



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

50-416

November 16, 1998

Mr. William A. Eaton
Vice President, Operations GGNS
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

SUBJECT: APPEAL MEETING FOR EMERGENCY PLAN CHANGE 28.001-95 FOR
GRAND GULF NUCLEAR STATION, UNIT 1 (TAC NO. M99124)

Dear Mr. Eaton:

In a letter dated May 22, 1997 (GNRO-97/00048), Entergy Operations, Incorporated (the licensee) requested that the Nuclear Regulatory Commission (NRC) reconsider its conclusions in its Safety Evaluation (SE), dated December 11, 1996, on Emergency Plan (EP) change 28.001.95 for the Grand Gulf Nuclear Station, Unit 1, (GGNS). The NRC staff concluded in the SE that change 28.001.95 decreased the effectiveness of the GGNS Emergency Plan, and, in accordance with 10 CFR 50.54(q), should not have been implemented without prior staff review and approval. This SE was transmitted to GGNS in a letter dated April 24, 1997. The licensee's May 22, 1997, letter also contained information to justify its position.

The NRC convened an appeal board (the Board) on July 10, 1997, to hear the licensee's position to determine whether reconsideration was warranted; a summary of the Board meeting was issued on July 17, 1997. In letters dated September 5, and December 9, 1997 (GNRO-97/00086 and GNRO-97/00118, respectively), the licensee provided additional information to address issues raised by the Board and, subsequently thereafter, in response to staff concerns. This transmits the Board's affirmation of the findings of the NRC safety evaluation in that EP change 28.001-95 decreased the effectiveness of the plan. The bases and the events leading up to this conclusion are described below.

The Board meeting with the licensee revealed certain ambiguities in the staffing of the EP that the licensee addressed in its letters of September 5 and December 9, 1997. These ambiguities prevented the resolution of the technical issues raised by the licensee in its letter of May 22, 1997, and during the meeting of July 10, 1997, and these issues were discussed at a meeting of the Board with the staff when the staff reported back to the Board on the letters of September 5 and December 9, 1997. This Board-staff meeting focused on the technical issues involving the use of technology to replace two (2) 30-minute health physics (HP) technician responders as described in the emergency plan. At that meeting, the Board requested that a survey be made of the radiation protection and emergency preparedness staffs in headquarters and the regions to establish a consensus to determine whether the replacement of HP technicians by the use of technology in the early phase of an accident is an adequate alternative approach. The Board sought to determine whether technological advances and experience in the use of the technology were sufficient to warrant a change to the NRC position. The conclusion derived from that survey is that the use of electronic dosimeters (EDs) and area radiation monitors (ARMs) cannot replace the two 30-minute HP technician responders. In providing its position to the Board, the staff also evaluated the information

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presented by the licensee to assure that the rationale used by the licensee was considered before the staff finalized its recommendation to the Board.

In its May 22, 1997, letter, the licensee identified the following reasons for eliminating the two 30-minute HP technician responders:

- Automated access control
- On-shift personnel provide HP coverage
- Minimal HP involvement required for personnel monitoring
- Dosimetry self-issued by workers
- Additional on-shift staff available for HP support.
- Network of area radiation monitors

Access control involves safety decisions to permit personnel into radiological areas, managing the activities of personnel in radiological areas, establishing control areas to prevent the spread of contamination, and providing appropriate dosimetry for personnel. Under normal plant operating conditions, access control may be automated because radiological conditions are established before permitting personnel into a hazardous environment and conditions are monitored before releasing personnel. Issuing radiation work permits, establishing barriers, step off pads, etc. are essential to an effective access control program; these activities require personnel even during normal operating conditions. Under accident conditions, where conditions may not be well established, HP staff are required to ensure that personnel are not subject to undue risk. Access control is substantively more than just logging personnel into radiological areas and providing dosimetry.

