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

SUBJECT: Forwards response to Question 1 re disposal alternatives per 801021 request.

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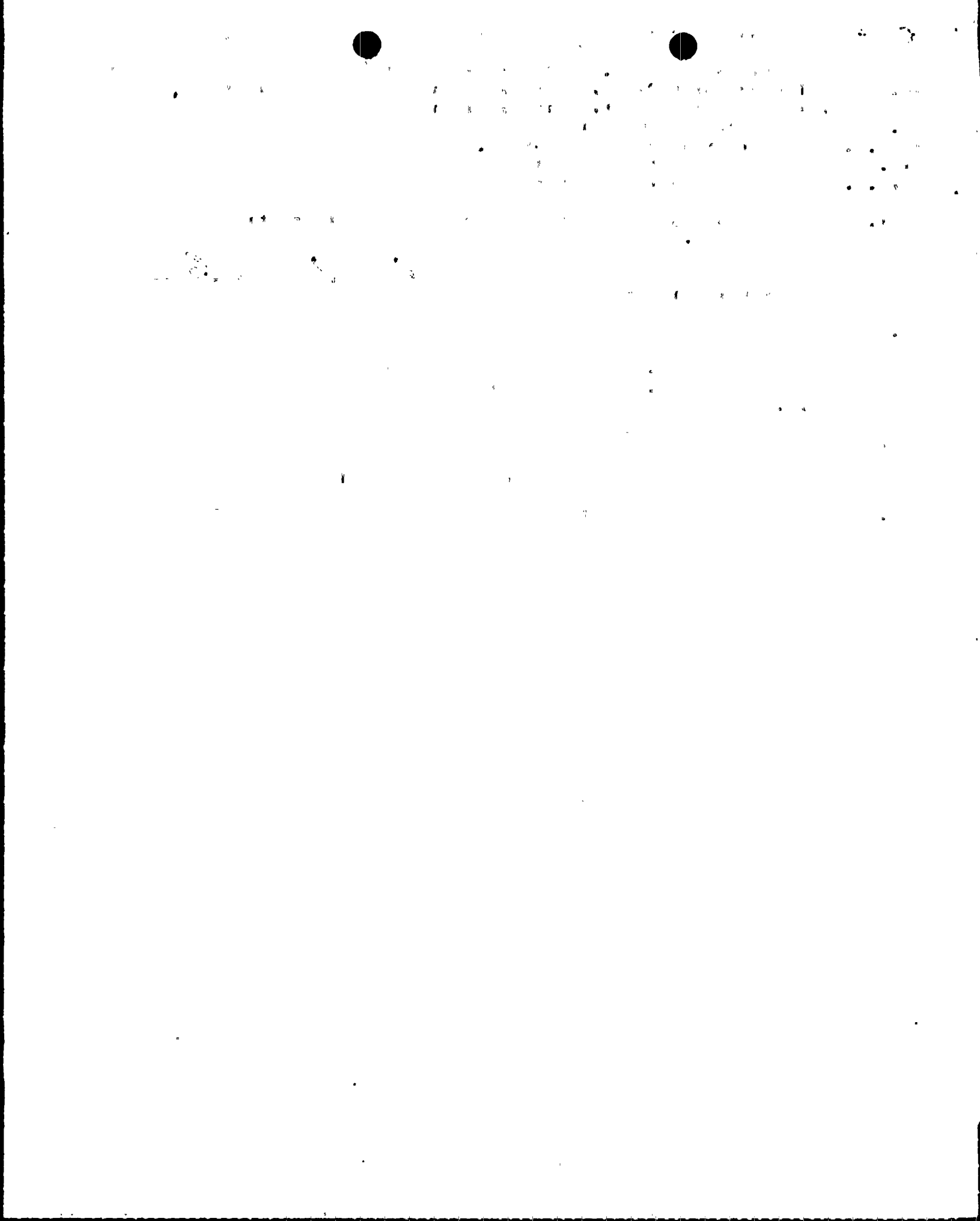
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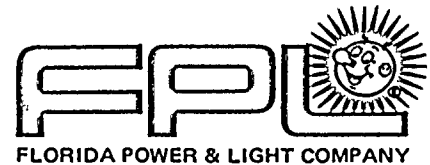
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November 4, 1980
L-80-372

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

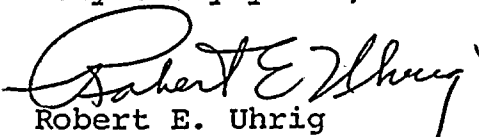
Dear Mr. Varga:

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 and 50-251
Steam Generator Repair

Enclosed you will find Florida Power and Light Company's response to Question 1 of the Request for Additional Information on Disposal Alternatives transmitted with your letter of October 21, 1980.

Please advise us if you require further information.

Very truly yours,


Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU:LFR:bjm

Enclosure

cc: N. A. Coll
J. P. O'Reilly
H. F. Reis
Mark P. Oncavage
Neil Chonin
Henry H. Harnage
Burt L. Saunders

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NOTICE OF PROCEEDINGS
IN RE: [illegible]

U.S. DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

2

Question 1

Describe the hurricane resisting properties of the proposed building for the steam generator lower assemblies.

