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RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards Rev A to "Nuclear Environ Qualification Test Rept on Agastat E7000 Series Timing Relays," per NRC Nov 1984 request for addl info re Mercoid pressure switches, Agastat relays & GE relays.

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December 7, 1984
AEP:NRC:0001E

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
REQUEST FOR ADDITIONAL INFORMATION

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington D. C. 20555

Dear Mr. Denton:

This letter and its attachment transmit the additional information requested in a telephone conversation with members of your staff in November 1984, concerning Mercoid Pressure Switches, Agastat Relays and GE Relays. The report on the functionality testing of the Agastat relays for seismic loads is included as Attachment No. 1 to this letter.

MERCOID PRESSURE SWITCHES

The Mercoid pressure switches in safety related systems are being changed in both mild and harsh environments. The only harsh environment that any Mercoid pressure switch is subject to is the steam environment due to a steam line break. The replacement switch is qualified for that environment. As stated in our letter of June 1, 1984, AEP:NRC:0001D, the schedule for completion of replacement of all safety related Mercoid pressure switches in both units is the end of the next Unit 2 refueling outage which is currently scheduled to begin in November, 1985.

AGASTAT RELAYS

The comparison between the E7000 series and the 7000 series relay was made by comparing a Model E7012SD relay with a new model 7012SD relay and a 7012SD relay which had been removed from service. The overall physical dimensions and center of gravity were determined by measurement of the assembled relays. The relays were then disassembled and measurements made of the dimensions and weight of each significant piece of each relay and the spring constant of internal springs was determined by deflection. No differences were detected between relays. The only differences between relays detected was the weight of the stationary contact block (a non moving part). The difference in weight was attributed to the elimination of asbestos as a filler material in the plastic molded material and deemed to have no effect on the static or dynamic performance of the relay.

A001
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The test specification for the Agastat Relays was sent with the letter of June 1, 1984 in answer to the question in your letter of February 21, 1984, concerning the functionality testing of the relays during seismic tests. A copy of the test report which includes the test specification is included as Attachment 1 to this letter. This report has been approved and accepted by the Electrical Cognizant Engineer and is included in answer to comments made concerning the specification previously submitted.

The seismic test of the Agastat relays was a fragility test of the relay itself and was performed by the manufacturer of the relay. The relay was mounted on a rigid fixture and the seismic levels determined for the relay by determining the acceleration level necessary to cause contact malfunction as defined in the test specification. Only E7012 and E7022 relays are used in the safety systems at D. C. Cook Plant; E7014 and E7024 relays also described in this test report are not used. The required response spectrum (RRS) for each location where Agastat relays are located in safety related systems has been compared to the lowest test response spectrum (TRS) of the three provided in the report (operate, non-operate, and transition) and determined that the TRS envelopes the RRS.

G.E. RELAYS

The test report for the General Electric Model 12PJC11AV1A has been reviewed. No anamolies were identified in the report.

This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,

M. P. Alexich
Vice President

RBK
12/7/84

cm

Attachment

cc: John E. Dolan (w/o attachment)
W. G. Smith, Jr. - Bridgman (w/o attachment)
R. C. Callen (w/o attachment)
G. Bruchmann (w/o attachment)
G. Charnoff (w/o attachment)
NRC Resident Inspector - Bridgman (w/o attachment)

ATTACHMENT TO

AEP:NRC:0001E