Staffing was discussed in great depth with the licensee at the Board meeting and in subsequent phone calls; the licensee stated that the contingent of on-shift personnel exceeded minimum requirements. Nevertheless, the staff identified discrepancies in the emergency organization described in the GGNS EP. The staff determined that a number of emergency workers were double-counted and given collateral responsibilities for handling several assignments simultaneously. The staffing scheme outlined in the emergency plan was confusing and ambiguous regarding the number of emergency responders; the licensee did not resolve this issue at the Board meeting. In subsequent discussions and in the submittals of September 5 and December 9, 1997, the proposed licensee staffing-level changes were implemented and the staffing issues were resolved for the GGNS EP. The EP staffing levels in Table 5-1, EP shift staffing and augmentation capabilities, dated October 20, 1997, that was submitted in the December 9, 1997, letter removed the double counting of emergency workers that had been incorporated in earlier versions of Table 5-1, and thus was an augmentation of previous staffing levels.

ARMs have been part of radiation protection programs for a long time and their use was considered when the minimum HP emergency organization staffing standard was developed initially. Recognition of the presence of these monitors does not provide a sufficient basis to justify the reduction in the number of 30 minute HP technician responders. Unlike normal operations, where there is likely to be good correlation between ARMs and radiological conditions there may be an inappropriate reliance on ARMs under accident conditions because

the magnitude and mix of radionuclides may be unknown and the spatial distribution of radioactive material may be highly variable.

The underlying principles associated with as low as is reasonably achievable (ALARA) for occupational exposure, even under accident conditions, would not permit workers to enter into a hazardous environment without recognition of the risk and an appropriate justification for worker exposure. The use of EDs to monitor and control radiation exposure provides additional advantages over thermoluminescent dosimeters and pocket dosimeters, however, EDs cannot replace appropriate HP coverage where judgement is required for personnel safety. Only recently have licensees relied on EDs as the primary dosimeter. Notwithstanding improvements in the design, performance and fabrication of these devices, EDs have limitations. Reliance on EDs as the primary information source to preclude unnecessary worker exposure under accident conditions is not consistent with ALARA.

The licensee expected that there would be a human resource savings provided by workers obtaining their own dosimetry and performing their own monitoring as is evidenced under the current practice for normal operations. In addition to the foregoing discussion as the bases for the denial of reconsideration of the staff's conclusion in its SE dated December 11, 1996, the licensee's practice in this specific area is a problem area. For example, in the letter dated October 9, 1997, the Plant Support area of the latest SALP Report found a decrease in the SALP score from a "1" to a "2." The NRC noted that problems were identified in the radiation protection area: radiation workers were not wearing EDs and were not following established radiation protection procedures. These inspection findings alone do not advance the licensee's position that HPs are not needed because radiation workers can use electronic dosimeters and are trained in their use.

The Board affirms the findings of the NRC safety evaluation, issued to the licensee in the NRC letter dated April 24, 1997, that EP change 28.001-95 decreased the effectiveness of the plan. The Board considered the licensee's position outlined in its May 22, 1997, letter and the representations made at the Board meeting on July 10, 1997. The summary of the Board meeting dated July 17, 1997, indicated that a limited number of issues required clarification to be acceptable; the summary did not reflect the concern of the Board regarding the ambiguity in the emergency organization described in the emergency plan and the assignment of collateral duties. Nevertheless, in letters dated September 5, and December 9, 1997, the licensee provided additional information to respond to the issues covered in the summary of the meeting and, subsequently thereafter, in response to staff concerns. While the Board finds that reconsideration of the staff's conclusion in its SE dated December 11, 1996, is not warranted, it is apparent to the Board that the licensee attempted to resolve the issues promptly and in good faith. The Board has directed the staff to proceed with closure of this proceeding and disposition of findings; however, the Board is receptive to the reconsideration by the licensee of its EP staffing commitments in its correspondence dated September 5, and December 9, 1997, had the staffing commitments been made under the presumption that the licensee would have prevailed on its position or that the licensee would have prevailed on appeal.

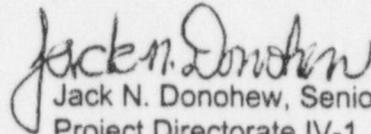
In the absence of an action by the licensee to continue this matter, the Board plans to dissolve within 30 days of the date of this letter.

William A. Eaton

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This closes out the appeal meeting and your appeal of the staff's decision in its letter of April 24, 1997, on EP change 28.001-95. This also closes out TAC M99124 on the appeal meeting. If you have any questions, contact me at 301-415-1307, or by "JND@NRC.GOV" on the internet.

Sincerely,



Jack N. Donohew, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-416

cc: See next page

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