP
	)	50-251-SP
FLORIDA POWER & LIGHT COMPANY	)	
	)	(Proposed Amendments to
(Turkey Point Nuclear	)	Facility Operating Licenses
Generating Unit Nos. 3 and	)	to Permit Steam Generator
4)	)	Repair)

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May 15, 1981

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