

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report Nos. 50-313/92-03; 50-368/92-03

Operating License Nos. DPR-51 and NPF-6

Licensee: Entergy Operations Inc.

Facility Name: Arkansas Nuclear One, Units 1 and 2

Inspection At: ANO Site, Russellville, Arkansas

Inspection Conducted: January 21-23, 1992

Inspectors: Nemen M. Terc, Emergency Preparedness Analyst
Gilbert Guerra, NRC Intern

Approved:

Blaine Murray
Blaine Murray, Chief, Facilities
Inspection Programs Section

2/5/92
Date

Inspection Summary:

Inspection Conducted January 21-23, 1992 (Report Nos. 50-313/92-03;
50-368/92-03):

Areas Inspected: Routine, announced regional initiative inspection of the corrective measures implemented by the licensee in response to four exercise weaknesses identified during the 1991 exercise.

Results: Within the areas inspected no violations or deviations were identified.

The quality and scope of the corrective measures implemented by the licensee pertaining to the four weaknesses identified during the 1991 emergency exercise were excellent. Corrective measures were based on in-depth correction of root causes and retraining included exhaustive practical walkthroughs, drills, and periodic retraining.

DETAILS

1. PERSONS CONTACTED

ANO

- *J. Yelverton, General Manager, Operations
- *S. Boncheff, Licensing Specialist
- *J. Fisicaro, Director, Licensing
- *R. King, Supervisor, Licensing
- *G. Provencher, Manager, Quality Assurance
- *J. Swailes, Manager, Training and Emergency Planning
- *F. VanBuskirk, Supervisor, Emergency Planning

NRC

- *L. Smith, Senior Resident Inspector
- *M. Franovich, Reactor Inspector, NRR

*Denotes those present at the exit interview.

2. FOLLOWUP ON PREVIOUS INSPECTION FINDINGS (92701)

(Closed) Exercise Weakness (313/9105-02; 368/9105-02): During NRC Inspection 91-05 conducted on February 11-15, 1991, several Dose Assessment Team members were interviewed and requested to demonstrate their use of the ANO dose assessment model radiological dose assessment computer system. During the interviews, some dose assessors exhibited a lack of familiarity using the radiological dose assessment computer system.

The inspectors noted that the licensee distributed a questionnaire to each Dose Assessment Team member to determine how comfortable each member was in the operation of computers in general and, more specifically, how comfortable they were in the use of the radiological dose assessment computer system. The overall consensus of the responses to this questionnaire indicated that most individuals were comfortable with computers, but many felt uncomfortable with the use of the radiological dose assessment computer system. However, there were extremes where some were uncomfortable with both computers and the radiological dose assessment computer system, and others were comfortable with both.

As a result of the responses to the questionnaire, a series of one-on-one training sessions with each Dose Assessment Team member were scheduled. These sessions involved approximately 1 hour of a hands-on review of the radiological dose assessment computer system and was followed by a test of each member as they used the radiological dose assessment computer system in a drill setting.

In order to ensure the qualification of each member of the Dose Assessment Team, each Team member had to be able to operate the radiological dose assessment computer system successfully during the drill and test.

Additionally, each team member had to demonstrate confidence in the use of the computer system. If a failure of either of these criteria was observed, the individual was rescheduled for additional training and walkthrough testing. A total of 33 Dose Assessment Team members were given this one-on-one training with the following results: 12 individuals passed the first time they were tested, 14 passed the second time, and 7 passed the third time they were tested. After each test, additional training was given to those who failed.

Training sessions were completed on June 27, 1991. At the completion of this training, each assigned Dose Assessment Team member was deemed qualified on the use of radiological dose assessment computer system for performing dose assessment calculations. However, in an effort to ensure the effectiveness of the one-on-one training sessions, the licensee requested that the ANO Quality Assurance group independently interview and test a selected group of Dose Assessment Team members.

Quality Assurance inspectors randomly selected six Dose Assessment Team members to interview and test (four from day shift and two from midnight shift). These sessions were conducted on August 6 and 7, 1991. Following these sessions, five of the six selected Dose Assessment Team members satisfactorily demonstrated their proficiency on the radiological dose assessment computer system. When an individual's proficiency was not adequate, his supervisor was notified of this failure, and the individual was disqualified. The failing individual was scheduled Dose Assessment Team requalification training on August 13-16, 1991, and was again reinstated as a Dose Assessment Team member after demonstrating an acceptable level of proficiency on the radiological dose assessment computer system on August 16, 1991. This one failure was not classified by quality assurance as a programmatic weakness; however, quality assurance did issue a recommendation (SR-91-085-R01) that called for additional walkthroughs to be conducted in the period October through November, 1991.

