ENTERGY

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June 4, 1993

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Response to Violation for Failure to Follow Procedure during Control Rod Manipulations
Report No. 50-416/93-04, dated 05/07/93
(GNRI-93/00072)

GNRO-93/00068

Gentlemen:

Entergy Operation, Inc. hereby submits the response to the Notice of Violation 50-416/93-04-01.

Special attention by management has been given to resolution of this violation. Corrective actions have been taken to reduce the complexity of tasks associated with control rod manipulations. Senior Reactor Operators were directed to maintain an atmosphere in the control room which would prevent personnel performing rod manipulations from being distracted or interrupted during this activity. Additionally, discussions were held with Reactor Operators to determine the most effective format for rod manipulations.

Entergy Operations feels that the corrective actions taken as a result of these two events will greatly lessen the probability of recurrence.

Yours truly,

CRH/RR/
cc: (See Next Page)

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Notice of Violation 93-04-01

Technical Specification 6.8.1.c requires that written procedures be established, implemented and maintained covering surveillance and test activities of safety related equipment.

1) Performance and System Engineering Instruction 17-S-02-400, Revision 3, Attachment III (Individual Rod Movement Tracking Sheet) required the reactor operator to leave control rod 16-37 fully inserted at position 00 after scram time testing performed on March 20, 1993.

   Contrary to the above, on March 20, 1993, a reactor operator mistakenly withdrew the control rod from position 00 to position 32 after scram time testing of the rod.

2) Surveillance Procedure 06-OP-1C11-W-0001, Control Rod Operability Testing, Revision 29, Step 5.3.4.a, required that each control rod undergoing its weekly surveillance be moved in one notch, and then be returned to its original position.

   Contrary to the above, on April 2, 1993, a reactor operator mistakenly inserted control rod 56-45 an additional notch during operability testing of the rod prior to returning the rod to its original position.

I. **Admission or Denial of the Alleged Violation**

Entergy Operations, Inc. admits to this violation.

II. **The Reason for the Violation, if Admitted**

1) On March 20, 1993, Operations personnel were in the process of performing the weekly control rod exercise, scram time testing for several control rods and the control rod sequence exchange. These three activities were being performed simultaneously.

   The operator was manipulating control rods in accordance with an attachment of an approved section procedure. The attachment was used to specify and track all rod movements. The sequence of moves had been preplanned and approved by a qualified reactor engineer.

The attachment instructed operators in the first eight steps to scram selected rods from the full-out position; then return them to the full-out position. In contrast to this "in-out" process for each rod, the ninth step required rod 16-37 to be scrammed and left at the full-in position. The next step in the attachment required rod 16-33 to be withdrawn to full-out position; then scrammed to its full-in position. However, the operator withdrew rod 16-37 to position 32. The core position of rod 16-33 is adjacent to rod 16-37.

The change in the sequence was to prevent adjacent rods from being withdrawn at the same time in order to maintain the power ratio in that area of the core within limits. For each rod, the operator had developed an "in-out" habit of rod movement and did not ensure the proper rod was selected prior to performing step 10 of the attachment.

2) On April 2, 1993, operations personnel were performing the weekly control rod operability surveillance. This surveillance demonstrates the ability of each withdrawn rod to move when power is above the low power setpoint. The rods are to be moved at least one notch.

During this surveillance, the licensed operator selected rod 56-45 and a second licensed operator verified that the appropriate rod had been selected. As the rod was given an insert signal, an alarm, which was not associated with control rod manipulations, sounded on an adjacent control panel. The verifier who was assigned to control rod manipulation went to attend the alarm. Upon the return of the verifier, the operator at the controls inadvertently gave a second insert signal to rod 56-45.

In each instance, the operator immediately returned the mis-positioned rod to its proper position. Core thermal limits were not violated as a result of the rod mis-positioning events. Following the above occurrences, an investigation was performed to identify the causes of the events. Three causal factors were identified.

Work Practices

Self-checking was not applied to ensure that the intended action was correct before it was performed. Incorrect rod manipulation occurred in both instances when the operator-at-the-controls initiated a rod movement without self-confirmation or confirmation by the verifier that the action to be taken was appropriate.

Work Organization/Planning

The task contained repetitious sub-tasks that are conducive to short term habit intrusion and complacency. Also, only one licensed reactor operator was available to perform other functions in the control room during planned control rod movement evolutions. This allowed disruptions of personnel assigned to perform control rod movement activities.

Written Communications

The data sheets for the various surveillances used during these evolutions lack a common format to assist in maintaining actual task completion status of each surveillance. This dissimilar format increased task complexity when performing more than one surveillance concurrently.

III. Corrective Steps Which Have Been Taken and Results Achieved

Operations Senior Licensed Operators have been directed to maintain a control room atmosphere that is free of interruption and distraction for personnel assigned to control rod manipulations.

Operations management reemphasized self-verification to all Operations personnel.

Additionally, discussion were held with licensed operators to determine the most effective data sheet format for rod manipulations.

IV. Corrective Steps to be Taken to Preclude Further Violations

Plant Procedures 06-RE-SC11-V-0402 and 17-S-02-400 are in the process of being changed to provide a more streamlined format thus making the evolution less complex.

Operations procedures will be reviewed and revised as appropriate to encompass a common format with other plant procedures which govern rod manipulations.

V. Date When Full Compliance Will Be Achieved

These actions will be completed by August 30, 1993.