Entergy Operations

Entergy Operations, Inc.
Route 3 Box 137G
Russellville, AR 72801
Tel 501-964-3100

August 17, 1994

2CAN089401

U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Arkansas Nuclear One - Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Response to Inspection Report
50-313/94-05; 50-368/94-05

Gentlemen:

Pursuant to the provisions of 10CFR 2.201, attached is the response to the violation identified during the inspection of activities associated with the failure to appropriately notify health physics to verify the actual radiation levels of an alarming area radiation monitor.

Should you have questions or comments, please call me at 501-964-8601.

Very truly yours,

Dwight C. Mims

Dwight C. Mims,
Director, Licensing

DCM/ajg

Attachments

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cc: Mr. Leonard J. Callan
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Arkansas Nuclear One
1448 S. R. 333
Russellville, AR 72801

Mr. George Kalman
NRR Project Manager Region IV/ANO-1 & 2
U. S. Nuclear Regulatory Commission
NRR Mail Stop 13-H-3
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

NOTICE OF VIOLATION

During an NRC inspection conducted on May 1 through June 11, 1994, one violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

Technical Specification 6.8.1.a states, in part, that written procedures shall be established, implemented, and maintained covering the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Section 5 of Appendix A of Regulatory Guide 1.33, 1978, "Procedures for Abnormal, Offnormal, or Alarm Conditions," states, in part, each safety-related annunciator should have its own written procedure which should normally contain the immediate operation action.

Procedure 1203.012K, "Annunciator 2K11 Corrective Action," requires operations to notify health physics to verify actual radiation levels when Annunciator B-10, "Area Radiation HI/LO," alarms.

Contrary to the above, on June 1, 1994, when Annunciator B-10, "Area Radiation HI/LO," in Alarm Panel 2K11 alarmed in the control room, the control room supervisor did not notify health physics and request that they verify the actual radiation levels.

This is a Severity Level IV violation. (Supplement I) (368/9405-01)

Response to violation 368/9405-01

(1) Reason for the violation:

On June 1, 1994, at approximately 1600, Annunciator B-10, "Area Radiation HI/LO," located in alarm panel 2K11, alarmed in the Unit 2 control room. At the time of the alarm there were no special plant evolutions or abnormal conditions that could have been an initiating event for the alarm. However, Instrument & Control (I&C) personnel had been conducting a surveillance on various area radiation monitors (ARM's).

It was determined that ARM 2RE-8917, Unit 2, 354' Elevation Hot Lab Sample Room, indicated a high alarm condition and the rate meter indicated a full scale deflection of approximately 10 R/hr. It was noted that the other area radiation monitors were all displaying normal background radiation levels. The operator placed the ARM switch to the *level cal* position and observed that the rate meter indication failed to move from the meters full scale deflection. When an ARM switch is in the

level cal position, an operable ARM rate meter indication should fall to just above the low level alarm.

After completing a validation check of the annunciator alarm, the operator concluded that the alarm was not a valid condition and the ARM had failed high or as a result of I&C surveillance testing on the local detector. The operator concluded that the alarm was invalid and that the entry conditions were not met for Procedure 1203.012K, *Annunciator 2K11 Corrective Action*. Had the operator entered the procedure, he would have been required to check the initiating alarm and radiation levels, then notify health physics to verify actual radiation levels.

The Unit 1 Chemistry Hot Lab is adjacent to the Unit 2, 354' Elevation Hot Lab Sample Room in which the alarming ARM was located. A chemist who was available in the Unit 1 Chemistry Hot Lab was requested by the operator to investigate the alarm. The Unit 2, 354' Elevation Hot Lab Sample Room was found clear of I&C personnel. The operator therefore determined that the alarming ARM was not a result of the I&C surveillance testing.

The operator subsequently removed the ARM 2RE-8917 "Power-On Fuse," the rate meter indication dropped to the low scale stop and then the fuse was replaced. The rate meter indication then displayed a normal reading of approximately 1 mR/hr. The operator concluded that removing and reinstalling the fuse successfully cleared the condition.

The root cause of the violation is that the operator believed that the alarming ARM was invalid and did not necessitate any additional compensatory action. The operability check was performed and other indications were used to determine that the alarm did not reflect a valid condition. The operator consciously chose not to implement Procedure 1203.012K, *Annunciator 2K11 Corrective Action*.

The process of validating an alarm and evaluating plant conditions is expected of operators. Operating Procedure 1015.021, *ANO-2 EOP/AOP Users Guide - Annunciator Usage,* states, in part that "Operators are expected to be aware of the alarm, evaluate the alarm, and make a conscious decision on when and if actions are necessary..." Operating Procedure 1015.001, *Conduct of Operations - Annunciator Response,* cautions against reliance upon a single sensing device when evaluating a condition. While the operators' response to the initiating event was consistent with the above guidance during the process of validating the alarm, he should have additionally incorporated the provisions of Procedure 1203.012K, *Annunciator 2K11 Corrective Action*, which provided for a detector failure as an initiating event and the notification of the health physics.

A second problem involved a poor radiation worker practice when the chemist, who was investigating the alarming ARM, entered the area of the Unit 2, 354' Elevation Hot Lab Sample Room without the proper survey meter. Chemistry personnel are

qualified Advanced Radiation Workers that allows them to enter into high radiation areas with proper survey meters in lieu of a health physics escort. The chemist had conducted an area survey after the Unit 2 Reactor Coolant System was sampled earlier that day. In addition, the Unit 2 operator stated that the ARM 2RE-8917 had failed high just before the chemist entered the area. On the basis of this information, the chemist concluded that the alarm was invalid and entered the Unit 2, 354' Elevation Hot Lab Sample Room without taking any precautions that included carrying a proper survey meter. Exercising good judgment by obtaining radiological information prior to entering an area where a potentially high dose rate exists is the appropriate response to this situation.

(2) Corrective steps taken and results achieved:

Chemistry Management reviewed this event with chemistry personnel and cautioned that when responding to an alarming ARM, the hazards must be known before entering the area, regardless of the assumed area radiation environmental conditions. This corrective action was completed June 17, 1994.

The Unit 2 Operations Manager discussed the appropriate use of Procedure 1203.012K, *Annunciator 2K11 Corrective Action* with the operator and clarified the necessary response to the annunciator alarms. This corrective action was completed on June 22, 1994.

Night orders were issued to Unit 1 & Unit 2 operating crews that discussed the lessons learned from this event and the procedural guidance when responding to an alarming ARM. This corrective action was completed on August 8, 1994.

The Radiation Protection Manager issued a memorandum on August 2, 1994, to the ANO site qualified Advanced Radiation Workers. The memo reviewed the events and emphasized that when responding to an alarming ARM, an Advanced Radiation Worker must assume that the alarm is valid until proven otherwise by using the proper survey meter instrumentation.

(3) Corrective steps that will be taken to prevent further violations:

The Unit 1 & 2 Operations Managers will review the lessons learned from this event and provide additional guidance to operations personnel regarding the appropriate use of annunciator corrective action procedures. This corrective action step will be complete following the next licensed operator requalification training cycle that is scheduled for mid-October 1994.

(4) Date when full compliance will be achieved:

Full compliance was achieved on June 22, 1994, for this event when operations management discussed the appropriate use of annunciator alarms with the operator. Full compliance to reduce the potential for future violations will be accomplished following the completion of the next licensed operator requalification training cycle that is scheduled for mid-October 1994.