

Docket No. 50-313 ✓

NOV 16 1973

Mr. J. D. Phillips
Vice President & Chief Engineer
Arkansas Power and Light Company
Sixth and Pine Streets
Pine Bluff, Arkansas 71601

Dear Mr. Phillips:

From the fall of 1972 into early 1973, the Regulatory staff was engaged in the safety review of the electrical and control systems of Arkansas Nuclear One, Unit 1. This review included lengthy meetings with your staff both here, at the plant and in your Little Rock offices. We have tried to furnish you detailed notes and explanations to ensure that you understood our concerns. After extensive review of this plant we are unable to conclude that the electrical and control systems are acceptable. In our letter to you on February 7, 1973, we enumerated 18 areas of concern. Through the spring and into the summer you gradually amended and supplemented your application with responses to these items. In order to maintain a methodical review schedule for your plant we decided to issue our Safety Evaluation Report with the final electrical review outstanding. We took this course only because we felt confident that we had explained our concerns and requirements to your staff thoroughly, and you would have ample time to complete your work and demonstrate compliance. Having spent so much time on your case already, we had to set aside your responses to electrical questions and wait till after the ACRS meetings to review them with the other matters remaining.

In October we attempted our concluding review of your electrical and control systems and discovered continuing deficiencies and questions of a significant nature. We met with your staff as soon as possible, on October 30, 1973, to describe these problems. The principal concerns here were identified to you long ago in some detail; they are not new review matters. Our principal concerns are:

1. Because of an oversight in your initial safety analysis it was necessary for you to design a steam line break instrumentation and control system (SLBIC) to effect rapid isolation of the

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steam generators. In a fresh design, at this late date, of a system directly required for accident control, your SLBIC system does not meet the requirements of IEEE 279, the basic standard for such protective systems.

2. By your analysis, the emergency feedwater system is needed for safe shutdown of the reactor; and yet we have repeatedly reviewed this system and pointed out potentially disabling single failures and other aspects of the system design which make its reliability questionable.
3. In the effort to validate your proposed use of the diesel generators for peaking service, unique features were included in the design of your offsite power connections. Our February 7, 1973 letter stated that such peaking service would not be allowed and called for you to perform a design audit of the power system to change those features which make it vulnerable to indiscriminate tripping of the offsite power sources and vulnerable to disablement by single failures. As presented to us now, in a May 23, 1973, revision of the drawing, there has been almost no change in the design and it does not satisfy the requirements of General Design Criterion 17 as it should.
4. As long ago as April of 1972, we expressed concern about the cables in the subfloors of the control and computer rooms. In our February 7, 1973, letter we specifically asked you to demonstrate that this installation is acceptable with respect to design basis events such as fire. In your March 13, 1973, letter you stated that the PVC (polyvinyl chloride) covering on the flexible steel conduits of these cables will not support combustion. It is our understanding that PVC may indeed burn, releasing corrosive and toxic hydrochloric acid vapor, and that the use of PVC is being discontinued in many applications because of this. We do not know if you considered this aspect in your review of the subfloor arrangement.

J. D. Phillips

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We realize how close the scheduled fuel load date is and we urge you to complete the required work in this area so as not to delay licensing action. However, we cannot license this plant until the electrical and control system design and installation are acceptable to ensure the health and safety of the public. Consequently, we expect you to submit conclusive analyses and corrected designs by November 30, 1973. In addition, we expect you to follow this submittal with a technical presentation on December 14, 1973 which covers the details of the reviews and associated design changes. These dates have already been discussed with your staff. If your submittal is satisfactory we will expect to be able to give you indication of that before the end of December and to publish our Safety Evaluation Report Supplement in January.

Sincerely,

Original signed by
 R. C. DeYoung

R. C. DeYoung, Assistant Director
 Pressurized Water Reactors
 Directorate of Licensing

cc: Horace Jewell, Esquire
 House, Holms and Jewell
 1550 Tower Building
 Little Rock, Arkansas 72201

Mr. William Cavanaugh, III
 Production Department
 P. O. Box 551
 Little Rock, Arkansas 72203

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Sincerely,

R. C. DeYoung, Assistant Director
 Pressurized Water Reactors
 Directorate of Licensing

cc: Horace Jewell, Esquire
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 1550 Tower Building
 Little Rock, Arkansas 72201

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Sincerely,

R. C. DeYoung, Assistant Director
for Pressurized Water Reactors
Directorate of Licensing

cc: Horace Jewell, Esquire
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Little Rock, Arkansas 72201

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