



Federal Emergency Management Agency

Washington, D.C. 20472

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Ms. Kathy Halvey Gibson, Chief
Emergency Preparedness and
Health Physics Section
Operator Licensing, Human Factors
And Plant Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Ms. Gibson:

This letter is in response to your request for assistance dated November 15, 2002, for our office to evaluate issues identified with Oyster Creek Nuclear Generating Station's Alert and Notification System (ANS).

Based on the enclosed documentation that reflects the response to the issues identified with Oyster Creek Nuclear Generating Station, we concluded that the information provided would not reduce the effectiveness of the EPZ community's emergency plan around the Oyster Creek Nuclear Generating Station.

Please contact me at (202) 646-3664 or Pat Tenorio of my staff at (202) 646-2870, should you have questions or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "V. E. Quinn", is written over the typed name.

Vanessa E. Quinn

Chief

Radiological Emergency Preparedness Branch

Enclosure

March 21, 2003

Vanessa E. Quinn, Chief
Radiological Emergency Preparedness Branch
Technology Hazards Division
Federal Emergency Management Agency
500 C Street, S.W.
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SUBJECT: TECHNICAL RESPONSE TO NRC REQUEST FOR ASSISTANCE TO
EVALUATE ISSUES IDENTIFIED WITH OYSTER CREEK'S PUBLIC ALERT AND
NOTIFICATION SYSTEM

References:

1. Nuclear Regulatory Commission "Request for Assistance to Evaluate Issues Identified with Oyster Creek's Public Alert and Notification System." ADAMS ML023170325. November 15, 2002.
2. Nuclear Regulatory Commission Inspection Report 50-219/02-07. "Oyster Creek Generating Station - NRC Integrated Inspection." ADAMS ML023100291. November 6, 2002.
3. Federal Emergency Management Agency Region 2 Letter FEMA-REP-2-NJ-2 "Alert and Notification System Design Report for the Oyster Creek Nuclear Generating Station" with enclosures: (1) GPU Nuclear "Alert and Notification System, Oyster Creek Nuclear Generating Station, Forked River, New Jersey" and (2) its Attachment 1, "The Oyster Creek Nuclear Generating Station Prompt Notification System Design Report." September 20, 1984.
4. International Energy Associates Limited Report "Oyster Creek Nuclear Generating Station Site-Specific Offsite Radiological Emergency Preparedness Alert and Notification System Quality Assurance Verification." December 4, 1986.
5. AmerGen Energy Company, LLC Letter to NRC Document Control Desk. "Oyster Creek Generating Station Docket 50-219 NRC Unresolved Item 50-219/02-07-02." ADAMS ML023610411. December 18, 2002.

Dear Ms. Quinn:

This letter provides the technical response to Reference 1 that requested FEMA assistance in evaluating changes made to the Oyster Creek Prompt Notification System (PNS) identified by Reference 2. Based on a review of the above references, the removal of the five sirens from the PNS and the deletion of the 11 tone alert radios as part of the *primary* notification system appear to be "significant" under 10 CFR 350.14. Hence, for these cases, it appears that FEMA prior notification and approval would have been necessary under 44 CFR 350.14. However, as discussed below, these changes would have been acceptable to FEMA because they do not reduce the effectiveness of the emergency plan.

The specific technical responses to the NRC comments and questions are shown below:

Removal of five sirens from the southern tip of Long Beach Island

Reference 3 included the original PNS design report. The FEMA technical review of the PNS design report is documented in Reference 4. Reference 3 (Enclosure 1, page A.1-8) states that its "Figure E.6.1 shows the [10-mile plume exposure] EPZ and identifies population centers, recreational areas and institutional areas." Figure E.6.1, Siren Alert System – 70 dBC and 60 dBC Contours – Summer" clearly marks the EPZ boundary as not including the southern end of Long Beach Island and shows that siren numbers 10, 39, 40, 41 and 42 are outside the geopolitically defined EPZ. This figure shows that the southern tip of the EPZ extends about one mile south of the 10-mile-radius circle around Oyster Creek and that siren 39 was about 1-3/4 miles south of the southern tip of the EPZ. The other sirens in question (10, 40, 41 and 42) are even further south.

Reference 4 forms the technical basis for initial FEMA acceptance of the Oyster Creek PNS described by Reference 3. This report (page 2) describes the EPZ as "an irregular shape approximating a 10-mile-radius circle with the station as the center point. The irregular shape of the EPZ results from its delineation along existing physical and political boundaries." Reference 4 (page 2) states specifically that Route 72 forms the EPZ southern boundary – which is consistent with Reference 3, Enclosure 1, Figure E.6.1. This also means that people leaving the southern end of Long Beach Island (Brigantine National Wildlife Refuge north to Ship Bottom) do not need to leave through the EPZ – only along the portion of its southern boundary formed by Route 72.

