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February 28, 1983

1CAN028314

Director of Nuclear Reactor Regulation
ATTN: Mr. J. F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Environmental Qualification
(EQ) of Electrical Equipment
Response to SER Schedule

Gentlemen:

This letter transmits an initial response to your letter dated January 26, 1983, and received by AP&L February 3, 1983, (1CNA018304) and verbal requests for information made by your Mr. Guy Vissing on February 25, 1983. We note that the letter requires specific responses in several areas, and requests responses in either 30 days, 90 days, or according to the deadline set by the recent EQ rule. The purpose of this letter is to inform you of the actions being taken by AP&L to address the concerns in your letter.

We believe it is pertinent to make a few statements regarding the content of your letter and the Technical Evaluation Report (TER) submitted by the letter. We understand the need for an item-by-item review by NRC of the AP&L qualification submittals and the need for a corresponding response by AP&L. Please be assured that we intend to deliver such a response in a timely manner; however, due to several factors we will be unable to provide a completed response within 30 days for items for which justification for continued operation (JCO) was not previously submitted. This will require a detailed review of previous AP&L submittals and the Franklin Reaserch Center TER evaluations for approximately 130 items. From our review efforts to date, it is apparent that the TER reviews are not easy to dissect. In fact, many of the conclusions lack consistency in the absence of Franklin Research Center's evaluation criteria. For AP&L to fully understand many of the Franklin Research Center's contentions, we must have access to the implementation guide referred to in section 3.4 of the TER. Therefore, we

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request a copy of the guide to be provided by March 15, 1983, to support our schedule for our review efforts.

We acknowledge that the equipment items identified in category II.B (equipment not qualified) require the most immediate attention. For this reason and at the request of your staff, we have accelerated our efforts to respond to these items; consequently, our response is as follows.

Category II.B listed ten items, as grouped by Franklin Research Center, which represent 14 specific pieces of equipment; however, for evaluation purposes they reduce to two items: Rotork "A-range" actuators and Fischer Porter model 50EN1021 pressure transmitters. Concerning the actuators, Rotork has indicated that the present limit/torque switches prevent the qualification of these "A-range" actuators beyond 163°F; however, they indicated a high temperature application torque switch is available. Therefore, AP&L is committed to replace the switches so that qualification can be demonstrated. Justifications for Continued Operation (JCO) have been previously submitted for these items. In response to your request, we are submitting (attached) a JCO for the pressure transmitters.

As previously discussed with members of your staff and for the reasons discussed above, we are requesting additional time to formulate and submit our response for the remaining items for which JCO's were not previously submitted. We expect to complete our evaluations and submit the results by April 6, 1983. In order to simplify the schedule for all of the remaining items, we will provide our response by May 23, 1983, which is in keeping with the schedule required by 10 CFR 50.49.

Very truly yours,

/ Donald A Ruter

for John R. Marshall
Manager, Licensing

JRM:CHT:sl

EQUIPMENT ENVIRONMENTAL QUALIFICATION
JUSTIFICATION FOR INTERIM OPERATION
ANO-1

COMPONENT: Engineered Safeguards Actuation System Reactor Building Pressure Transmitters

TAG NO(S).: PT-2405, PT-2406, PT-2407

SER RESPONSE PAGE NO(S).: A062, A063, A064

MANUFACTURER AND MODEL NO.: Fischer and Porter Model No. 50EN1021BCXB

SYSTEM - P&ID NO.: Reactor Building Spray and Core Flooding - M-236

LOCATION: Reactor Building

° SAFETY FUNCTION:

There are three reactor building pressure transmitters which provided inputs to the Enineered Safeguards Actuation System (ESAS). Via a "two out of three" logic the reactor building pressure transmitters provide input to the ESAS for initiation of various safety systems. A high reactor building pressure initiation signal is provided to the high pressure injection (HPI) system and the low pressure injection system (LPI) at 4 psig. An initiation signal is also provided to the reactor building emergency cooling and reactor building isolation at 4 psig. At 30 psig the reactor building spray system is initiated.

° QUALIFICATION DISCREPANCY:

The qualification discrepancy is not adequately defined in the Technical Evaluation Report (TER). The TER cites a failure of the transmitter during LOCA testing. However, the TER fails to note that this failure occurred over 2 hours into the test. This is well beyond the one minute required operating time specified in the referenced AP&L submittal. (Note that operating times of less than one hour are specifically allowed by Item 8 of Generic Letter 82-09 dated April 20, 1982, (ØCNAØ48210). This position is referenced in the Safety Evaluation for Environmental Qualification of Safety-Related Electrical Equipment for ANO-1 dated January 28, 1983, (1CNAØ183Ø4).)

In addition, the TER cites a proprietary report (unavailable to AP&L). The description of this report is not sufficiently detailed to allow a meaningful review. Specifically, the time to failure is not discussed, nor is the similarity between the test specimen and the installed components established. Also, the relationship between the test environment and that specified for the subject transmitters is not provided.

° JUSTIFICATION FOR INTERIM OPERATION:

As discussed above, the subject transmitters provide an initiation signal

for HPI and LPI at 4 psig. However, a redundant initiation signal is provided by low Reactor Coolant Pressure at 1500 psig. Although the high reactor building pressure setpoint is reached first for all LOCAs analysed in the FSAR, no credit is taken for the high reactor building pressure trip (Re: ANO-1 FSAR Section 14.2.2.5.4.4).

In addition the transmitters provide an initiating signal for reactor building isolation at 4 psig. As discussed in AP&L's letter dated April 16, 1979, (1CAN047910) from Mr. D. C. Trimble to Mr. K. V. Seyfrit, in response to IE Bulletin 79-05A diverse reactor building isolation signals were provided to all reactor building isolation valves which are not required to perform an orderly cooldown following an ESAS actuation. This diverse reactor building isolation signal is provided by low RCS pressure (1500 psig).

The high reactor building pressure signal also actuates reactor building emergency cooling (4 psig) and reactor building spray (30 psig). Although, these functions are automatically initiated, no credit is taken for operation of these systems during a LOCA until 300 seconds into the event (Re: ANO-1 FSAR Figure 14-61). The peak reactor building pressure ocurrs at 20 seconds and the reactor building pressure is in fact decreasing prior to the assumed operation of the reactor building coolers and spray.

Although any delay in actuation of the reactor building coolers and spray could potentially increase reactor building leakage due to prolonged operation at high reactor building pressure, the FSAR offsite dose calculations conservatively assume a leak rate corresponding to peak reactor building pressure exist for 24 hours (Re: ANO-1 FSAR Table 14-49). Based on the above there is sufficient time to assure operator action to initiate reactor building cooling and spray. Accurate indication of reactor building pressure will be available to the operator via two channels of qualified wide range reactor building pressure installed per NUREG-0737 Item II.F.1.