APPENDIX C

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-382/83-24

Docket: 50-382 Construction Permit: CPPR-103

Licensee: Louisiana Power & Light Company (LP&L)
142 Delaronde Street
New Orleans, LA 70174

Facility Name: Waterford 3 Steam Electric Station

Inspection At: Waterford 3 Site, Taft, Louisiana

Inspection Conducted: June 27-July 1, 1983

Inspectors: E. H. Johnson 7/29/83
E. H. Johnson, Director of Enforcement (pars. 1, 2, 3, 4, 10 & 12) Date

W D Johnson for 8/1/83
J. P. Jaudon, Reactor Inspector, Reactor Project Section C (pars. 1, 5, 6, 7, 8, 9, 11 & 12) Date

Other Accompanying Personnel:

D. Nelson, Instructor, Technical Training Center
L. Bender, Licensing Qualification Branch

Approved: W H Crossman 8/1/83
W. H. Crossman, Chief, Reactor Project Section B Date

W D Johnson 8/1/83
W. D. Johnson, Chief, Reactor Project Section C Date

Inspection Summary

Inspection Conducted June 27-July 1, 1983 (Report 50-382/83-24)

Areas Inspected: Special, announced inspection of the status of the applicant's training program to determine if training commitments made in the FSAR were being carried out and that necessary training would be completed by the scheduled fuel load date. The inspection involved 124 inspector-hours by two NRC inspectors and two accompanying personnel.

Results: Within the areas inspected, one violation (Failure to follow procedure on engineering training) and one deviation (failure to accomplish General Employee training as committed) were identified.

DETAILS

1. Persons Contacted

Louisiana Power & Light Company

*R. Barkhurst, Plant Manager - Nuclear
C. Boudreaux, Instructor (Acting Supervisor, Maintenance Training)
*W. Cavanaugh, Vice President - Nuclear
R. Crawley, Safety Unit Training Supervisor
W. Floyd, Instructor
B. Hall, Maintenance Coordinator
J. Holmes, Simulator Instructor (Acting Simulator Training Supervisor)
A. Jacobs, Associate Engineer
*D. Lowe, Training Development Manager - Nuclear
*J. McGaha, Technical Support Superintendent
*D. Packer, Training Center Manager - Nuclear
*Z. Sabri, Director of Nuclear Training
D. Simpson, Engineering Training Unit Supervisor
*L. Story, Assistant Plant Manager
D. Sullivan, Instructor
*C. Toth, Training Implementation Manager - Nuclear
*J. Wood, Quality Control Engineer

Other NRC Personnel

**L. Bender, Licensing Qualification Branch
**L. Constable, Senior Resident Inspector
**T. Flippo, Resident Inspector
**D. Nelson, Technical Training Center

The NRC inspectors also contacted other site personnel including administrative, clerical, operations, and maintenance staff.

*Denotes presence at the exit interview conducted July 1, 1983.

**Denotes other NRC personnel who assisted in the inspection.

2. Licensed Operator Training

The purpose of this inspection effort was to assess the status of the cold license candidate training program.

The inspection effort included a review of operator candidate training files, discussions with training staff members overseeing the training program, and interviews with several cold license candidates.

Since the last inspection, the licensee has divided his cold license class into two parts. The first group of 29 candidates were preparing for an NRC cold license examination during mid-July. The remaining candidates were assigned to in-plant shifts in preparation for examination in November.

All elements of the training program for these candidates has been completed except final review sessions. Interviews with several candidates revealed that they felt comfortable that the training they had received had adequately prepared them for the NRC examination.

The NRC inspector inquired about the status of the requalification training program and learned that, although plans had been made to draw up a program, it had not yet been started. The inspector pointed out that a program of continuing training for newly licensed operators is necessary to assure that operator skills are maintained.

In reviewing the current training of license candidates, the inspector discovered that defined programs, for the group being readied for the November examination, had not been developed. Since these candidates were not considered ready for the July examination, it seems apparent that their individual weak areas should be specifically addressed.