The PNS siren sound coverage verification of Reference 4 used 13 sirens located within the US Geologic Survey Forked River quadrangle map (page 11 and Figure 2). These sirens were all within five miles of Oyster Creek. In addition, Reference 4 states that the telephone survey that was taken after a test of the PNS on April 15, 1986 was based on first "establishing a 12-mile-radius circle around the plant" and then by reviewing the addresses to assure that they were within the EPZ (pp. 28-29).

Relative to the five sirens in question, FEMA acceptance of the original PNS design was based on: (1) EPZ boundaries that clearly excluded the area covered by these sirens, (2) independent evaluation of siren coverage that excluded the area covered by these sirens, and (3) post-test telephone survey results that excluded the area covered by these sirens. As the above summary shows, since these sirens did not form any basis for FEMA acceptance of the PNS design report, their deletion would have been acceptable to FEMA, assuming that prior notification had occurred in accordance with 44 CFR 350.14.

Removal of 11 tone alert radios from an area that is now uninhabited

A review of References 3, 4 and 5 shows that: (1) tone alert radios in question were required for *primary* PNS coverage in a sparsely *populated* area that did not have at least 60-dBC siren sound coverage, and (2) administrative control of the tone alert radios was maintained until *after* the residents left and the homes in question were razed by the State of New Jersey. At that point, the administrative controls outlined in FEMA-REP-10 Section E.6.2.3 were no longer necessary.

Therefore, relative to the 11 tone alert radios used for primary notification, their removal from the PNS would have been met the applicable guidance of FEMA-REP-10. Their deletion would have been acceptable to FEMA, assuming that prior notification including the information found in Reference 5 had occurred in accordance with 44 CFR 350.14.

Deletion of 58 other tone alert radios within the EPZ and 20 other tone alert radios

Reference 3 (Enclosure 1, page A.1-13) states that "in addition to the tone alert radios that are part of the *primary* PNS, other tone alert radios have been placed at special facilities throughout the EPZ to *augment* the PNS." [*Emphasis added*]. Reference 4 (pp. 22-25) did not include these radios in its technical review of the tone alert radios. Rather, it included its assessment of them as part of the special alerting review. Reference 4 (page 25) states that these tone alert radios "*supplement* the primary system." [*Emphasis added*]. FEMA-REP-10 Section E.6.2.3, Tone Alert Radios, (pp. E-13 and E-14) states: "...steps can be taken to ensure the public (in geographical areas where the radios are used as a *primary* alerting method) is offered the opportunity to benefit from the availability of tone alert radios." [*Emphasis added*]. FEMA-REP-10 Section E.6.2.4, Special Alerting, (page E-15) states that: "certain alerting methods may be more cost-effective than sirens" including institutional alerting methods. However, both Reference 3 and Reference 4 show that sirens are the primary alerting mechanism for institutions and that the 58 tone alert radios within the EPZ are *supplemental*. The other 20 tone alert radios that were used outside the EPZ are clearly outside the scope of the PNS that was accepted by FEMA. Therefore, the guidance of FEMA-REP-10 concerning administrative control, maintenance and testing of the 78 tone alert radios in question does not apply.

Additionally, the survey results of the April 15, 1986 PNS test show that of 276 respondents (all within the EPZ boundaries) who said that they were alerted, only one stated that the alerting was by tone alert radio and one did not know. The survey did not differentiate between tone alert radios used for primary or supplemental alerting. This means that sirens that provided more than 99% of the public alerting during that test. This clearly demonstrates that siren coverage was found to be adequate without reliance on any of the supplemental tone alert radios.

Therefore, acceptance of the *primary* alerting means did not depend in any way on the 78 *supplemental* tone alert radios in question. Thus, their removal without prior notification and approval by FEMA under 44 CFR 350.14 FEMA was not required.

"Blanket approval" of removal of tone alert radios

Approval of the removal the tone alert radios from Artificial Island would have been considered as a separate issue from the removal of tone alert radios from Oyster Creek since they involve different sites and different EPZs. As indicated above, removal of the *supplemental* tone alert radios would not have required prior notification or approval of FEMA. As indicated above, the information contained in Reference 5 relative to the deletion of 11 tone alert radios used for *primary* alerting should have been sent to FEMA for its prior review and approval in accordance with 44 CFR 350.14.

Regards,

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