ARKANSAS POWER & LIGHT COMPANY
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January 10, 1980

1-010-08

Director of Nuclear Reactor Regulation
Attention: Mr. R. W. Reid, Chief
Operating Reactor Branch #4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Control Room Toxic Gas Protection
(File: 3600, 1510)

Gentlemen:

In response to your letter on this subject dated December 14, 1979, which requests chlorine detectors, automatic isolation and a reduction of the control room isolation air exchange rate, the following is provided:

1) Request:

Install quick-response chlorine detectors in the fresh air inlets.

Response:

Redundant, quick acting chlorine detectors are presently in place in the control room fresh air inlet.

2) Request:

Isolate control room automatically on high chlorine alarm within ten (10) seconds. This is the time interval between the chlorine concentration exceeding 5 ppm at the isolation dampers and the time the dampers are completely closed.

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Response:

The chlorine detectors' signals initiate automatic isolation of the ANO 1 & 2 common control room and provide an audible alarm in both sections of the control room in case of high chlorine gas concentration. The detectors are able to detect and signal a step increase in chlorine concentration of 0 to 15 ppm within 5 seconds (based on 66% response). Control room isolation is accomplished within 5 seconds after detector trip. These detectors are described in Section 9.4.1.1.2 of the ANO-2 FSAR, and the design criteria described in this response has been reviewed and approved by the Staff (ANO-2 Safety Evaluation Report, Section 9.5.1, page 9-7). Based on this approval, we propose that the ANO-1 criteria be consistent with that of ANO-2.

3) Request:

The control room isolation air exchange rate should be reduced from 3 to 0.06 air changes per hour.

Response:

In the event of high chlorine, the combined ANO-1 & 2 control rooms are isolated from both outside air and adjacent rooms. The control room emergency air filtration system is based on a minimum of three (3) room air changes per hour for the combined control room volume. A higher recirculation rate of fifteen (15) air changes per hour is provided by the emergency air conditioning system. This system is described in the ANO-2 FSAR, Section 9.4.1, and has been reviewed and approved by the Staff (ANO-2 SER Section 9.5.1, page 9-7). Based on this approval, we propose that the ANO-1 criteria be consistent with that of ANO-2.

Very truly yours,

David C. Trimble

David C. Trimble
Manager, Licensing

DCT:ERG:bjm