3. Nuclear Auxiliary Operators (NAO)

Since the date of the last inspection, NAO training has progressed in accordance with the licensee's schedule. All NAO candidates, except several new individuals, are qualified on at least one of the three auxiliary operator watch stations. Several are qualified on all watch stations. The current program appears to be adequate. A sufficient number of qualified watchstanders will be available to support fuel load with enough in excess for hot license training.

One discrepancy was noted in the NAO training and qualification program for auxiliary building operators. The qualification card for this watch station did not include radwaste system operations. Before the completion of the inspection, the licensee's training staff was preparing revisions to the NAO training program to correct this. This item is discussed in more detail in NRC Inspection Report 50-382/83-22.

The NRC inspector indicated that, with the excellent progress made with this group of trainees, the licensee now had the time to give them additional classroom training in procedures, Technical Specifications, and systems between now and fuel load. This would serve to prepare them for eventual hot licensing.

4. Shift Technical Advisors (STA)

The purpose of this inspection effort was to assess the status of Shift Technical Advisor training.

The NRC inspector was told that all STA's had completed all elements of the training program in April 1983, and 12 of the 18 candidates were certified. The inspector interviewed six of these persons. Five were certified and one was still working towards certification. All six individuals were knowledgeable in their duties as system startup engineers. However, based on the results of these interviews, the NRC inspector indicated that it appeared that three of five STA's represented as certified, did not have the requisite knowledge level to be an effective STA. These individuals were weak on important plant systems, actions to mitigate core damage, and design bases.

The inspector expressed his concern that, without upgrading or further training, the licensee would not have a sufficient number of capable STA's to support fuel load.

5. Plant Engineering Training

The purpose of this inspection was to determine whether or not the training provided plant engineering met the commitments made in the Final Safety Analysis Report (FSAR).

The NRC inspector reviewed PMD-TR-014, "Program Description for Engineering Training," Revision 0, dated February 17, 1982. Although this document generally followed the FSAR commitments for plant engineering training, the NRC inspector noted some specific differences. For example, the FSAR provided a long list of specific tasks which were the responsibility of plant engineering. The program description was silent to these specifics; consequently, it was not considered to be a stand alone description of the training program.

PMD-TR-014 stated, in Section 5.4, that an individual training schedule would be developed for each individual and transmitted to the individual. The NRC inspector could not find such individual schedules. What was found was a master schedule, posted on the wall of the training department, and individual reading lists. The individual reading lists were based on job task analysis, but not on each employee's background and education, as required by PMD-TR-014. Since PMD-TR-014 was apparently the controlling document used for plant engineering training, the licensee's failure to follow this procedure or instruction by providing to each individual his or her own training schedule is an apparent violation of 10 CFR 50, Appendix B, Criterion V, for failure to follow procedure. (8324-01)

The NRC inspector noted that the position oriented reading lists for engineers primarily referred to program descriptions, not to procedures. The NRC inspector inquired as to how individuals would be directed to the actual procedures that would administratively govern the plant in areas important to safety and of interest to plant engineering (e.g., design change control). Licensee representatives stated that this was left to individual initiative. It was also noted that there was no provision built into this self study mechanism to measure its effectiveness.

Despite these discrepancies, the NRC inspector concluded from review of the total training accomplished by plant engineering personnel, that this program could support the projected fuel load date, provided that firm management direction was provided to define and to implement specific requirements.

6. Maintenance Training

The purpose of this inspection was:

° To evaluate the training conducted for the three basic maintenance skill groups.

° To determine if this training met the commitments made in the Final Safety Analysis Report (FSAR).