Response

The steam generator storage compound will be constructed to meet, as a minimum, the requirements of the South Florida Building Code. Section 2306 thereof defines the wind requirements. We attach a copy of the pertinent pages. The Code of Metropolitan Dade County, Florida, establishes the regulatory flood level as the 100-year flood level. The Flood Insurance Study prepared by the National Oceanic and Atmospheric Administration gives the 100-year flood level at Turkey Point as 12.0 feet mean sea level. The finished grade elevation selected for the Steam Generator Storage Compound (17.5 feet mean low water, 16.8 feet mean sea level) exceeds the regulatory flood level by a significant margin.

ATTACHMENT TO QUESTION 1, DISPOSAL ALTERNATIVES

SECTION 2306, SOUTH FLORIDA BUILDING CODE

2305 LIVE LOAD REDUCTIONS

The following reductions in assumed live loads shall be allowed in designing columns, walls, beams, girders, and foundations:

2305.1 No reduction of the assumed live load shall be allowed in the design of any slabs, joists or other secondary members except as set forth herein.

2305.2 A reduction of the total live load used in the design of girders based on a certain tributary floor or roof area shall be permitted as noted in the following schedule. This reduction shall not be in addition to the permitted column reduction nor shall such reduction be used in design of buildings to be used or occupied as warehouses or for storage purposes:

Reduction Allowed	Tributary Floor or Roof Area
5%	100 square feet
10%	200 square feet
15%	300 square feet or more

2305.3 The total live loads carried by a column or footing may be reduced by an amount not exceeding the following percentages except that the reduction at any floor or roof shall not be required to be less than the average percent of reduction allowed for tributary members at that floor or roof. The percentage herein set forth shall be applicable to all the live load tributary to the member considered based on the location of the member in the building as follows:

Allowable Reductions for Warehouses and Storage Buildings: Percent

Roof	0
Roof and one floor	0
Roof and two floors	5
Roof and three floors	10
Roof and four floors	15
Roof and five or more floors	20

Live Load Reductions for Manufacturing Buildings,

Stores, and Garages: Percent

Roof	0
Roof and one floor	0
Roof and two floors	10
Roof and three floors	20
Roof and four or more floors	30

Allowable Live Load Reductions for All Other Buildings: Percent

Roof	0
Roof and one floor	0
Roof and two floors	10
Roof and three floors	20
Roof and four floors	30
Roof and five floors	40
Roof and six or more floors	50

2306 WIND REQUIREMENTS

2306.1 GENERAL:

(a) Building and structures and every portion thereof shall be designed and constructed to resist the forces due to wind pressure. The wind velocity shall be taken as not less than 120 MPH at a height of 30 feet above the ground, except as may be otherwise set forth herein.

(b) Such forces shall be applied in any direction, with all possible combinations based on height and shape factors, but in no case shall any roof be designed for less than 30 pounds per square foot live load. The said live load shall not be considered to act simultaneously with the wind load.

(c) Systems shall be designed and constructed to transfer wind forces to the ground.

(d) No allowance shall be made for the shielding effect of buildings or other structures.

(e) The minimum unit wind pressures to be used in design shall be obtained by multiplying the velocity pressures set forth in Table 23-B of Sub-section 2306.2 by the Shape Factors as described in Sub-section 2306.3.

(f) The Building Official may accept a design based on other nationally recognized and accepted data, the validity of which is shown by wind tunnel and/or satisfactory test data, and may require evidence to support the values for wind pressure used in the design of structures not specifically included in this Section.

(g) Structural members, providing stability for the building or structure, shall be designed to resist the forces set forth in Table 23-B multiplied by the shape factors set forth in Paragraph 2306.3(a).

(h) Building components such as, but not limited to, purlins, girts, wall panels and sheathing, transferring wind loads to the structural frame, shall be designed to resist the forces set forth in Table 23-B multiplied by the shape factors set forth in Paragraph 2306.3(b).

2305.2 VELOCITY PRESSURES:

(a) Velocity pressures, in pounds per square foot, based on height above ground, in feet, shall be taken as not less than those in Table 23-B.

TABLE 23-B

HEIGHT ABOVE GROUND		MINIMUM VELOCITY PRESSURE
(In Feet)		In Pounds per square foot
0 to 5	.....	22
5 to 15	.....	27
15 to 25	.....	33
25 to 35	.....	37
35 to 55	.....	41
55 to 75	.....	46
75 to 100	.....	50
100 to 150	.....	55
150 to 250	.....	63
250 to 350	.....	71
350 to 550	.....	80
550 to 750	.....	89
750 to 1000	.....	97
over 1000	.....	100

(b) Velocity pressures are based on the formula

$$P = 0.00256 \times V^2 \times \left(\frac{H}{30} \right)^{2/7} \text{ where:}$$

V = 120 MPH; and

H = the height above grade (in feet) of the pressure being computed.

(c) Velocity pressure for heights above 1000 feet may be taken as that for 1000 feet.

