

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-382/89-27

Operating License: NPF-38

Docket: 50-382

Licensee: Louisiana Power & Light Company (LP&L)
317 Baronne Street
New Orleans, Louisiana 70160

Facility Name: Waterford Steam Electric Station, Unit 3 (Wat-3)

Inspection At: Wat-3 site, Killona, St. Charles Parish, Louisiana

Inspection Conducted: October 16-20, 1989

Inspector:

R. E. Baer
R. E. Baer, Health Physicist, Facilities
Radiological Protection Section

11/28/89
Date

Approved:

Blaine Murray
B. Murray, Chief, Facilities Radiological
Protection Section

11/28/89
Date

Inspection Summary

Inspection Conducted October 16-20, 1989 (Report 50-382/89-27)

Areas Inspected: Routine, unannounced inspection of the licensee's occupational radiation protection and transportation activities during the recent refueling outage.

Results: Within the areas inspected, one violation (failure to maintain approved procedures, paragraph 10) and no deviations were identified. No significant problems concerning radiological control activities were noted. Radiological control activities appeared to be well coordinated and managed. Proper oversight of work activities was being provided by radiation protection supervisors. The licensee had supplemented the normal radiological protection staff with sufficient contract personnel to provide adequate coverage of work in progress during the outage. Additional decontamination/radwaste personnel were maintaining a clean facility. The ALARA and quality assurance programs were aggressive and being maintained.

DETAILS

1. Persons Contacted

LP&L

- *J. R. McGaha, Plant Manager, Nuclear
- *D. E. Baker, Nuclear Operations Support, Assistant Manager
- D. Boan, Health Physics (HP) Supervisor
- *W. R. Brian, System Engineering Supervisor
- L. Dauzat, HP Planner
- *G. M. Davis, Events Analysis Manager
- C. R. Gaines, Events Analysis Supervisor
- B. L. Goldman, ALARA Coordinator
- G. F. Koehler, Operations Quality Assurance (QA) Supervisor
- *W. T. LaBonte, Radiation Protection Superintendent
- D. Landeche, HP Supervisor
- *L. W. Laughlin, Site Licensing Supervisor
- A. S. Lockhard, Nuclear QA Manager
- R. McLendon, Dosimetry Supervisor
- *D. F. Packer, Assistant Plant Manager, Operations and Maintenance
- *P. V. Prasankumar, Assistant Plant Manager, Technical Services
- *S. Ramzy, HP Assistant Superintendent, Technical Support
- J. Ridgel, HP Assistant Superintendent, Operations
- A. R. Roberts, QA Representative
- *L. R. Simons, Radwaste Engineer
- D. Stevens, Radwaste Supervisor
- *J. W. Zabritski, Operations QA Manager

Others

- S. Butler, NRC Resident Inspector
- W. Smith, Senior NRC Resident Inspector
- *T. R. Staker, NRC Resident Inspector

*Denotes attendance at the exit interview held on October 20, 1989.

The inspector also interviewed several other licensee and contractor personnel during the course of the inspection.

2. Licensee Actions on Previous Inspection Findings

(Closed) violation (382/8830-01): Overexposure to the Skin of the Whole Body - This item was identified in NRC Inspection Report 50-382/88-30 and involved the overexposure of two individuals to the skin of the whole body from a spent fuel particle. The inspector reviewed the licensee's corrective actions which included the implementation of a hot particle identification and control program which should ensure that this type of violation does not recur.

3. Open Items Identified During this Inspection

An open item is a matter that requires further review and evaluation by the inspector. Open items are used to document, track, and ensure adequate followup on matters of concern to the inspector. The following open item was identified:

<u>Open Item</u>	<u>Title</u>	<u>Paragraph</u>
382/8927-01	Upgrade of Health Physics Department Procedures	10

4. Planning and Preparation

The inspector reviewed representative records and discussed outage planning with licensee representatives, and observed activities to verify that the necessary planning and preparations, including management support, were implemented.

The licensee had sufficient supplies of protective clothing, respiratory protection equipment, radiological survey instrumentation and temporary shielding to support outage activities. Health physics personnel were assigned to the planning and scheduling work group to ensure that HP technicians were available to support scheduled work.

The licensee had procured six 250 cubic feet per minute portable high efficiency particulate air (HEPA) filtration units that were used as engineering controls to reduce the need for respiratory protection devices.

No violations or deviations were identified.

5. Training and Qualifications of Personnel

The inspector examined the licensee's training and qualification program to determine compliance with Technical Specification (TS) 6.2 and industry standard ANSI N18.1-1971. The inspector reviewed the experience and qualifications of the contractor supplied HP personnel and the training provided by the licensee. The licensee's training program for support of the radiation protection program is still essentially the same as that described in NRC Inspection Report 50-382/87-26. The training program is comprehensive and covers the areas where contractor HP technicians would have work assignments. A written examination is also included as part of the training program.