° To assess whether or not the training conducted would result in qualification levels sufficient to support the projected fuel loading date of March 1984.

a. Mechanical Maintenance Training

The licensee had issued a program description, titled, "Program Description for Mechanical Maintenance Training," PMD-TR-025, Revision 0, approved May 17, 1982. The NRC inspector noted that PMD-TR-025 provided no detail on the training to be conducted, but referred to Procedure MM-2-001, Revision 1. The NRC inspector found that licensee Procedure MM-2-001, "Mechanical Maintenance Training Program," Revision 2, dated August 3, 1982, was in use. Licensee representatives stated that they planned to issue a combined revision of the program description and procedure by August 1, 1983.

The NRC inspector noted that the FSAR stipulated that approximately 60 hours of basic sciences training was to be given to mechanical maintenance personnel. The NRC inspector did not find records indicating that this training had been conducted. Licensee representatives stated that basic science training was a long range goal and that a revision to the FSAR would identify it as such. This is an open item. (8324-02)

Actual training conducted, or in progress, for the mechanical maintenance group consisted of self study in fundamental skills, systems training, and on-the-job training (OJT). It was found that there were 42 self study skills lessons, but each individual was only required to complete a common core group and some additional lessons, depending on the individual's training needs. The systems training had been started as an independent effort by the maintenance group; however, when the training department instituted a course in systems training, it was decided to use this course. Procedure MM-2-001 referred to "the schedule" for mechanical maintenance training in a

context which implied that there was a master schedule. No such schedule was produced by the licensee; however, schedules for each phase of mechanical training were eventually furnished by the licensee. Although this might be construed as a second example of the violation for failure to follow procedural requirements for training, the NRC inspector concluded the licensee's actual practice to be in general agreement with Procedure MM-2-001. Accordingly, this is considered to be an open item pending review of the revised mechanical training program. (8324-03)

The NRC inspector concluded that the training program for mechanical maintenance would probably support the projected fuel load date.

b. Electrical Maintenance Training

The NRC inspector reviewed PMD-TR-026, "Program Description for Electrical Maintenance Training," Revision 0, dated April 22, 1983. It was noted that this document outlined a training program of lesser scope than the training program outlined in the FSAR. During the review of training records and in discussion with licensee representatives, it became evident that the actual training conducted had been patterned after the FSAR commitments. The NRC inspector also found that neither the FSAR nor PMD-TR-026 addressed use of the electrical training laboratory. Licensee representatives stated that it was planned to use the electrical laboratory as a means to reinforce the theoretical training, and they indicated that there had been extensive classroom and on-the-job training accomplished. It was noted that there was no summary in the official training records of all training completed. It was, therefore, difficult to determine easily the present state of electrical maintenance training.

The NRC inspector concluded that electrical maintenance training would probably support the projected core load date.

c. Instrument and Control Training

PMD-TR-027, "Program Description for I&C Maintenance Training," Revision 0, dated April 22, 1982, was reviewed. This program description was found to match the FSAR commitments. It also appeared to reflect the actual training accomplished and underway. Lesson plans were noted to be well organized, and training objectives matched test material.

In the presentation on training status given by the licensee on June 28, 1983, the percent completion for Level II Analog Technicans (i.e., those personnel certified to work independently or to direct work on safety-related instrument systems) was the lowest of any group. The Analog I&C Level II training program was also projected as the last group which would complete training required to support the projected fuel load date of March 1984. In other words, the licensee identified Level II Analog Technican training as the critical path for training.

The NRC inspector noted that training records and qualification cards provided specific requirements and signoffs. They also provided a rapid means to establish training status. The NRC inspector concluded that I&C Level II Analog training could, with continued progress, support the projected fuel load date. It was the NRC inspector's conclusion that this training program, which was the best defined and documented program reviewed, was probably not the actual critical path for training. For example, the section of this report dealing with General Employee training contains an apparent deviation resulting from the failure of that program to deal with training in job-related procedures and instructions. The I&C Analog Technican program had picked us this requirement and included both oral and written quizzing to measure its effectiveness.

The I&C maintenance training program appeared to support the projected fuel load date.

7. Quality Control Training

The purpose of this inspection was to determine if the training provided to Quality Control (QC) personnel met the commitments made in the Final Safety Analysis Report (FSAR).