2306.3 SHAPE FACTORS:

(a) Shape factors for the stability of a building or structure shall be taken as: ("Plus" signifies pressures inward or downward and "minus" signifies pressures outward or upward.)

(1) For Vertical Surfaces:

(aa) Rectangular Prismatic Structures 1.3
(sum of + 0.8 windward and - 0.5 leeward)

- (bb) Cylinders 0.7
(cc) Flat surfaces with no appreciable depth
such as signs and fences 1.4
(dd) Partially Open Surfaces:

Per cent Solid	Shape Factor (times gross area)
10	0.35
20	0.55
40	0.80
60	1.00
80	1.20
100	1.40

(2) For Horizontal Surfaces (Including Surfaces with less than 10° inclination to the horizontal.)

	Windward* 1/3 of surface	Leeward** 2/3 of surface
(aa) Enclosed Buildings:	- 1.0	- 0.75
(bb) Buildings with one or more sides open	- 1.5	- 1.25
(cc) Overhangs and eaves	- 1.5	(all cases)

*The direction from which the wind is coming.
**The direction towards which the wind is going.

(3) FOR INCLINED SURFACES:

Angles from the Horizontal	Normal to Windward Surface	Normal to Leeward Surface
(aa) Above 70° to 90°	+ 0.80	- 0.50
Above 60° to 70°	+ 0.70	- 0.50
Above 50° to 60°	+ 0.50	- 0.50
Above 40° to 50°	+ 0.20	- 0.50
Above 30° to 40°	- 0.20	- 0.50
Above 20° to 30°	- 0.40	- 0.50
10° to 20°	- 0.70	- 0.50

(bb) Overhangs and Eaves - 1.50 (all cases)

(cc) For buildings with one or more sides open, add -1.0 to the negative factors for inclined surfaces.

(dd) For gable roofs a factor of -0.6 shall be used when the wind is assumed to blow parallel with the roof ridge.

(ee) The wind pressure on a curved roof due to wind blowing at right angles to the axis of the roof shall be computed on the basis that the curved portion is divided into not less than five equal segments. The pressure on each segment, whether positive or negative, shall be determined by the use of shape factors in Sub-paragraph (aa) above, appropriate to the slope of the chords of the segments.

(ff) In multi-span or saw-tooth roofs where the span heights and slopes are approximately the same and where there is a sheltering effect from the windward span, the external pressures and forces on the intermediate spans may be approximately reduced.

(b) Shape factors for building components transferring wind loads to the structural frame shall be taken as:

	Pressure Inward	Pressure Outward
(1) VERTICAL SURFACE SHAPE FACTORS		
(aa) Exterior walls of enclosed buildings, including fixed lites of glass, glazing and all supporting members.	+1.1	-1.1
(bb) Operative doors and windows, including all constituent parts.	+1.1	-1.1
(cc) Exterior walls of buildings with one or more sides open.	+1.1	-1.5

(2) Horizontal Surface Shape Factors as set forth in Paragraph 2306.3(a) (2).

(3) Inclined Surface Shape Factors as set forth in Paragraph 2306.3(a) (3).

(4) Buildings having characteristics likely to exceed the values for design pressures obtained by use of the shape factors set forth in Paragraphs 2306.3(a) and (b) herein shall be designed with appropriate shape factors.

2306.4 OVERTURNING MOMENT AND UPLIFT:

(a) Computations for overturning and uplift shall be based on the building as a whole using the shape factors set forth in Paragraph 2306.3(a).

(b) Overturning stability of any building or structure taken as a whole shall be provided and shall be not less than 150 percent of wind load overturning moment.

(c) Uplift stability of any building structure or part thereof or isolated component thereof shall be provided and shall be not less than 150 percent of the wind load uplift thereon.

(d) Stability may be provided by dead loads, anchors, attachments, the weight of earth superimposed over footings or anchors, the withdrawal resistance of piles or the resisting moment of vertical members embedded in the ground.

2306.5 STRESSES:

(a) For members carrying wind stresses only, and for combined stresses due to wind and other loads, the allowable stresses and the allowable loads on connections may be increased $33 \frac{1}{3}$ percent from the maximums set forth in this Code for the materials used except as follows:

(1) Such increased stresses shall not apply to foundations except as provided in Section 2310.

(2) Such increased stresses shall not apply to towers, cantilevered projections or metal sheathing where vibrations or fluttering action could be anticipated.

(3) Glass areas shall not be increased from those set forth in Table 35-E.

(4) Such increased stresses shall not apply to glazing materials other than glass.

(b) In no case shall the cross-section properties be less than required for dead load plus live load without wind load.

2306.6 SCREEN ENCLOSURES: The wind loads on screen surfaces shall not be less than set forth in Paragraph 4403.4(c). Design shall be based on such loads applied horizontally inward and outward to the walls with a shape factor of 1.3, and applied vertically upward and downward on the roof with a shape factor of 0.7.

2307 LIVE LOADS POSTED

2307.1 (a) (1) The live loads in every building or structure, or part thereof, of Group F or Group G Occupancy approved by the Building Official shall be

