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Docket No. 50-302

Mr. J. A. Hancock
Director, Nuclear Operations
Florida Power Corporation
P. O. Box 14042, Mail Stop C-4
St. Petersburg, Florida 33733

Dear Mr. Hancock:

SUBJECT: DEGRADED GRID VOLTAGE

By letter dated April 10, 1981 we requested additional information regarding degraded grid voltage. Discussion with Mr. D. Mardis of your staff indicates that you did not receive that letter. We have, therefore, provided another copy of our April 10 request with this letter. Please provide the requested information within 45 days of the date of this letter.

Sincerely,

ORIGINAL SIGNED BY
JOHN F. STOLTZ

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosure:
Request for Information
on Degraded Grid
Voltage Dtd. 4/10/81

cc w/enclosure:
See next page

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OFFICE	ORB#4:DL	C-ORB#4:DL					
SURNAME	PErickson	JStolz					
DATE	7/17/81:cab	7/17/81					

Crystal River Unit No. 3
Florida Power Corporation

50-302

cc w/enclosure(s):

Mr. S. A. Brandimore
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St. Petersburg, Florida 33733

Mr. Wilbur Langely, Chairman
Board of County Commissioners
Citrus County
Iverness, Florida 36250

U. S. Environmental Protection Agency
Region IV Office
ATTN: EIS COORDINATOR
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Director, Criteria and Standards
Division
Office of Radiation Programs (ANR-460)
U. S. Environmental Protection Agency
Washington, D. C. 20460

Crystal River Public Library
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Crystal River, Florida 32629

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

April 10, 1981

Docket No. 50-302

Mr. J. A. Hancock
Director, Nuclear Operations
Florida Power Corporation
P. O. Box 14042, Mail Stop C-4
St. Petersburg, Florida 33733

Dear Mr. Hancock:

SUBJECT: DEGRADED GRID VOLTAGE

During our review of your submittal of December 22, 1980 regarding degraded grid voltage we determined that additional information was needed. The additional information that we need is identified in Enclosure No. 1. Please respond within 45 days of the date of this letter.

Sincerely,

John F. Stolz, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosure:
Request for Information
on Degraded Grid Voltage

cc w/enclosure:
See next page

Dupe of
8104160148

Enclosure

CRYSTAL RIVER 3

Docket No. 50-302

REQUEST FOR ADDITIONAL INFORMATION ON
DEGRADED GRID PROTECTION FOR CLASS 1E POWER SYSTEMS

References

a. Florida Power Corporation (FPC) letter, P. Y. Baynard to Division of Licensing, NRC. "Adequacy of Station Electric Distribution Systems Voltages", December 22, 1980.

b. NRC generic letter to all Power Reactor Licensees, "Staff Position Relative to the Emergency Power Systems for Operating Reactors", June 6, 1977.

The FPC response to item 8[a] stated:

It is proposed to keep the existing undervoltage relays at their present setpoint of approximately 55%. It is further proposed that a second set of undervoltage relays be added to the 4160V ES buses. These relays would be solid state - instantaneous relays which would be set to trip at 90% voltage. A total time delay of 10 seconds would be used before the 90% voltage level would initiate transfer to the diesel generators.

The schedule for completing the engineering package for effecting this change would be approximately April 1, 1981. The actual equipment change could be performed during the refueling outage presently planned for Fall 1981, provided equipment deliveries could be met.

The existing undervoltage scheme will still be used for initiating a dead bus transfer to the diesel generators.

This proposal, in principle, is acceptable. However, we need further details on your design as previously requested in reference b.

1. Verify that the selection of the voltage and time setpoints were determined from your analysis[a] of voltage requirements of the class 1E loads at all distribution system voltage levels.

2. Verify that the voltage protection includes coincidence logic to prevent spurious trips of offsite power.

3. Verify that the time delay on the second-level undervoltage relay logic

   a) does not exceed the maximum time delay that is assumed in the FSAR accident analysis (including diesel starting time).

   b) minimizes the effect of short-duration disturbances reducing the availability of the offsite power sources.

   c) does not result in failure of safety systems or components.

4. Verify that the voltage monitors automatically initiate the disconnection of offsite power sources whenever the voltage setpoint and time-delay limits have been exceeded.

5. Verify that the voltage monitor design satisfies the requirements of IEEE std 279-1971.

6. Supply preliminary proposed technical specifications in accordance with the model technical specifications[b]. These should include limiting conditions of operation, trip setpoints, with upper and lower limits and allowable time delays.

7. These same technical specifications should include the testing requirements to demonstrate the full operability and independence of the onsite power sources per position 3[b].