

50-327

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 11, 1985

Mr. Karl Kniel
Division of Safety Technology
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Kniel:

These are our comments on draft NUREG-1032, "Evaluation of Station Blackout Accidents at Nuclear Power Plants." It is difficult to address the content of this "technical" report because of the way loss of AC power has been addressed in generalized groupings. Before any significant conclusions can be drawn from such generalized data, we believe it must first be shown that dividing all nuclear power stations into generalized groups has some logical basis. It is certainly not readily apparent. At any rate, because the report addresses the station blackout issue using generalized data, we will address the report with generalized comments.

We believe that using historical data concerning loss of offsite AC power has some merit. However, without due consideration being given to modifications which have been implemented or procedures which have been revised in response to past events, historical data can be misleading. Unless NRC recognizes nuclear licensees self-initiated progress in addressing safety concerns, utilities could be discouraged from making improvements independent from regulations. A high percentage of past losses of offsite AC power has been at a handful of plants and these plants have made significant strides in eliminating the causes of the offsite loss. It appears that the use of historical data which is not representative of the conditions that now exist and the generalized groups utilized in NUREG-1032 are the only means by which station blackout could even marginally be considered a safety issue. NUREG-1032 should not be used for decisionmaking because a public health risk from the loss of all AC power at any particular nuclear power plant cannot be shown. This report contains analyses performed only on a generalized basis using data from plants where operating conditions have already been significantly improved.

We are providing adequate attention to the issue of loss of all AC power at our plants and believe station blackout should not be treated as an unresolved safety issue. The reliability of both offsite and onsite AC power systems has been adequate at our nuclear power plants. The overall reliability of both

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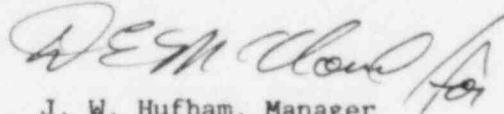
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offsite and onsite AC power systems has been improving as more operating experience is fed back into the plants. If NRC can identify any specific plant where they believe the issue of loss of all AC power systems presents an undue risk to public health, the issue should be resolved under the backfit process.

Additional comments on a section-by-section format are attached.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

A handwritten signature in dark ink, appearing to read "J. W. Hufham", with a stylized flourish at the end.

J. W. Hufham, Manager
Licensing and Risk Protection

Enclosure

COMMENTS ON DRAFT NUREG-1032

Section 1

1. The reliability of both onsite and offsite ac power systems on TVA nuclear plants has been adequate and has been improving with time. Complete loss of all ac power should not be treated as an unresolved safety issue nor should any additional utility action be required by the NRC except through the backfit process. There is no concern that the reliability of ac power systems might be less than originally anticipated.
2. The implication that smaller, low design pressure containments are most susceptible to early failure (possibly less than 8 hours) cannot be generalized. TVA's Sequoyah Nuclear Plant (SQN) analysis for a combined loss of all ac power and the loss of the turbine-driven auxiliary feedwater system indicates that the containment will have more than 24 hours before entering the range of containment failure by overpressurization.
3. The NRC should not focus on any numerical value for the expected core damage frequency from the complete loss of all ac power. The NRC should look at public health risk and let the utility worry about its financial loss due to accidents.

Section 2

1. The loss of all ac power at a nuclear power plant is a very plant-specific analysis. There is no such thing as a "typical" analysis for a "grouping" of plants.
2. The NRC must focus on all aspects of public health risk. Neither a utility nor the NRC can focus its attention on the onsite ac power system just because it is easier to analyze, identify, and implement improvements for the onsite ac power system. In order to make decisions, the utility and the NRC must examine the entire plant. The nuclear industry has wasted too many resources by making decisions without integrating the entire plant into the decision process.

Section 3

1. The historical trend of the loss of offsite power shows that its frequency is decreasing. The Nuclear Safety Analysis Center (NSAC) has collected data showing this trend.
2. As pointed out in comment No. 1 to section 2, the loss of offsite power is very plant specific. It is not reasonable to generate curves such as shown in Figure 3.3.

Section 4

1. It should be made clear that the emergency diesel generator reliability used in this section is the probability of the diesel starting.
2. The configuration shown in this section for diesels shared between three units of 3/8 is not quite correct if this is pertaining to Browns Ferry Nuclear Plant (BFN). The diesel arrangement at BFN is complicated and is not as simple as 3/8.
3. We agree that problems with onsite emergency ac power systems are very plant specific and would have to be examined on a plant-by-plant basis.

Section 5

This analysis has to be developed on a plant-by-plant basis. The loss of offsite power is plant specific, the loss of onsite power is plant specific, and combining the two together is plant specific. It does not seem reasonable to generate curves such as Figures 5.1, 5.2., and 5.3.

Section 6

A nuclear power plant's ability to cope with a station blackout must be developed on a plant-by-plant basis. This has been demonstrated by the Severe Accident Sequence Analysis Program funded by the NRC.

Section 7

Accident sequence analysis must be done on a plant-by-plant basis.

Section 8

The curves generated in this section appear to be insignificant since they are based on a generalized analysis. In order to have meaning, the curves must be generated on a plant-by-plant basis.