

# PHILADELPHIA ELECTRIC COMPANY

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SHIELDS L. DALTROFF  
VICE PRESIDENT  
ELECTRIC PRODUCTION

(215) 841-5001

March 14, 1983

Re: Docket Nos. 50-277  
50-278

Mr. John F. Stolz, Chief  
Operating Reactors Branch #4  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

SUBJECT: Peach Bottom Proposed Technical  
Specification on Degraded Grid  
Voltage Protection

Ref.: Letter to J. F. Stolz from  
S. L. Daltroff, dated October 29, 1982

Dear Mr. Stolz:

In our referenced letter on Degraded Grid Voltage Protection for Peach Bottom, we provided justification for a proposed functional test frequency. Due to a change in the system design, we have determined the need for a change in our proposed functional test frequency. This letter provides the reason for the system design change, and proposes a new functional test frequency.

An additional auxiliary relay (Aux 2) and its associated contacts, as shown on the attached schematic, have been added to each tripping scheme to facilitate surveillance testing of the systems while the units are at power. The additional relay provides the additional contacts needed for interlock in the breaker closing circuit and also provides a contact needed for surveillance testing.

This additional relay, however, has the effect of creating a circuit of trip logic in addition to the protective relay trip channel. Since the surveillance test for the degraded voltage protective relays will include a functional testing interval for the protective relays and trip logic, we propose a six month functional testing interval for the protective relays and trip logic. If the protective relay trip channels are functionally tested every six months, we have determined that the

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overall reliability of the system exceeds 0.99999, which is the reliability goal of the RPS and ECCS instrumentation. This design reliability is based on assuring operation of any of the three protective relays and associated auxiliaries protecting each bus, on three of the four emergency buses per unit.

Surveillance testing of the degraded voltage relays and the associated trip logic every six months will satisfy the reliability goal and make the trip logic testing interval conform to that of similar ECCS circuits.

The six month test interval is appropriate from a reliability viewpoint. A requirement for more frequent testing at full power introduces an additional risk of unanticipated transients with little additional benefit. The proposed degraded grid voltage modifications and testing frequencies were presented to the Operations and Safety Review Committee at its February meeting. The Committee has approved the modifications and testing programs and the submission of an appropriate Technical Specification Amendment.

If you have any questions or require additional information, please don't hesitate to call.

Very truly yours,



Attachment

cc: Site Inspector  
Peach Bottom

DEGRADED VOLTAGE RELAY CIRCUIT

