



ARKANSAS POWER & LIGHT COMPANY

POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

July 1, 1985

2CAN078501

Director of Nuclear Reactor Regulation  
ATTN: Mr. Edward J. Butcher, Acting Chief  
Operating Reactors Branch #3  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
NUREG-0737 Supplement 1 - Reg. Guide 1.97  
Response to Position Document Open Items

Gentlemen:

Your letter dated April 30, 1985 (2CNA048506) transmitted an interim report by your contractor, EG&G Idaho, Inc., which provided a review of the ANO-2 Regulatory Guide 1.97 Position Document contained in our letter 2CAN948404, dated April 13, 1984. The review identified seven open items for which you requested a response. This letter documents our review of your contractor's report and provides our response to resolve the open items identified. The numbered items below are our responses corresponding to the respective open items in Section 4 (Conclusions) of your contractor's report:

1. Reactor Coolant System Pressure

This open item requested that AP&L commit to installation of instrumentation with a range in accordance with the resolution of the ATWS issue. Subsequent to our April 13, 1985 submittal, the NRC issued the final ATWS rule. We have reviewed that final rule and believe that our existing instrumentation does not need to be modified to comply with the regulation. Therefore, we conclude that the existing instrumentation with a range of 0 to 3000 psia is appropriate to meet Reg. Guide 1.97.

8507160710 850701  
PDR ADOCK 05000368  
F PDR

A003  
1/0

July 1, 1985

- 2. Containment Effluent Radioactivity
- 3. Effluent Radioactivity
- 5. Condensor Air Removal System Exhaust
- 6. Common Plant Vent

These four open items were listed with a common request that a highly reliable power source should be provided for these variables. These four variables are monitored and displayed by the ANO Gaseous Effluent Radiation Monitoring System (GERMS). AP&L contracted with the GERMS vendor in August of 1980 in good faith to install a radiation monitoring and offsite dose calculation system in compliance with and by the original due dates of NUREG-0578 and NUREG-0654. The GERMS was designed to comply with these NUREGs, which did not specify the power supply requirements for such a system. The power supply portions of the GERMS were already installed and completed by the time NUREG-0737 was issued. Later, with the issuance of NUREG-0737 (specifically Item II.F.1), the power supply requirements were identified as follows: "...vital instrument bus or dependable backup power supply to normal ac." The GERMS auxiliary power is supplied from either ANO-1 or ANO-2 normal ac through an automatic, power-seeking transfer switch. The remote SPING-4 detector combinations are equipped with battery backup for their microcomputer and memory protection, and the central computers also have battery backed power supplies. This arrangement of redundant sources of ac power and battery backup for the system electronics met the interpretation of a reliable power supply at the time of the GERMS design. The system has the capability of automatic restart after a power failure; this feature was successfully demonstrated during the GERMS site acceptance test. ANO-2 has very reliable sources of offsite power. Based on the above, AP&L considers the GERMS power supply to meet the intent of NUREG-0737. The power supply requirements of Category 2 variables as specified by Reg. Guide 1.97 were for a "...high-reliability power source, not necessarily standby power, and should be backed up by batteries where momentary interruption is not tolerable." The GERMS variables were specified as Category 3 by AP&L because they did not comply with our strict definition of Category 2 power requirements; however, based on the above information and operational experience with the system to date, the GERMS power supply may be considered as a high-reliability power source. Therefore, we consider GERMS to meet the Category 2 requirements of Reg. Guide 1.97.

#### 4. Containment Atmosphere Temperature

This open item requested that AP&L upgrade this instrumentation to Category 2. The ANO-2 FSAR states that the objective of the containment heat removal systems is to rapidly reduce containment pressure and temperature after a postulated LOCA or main steam line break (MSLB) by cooling the containment atmosphere. Reg. Guide 1.97 lists the purpose of containment atmosphere temperature as "to indicate accomplishment of cooling." Containment pressure is a Category 1 variable used to actuate the containment spray and cooling systems. All four channels are indicated in the control room. The proper response of containment pressure following a LOCA or MSLB is a positive indication that containment cooling is being accomplished. For this reason AP&L considers containment pressure the key variable for this purpose and therefore classifies containment atmosphere temperature as a Category 3 backup variable.

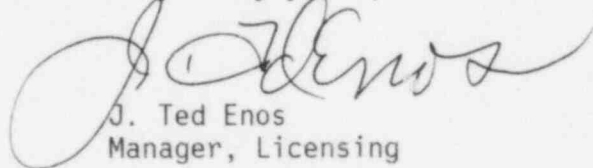
July 1, 1985

### 7. Containment Sump Water Temperature

This open item requested that AP&L provide the recommended instrumentation for the functions outlined for this variable or identify other instruments that provide the same information and satisfy the recommendations of the Reg. Guide. The purpose of this Type D variable, as defined by Reg. Guide 1.97, is to monitor operation of the containment cooling systems. However, successful operation of the containment spray portion of the containment cooling systems will only be indicated by sump temperature trends when the Containment Spray System is in operation taking suction from the sump. These conditions are expected only after a high energy line break inside containment and the subsequent depletion of the borated water supply in the Refueling Water Tank. At ANO-2 key variables for monitoring operation of the containment cooling systems are containment pressure and containment spray flow. Backup variables for monitoring this function are containment temperature, containment cooling fan breaker status and the diverse methods of determining the flow rate of cooling water to the cooling units. This existing instrumentation is sufficient for monitoring the operation of the containment cooling systems. Containment sump water temperature is not currently installed on most C-E plants. It is not recorded or indicated because it is not required to mitigate the consequences of a design basis accident on C-E designed plants. Therefore, this variable need not be monitored. AP&L feels there is no benefit relative to plant safety from the installation of this variable and therefore can not justify the expense of this modification.

AP&L feels that the above information fully addresses the issues raised by your contractor's review of the ANO-2 Reg. Guide 1.97 Position Document. We will continue to keep you informed of our progress in the implementation of upgrades committed to in that document through the biannual updates of our NUREG-0737 Supplement 1 related activities.

Very truly yours,



J. Ted Enos  
Manager, Licensing

JTE:RBT