

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

March 30, 2005

NRC INFORMATION NOTICE 2005-06: FAILURE TO MAINTAIN ALERT AND
NOTIFICATION SYSTEM TONE ALERT RADIO
CAPABILITY

ADDRESSEES

All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees of inspection findings concerning a licensee's capability to alert members of the public within the emergency planning zone (EPZ) in the event of a radiological emergency. This information notice is intended to ensure that licensees using tone alert radios (TARs) maintain positive control over the distribution of the TARs. The NRC expects recipients to review the information for applicability to their facilities and consider taking actions to avoid similar problems. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

- The Federal Emergency Management Agency (FEMA) approved alert and notification system (ANS) design report for the Arkansas Nuclear One (ANO) facility stated that new residents in the plume exposure EPZ would be identified through electric service connection reports from utilities serving the EPZ. The residents identified would be contacted and offered a free TAR. In practice, the connection reports were provided to the Arkansas Department of Health, Office of Nuclear Planning and Response Programs (NPRP). NPRP compared these reports with a TAR distribution list to identify addresses that had not received a TAR. Letters were then sent to the new addresses informing the resident of the availability of an emergency information booklet (EIB) and their eligibility to receive a TAR if they were unable to hear a warning siren. When one of the participating utilities could no longer provide the new connection reports, ANO and NPRP agreed that receipt of the reports was not required and that letters would no longer be sent to new residents. Thus, NPRP and ANO relied on new residents learning of the EIB and the TARs through passive distribution at public locations, annual mass mailing of the EIB, and periodic public service TV and radio announcements. New residents were not directly contacted.

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As a result of these program changes, ANO could no longer demonstrate a “best effort” to place TARs at affected residences because the State or the licensee were no longer identifying these residences. The NRC asked FEMA to evaluate whether the current practice was acceptable. FEMA concluded that the program change was a loss of administrative control of TARs and that it was questionable whether affected populations could be notified in a timely manner. During inspection activities, the NRC determined that the issue did not represent a degradation in the risk-significant planning standard 10 CFR 50.47(b)(5) and assigned a green finding. The NRC based this determination on FEMA’s conclusion that the automatic route alerting provided for in existing county emergency procedures would have been capable of accomplishing the ANS function in the entire EPZ in a timely manner.

- At the Callaway Plant, TARs are used as the primary ANS for residences located outside of the coverage area of fixed sirens. On a monthly basis, licensee clerical personnel review new electric service hookups and disconnect information provided by the three utilities that supply residential electric service within the plume exposure EPZ. The database of residences assigned TARs is updated and a mailing is prepared for the newly identified TAR residences. Licensee personnel annually request an updated customer service list from one of the three utilities to compare with the TAR database and the database is updated as needed. Following this update, new batteries and instructions are sent to each residence in the TAR database.

During a scheduled monthly surveillance, licensee personnel noted an abnormally high number of new service connections. After comparing these new connections to the TAR database, the licensee identified 65 residences that should have been previously identified and added to the database. The licensee determined that clerical personnel had been told the majority of the customers are within siren coverage for newly connected residences reported by one of the three utilities serving the EPZ. As a result, new customers for that utility were not identified as candidates to receive TARs. The spike in new service connections occurred when the utility transferred part of its service area to one of the other two utilities serving the EPZ. The receiving utility submitted new connection reports on the transferred customers. Further review of the database identified an additional 33 affected residences. Ninety-eight residences outside the siren coverage area were not identified in the TAR database and would not have received an emergency alerting signal in the event of an emergency at the Callaway plant. The licensee had identified errors in the TAR database 4 years earlier but the corrective actions taken failed to update the database and failed to implement programmatic changes to prevent further errors. The failure of the licensee’s self-assessments, quality assurance audits, and supervisory oversight to identify this problem earlier is a significant weakness in the problem identification and resolution cross-cutting area. The NRC determined that the inspection finding represented a degradation in the risk-significant planning standard 10 CFR 50.47(b)(5) and assigned a white finding. A supplemental inspection was conducted.

- The FEMA ANS design report for the Wolf Creek Generating Station (WCGS) committed the licensee to offer TARs to residences located outside of the 70 db siren coverage area. This was an over-commitment in that the applicable standard was 60 db for areas where the population density was less than 2000 persons per square mile.

The licensee delegated the issuance and tracking of TARs to the county emergency preparedness office. The county emergency preparedness office received information concerning new residents and offered TARs to them. The annual letter sent to the populace within the EPZ provided direction that residents not having TARs and living outside of certain named towns should contact the county emergency preparedness office to receive a TAR.

