March 13, 1978

Docket No. 50-313

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Arkansas Power & Light Company
ATTN: Mr. William Cavanaugh, III
Executive Director, Generation and Construction
P. O. Box 551
Little Rock, Arkansas 72203

Gentlemen:

By letter dated December 8, 1977 and license amendment request dated February 27, 1978, you requested our approval of a proposed modification to the control system for the Arkansas Nuclear One - Unit No. 1 (ANO-1) Control Room Heating, Ventilation, and Air Conditioning system. The modification would result in system isolation in a longer period of time than originally assumed in the ANO-1 Final Safety Analysis Report. This isolation time (ten seconds) would be consistent with that approved for Arkansas Nuclear One - Unit No. 2 (ANO-2)(the two facilities will share a common control room in the future).

The subject specific modification request and associated technical specification change are being completed, however, we have determined that there is a related subject which requires more extensive review. Based on discussions with your staff, we understand that equipment to isolate the ANO-2 control room upon detection of chlorine has been installed. We also understood that similar equipment is installed on the ANO-1 control room ventilation system. This equipment is not subject to ANO-1 Technical Specifications because the ANO-1 safety analysis did not consider such a toxig gas intrusion incident. We note that (1) the ANO-1 and ANO-2 control rooms will be in a common area, and (2) the lack of technical specification requirements on the ANO-1 equipment (which you state will be covered by ANO-2 specifications) could lead to a situation in which the ANO-1 equipment would not be required to be operable during the period of time in which ANO-1 is operating but ANO-2 is not. Since the ventilation air intake for ANO-1 is closer to the chlorine source than is the intake for ANO-2 and since the Technical Specifications for ANO-2 will not be in effect for some time, an analysis should be performed to determine the habitability of the control room in the event of a chlorine release.

A/P 3 60

We have therefore, determined that the additional information regarding control room toxic gas protection, as contained in the attachment to this letter, will be necessary for our review. You are requested to provide this information within 90 days of receipt of this letter.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosure:
Request for Additional Information

cc w/enclosure:
See next page

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Arkansas Power & Light Company

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ARKANSAS NUCLEAR ONE, UNIT 1

DOCKET NO. 50-313

REQUEST FOR INFORMATION ON

CONTROL ROOM TOXIC GAS PROTECTION

A. Provide an analysis of the hazards to the control room operators from toxic gases stored on site. For guidance in your analysis, you may wish to refer to Regulatory Guides 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release," and 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release."

Your analysis of chlorine hazards on-site should include the following information:

1. the location of chlorine storage on-site
2. the amount of chlorine stored in each container
3. the number of chlorine containers
4. the pressure in the chlorine containers assumed to leak or fail for this analysis
5. the amount of chlorine released versus time
6. the duration of the chlorine release
7. the outside dimensions of buildings at or near the chlorine storage location, if you account for dispersion in the building wakes
8. the horizontal and vertical distances from the chlorine release point to the receptor (for example, the control room air intakes)
9. the range of assumed wind speeds and atmospheric stability conditions
10. the outside dimensions of buildings between the release point and the receptor or near the receptor, if you account for dispersion in the building wakes

11. the number, location and total response time (air sample transit time, if any, to detector plus detector response time after contacting chlorine) of chlorine detectors at the chlorine storage site, in the control room, or in the control room air intake

12. where the alarms from the above mentioned detectors read out or annunciate

13. the conditions in which one or more of the detectors at each of the locations mentioned in response to (11) above may be inoperable

14. the normal control room air exchange rate

15. the air exchange rate of the isolated control room

16. the control room volume

17. the control room air cleanup rate after isolation

18. the duration of chlorine intrusion prior to control room isolation (which includes chlorine intake prior to the chlorine passing the detector, during the detector response time, and prior to closure of the isolation dampers)

19. the chlorine concentration versus time at the control room air intake

20. the chlorine concentration versus time in the control room

B. Provide a site drawing which shows the chlorine storage and the receptor locations.