

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-313/88-21
50-368/88-21

Operating Licenses: DPR-51
DPR-6

Dockets: 50-313
50-368

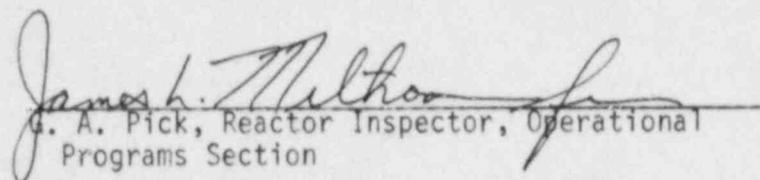
Licensee: Arkansas Power & Light Company (AP&L)
P.O. Box 551
Little Rock, Arkansas 72203

Facility Name: Arkansas Nuclear One (ANO), Units 1 and 2

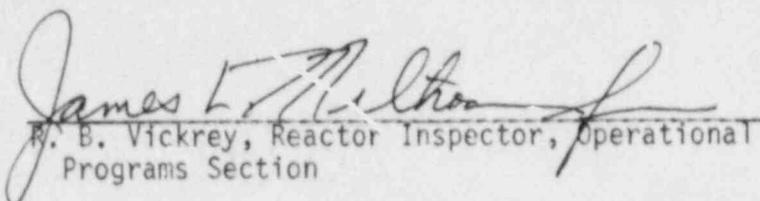
Inspection At: ANO, Russellville, Arkansas

Inspection Conducted: June 20-24, 1988

Inspector(s):


J. A. Pick, Reactor Inspector, Operational
Programs Section

7-14-88
Date


R. B. Vickrey, Reactor Inspector, Operational
Programs Section

7-14-88
Date

Approved:


J. E. Gagliardo, Chief, Operational Programs
Section

7-14-88
Date

Inspection Summary

Inspection Conducted June 20-24, 1988 (Report 50-313/88-21; 50-368/88-21)

Areas Inspected: Routine, unannounced inspection of licensed operator training, non-licensed staff training, quality control training program, and plant tours.

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

BB07250314 880715
PDR ADCCK 05000313
Q PNU

DETAILS1. Persons ContactedAP&L

- *E. Ewing, General Manager, Plant Support
- *E. Force, Superintendent, Operations Training
- *D. Howard, Manager, Licensing
- *D. Lomax, Plant Licensing Supervisor
- *P. Michalk, Licensing Specialist
- *W. Perks, Manager, Training
- D. Smith, Lead Trainer
- E. Wentz, Lead Trainer

NRC

- *W. Johnson, Senior Resident Inspector

Other persons contacted include administrative personnel, trainers, licensed operators, and technicians.

- *Attended exit meeting on June 24, 1988.

2. Followup on Previously Identified Items

- a. (Closed) Unresolved Item (313;368/8721-01): Decrease in the NRC Approved Requalification Program Scope Without Prior NRC Approval

A review was performed in July 1987 to verify that revisions made to the licensee's NRC approved requalification program had not degraded the program requirements. The NRC had identified that, during a previous revision, the licensee had deleted the requirements to remove an individual from licensed duties upon receipt of an unsatisfactory evaluation; thereby, decreasing the scope of the approved requalification program.

During this inspection, the NRC inspector verified that the licensee had returned the previously deleted requirement to Procedure 1063.08, Revision 8, "Operations Training Program," dated October 8, 1987. The requirement was added as Step 6.6.3.D(2) and prescribed that an unsatisfactory performance evaluation shall require a reactor operator (RO) or senior reactor operator (SRO) to be relieved of licensed duties so that he/she may participate in an accelerated requalification program.

This item is considered closed.

- b. (Closed) Open Item (313;368/8721-02): Revision of Requalification Program to Formally Specify Activities Being Conducted

During the July 1987 inspection, the NRC identified that the requalification program procedure used by the licensee did not comply with Section 6.11 of the licensee's NRC approved requalification program. Section 6.11 stated that special training will be conducted in the areas of significant plant events and operations experience. The NRC inspector had determined that the lectures were being conducted, even though the requirement was not specified in the procedure being utilized.