The NRC inspector reviewed PMD-QP-001, "Program Description for Quality Control," Revision 0, dated April 21, 1982. Paragraph 5.2 of this document referred to two Quality Program instructions for specific training and qualification. Paragraph 5.2 also listed some elements to be considered in QC training. Review of the two QP instructions referenced in PMD-QP-001 led to the fact that these two procedures (QP-1-005 and QP-1-013) were being combined into one (QP-1-005). The draft of the revised QP-1-005 appeared to implement both ANSI 45.2.6 and FSAR requirements. Review of training records for QC personnel and interviews with licensee representatives led the NRC inspector to conclude the QC training had outpaced the documentation of requirements.

The NRC inspector also concluded that the actual state of training would probably support the projected fuel load date. Appropriate documentation of the training requirements is considered to be an open item, pending review of proposed licensee procedures after these are promulgated. (8315-04)

8. Fire Protection Training

The purpose of this inspection was to verify that the licensee had implemented a program of fire protection training that met the requirements of 10 CFR 50, Appendix R.

The NRC inspector reviewed PMD-TR-001, "Program Description for Fire Protection Training," Revision 0, dated February 15, 1982. It was found that for every requirement checked from 10 CFR 50, Appendix R, there was a corresponding requirement in PMD-TR-001. It was noted, however, that

PMD-TR-001 did not reference 10 CFR-50, Appendix R, but was instead based on another program description. When the NRC inspector inquired as to why the program description did not reference basic requirement documents (e.g., 10 CFR 50, Appendix R, and Appendix A, to the Branch Technical Position APCSB 9.5-1), licensee representatives stated that they, in fact, worked to these basic documents, not PMD-TR-001. It was also stated that PMD-TR-001 was developed independent of the training effort in fire protection.

Records checked of fire protection training indicated that training completed and on going met regulatory requirements. The NRC inspector noted that 18 of 20 candidates for senior reactor operator cold licenses had completed the fire brigade leader training and that all operations department fire brigade members received training in fire fighting strategies for the site.

It was concluded that the fire prevention training program supported the projected fuel load date.

9. General Employee Training

The purpose of this inspection was to ascertain whether or not a complete program for general employee training (GET) had been implemented.

In the Final Safety Anlaysis Report (FSAR), the licensee committed to training and qualifications which met the requirements of ANSI/ANS 3.1-1978. Paragraph 5.4 of ANSI/ANS 3.1-1978 specifies eight subjects which compose GET. One of these subjects is "Job-Related Procedures and Instructions." The NRC inspector noted that the licensee's FSAR, in paragraph 13.2.1.4, delineates the same eight subjects, including, "Job-Related Procedures and Instructions." The NRC inspector found that the licensee's document describing the GET program, PMD-TR-002, "Program Description for General Employee Training," Revision 0, dated February 17, 1982, was silent to the subject of job-related procedures and instructions. This is an apparent deviation to the licensee's FSAR commitments. (8315-05)

During this inspection, it was noted that some departments had established reading lists for job-related procedures and instructions and that one department, Instrument and Control Maintenance, actually verified the results of this self-study by a combination of written and oral testing. The NRC inspector also noted that one procedure (the Tagout procedure) was covered in the initial classroom phase of GET. The licensee's GET program was silent to training in other job-related procedures and instructions. These procedures normally vary according to the discipline involved and are seldom taught in the classroom. Licensee representatives stated that certain startup procedures addressed the review of procedures. The NRC inspector agreed that this was the case, but stated that this would not take the place of the GET required training.

The NRC inspector noted that completion of GET training was filed in individual training records. Past GET course completion data was also available on a computer printout. PMD-TR-002 required annual requalification training in GET; it was noted that PMD-TR-002 was silent to what action was to be taken if individuals failed to take the GET requalification training. Training department representatives were unable to provide any additional information as to how this contingency would be handled other than by sending a memorandum to the individual's supervisor.

