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August 19, 1980

DISTRIBUTION
Docket File
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D. Eisenhut
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T. Novak
R. Tedesco
G. Lainas
J. Olshinski
OELD
OI&E (3)
S. Varga
M. Grotenhuis
C. Parrish
J. Heltemes
I. Ahmed

Docket Nos. 50-250
and 50-251

Dr. Robert E. Uhrig, Vice President
Advances Systems and Technology
Florida Power and Light Company
Post Office Box 529100
Miami, Florida 33152

Dear Dr. Uhrig:

On November 9, 1979 the Florida Power and Light Company responded to questions regarding adequacy of stations electric distributions system voltages at the Turkey Point Plant Unit Nos. 3 and 4. We have reviewed your response and find that we need additional information to complete our review. Please respond to the enclosed request for additional information within 45 days of the receipt of this letter.

Sincerely,

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosure:
Request for Additional
Information

cc: w/enclosure
See next page

8009090091

OFFICE	DL:ORB1	DL:ORB1				
SURNAME	MGrotenhuis:cf	SAVarga				
DATE	08/19/80	08/19/80				

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 19, 1980

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Robert E. Uhrig
Florida Power and Light Company

cc: Mr. Robert Lowenstein, Esquire
Lowenstein, Newman, Reis and Axelrad
1025 Connecticut Avenue, N.W.
Suite 1214
Washington, D. C. 20036

Environmental and Urban Affairs Library
Florida International University
Miami, Florida 33199

Mr. Norman A. Coll, Esquire
Steel, Hector and Davis
1400 Southeast First National
Bank Building
Miami, Florida 33131

Mr. Henry Yaeger, Plant Manager
Turkey Point Plant
Florida Power and Light Company
P. O. Box 013100
Miami, Florida 33101

Mr. Jack Shreve
Office of the Public Counsel
Room 4, Holland Building
Tallahassee, Florida 32304

Administrator
Department of Environmental Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahassee, Florida 32301

Resident Inspector
Turkey Point Nuclear Generating Station
U. S. Nuclear Regulatory Commission
Post Office Box 971277
Quail Heights Station
Miami, Florida 33197

12964
12965

July 1, 1980

REQUEST FOR ADDITIONAL INFORMATION
TURKEY POINT #3 & #4
ADEQUACY OF STATION ELECTRIC DISTRIBUTION SYSTEM VOLTAGES

Ref. 1: NRC letter (W. Gammill) to all power reactor licensees, dated August 8, 1979

Ref. 2: FPL letter (Robert E. Uhrig) to NRC (W. Gammill), dated November 9, 1979

1. Guidelines 1 and 7 (Ref. 1) require that a separate analysis be performed for all available connections to the offsite network and that the analysis be adequately documented for each condition analyzed. Ref. 2 does not fully meet these requirements. To confirm the acceptibility of the voltage conditions on the station electric distribution system, submit adequate voltage analysis documentation for each case and condition analyzed in Ref. 2, and additional documentation, specifically:

   a. Requirements of Guidelines 6 and 11 as well as 5 and 13 (Ref. 1) must be included in each separate case analyzed. These guidelines refer to the use of minimum and maximum expected grid voltages, maximum or minimum loads assumed for each analyzed case and a list of assumptions made for each analyzed case.

   b. Submit the calculated voltages for all low-voltage AC (less than 480 Volts) Class 1E Buses (including all alternate sources connections) or documentation which demonstrates that all low-voltage AC Class 1E equipment will be operating within their required voltage ratings for each use analylzed. Do these buses supply instruments or control circuits as required by GDC 13? If so, is all equipmment capable of sustaining the analyzed voltages without blowing fuses, overheating, and without affecting the equipment's ability to perform the required functions?

c. Per Guidelines 3 and 9 (Ref. 1), compare the effect of starting and running the largest Non-Class 1E load on all Class 1E buses and loads with the required voltage range for normal operation of all Class 1E equipment (starters, contactors, motors, etc.) for each available connection of offsite power. The comparison should occur after the Class 1E buses are fully loaded.

d. Guideline 2 (Ref. 1) requires a separate voltage analysis be submitted for multi-unit stations. This voltage analysis should assume an accident or anticipated transient in one unit (unit 3 or 4) and the simultaneous shutdown of all the other units (unit 3 or 4).

2. Ref. 1, Page 2, Paragraph 4 requests that a review of the electrical power system be made to determine if there are any events or conditions which could result in the simultaneous or consequential loss of both required circuits to the offsite network (violation of GDC-17). Ref. 2 did not contain the requested review. Submit a review to meet this NRC request.

3. Ref. 1, Page 2, Paragraph 3 states that the analysis of the adequacy of the onsite distribution system from offsite sources be verified by test. FPL did not submit an analysis verification in Ref. 2. Submit (a) a description of the method for performing this verification, and (b) the test results.

4. Verify per NRC Guidelines 10 and 12 (Ref. 1) that the undervoltage protection relays' setpoints (voltage and time) will not spuriously seperate the Class 1E buses from offsite sources when the auxiliary loads normally supplied from the unit auxiliary transformer are

transferred to the start up transformer for each case analyzed. The verification must include both the first-level (loss of voltage) and the second-level (degraded voltage) undervoltage protection schemes.

5. Ref. 2, Page 3, Paragraph 2 states that several loading configurations analyzed resulted in the required minimum switchyard voltage to be above the minimum expected grid voltage of 235KV. To ensure the plant is not operated in any configuration requiring the minimum switchyard voltage to be above the 235KV level, special operating procedures were formulated. Submit in detail those loading configurations analyzed above and the formulated operating procedures.

6. Ref. 2, Page 3, Paragraph 2 also states that "In event of equipment malfunctions requiring operation of the plant in a configuration other than mentioned above, the operators are instructed to ensure the switchyard voltage remains greater than the analysis voltage for that operating condition, or immediately reduce the output on the unit to allow reduction of loading on the critical switchgear." This "...reduction of loading..." implies the need for manual load shedding to ensure adequate distribution system voltages are obtained. Guideline 4 (Ref. 1) states that no manual load shedding should be assumed. Submit how FP&L will comply with this NRC requirement. All plant operating configurations must be covered in response to Question 1 of this document.