The licensee contracted approximately 114 HP technicians and supervisors for the refueling outage and an additional 37 HP technicians were provided by the steam generator/eddy current testing contractor. Several plant HP technicians were temporarily made shift control technicians (supervisors) for the refueling outage. Additional supervisory help was obtained from the corporate central offices.

Before individual contract senior HP technicians are hired, the licensee requires that they pass a basic radiation protection knowledge examination and meet ANSI 18.1-1971 qualifications. Based on a selective review of resumes and observations of several contractor HP technicians performing their duties, it appears they are properly qualified.

No violations or deviations were identified.

6. External Radiation Exposure Control

The inspector reviewed the licensee's external radiation exposure control and personal dosimetry programs to determine compliance with TS 6.11 and 6.12 and 10 CFR Part 20.202. Included in the review were changes in the dosimetry program to meet outage needs; use of dosimetry; selection and placement, for nonuniform radiation fields; and required records, reports, and notifications.

The external radiation exposure measurement and control program for the current outage consists of whole body monitoring using thermoluminescent dosimeters (TLDs), self-reading dosimeters (SRDs), direct surveys, radiation work permits (RWPs), and administrative dose limits. The licensee has shown good agreement with TLD vs SRD results. In most cases, SRDs are reading 10 percent higher than TLDs. The TLD results are normally maintained as the official record of personal exposure data. The SRD results are used for daily updating of personal exposures. The ALARA coordinator's office has a computer link to the HP control access point and is alerted everytime a person leaves the radiologically control area (RCA) with an exposure of 25 millirem (mrem) or greater. This has helped reduce SRD reading errors.

The licensee had received accreditation by the National Voluntary Laboratory Accreditation Program in all eight test categories.

No violations or deviations were identified.

7. Internal Radiation Exposure Control

The inspector reviewed the licensee's internal radiation exposure control and assessment program to determine compliance with 10 CFR Part 20.103. This review included changes to procedures; determination whether engineering controls, respiratory equipment, and assessment of individual uptakes meet regulatory requirements; and required records, reports and notifications.

All persons involved in outage activities received a base line (incoming) whole body count and also one upon termination. Other whole body counts were required when an individual became contaminated in the facial area (nose and mouth) or at the discretion of the HP staff and as required by station of department procedures.

The program to control internal exposures during outage activities included engineering controls, airborne sampling and contamination surveillance, and use of National Institute of Occupational Safety and

Health/Mine Safety and Health Administration (NIOSH/MSHA) approved respiratory devices in addition to protective clothing. Whole body counting is used to supplement the monitoring program to ensure its effectiveness. The engineering controls include the use of portable ventilation units with HEPA filters to exhaust and clean air from certain areas where it was possible for work activities to produce a radioactive airborne problem. The licensee was using breathing zone air monitors in addition to engineering controls to monitor personnel. A selected review of air sample and smear results were made, no problems were noted.

The inspector reviewed respirator cleaning and storage areas, respirators that were ready for use appeared to be properly stored, inspected and maintained. No major problems were noted concerning the use, issuance, and accountability of respirators.

No violations or deviations were identified.

8. Control of Radioactive Materials and Contamination, Surveys, and Monitoring

The inspector reviewed the licensee's program for control of radioactive materials and contamination, surveys, and monitoring for compliance with the requirements of TS 4.7.9.1, 6.11, and 6.12, and 10 CFR Parts 19.12, 20.4, 20.5, 20.201, 20.203, 20.205, 20.207, and 20.301.

The inspector examined select radiological surveys of direct radiation and surface contamination, and airborne radioactivity which had been performed in the radiologically controlled areas of the facility. The inspector also performed confirmatory surveys of direct radiation levels; the results of these surveys were in agreement with the licensee's recorded values.

The inspector noted that the licensee had implemented a daily beta response check for instruments used to record beta radiation levels. Instrumentation was response checked on all ranges. The licensee was also using a computer to track instrumentation, calibration, response checks, usage, repairs, and maintenance.

The licensee had installed two video cameras that were under the control of the HP supervisor for job coverage in the containment building. These cameras were being used to monitor work in progress. The licensee had also purchased a portable video camera which was being used to tape selected work functions such as the reactor head shielding placement and removal.

No violations or deviations were identified.

9. Audits and Appraisals

The inspector reviewed selected audits, surveillances, and assessments of the licensee's radiation protection, transportation activities, and

training program to determine compliance with TS 6.5. The following 1989 audits and surveillances were examined.

