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September 24, 1980

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Steven Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Gentlemen:

DEGRADED GRID VOLTAGE ANALYSIS
SUPPLEMENTAL INFORMATION
SALEM GENERATING STATION
UNITS NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

The degraded grid voltage analysis requested in your August 18, 1980 letter has already been performed for previous requests for degraded grid voltage protection information. The analysis assumed both of the 500/13.8 kV transformers in service and a minimum of 0.978 of the off-site grid voltage value and included the following considerations:

- 1) A trip of Unit 1 and a LOCA on Unit 2.
- 2) No credit for the 13.8/4.16 automatic load tap changer operating during the transient.
- 3) No credit for manual load shedding.

No overloading problems exist because the second level of under-voltage protection will prevent a degraded voltage condition. In addition, relay action places the vital buses of both units on the emergency diesel generators and allows safe shutdown. So, no further analysis is necessary.

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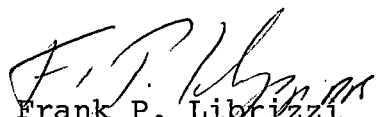
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The requested assumption of the start of a large non-Class IE motor is not a valid assumption for Salem's degraded grid voltage analysis because the largest non-Class IE motor is the 4 kV, 6000 HP reactor coolant pump (RCP) motor, and a blocking circuit of second level of undervoltage protection was required to permit starting this motor. The second level of undervoltage protection is automatically blocked at the start of the RCP motor and will not drop out. Our March 3, 1980 letter (Attachment 1) completely describes, in detail, the second level of undervoltage protection.

Previous analyses submitted October 10, 1979 (Attachment 2) have already considered systems below 480 V.

If you have any questions, do not hesitate to contact us.

Very truly yours,


Frank P. Librizzi
General Manager -
Electric Production

Attachments