During this inspection, the NRC inspector determined that a requirement was added to Step 6.6.2.B stating, "Licensed operators shall be informed of . . . significant plant events and topics deemed necessary by the OEAG or the Operations Superintendent."

This item is considered closed.

- c. (Closed) Unresolved Item (313;368/8721-03): Failure to Complete All Performance Evaluations

The NRC previously identified during an inspection in July 1987, that all three sections of Evaluation Form TF-23A had not been completed annually as required. Subsequently, the licensee corrected the deficient evaluations.

During this inspection, the NRC inspector determined that the licensee had altered Form TF-23A to have only two required sections. The NRC inspector sampled selected evaluations and verified that all sections on the forms were completed.

This item is considered closed.

- d. (Closed) Open Item (313;368/8721-05): Revise Procedure 1063.08 to Reflect the May 1987 Changes to 10 CFR Part 55

The NRC inspector verified that the licensed operator requalification program section of Procedure 1063.08 was revised reflecting the new 10 CFR 55 requirements and had a 10 CFR 50.59 evaluation.

This item is considered closed.

- e. (Closed) Open Item (313/8732-02): Discrepancy in Definition of "S" Value in a Procedure

During a previous NRC inspection, the NRC inspector identified an apparent discrepancy between the definition of the "S" Category in Procedure GTEP-21, "Control of Component QA Category Determination" and what the "S" Category actually meant. The definition was undergoing revision.

During this inspection, the NRC inspector verified the revision had been issued with the correct changes implemented.

This item is considered closed.

f. (Closed) Open Item (313;368/8734-01): Review of Quality Assurance (QA) Punchlist

The NRC inspector verified that the licensee had reviewed the manual QA punchlist tracking logs to determine that all open QA punchlist items had been transferred to the computerized system. The licensee stated that the review had been conducted, no other items were found to be missing, and the only items left off had recently been generated.

This item is considered closed.

No violations or deviations were identified.

3. Licensed Operator Requalification Training (41701)

The NRC inspector reviewed this program area to evaluate the effectiveness of licensed operator training.

Licensee event reports (LER) were reviewed that involved personnel errors. These errors had the potential to have been caused by deficient training. The events selected are listed below:

<u>LER Number</u>	<u>Subject</u>
313/87-003	EFW Actuation During Power Reduction Due to MFW Pump Control Problems
313/87-004	Reactor Trip and EFW Actuation During Power Ascension Due to MFW Pump Control Problems
313/87-006	Failure to Perform Technical Specification Surveillance
368/87-004	Subcritical Reactor Trip During Plant Cooldown Due to Personnel Error/Procedure Deficiency
368/87-009	Subcritical Reactor Trip While Performing a Reactor Shutdown Due to Procedure Deficiency

Classroom training and simulator training received by the Unit 1 operators before the events provided sufficient guidance to recognize what was occurring during the events and take proper actions. Lessons learned from the Unit 1 events were factored into the training programs. The training

received after the events included classroom sessions on the procedure changes and discussion of the events in Industry Events Training and/or required reading.

Training provided to the Unit 2 operators before the events did not provide sufficient guidance to the operators. Lessons learned from Unit 2 events were factored into the training programs. LER 368/87-004 was taught in the classroom and LER 368/87-009 was covered during simulator training. Both events were covered specifically pointing out the cause of the events and how to avoid recurrence.

From each of the above events, the NRC inspector sampled selected operators, who were onshift during the events, to verify they attended related training presented before and after the events.

The NRC inspector reviewed records of selected SROs and ROs to verify they participated in the licensee's requalification program on record. The requalification program records reviewed were specified in Procedure 1063.08, Revision 8. For the individuals selected, the NRC inspector reviewed the following: documentation of attendance at required lectures, documentation that required control manipulations were conducted, documentation of their most recent simulator performance evaluation, documentation that required procedure reviews and self-study was completed, documentation that remedial training was conducted, and documentation that special retraining was held for individuals with identified deficiencies.

Simulator performance by individuals was evaluated in the following areas, as appropriate: Control Room Awareness, Event Diagnosis, Immediate Actions, Control Board Manipulations, Use of Procedures and Technical Specifications, Communications, and Supervisory Ability. For each of the above areas, examples of the evaluation criteria included: monitoring of important parameters, clear/concise communications directed at a specific person and correct manipulation of controls.

