

# Fast-Breaking Emergency Notification Process and Evaluation

# Regulatory Purpose

- Provide for public safety and health
- This **IS** the goal of everyone present here today
  - Do what makes sense
  - Do what is right

# Regulatory Basis

- 10 CFR 50 Appendix E, IV.D.3
  - “[t]he licensee shall demonstrate that the State/local officials have the capability to make a public notification decision promptly on being informed by the licensee of an emergency condition.”

## Regulatory Basis (cont)

- 10 CFR 50 Appendix E, IV.D.3 (cont)
  - “[b]y February 1, 1982, each nuclear power reactor licensee shall demonstrate that administrative and physical means have been established for alerting and providing prompt instruction to the public within the plume exposure pathway EPZ.”

## Regulatory Basis (cont)

- 10 CFR.50 Appendix E, IV.D.3 (cont)
  - “[t]he design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ [emergency planning zone] within about 15 minutes.

## Regulatory Basis (cont)

- 10 CFR 50 Appendix E, IV.D.3 (cont)
  - “[t]he use of this notification capability will range from immediate notification of the public (within 15 minutes of the time that state and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is sufficient time available for the State and local government officials to make a judgment whether or not to activate the public notification system”

## Regulatory Basis (cont)

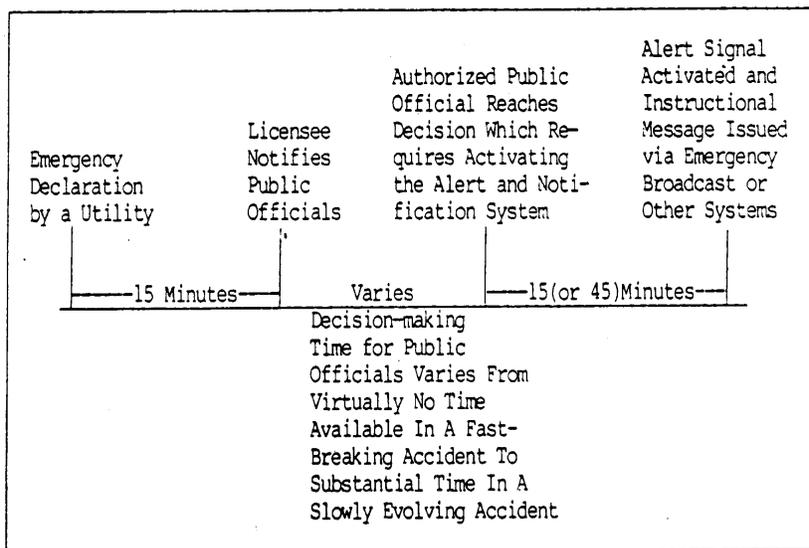
- 10 CFR 50 Appendix E, IV.D.3 (cont)
  - ‘[w]here there is a decision to activate the notification system, the State and local officials will determine whether to activate the entire notification systems simultaneously or in a graduated or staged manner. The responsibility for activating such a public notification system shall remain with the appropriate governmental authorities.’

## Guidance Memorandum AN-1 (APR 21, 1987)

- FEMA Action to Qualify Alert and Notification Systems Against NUREG-0654/FEMA-REP-1 and FEMA- REP-10
- “[i]n all situations the time frames for activating the alert and notification system are measured from the point at which the designated official, or officials if two or more jurisdictions are involved, reaches a decision which necessitates the activation of the alert and notification system. As indicated in the timing chart below, there is decision-making time available to offsite officials that should not be calculated in the 15 or 45 minutes. The following chart illustrates the key steps in the alert and notification process:”

# Guidance Memorandum AN-1 (cont)

## TIMING CHART



## 5.a.2 Criterion dated June 11, 2001

- “[a]ctivities associated with primary alerting and notification of the public are completed within 15 minutes of verified notification from the utility of an emergency situation requiring urgent action (fast-breaking situation).”

## 5.a.2 Criterion dated June 11, 2001 (cont)

- “[t]he initial instructional message to the public must include as a minimum
  - (1) identification of the State or local government organization and the official with the authority for providing the alert signal and instructional message
  - (2) identification of the commercial nuclear power plant and a statement that an emergency situation exists at the plant
  - (3) reference to the REP-specific emergency information for use by the general public during an emergency, and
  - (4) a closing statement asking the affected and potentially affected population to stay tuned for additional information

## 5.a.2 Criterion dated June 11, 2001 (cont)

- “[i]n addition, the ORO must demonstrate the capability to contact, in a timely manner, an authorized offsite decision maker relative to the nature and severity of the event, in accordance with plans and procedures.”



# Alert and Notification System Review





# Regulatory Basis





# **Guide for the Evaluation of ANS for Nuclear Power Plants FEMA REP-10**

The operability of a siren system is considered acceptable when an average of 90% of the sirens (as determined by a simple average of all regularly conducted tests) can be demonstrated functional over the 12-month period...





## NEI 99-02

- This indicator monitors the reliability of the offsite Alert and Notification System (ANS), a critical link for alerting and notifying the public of the need to take protective actions. It provides the percentage of the sirens that are capable of performing their safety function based on regularly scheduled tests.



# FEMA REP-10 Testing Frequency

- Silent Tests - Biweekly
- Growl Tests - Quarterly
- Full Cycle Tests - Annually
- Industry testing varies widely depending on system capabilities and offsite concerns





## **ANS Discussions**

- Survey Results
- Identified Concerns
- Availability
- Reliability
- Conclusion





## **Survey Results State Reporting Methods**

- 37 Sites representing 28 States responded to the Survey - January 2002
- 24 of 28 States are currently reporting Reliability
- 4 States report Availability





## Identified Concerns

- Industry Performance - Number and significance of ANS issues
- Correlation of Reliability PI to performance



## Availability

- Concept may be easier to understand
- Measure of system performance
- Incorporates the Significance Determination Process into the performance indicator
- Differs from REP-10 Guidance
- Difficulty in determination of starting point for siren outages



## Options for Determining Outage Time

- Time of last successful test
- Time of discovery
- Time of last successful test / 2





## Calculation for Time Out

- Known outage - storm/power outage etc. To be used when failure time is clearly known
- Unknown outage - NRC proposes  $T/2$
- Outage time starts midway between last successful test and discovery time





# Reliability

- Standard guidance has already been put in place
- Measured and consistent between sites
- Aligned with REP-10





## Conclusion

- Reactor Oversight Program has resulted in upgraded and planned upgrading of siren systems
- The Significance Determination Process needs to be reviewed and revised if reliability remains the indicator

