



**Entergy  
Operations**

Entergy Operations, Inc.

Route 3, Box 137G

Springville, AR 72801

Tel 501-964-3100

December 7, 1992

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U. S. Nuclear Regulatory Commission  
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Mail Station P1-137  
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Subject: Arkansas Nuclear One - Units 1 and 2  
ocket Nos. 50-313 & 50-368  
License Nos. DPR-51 & NPF-6  
Supplemental Response to Inspection Report  
50-313/92-11; 50-368/92-11

Gentlemen:

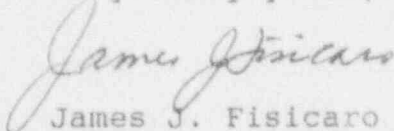
Pursuant to the provisions of 10CFR2.201, attached is the supplemental response requested in a letter from Mr. Bill Beach dated November 25, 1992, to the violation identified during the inspection of activities associated with the failure to follow the instructions contained in Radiation Work Permits.

Our assessment of the nature of these deficiencies indicates that broader improvements are needed in this area. We are taking actions to improve performance including hands-on radiation worker training and communicating expectations to line-management regarding the importance of being actively involved to monitor the performance of their personnel and ensure that individual radiological practices are being properly implemented. Special emphasis by ANO executive management has been placed on improvements in radiological work practices.

The corrective actions currently in progress are designed to improve radiation worker practices. We are committed to ensure that ANO's radiological work practices meet all regulatory requirements and Entergy Operations standards of excellence.

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

Very truly yours,



James J. Fisicaro  
Director, Licensing

JJF/RMC/mmg  
attachments

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cc: Mr. James L. Milhoan  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

NRC Senior Resident Inspector  
Arkansas Nuclear One - ANO-1 & 2  
Number 1, Nuclear Plant Road  
Russellville, AR 72801

Mr. Thomas W. Alexion  
NRR Project Manager, Region IV/ANO-2  
U. S. Nuclear Regulatory Commission  
NRR Mail Stop 13-H-3  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

Mr. Roby B. Bevan, Jr  
NRR Project Manager, Region IV/ANO-1  
U. S. Nuclear Regulatory Commission  
NRR Mail Stop 13-H-3  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852

NOTICE OF VIOLATION

Unit 1 Technical Specification 6.8.1.a required, in part, that "Written procedures shall be established, implemented and maintained covering ... the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, November, 1972." Safety Guide 33, Appendix A, recommended that personnel monitoring and radiation work permits be covered by written procedures. Procedure 1000.031, Revision 15, "Radiation Protection Manual," required that "Radiologically controlled areas at Arkansas Nuclear One are identified with yellow and magenta (purple) ropes, flags, posting signs, tape, etc. which shall not be used for any other purpose. All personnel are required to adhere to these postings."

Similarly, Unit 2 Technical Specification, 6.8.1.a. required, in part, that "Written procedures shall be established, implemented and maintained covering ... the applicable procedures recommended in Appendix A of Regulatory Guide 1.33. Revision 2, February 1978." Regulatory Guide 1.33, Appendix A, recommended that radiation work permits be covered by written procedures. Procedure 1000.031, Revision 15, "Radiation Protection Manual," required that "individuals are responsible for: ... adherence to radiological protection requirements ..." and "... being knowledgeable of and understanding the requirements and contents of the Radiological Work Permit (RWP) under which work will be performed."

Radiation Work Permit 920993, Revision 1, required workers to perform a whole body frisk when exiting a radioactive material area.

Radiation Work Permit 921438, Revision 1, required workers to wear surgical gloves for electrical penetration work within a radioactive materials area.

Contrary to the above, the following three examples of failure to follow radiation work permit requirements were identified:

- A. On August 26, 1992, an operator and an escorted visitor failed to adhere to a radiological posting for a radioactive materials area, which indicated a radiation work permit and contamination monitoring was required for entry.
- B. On September 4, 1992, the resident inspector observed that two main steam safety valve workers failed to perform whole body frisks when exiting a radioactive material area as required by Radiological Work Permit 920993, Revision 1.
- C. On September 8, 1992, the resident inspector observed that two Electrical Penetration 2E-22 workers failed to wear surgical gloves when performing work within a radioactive materials area as required by Radiological Work Permit 921438, Revision 1.

These three examples constitute one Severity Level IV violation (Supplement IV) (313/9211-02; 368/9211-03)

Response to violation 313/9211-02; 368/9211-03

(1) Reason for the violation:

Example A

Cited example A was caused by a personnel error. The operator and escorted visitor were undergoing an operations license examination, and they did not recognize that the area they were entering was a posted radiologically controlled area (RCA). The RCA is also a security area and two (2) separate informational (radiation and security) postings are located on the access door. The unauthorized entry into the RCA was not detected until the escorted visitor noticed the radiation area posting as they egressed through the security door.

Example B

Cited example B was caused by a personnel error. The two (2) main steam safety valve workers were aware that whole body frisking was required. They did not perform a whole body frisk before egressing the RCA because the portable frisker was located in a poorly lighted area and was not readily visible to the workers. They exited the RCA and proceeded to a known frisker location where a successful whole body frisk was completed. Additionally, a common RCA ingress/egress point had not been established which would have placed the frisking equipment in a readily accessible area.

