

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report No. 50-382/92-10

Operating License No. NPF-38

Licensee: Entergy Operations, Inc. (EOI)  
P.O. Box B  
Killona, Louisiana 70066

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

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

Inspection Conducted: April 13-17, 1992

Inspector: L. T. Ricketson, P.E., Senior Radiation Specialist

Approved: Blaine Murray 5/4/92  
B. Murray, Chief, Facilities Inspection Programs Section Date

Inspection Summary

Inspection Conducted April 13-17, 1992 (Report 50-382/92-10)

Areas Inspected: Routine, unannounced inspection of the training and qualifications program for health physics and radwaste personnel, solid waste management, and transportation of radioactive materials.

Results: Within the areas inspected, one violation was identified (failure to use the appropriate radiation work permit (paragraph 4.5). No deviations were identified. A summary of the other findings is as follows:

- o A good training program had been established for health physics personnel.
- o Health physics personnel met applicable qualification requirements.
- o The training department had implemented an effective health physics training program which included well qualified training instructors.
- o Management provided strong support for professional development for health physics technicians and the technical support staff.

9205190187 920515  
PDR ADOCK 05000382  
G PDR

- o An excellent quality assurance audit program had been established for solid radwaste and transportation activities.
- o Responses to audit findings were technically correct, but the responses were not always submitted in a timely manner.
- o An effective training and qualification program had been implemented for personnel responsible for solid radwaste and transportation activities.
- o Good quality solid radwaste and transportation implementing procedures had been issued.

DETAILS

1. PERSONS CONTACTED

EOI

- \*R. P. Barkhurst, Vice President, Operations
- J. W. Boullosa, Instructor, Technical Training
- G. F. Davis, Radwaste Engineer
- D. L. Hoel, Health Physics Supervisor
- M. J. Langan, Technical Training Supervisor
- M. L. Marler, Instructor, Technical Training
- \*D. F. Packer, General Manager, Plant Operations
- A. B. Pilutti, Instructor, Technical Training
- \*J. A. Ridgel, Radiation Protection Superintendent
- \*L. R. Simon, Lead Supervisor, Radwaste

NPC

- \*W. F. Smith, Senior Resident Inspector

\*Indicates those present during the exit meeting on April 17, 1992.

Additionally, the inspector interviewed members of health physics operations, radwaste, and mechanical maintenance during the course of the inspection.

2. FOLLOWUP ON PREVIOUS INSPECTION FINDINGS

(Closed) Open Item (382/8927-01): Upgrade of Health Physics Department Procedures - This item was discussed in NRC Inspection Report 50-382/89-27 and involved the licensee-identified violation that some procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, Section 7 were not reviewed by the Plant Operations Review Committee and approved by the plant manager. The NRC exercised discretion and did not cite the violation because the item met the appropriate criteria; however, the issue remained open, pending a review of the licensee's corrective actions. The licensee reviewed the Health Physics Department procedures and identified those to be reviewed by the Plant Operations Review Committee. These procedures were reviewed by the committee or a subcommittee as appropriate by September 9, 1991.

(Closed) Open Item (382/9025-02): Testing of Portable Air Filtration Systems - This item was discussed in NRC Inspection Report 50-382/90-25 and involved the identification of the fact that the licensee did not test high efficiency particulate air (HEPA) filters in portable ventilation units to ensure that they were properly installed and functioning as designed. In response, the licensee implemented Health Physics Department Technical Procedure HP-002-632, "In Place Leak Testing of Portable HEPA Units," on December 13, 1991. Licensee representatives stated that all units in use have been tested according to this procedure.

### 3. OCCUPATIONAL RADIATION EXPOSURE (IP 83750)

Portions of the licensee's radiation protection program were examined to determine compliance with the requirements of Technical Specifications 6.3 and 6.4 and Chapters 12 and 13 of the Final Safety Analysis Report.

#### 3.1 Changes

The inspector determined that there have been no major changes in the radiation protection program since the previous inspection with regard to organization, facilities, equipment, programs, or procedures. The individual who was formerly the lead supervisor for Health Physics Operations was promoted to radiation protection superintendent. The former superintendent was promoted to the corporate office.