The NRC inspector reviewed the remedial training presented to one licensed operator who failed to understand the "rod bottom interlock" and had difficulty transferring rod groups to auxiliary power in that he did not use the procedure. The training presented covered these specific topics and lasted approximately 1 hour. The training provided appeared to be satisfactory. Also reviewed was the remedial training given to a licensed individual. This training was requested based on observations that the operator may have had some weaknesses. The training presented lasted approximately 12 hours. As discussed previously, the training addressed the specific deficiencies identified. The training appeared to be satisfactory. In each case, after the training was completed, the licensed operators were tested.

The NRC inspector reviewed the training activities related to the only licensed individual who had failed the 1987 requalification examination.

The licensee provided to the NRC inspector the letter that removed the operator from licensed duty and stated that a re-examination of the failed section would be required. Also provided was the reexamination of the licensed operator. Training records for a requalification cycle the licensed operator attended before the examinations were provided to the NRC inspector.

The NRC inspector identified an apparent weakness in specifying accelerated requalification requirements and documenting completion of the requirements. Specifically, the letter relieving licensed individual from licensed duties until remedial training was completed, did not specify what type of training was to be conducted/attended, nor did the memorandum specify a time for completion of the training. There was no attendance sheet identifying what training was conducted. In summary, the control over remedial training appears to be weak. The followup in this area to determine what actions will be taken by the licensee is an open item (313; 368/8821-01).

The results of the NRC initial RO and SRO examinations for Units 1 and 2 are identified below:

<u>YEAR</u>	<u>Unit 1</u>	<u>Unit 2</u>
1985	RO: 7 Taken/6 Passed SRO: 0	0 0
1987	RO: 0 SRO: 7 Taken/7 Passed	6 Taken/5 Passed 0
1988	RO: 0 SRO: 12 Taken/11 Passed	0 6 Taken/6 Passed

As identified above, the number of individuals at ANO taking the NRC license examinations and passing was excellent. The results of the last three requalification examinations conducted at ANO, Units 1 and 2 are given in Attachments 1 and 2, respectively.

The NRC inspector reviewed the relative amount of time spent by the Units 1 and 2 operations personnel in the classroom, on the simulator, and for self-study. The Unit 1 breakdown was 22 percent simulator, 53 percent classroom, and 25 percent self-study/required reading and quizzes. Similarly, the Unit 2 breakdown was 21 percent simulator, 54 percent classroom, and 25 percent self-study/required reading and quizzes.

The NRC inspector noted that, in accordance with the guidelines stated in Generic Letter No. 87-07, on May 6, 1988, AP&L submitted a letter

certifying that its operations training programs were accredited in January 1984 and that the licensee utilized a systems approach to training.

No violations or deviations were identified.

4. Non-licensed Staff Training (41400)

The NRC inspector reviewed the non-licensed staff training program to verify the program was being implemented in accordance with the requirements of the Technical Specifications and ANSI 18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." The review included auditing classroom training, examination of qualification and training records, on-the-job (OJT) training of maintenance personnel, and the licensee's program for reviewing operational events and abnormal occurrences which could be attributed to maintenance activities, and the implementing of the lessons learned into the training program.

The NRC inspector reviewed the following procedures to verify that the appropriate requirements had been implemented.

<u>Number</u>	<u>Title</u>
1063.05	On the Job Training
1063.06	Trainer/Instructor Training Program
1063.10	Maintenance Training

The NRC inspector reviewed training and qualification records of nine selected personnel performing functions in the disciplines covered in the procedures listed above. The training records were reviewed to verify that maintenance personnel were qualified in accordance with commitments. The licensee had implemented the use of qualification cards and the NRC inspector found that the licensee had made efforts to utilize the available opportunities for OJT, especially during infrequent maintenance activities. The training department had been maintaining a monthly tabulation of maintenance personnel qualification progress which was reviewed by maintenance supervisory personnel. The NRC inspector found that the licensee seemed to be making extensive efforts to maximize maintenance personnel training.