Example C

Cited example C was caused by a personnel error. A crew of contract workers were pulling electrical cables into an electrical penetration device which caused frequent tearing of the surgical gloves. Additionally, the contract workers experienced difficulty in maintaining a grip on the cables due to excessive sweating in the gloves. Thus, the gloves were removed to get a better grip on the cables.

(2) Corrective steps taken and results achieved:

Example A

The operator and escorted visitor self-reported the unauthorized entry into the RCA to the Health Physics (HP) Department. Immediate actions were taken by HP to assess radiation exposure to the individuals and contamination control measures in the area in question. Additionally, the operator and escorted visitor were counselled on the required radiological control requirements.

An evaluation of the relationship between radiological control barriers and other barriers, i.e., security and fire doors, was performed to determine if additional improvements in identification of radiological control barriers are necessary. The results indicated that current postings and warnings are in compliance with governing documents.



This incident was discussed with Arkansas Nuclear One (ANO) Unit One Operations personnel and radiological control requirements reemphasized during operations rotational requalification training. This was completed on November 6, 1992.

#### Example B

The two (2) main steam safety valve workers were aware that whole body frisking was required. When the workers could not locate a frisker in the area in which they were working, they exited the RCA and proceeded to a known frisker location where a successful whole body frisk was completed. The frisker was relocated so that it is clearly visible and accessible, and the individuals involved were counselled on the required radiological control requirements for frisking prior to leaving the RCA.

Strategic placement of friskers is critical especially when RCAs are established on a temporary or infrequent basis. Personnel in such areas must be able to recognize where friskers are located. To assure the consistent placement of friskers in the most ideal locations, an evaluation of frisker placement practices was performed and a memorandum to Health Physics Technicians was issued on November 6, 1992, providing guidance on proper frisker placement.

#### Example C

Health Physics Department management and the electrical penetration worker's supervisor counseled the contract crews involved in the electrical penetration work. Emphasis was placed on reading and understanding the radiation work permit, complying with the instructions contained in the RWP, monitoring techniques and control of contamination methods.

### (3) Corrective steps which will be taken to prevent recurrence:

#### Example A

Since this cited example was caused by a personnel error and corrective actions were completed, no specific corrective steps to prevent recurrence were identified; however, common corrective measures outlined on page 4 of this response were identified.

#### Example B

Since this cited example was caused by a personnel error and corrective actions were completed, no specific corrective steps to prevent recurrence were identified; however, common corrective measures outlined on page 4 of this response were identified.

### Example C

Since this cited example was caused by a personnel error involving contract crews who are no longer working on site, no specific corrective steps to prevent recurrence were identified; however, common corrective measures outlined on page 4 of this response were identified.

### Corrective Measures Common To All Three (3) Examples

A memorandum issued on November 3, 1992, emphasized the requirement and need to have ANO supervision routinely monitor the performance of their personnel during work activities involving radiological hazards to ensure that proper radiological work practices are being implemented. This oversight is important during periods in which HP coverage is not required and for job activities that are repetitive in nature or involve extended periods of time.

Two assessments were conducted during the weeks of September 21, 1992 and November 16, 1992 to identify improvement areas of the ANO radiological protection program and practices. Both assessments were based on Institute of Nuclear Power Operation Objectives entitled "Radiological Protection Organization and Administration" and "General Employee Knowledge and Ability in Radiological Protection" and others. Based on the results of these assessments, several recommendations for improvements to radiation work practices and the radiological protection program were identified. The following summarizes the key general areas requiring increased emphasis:

- A. Line management needs to be more actively involved in supporting implementation of the Radiological Protection Program.
- B. Better communication and training to radiation workers on radiological work practices.
- C. Enhance the radiological infraction reporting system for better reporting, trending and analysis.

Currently, a special radiation work practice training course has been developed and is being provided for ANO health physics, maintenance, selected on-site contractor radiation workers and management personnel. This training, conducted by health physics and training personnel, provides both basic and practical hands-on instruction in radiological work practices. This training began on November 23, 1992, and is expected to be completed by December 31, 1992.

As a result of the detailed assessment results, the Vice President, ANO Operations met directly with the affected plant management and supervisory staff to place special emphasis on expectations regarding radiological work practices. These discussions focused on cultural changes required to facilitate improving the implementation of the radiological protection program at ANO. This included individual ownership, self-checking, professionalism and more management involvement and oversight at the department level. Applicable managers reviewed the assessment results and developed specific action plans to improve their performance within their area of responsibility under the radiological protection program. Further review of individual department action plans is being performed by plant management to insure consistency and appropriate inter-departmental plan integration. This integrated corrective action plan will be reviewed by December 15, 1992.

(4) Date when full compliance will be achieved:

These three (3) examples of failure to follow RWP instructions did not cause any measurable increase in personnel exposures nor resulted in any spread of contamination. Upon counselling of the individuals involved, ANO was in compliance with its radiological protection program.