Audits:

- SA-89--003.1, "Performance, Training, and Qualifications"
- SA-89-018B.1, "Exposure Control and Dosimetry"
- SA-89-018D.1, "Radiological Respiratory Protection and Contamination Control Program"
- SA-89-024.1, "Radwaste Processing, Packaging, and Shipping"

Surveillances:

- QS-89-006, "Status of Floor Drains in Response to INPD Document TI-2005"
- QS-89-028, "Radiological Field Monitoring Teams 1989 Dress Rehearsal"
- QS-89-030, "Resin Transfer and Radwaste Shipment 89-1007"
- QS-89-034, "Radiological Field Monitoring Teams 1989 Annual Exercise 89-10"
- QS-89-038, "Personnel Decontamination Training"

The licensee's audits and surveillances were found to be comprehensive and effective. Only minor procedural violations were identified. The quality assurance auditors were only accepting effective resolutions of identified problems.

No violations or deviations were identified.

10. Changes

The inspector did not identify any significant permanent changes in the licensee's facilities or radiation protection organization.

The inspector noted that one violation involving the review and approval of health physics procedures was identified by the licensee. The licensee had removed selected health physics procedures from the plant operations review committee (PORC) review cycle around 1985 or 1986. These procedures were implemented as health physics department procedures. A list of those procedures reviewed are included in Attachment 1 of this report.

TS 6.8.1, a. states, in part, that written procedures shall be established, implemented, and maintained covering those procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. TS 6.8.1 also states, in part, that the procedures of

Specification 6.8.1 and changes thereto shall be reviewed by PORC and approved by the plant manager - nuclear.

The licensee (HP department) determined on May 5, 1989, during a review of radiation protection procedures as required by Station Procedure UNT-001-002, "Procedure Classification, Type, Content, Numbering, and Format," Revision 12, dated April 10, 1989, that some procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, Section 7 were not being reviewed by PORC and approved by the plant manager - nuclear. The licensee has designated a special committee (SC) for the technical review of these procedures. The SC will recommend the approval by PORC and the plant manager - nuclear. The licensee stated that procedures are being reviewed on an as-needed basis or during the biennial review cycle and that all procedures will receive PORC approval by December 31, 1990. Since the apparent violation was self-identified, and the licensee has proposed corrective action, a Notice of Violation is not being issued. The licensee has satisfied the criteria of 10 CFR Part 2, Appendix C, Section V.G.1. This matter is considered an open item pending the inspector's review of the licensee's corrective action (382/8927-01).

No deviations were identified.

11. Maintaining Occupational Exposures ALARA

The inspector reviewed the licensee's program for maintaining occupational exposures ALARA to determine compliance with the requirements of 10 CFR Part 20.1(c); commitments in the Updated Safety Analysis Report, Section 12; and the recommendations of NRC Regulatory Guides 8.8, 8.10, and 8.27.

The licensee appears to have an aggressive ALARA program. The inspector noted that the ALARA program and the coordinator receive good management support. Work packages for the October 1988 refueling outage were processed through the ALARA group starting in July 1989 and all work packages had been received prior to the start of this outage. Person-rem estimates were based on historical data available to the ALARA group and radiation work permits (RWPs) were written prior to the outage. The RWPs included current radiological survey data when issued. There were three RWPs that exceed 10 person-rem: the reactor head work, fuel alignment plate work, and nozzle dam installation and removal.

The ALARA group purchased a portable video camera which had been used to videotape six work functions: reactor head shielding, reactor head removal, fuel alignment plate work, nozzle dam installation, pressurizer heater mockup training, and change out of the refueling canal drain pump strainer. The licensee had taped the +21 foot elevation and planned to tape all floors of containment during this outage. These tapes will supplement the file of photographs used in ALARA planning and briefings.

No violations or deviations were identified.

12. Shipping of Low Level Waste for Disposal and Transportation Activities

The inspector reviewed the licensee's shipping of low-level waste for disposal and transportation activities program to determine compliance with 10 CFR Parts 20 and 71. The review included determination whether written implementing procedures are adequate, maintained current, properly approved, and acceptably implemented; determination whether shipments are in compliance with NRC and Department of Transportation (DOT) regulations and the licensee's quality assurance program; determination if there were any transportation incidents involving licensee shipments; adequacy of required records, reports, shipment documentation, and notifications; and experience concerning identification and correction of programmatic weaknesses.

The inspector reviewed selective portions of the low-level waste and radioactive material shipment records for 1989. The information on the shipping documents appears to satisfy NRC, DOT, and burial site requirements. The licensee had 10 shipments consisting of 3 resin shipments (545 cubic feet) and 7 uncompacted low-level waste shipments (14,494 cubic feet). The licensee had also made 33 laundry shipments as of October 18, 1989, and was making three shipments a week during the outage.

No violations or deviations were identified.

13. Exit Meeting

The inspector met with the resident inspector and the licensee's representatives denoted in paragraph 1 at the conclusion of the inspection on October 20, 1989, 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 inspector during the inspection.