Review of the lesson objectives and test material used in GET indicated that these generally matched. It was noted that one lesson objective in the first introductory segment of GET was to teach the student the history and development of Waterford 3. The NRC inspector pointed out to licensee management that this objective, taken literally, was somewhat of an overstatement compared to the lesson plan for this thirty-minute-training period.

The NRC inspector concluded that the licensee had a working program in GET that would support the projected fuel load date, provided that the deviation described above is resolved.

10. Instructor Certification

The purpose of this inspection effort was to review the status of the licensee's instructor certification program.

The certification program is described in two documents. First is the program description PMD-TR-019, dated July 2, 1982, and the second is an administrative Procedure UNT-3-011, dated January 9, 1983. These documents are nearly identical. The inspector was informed that the administrative procedure was being revised as a departmental procedure.

Certification of instructors consists of a classroom training program of 120 hours followed by a formal evaluation and subsequent on the job training with observation by a certified senior instructor. Currently, lesson plans have not been written for the classroom portion of the program. The inspector was told they would be completed by the end of the year. Senior instructors, at present, are interimly certified, based on their plant operations and previous experience as trainers or educators, and/or observations by plant training staff supervisors.

The licensee's progress towards implementation of the instructor certification program appears adequate to meet the fuel load schedule.

11. Summary Comments on Non-Licensed Training

During this inspection, the NRC inspectors observed that several common problems were found in more than one area. This section provides these observations, and the conclusions drawn from them:

a. Training Program Descriptions

During a licensee presentation conducted on June 28, 1983, it was stated that there were approved training programs for the following areas:

- General Employee Training
- Shift Technical Advisor
- Engineering Training
- Fire Protection Training
- Security Training
- I&C Maintenance Training
- Electrical Maintenance Training
- Mechanical Maintenance Training
- Health Physics Training
- Chemistry Training
- Quality Control Training
- Licensed Operator Replacement Training
- Licensed Operator Requalification
- Non-Licensed Operator Training
- Non-Licensed Operator Requalification
- Instructor Certification

It was found through review of several of these program descriptions that, in some cases:

- They did not address all FSAR commitments (examples: Electrical Maintenance and General Employee Training)

- They were not in all cases prepared by the individuals responsible for training in specific areas (example: Fire Protection Training).

- The degree of specificity covered a broad spectrum (example: Mechanical Maintenance Training in contrast to I&C Maintenance Training).

- They were not always specifically followed in developing the actual training program (example: Electrical Maintenance Training).

The NRC inspectors concluded that the program descriptions did not uniformly specify requirements. During discussion of the problems noted with the program descriptions, licensee management committed to replace or to revise these documents with a uniform program that specified training and qualification requirements. This is considered to be an open item. (8324-06)

b. Measurement of Training Effectiveness

It was noted that the licensee tended to give tests immediately after lectures of limited scope, but seldom checked retention of material, or attainment of course objectives by tests covering broader areas.

Thus, in many areas, there was limited measurement of training effectiveness. This tendency was most apparent in the area of system training. Prior to the establishment of a centralized course of instruction in plant systems, each group had conducted their own systems training. Many personnel were credited with having had systems training completed satisfactorily, although there was no quantitative evidence that learning objectives had been achieved.

c. Training Record and Program

It was found that the licensee kept extensive individual training records. It was, however, difficult for some groups to ascertain what had actually been given to each individual. This was caused in part by the tendency not to give final tests, as discussed above, and also resulted from the lack of summary records for some groups.

The NRC inspectors observed an apparent high level of activity in training related activities. It was clear that significant progress had been made since the last inspection. The inspectors expressed their concern that, in order to assure that the training necessary to prepare all site personnel for fuel load is completed, it would now be necessary for supervisors to clearly focus on the specific elements remaining to be done so that these elements received management visibility.

12. Exit Interview

An exit interview was conducted July 1, 1983, with Mr. W. Cavanaugh. The NRC Resident Inspectors also attended. At this meeting, the scope of the inspection and the findings were summarized.