

Official

FEB 19 1988

Alabama Power Company
ATTN: Mr. R. P. McDonald
Senior Vice President
P. O. Box 2641
Birmingham, AL 35291-0400

Gentlemen:

SUBJECT: FEMA ANALYSIS OF THE PROMPT ALERT AND NOTIFICATION
SYSTEM FOR THE FARLEY NUCLEAR STATION

Enclosed is a copy of correspondence received from FEMA documenting their analysis of the prompt alert and notification system for the Farley Nuclear Station which was conducted on September 22, 1987. As described in the enclosure, FEMA has determined that the alert and notification system installed around the Farley Nuclear Station does not satisfy the requirements of NUREG-0654/FEMA-REP-1, and FEMA-43. The State of Alabama and Georgia and the Alabama Power Company should implement measures to correct the system inadequacies as soon as possible. Please inform us within 45 days of this letter of the actions you plan to take to correct the inadequacies and the date when the second survey will be conducted.

Sincerely,

ORIGINAL SIGNED BY
DOUGLAS M. COLLINS

Douglas M. Collins, Chief
Emergency Preparedness and
Radiological Protection Branch
Division of Radiation Safety
and Safeguards

Enclosure:
FEMA Analysis

cc w/encl: (See page 2)

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cc w/encl:

- ✓ W. O. Whitt, Executive Vice President
- ✓ J. D. Woodard, General Manager -
Nuclear Plant
- ✓ W. G. Hairston, III, Vice President -
Nuclear Support
- ✓ J. W. McGowan, Manager-Safety Audit
and Engineering Review
- ✓ S. Fulmer, Supervisor-Safety
Audit and Engineering Review

bcc w/encl:

- ✓ NRC Resident Inspector
- DRS Technical Assistant
- ✓ E. Reeves, Project Manager, NRR
- Document Control Desk
- State of Alabama
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HDance
2/19/88



Federal Emergency Management Agency

Washington, D.C. 20472

FEB 1 - 1988

Mr. Victor Stello, Jr.
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stello:

The purpose of this letter is to apprise you of the status of the Federal Emergency Management Agency's (FEMA) review of the alert and notification system (ANS) installed around the Joseph M. Farley Nuclear Generating Plant. The preliminary FEMA review of the original ANS design submitted by the States of Alabama and Georgia and the Alabama Power Company was completed in February 1985. However, around that same time the Alabama Power Company proceeded to upgrade the tone alert radio component of the ANS by installing new tone alert radios activated by a more powerful broadcasting transmitter. The new tone alert radio system was designed to fully replace the National Oceanic and Atmospheric Administration (NOAA) activated tone alert radio system.

Following completion of the preliminary review FEMA attempted to schedule the telephone survey; however, in May 1985 the State of Alabama requested a postponement of the survey until the new equipment could be installed and a new license from the Federal Communications Commission (FCC) approved. They reasoned that the newly installed system would be superior to the existing system and therefore requested that the survey be conducted on the new system once it was installed. FEMA concurred with the request and postponed the telephone survey. It was finally conducted September 22, 1987, on the newly installed system.

The September 22, 1987, telephone survey followed a double activation of the tone alert radios and three activations of the three sirens, to estimate the proportion of emergency planning zone (EPZ) households directly alerted. Siren activations were initiated at approximately 5:52 p.m., 5:56 p.m., and 6:02 p.m. Central Daylight Time (CDT). Only the Ashford siren activated, as designed, for the full three minutes during all three activations. The Gordon siren did not produce a siren signal for more than one minute 40 seconds in any of the activations and the Columbia siren activated for one minute in the first activation and only for 30 seconds in the two later activations. In addition, manual efforts to activate the Columbia siren for three minutes were not successful. Tone alert radios were activated at approximately 5:52 p.m. and 5:56 p.m. CDT. The telephone survey of EPZ residences began at 6:03 p.m. CDT and was completed within two hours.

As part of the telephone survey 527 households within the Joseph M. Farley Nuclear Generating Plant EPZ were contacted. Of this group, 258 respondents stated that they were not alerted. Of the original 527 addresses, 103 were found to lie outside of the EPZ. Therefore, data were tabulated on the 424

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respondent households that were located within the EPZ, of which 345 were home at the time of activation. Of the 345 households, 66.6% (230) indicated that they had been directly alerted during the system activation. Using the estimated number of households within the EPZ (3,295 from 1980 census data) an estimated 95% confidence interval that ranges from 61.8% to 71.1% is yielded for the proportion of the total EPZ population alerted. In other words, at the 95% confidence level, between 61.8% and 71.1% of the households within the Joseph M. Farley Nuclear Generating Plant EPZ would have stated that they were alerted by the sirens and tone alert radios.

During this demonstration, respondent households repeatedly stated that they were confused about their tone alert radios. In some households, the older tone alert radio from the original ANS installation had not been removed and was still "plugged-in", and respondents thought it was intended to function as part of the Joseph M. Farley ANS. This was not possible since a new single-frequency alerting signal, not compatible with the old tone alert radio, had been established for the new tone alert radios. In still other households within the EPZ, it was reported that a new tone alert radio had not even been issued. In general, most households appeared to have been issued two tone alert radios, and since the old tone alert radios had not been removed or discarded, there was some confusion over which tone alert radio was intended to provide the alert signal.

Considering the confusion of the EPZ residents regarding the tone alert radios, the malfunctioning of the sirens during the telephone survey, and the low percentage of alerted households, FEMA cannot conclude at this time that there is reasonable assurance that the Joseph M. Farley alert and notification system is adequate to promptly alert and notify the public in the event of an emergency at the site.

The States of Alabama and Georgia and the Alabama Power Company should implement measures to correct the system inadequacies as soon as possible. At a minimum, the following actions are recommended:

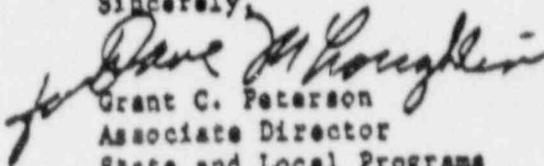
- * Collection of any remaining old tone alert radios;
- * Implementation of a comprehensive public education program to explain the integration of the new tone alert radios into the system and to explain the proper use of the tone alert radios; and
- * Implementation of a better siren maintenance and operability program with more frequent siren testing (preferably monthly full-cycle tests) to ensure proper operation of the sirens.

Information that has recently been provided to us by the State of Alabama and the Alabama Power Company indicates that the problems with the siren operability are being addressed; however, before the FEMA review can be finalized, new operability data indicating that the system satisfies the 90% operability standard must be submitted and determined to be acceptable. In addition, the adequacy of the overall corrective action program will be verified with a second telephone survey

once the corrective actions are completed. We prefer that the States of Alabama and Georgia and the licensee be prepared for a second survey sometime within the next four months.

If you have any questions, please contact Mr. Richard W. Krimm, Assistant Associate Director, at 646-2871.

Sincerely,



Grant C. Peterson
Associate Director
State and Local Programs
and Support