During the review of personnel records, the NRC inspector found an instance where an individual had signed off more than 30 practical factors in one day, each of which required extensive reading and procedure review. This item was expressed to the training department by the NRC inspector that the signoff date could not reflect the date of actual performance of the training. The training department indicated that the individual involved had actually completed the training requirements on an earlier date than the signoff date of the qualification card.

The NRC inspector reviewed some past events and occurrences which could be attributed to maintenance activities to determine that the licensee had

taken adequate action to implement the lessons learned into the training program. The NRC inspector audited a SKF bearing class that was being conducted for maintenance personnel. The NRC inspector interviewed several maintenance personnel and found a favorable response toward the training department's support for requested training in specific areas.

No violations or deviations were identified.

5. Quality Control (QC) Training Program

The licensee was in the process of developing a formal QC training program within the training organization to replace the training program conducted by the QC department and vendor groups.

The NRC inspector reviewed the status of the development and implementation of the QC training program. The licensee had developed a short-term action plan in September 1986 to implement a QC inspector training program by August 1, 1987. The licensee's 1987 goals and objectives of training for the quality control inspector training program were:

- a. Develop Quality Control Contractor Training Program.
- b. Identify training that can be accomplished at the training center for Quality Control Inspection personnel and coordinate this training.
- c. Develop Quality Control Inspector Training Program.

In May 1987, the licensee indicated that objective a. had a scheduled completion date by the end of May 1987; objective b. was ongoing; and objective c. had two tasks which needed to be completed, before development of the program began. In July 1987, the licensee stated to the NRC that the program should be implemented by the end of 1987. In August 1987, the licensee indicated that the initial program course objective and lesson objectives were being written and would be presented for approval in September 1987. In November 1987, the licensee identified additional goals for objective a. with a scheduled completion date of January 1988 and objectives b. and c. were ongoing. During the course of this inspection, the licensee informed the NRC inspector that the new projected completion for mechanical, electrical, and instrumentation and control in house programs was January 1, 1989.

Open Item (313;368/8620-03), closed in NRC Inspection Report 313-10, addressed the development of the QC training program.

In view of the continued postponement of full implementation of the QC training program, an open item (313;368/8821-02) will continue to track the licensee's progress until the QC training program is fully implemented.

No violations or deviations were identified.

6. Plant Tours

The NRC inspectors toured the plant observing fire watches, security response to an open door alarm, and control room operator watchstanding. The NRC inspector observed the performance of two surveillance tests, 2103.05 pressurizer level response quarterly test and 2104.07 control room emergency air conditioning system monthly test.

No violations or deviations were identified.

7. Exit Meeting

The NRC inspectors summarized the inspection scope and findings with those persons identified in paragraph 1. The licensee did not identify, as proprietary, any of the information provided to or reviewed by the NRC inspectors.

ATTACHMENT 1

Unit 1 Requalification Exam Results

- 1985 Twenty-six SROs and twenty-six ROs took the examination with all individuals passing the examination. Two SROs and one RO were exempted from taking the requalification examination. One SRO had prepared the examination, while the other SRO had recently received a license. The RO had recently obtained his license.
- 1986 Twenty-nine SROs and twenty-one ROs took the examination with twenty-six SROs and eighteen ROs passing the examination. Upon retesting, three SROs and three ROs passed the reexamination. One SRO, who prepared and administered the examination, was exempted from testing.
- 1987 Twenty-six SROs and twenty-one ROs took the examination with twenty-five SROs and all of the ROs passing the examination. The SRO who failed the examination passed the test upon reexamination. Three licensed individuals were exempted from testing because they had prepared and/or administered the examination.

ATTACHMENT 2

Unit 2 Requalification Exam Results

- 1985 Twenty-one SROs and thirteen ROs took the examination with two SROs and one RO failing the test, respectively. Upon reexamination, all SROs and ROs passed the examination. Additionally, six SROs and three ROs were exempted, since they had obtained their initial licenses.
- 1986 Thirty-two SROs and three ROs took the examination with one SRO and one RO failing the test, respectively. Upon reexamination, all passed. Six SROs and ten ROs were exempted because they had obtained their initial SRO and RO licenses.
- 1987 Thirty-three SROs and twelve ROs took the examination. All individuals passed the examination. Two SROs who had prepared and/or administered the examination were exempted.