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RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Summarizes 841025 telcon w/NRC re impact of loss of startup transformer, including responses to NRC concerns w/probability that reactor trip will occur upon inadvertent loss of power supplied by startup transformer.

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Director of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
IMPACT OF LOSS OF START-UP TRANSFORMER

Dear Mr. Varga:

SUMMARY

A conference call was held among representatives of Carolina Power & Light Company (CP&L) and the NRC staff on October 25, 1984 concerning the impact of the loss of the start-up transformer on H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2). This letter documents that conversation.

DETAILS

Carolina Power & Light Company provided responses to two concerns raised by Mr. Kang of your staff.

Item 1

What is the probability that a reactor trip will occur upon the inadvertent loss of power supplied by the start-up transformer.

Response

Past experience indicates that the probability of a unit trip is virtually 100%, although the plant is not designed to trip automatically upon the loss of start-up transformer power. This is primarily due to the loss of power to Instrument Bus #4 resulting in the loss of Power Range #4 instrumentation. The loss of Power Range #4 (N44) provides one of the two power range trip signals necessary to trip the reactor. In addition, the loss of N44 causes turbine load limiter and reference runbacks due to an indicated power channel greater than 5% in less than 5 seconds. The runbacks will reduce turbine load by 30% power. The loss of power to Instrument Bus #4 will probably cause several controllers on the Reactor Turbine Generator Board (RTGB) to shift to manual. The combination of the transient caused by the runback with several controllers in manual will most likely result in a reactor trip.

411 Fayetteville Street o P. O. Box 1551 o Raleigh, N. C. 27602

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Item 2

It appears that an LCO may be required concerning the operation of the emergency diesel generators (DG) as described under paragraphs 3.7.2.a and 3.7.2.b of the HBR2 Technical Specifications. The NRC's main concern is the total running time on the DG's. What is CP&L's opinion?

Response

The paragraphs referenced are concerned with a controlled situation where the start-up transformer is intentionally being removed from service (e.g., for preventive maintenance). Under this situation, the load which is normally powered by the start-up transformer will be intentionally transferred to the Unit Auxiliary Transformer. Loss of voltage at the 480 V emergency busses will not occur, and the DG's will not be started. Therefore, since operation of the DG's is not anticipated, an LCO is not required.

Questions regarding this matter may be referred to Mr. Stephen D. Floyd at (919) 836-6901.

Yours very truly,

S. R. Zimmerman
Manager
Nuclear Licensing Section

JSK/ccc (826NLU)

cc: Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRC)
NRC Resident Inspector (RNP)