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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

NOV 30 1979

In Reply Refer To:

RII:JPO

50-488, 50-489

50-490, 50-491

50-492, 50-493

ALL

Duke Power Company
Attn: L. C. Dail, Vice President
Design Engineering
Post Office Box 33189
Charlotte, North Carolina 28242

Gentlemen:

The enclosed IE Bulletin No. 79-27, is forwarded to you for information. Although no written response is required at this time, these concerns will be addressed as part of the licensing process for your plant. If you desire additional information regarding this matter, please contact this office.

Sincerely,

James P. O'Reilly
Director

Enclosures:

1. IE Bulletin No. 79-27
2. List of Recently Issued IE Bulletins

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Duke Power Company

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cc w/encl:
J. T. Moore, Project Manager
Post Office Box 422
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

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November 30, 1979

IE Bulletin No. 79-27

LOSS OF NON-CLASS 1E INSTRUMENTATION AND CONTROL POWER SYSTEM BUS
DURING OPERATION

Description of Circumstances:

On November 10, 1979, an event occurred at the Oconee Power Station, Unit 3, that resulted in loss of power to a non-class 1E 120 Vac single phase power panel that supplied power to the Integrated Control System (ICS) and the Non-Nuclear Instrumentation (NNI) System. This loss of power resulted in control system malfunctions and significant loss of information to the control room operator.

Specifically, at 3:16 p.m., with Unit 3 at 100 percent power, the main condensate pumps tripped, apparently as a result of a technician performing maintenance on the hotwell level control system. This led to reduced feedwater flow to the steam generators, which resulted in a reactor trip due to high coolant system pressure and simultaneous turbine trip at 3:16:57 p.m. At 3:17:15 p.m., the non-class 1E inverter power supply feeding all power to the integrated control system (which provides proper coordination of the reactor, steam generator feedwater control, and turbine) and to one NNI channel tripped and failed to automatically transfer its loads from the DC power source to the regulated AC power source. The inverter tripped due to blown fuses. Loss of power to the NNI rendered control room indicators and recorders for the reactor coolant system (except for one wide-range RCS pressure recorder) and most of the secondary plant systems inoperable, causing loss of indication for systems used for decay heat removal and water addition to the reactor vessel and steam generators. Upon loss of power, all valves controlled by the ICS assumed their respective failure positions. The loss of power existed for approximately three minutes, until an operator could reach the equipment room and manually switch the inverter to the regulated AC source.

The above event was discussed in IE Information Notice No. 79-29, issued November 16, 1979.

NUREG 0600 "Investigation into the March 28, 1979 TMI Accident" also discusses TMI LER 78-021-03L whereby the RCS depressurized and Safety Injection occurred on loss of a vital bus due to inverter failure.

Actions to Be Taken by Licensees

For all power reactor facilities with an
completion of construction (North Anna 2,
Sequoyah, and Zimmer):

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DUPLICATE DOCUMENT

Entire document previously
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