Annual Dose Assessment Requalification training was conducted for the Dose Assessment Team and dose assessment supervisors from August 13 through September 27, 1991. Each Dose Assessment Team member and dose assessment supervisor was given 32 hours of requalification training. This training was improved from previous years because it included about 50 percent of hands-on training time using actual drills run on the radiological dose assessment computer system. Emphasis was placed on the importance of dose assessment so that each Dose Assessment Team and dose assessment supervisors became aware of their responsibilities radiological dose assessment computer system. At the completion of the training cycle, 33 Dose Assessment Team members and 5 dose assessment supervisors were qualified.

On November 21 and 22, 1991, the quality assurance staff interviewed and tested 8 Dose Assessment Team members. Since each of the Dose Assessment Teams were found to be proficient on the use of the radiological dose assessment computer system, the staff concluded that corrective actions taken were adequate.

Dose Assessment Team members commented during the interviews with the quality assurance staff that they wanted frequent hands-on time on radiological dose assessment computer system in addition to the normal requalification training.

As a result of these comments, the dose assessors now routinely spend 2-4 hours of practice during their training cycle. Dose Assessment Team members practice on radiological dose assessment computer system once every 7 weeks on their normal training cycle. The licensee expects that this additional hands-on time will continue to improve the confidence level and proficiency of the Dose Assessment Team members.

Additionally, the Dose Assessment Team was scheduled to form a part in 5 scheduled Emergency Response Organization drills during 1992. This item is closed.

(Closed) Exercise Weakness (313/9115-01; 368/9115-01): During the 1991 emergency exercise, there were several events indicating that information flow into the control room became poor when direction and control was transferred to the emergency operations facility. To resolve this and other exercise weaknesses identified during the 1991 exercise, the licensee has conducted a series of six evaluated drills in the period August 1991 to January 1992. In addition, the licensee provided additional training to individuals exhibiting poor performance during the drills. One of the drill objectives was to demonstrate the timely and accurate flow of information within and among emergency response facilities. During the drills, licensee evaluators observed rapid and effective relay of information into the control room as well as within and among emergency response facilities. An additional full scale drill is scheduled to be conducted in February 11, 1992. This item is closed.

(Closed) Exercise Weakness (313/9115-02; 368/9115-02): During the 1991 emergency exercise, there were instances in which the licensee did not demonstrate proper command and control, technical analysis, and operational assessment of accident conditions. Since then, the licensee has conducted several drills to observe and emphasize the need for proper command and control, technical analysis, and operational assessment. During the drills, it was determined that some key emergency responders, such as the radiation protection and radioactive waste managers did not have a clear understanding of their duties and responsibilities. As a consequence, additional training was developed and given to these emergency responders by September 1991. Their performance was verified in subsequent drills and found to be adequate. In addition, the coordination of accident mitigation functions between the technical support center staff and the operational support center staff was evaluated and found to be satisfactory. Further, the licensee verified that significant plant status changes were promptly brought to the attention of the appropriate emergency response facility director and that the staff in the emergency facilities effectively used available resources (e.g, radiological dose assessment computer system) for technical analysis, and operational assessment. In addition to the actions taken, the licensee has scheduled a full scale drill in February 11, 1992. This item is closed.

(Closed) Exercise Weakness (313/9115-03; 368/9115-03): During the 1991 emergency exercise, the operational support staff failed to follow procedures, to perform adequate briefings of in-plant repair and corrective action teams, and exhibited poor investigative techniques which resulted in unnecessary delays and radiation exposures during the simulated accident. In response to

this exercise weakness, the licensee conducted several evaluated drills. One of the specific drill objectives was to demonstrate effective coordination by the operational support staff for timely development and implementation of reentry, mitigation, and recovery plans. This was evidenced by appropriate prioritization of tasks and effective application of resources in order to demonstrate the ability to conduct thorough, concise, and effective briefings of reentry teams and the proper use of procedures. In addition, the drills evaluated the coordination between the staffs in the operational support and technical support centers. Drills showed that for the various scenarios presented, the operational support staff and reentry teams performed effectively, conducted adequate briefings, and followed applicable procedures. The licensee scheduled an additional full scale drill in February 11, 1992. This item is closed.

(Closed) Exercise Weakness (313/9115-04; 368/9115-04): During the 1991, exercise several events indicated poor radiation protection and medical practices. After the emergency exercise, the licensee conducted interviews and drills and determined that one of the main reasons for this weakness was the lack of an emergency team member assuming the role of team leader. Several drills were conducted to emphasize the need for proper coordination and control during a medical injury event. During these drills, individuals were evaluated and retrained to assume the role of team leader, thus preventing unnecessary delays in the transportation of the victim and avoiding poor radiological practices. This item is closed.

3. EXIT INTERVIEW

The inspector met with the resident inspector and licensee representatives in paragraph 1 above on January 23, 1992, and summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during the inspection.