As a result of a quality assurance audit, the licensee identified 72 residences located outside of the 70 db siren coverage area but inside a town that would not have received an emergency alerting signal in the event of an emergency at WCGS. The licensee determined that the apparent cause of the weakness was the poor quality of siren coverage maps that made it difficult for the county emergency preparedness office to identify the location of residents in comparison to the 70 db siren coverage map. In addition, the 72 residences needing TARs were within four of the towns that had been identified in the annual letter as not needing TARs. The NRC asked FEMA to evaluate whether the licensee was in compliance with the commitments in the ANS design report. FEMA concluded that the licensee was not in compliance with the FEMA-approved ANS design report since TARs were not offered to some residences outside of the 70 db siren coverage area. The NRC concluded that the licensee's failure to identify residences outside siren coverage areas affected the risk-significant planning standard 10 CFR 50.47(b)(5). The NRC determined that the inspection finding did not represent a degradation in the risk-significant planning standard 10 CFR 50.47(b)(5) and assigned a green finding. The NRC based this determination on the fact that, although WCGS ANS design report called for TARs outside the 70 db siren coverage area, all of the residences were within the 60 db siren coverage area and would have been alerted in the event of an actual emergency.

- The Vermont Yankee Nuclear Power Station (VYNPS) ANS design report included fixed sirens and TARs. TARs are the primary means of notification for several communities in Vermont, New Hampshire, and Massachusetts. A small number of TARs are the primary means of notification in areas in other communities outside of the coverage area of fixed sirens. In addition, TARs are available on request to members of the public in areas where fixed sirens are the primary means of notification. About 5000 TARs are issued in the VYNPS EPZ. The licensee should have maintained a list of TAR users and a list of residences who refused TARs. Although the licensee has overall responsibility for the ANS, local officials in each community distribute the TARs to the appropriate residences. The ANS design report approval letter states that residences receiving TARs sign a three-part equipment loan agreement. The licensee should have used its copy of the forms to maintain a computer list of TAR holders; the list should have identified the residences that refused the TARs.

During an inspection, the NRC determined that the list of TAR holders was not current and that a list of the residences that refused a TAR did not exist. A comparison of the TAR list and the 2000 census data suggests that at least 5 percent of the population in the EPZ may have been without a TAR, may not have had the opportunity to refuse one, and would not have received an emergency alerting signal in the event of an emergency at VYNPS plant. Although new residents may have become aware of the TARs via the annual public information calendar and other means such as welcome letters, town office displays, and town meetings, the approach is not consistent with a best-effort attempt to place receivers as expected by FEMA. The NRC determined that the issue represented a degradation in the risk-significant planning standard 10 CFR 50.47(b)(5) and assigned a white finding.

BACKGROUND

Title 10, Code of Federal Regulations, Paragraph 50.54(q) requires nuclear power plant licensees to follow and maintain in effect emergency plans that meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50. Planning standard 10 CFR 50.47(b)(5) states that procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency response personnel by all organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ have been established.

These requirements are amplified in Appendix 3 of NUREG-0654 FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" that states: 1) NRC and FEMA recognize that the responsibility for activating the prompt notification system . . . is properly the responsibility of the State and local governments. NRC and FEMA also recognize that the responsibility for demonstrating that such a system is in place rests with the facility licensee. 2) Within the plume exposure EPZ, the system shall provide an alerting signal and notification by commercial broadcast (e.g., Emergency Broadcast System) plus special systems such as the National Oceanic and Atmospheric Administration radio. A system which expects the recipient to turn on a radio receiver without being alerted . . . is not acceptable.

The ANS provides for the timely notification of the affected population within the plume exposure pathway EPZ surrounding nuclear power reactor sites. The ANS alerts the public of the emergency and provides a means for public officials to distribute emergency instructions and advisories. The ANS may be a combination of fixed or mobile sirens, TARs, automatic telephone dialers, commercial broadcast media, and the Emergency Broadcast System. Information Notice 2002-25, "Challenges to Licensees' Ability to Provide Prompt Public Notification and Information During an Emergency Preparedness Event," addressed challenges related to the ANS, including failure to test and maintain personal home alert devices.

DISCUSSION

FEMA advises the NRC on the status of offsite emergency planning, including the acceptability of the ANS. FEMA bases its finding of acceptability on the licensee's ANS design report and FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants." The NRC relies on FEMA's assessment of the licensee commitments in the facility ANS design report in finding that planning standard 10 CFR50.47(b)(5) has been met.

FEMA-REP 10, recognizing that absolute control of TARs is forfeited once they are given to the public, establishes a minimum distribution and maintenance program to ensure that affected residences are offered the opportunity to obtain a TAR. The FEMA guidance states: TARs should be offered to the public in a geographical area (where needed) and a "best-effort" attempt must be made to place the radios. A record system (register) containing an accurate list of addresses (names are optional) must be maintained for those geographical areas using the tone alert radios. The addresses of residents refusing tone alert radios should also be noted.

Since FEMA's determination that the ANS is acceptable is based, in part, on commitments made by the licensee in the facility ANS design report, the NRC expects licensees to ensure that these ANS program commitments continue to be met. Licensees are reminded that, pursuant to 44 CFR 350, significant changes to an ANS requires FEMA review and acceptance prior to implementation.

CONTACTS

This information notice does not require any action or written response. Please direct any questions about this matter to the technical contact(s) listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) Project Manager.

/RA/

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Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.