#### 3.2 Training and Qualifications

The licensee had committed that health physics technicians meet the requirements set forth in Industry Standard ANSI/N18.1-1971, "Selection and Training of Nuclear Plant Personnel." The inspector reviewed resumes of the new senior health physics technicians and determined that they possessed the requisite qualifications. The licensee had written guidance for assessing the previous experience of candidates for senior health physics positions. The licensee had position descriptions for health physics technicians which delineated the tasks to be performed and the knowledge and skills required. The inspector also determined that the new radiation protection superintendent met the commitment for Regulatory Guide 1.8.

The licensee offered both continuing training for health physics technicians and an accredited training program (Senior Health Physics Technician Course) for individuals who lacked the requisite experience and training required by the industry standard. The inspector reviewed the course outline for the latter training and noted that it included lectures on plant systems, radiological controls, dosimetry, respiratory protection, instrument maintenance, environment and effluents, and "off-normal" conditions. The inspector also reviewed attendance records and subject matter for continuing training and noted that it included a discussion of current industry events.

The training department staff included one health physics instructor and one health physics/radwaste instructor. Both instructors had health physics backgrounds and spent at least 80 hours per year in the plant observing health physics operations. The instructors stated that they had adequate time to prepare for teaching assignments and had access to a good technical reference library. The various plant departments did not have designated training coordinators, but the training department instructors stated that communication between the Health Physics and Training Departments was good and that regular meetings were held to discuss training needs.

In order to assess the licensee's program for continuing training for health physics professionals, the inspector reviewed attendance lists for health physics continuing training and interviewed the health physics superintendent

concerning offsite training and professional meeting attendance. The program was not defined by procedure; however, the inspector noted that supervisors and other health physics professionals received appropriate training, took part in professional technical meetings, or visited other sites as part of peer reviews.

The inspector noted that the technical training group did not seem to place emphasis on obtaining student feedback in the form of course/instructor critiques. Licensee representatives responded that instructors announced in each class that critique forms were available, but the licensee did not require the completion of the forms. They further stated that response from students was poor. Alternate methods of receiving student feedback were discussed, but the licensee made no commitments concerning the matter.

Of the approximately 38 people in the Health Physics Operations and Health Physics Technical groups, 12 were registered by the National Registry of Radiation Protection Technologists. One half of these were supervisors or other professionals. Representatives stated that the licensee offered a training course to prepare technicians for the registration examination and paid the fee for examination. They also stated that they are evaluating additional incentives as a means of encouraging the professional development of the technicians.

No violations or deviations were identified.

### 3.3 Conclusion

Health Physics Department personnel met applicable qualifications. The health physics training program was sufficiently staffed with qualified instructors and provided instruction of good quality. The continuing training program for health physics professionals was effective. Increasing support was shown for the professional development of health physics technicians.

## 4. RADIOACTIVE WASTE MANAGEMENT AND TRANSPORTATION OF RADIOACTIVE MATERIALS (IP 86750)

The licensee's program was inspected to determine compliance with Technical Specifications 6.8; 10 CFR 20.311, 61.55, 61.56, and 71; Department of Transportation Regulations 49 CFR Parts 171 through 178; and Chapter 11.4 of the Final Safety Analysis Report; and NRC Bulletin 79-19.

### 4.1 Audits and Appraisals

The inspector reviewed quality assurance surveillances and the latest quality assurance audit of the radwaste and transportation programs. Surveillances of this area were abundant and contained excellent detail. The audits were comprehensive and contained significant findings. Responses to the findings from health physics/radwaste contained sufficient corrective actions but were not timely. Specific examples were the responses to Quality Notices 1-084, 91-113, 91-171, 92-018, and 92-024. Extensions to the response due date were repeatedly granted. Quality assurance representatives stated that, in the

future, its representatives would provide written explanation as to why an extension was granted. They also stated that they would evaluate the possibility of implementing written criteria for granting extensions.

#### 4.2 Changes

Licensee representatives stated that there have been no major changes in the radwaste program since the previous inspection with regard to organization, personnel, facilities, equipment, programs, or procedures.

#### 4.3 Training and Qualification of Personnel

The licensee relied on various vendors to supply it with up-to-date copies of U.S. Department of Transportation regulations. The inspector reviewed qualification cards of selected members of radwaste and determined that they met qualification requirements. The licensee provided good quality procedures for personnel involved in the transfer, packaging, and transport of low-level radioactive material. The inspector reviewed attendance lists of vendor supplied training and confirmed that personnel were provided training in accordance with NRC Bulletin 79-19. The licensee also provided training for select personnel on the RADMAN computer code. Licensee representatives provided the inspector a copy of an outline of training which will be presented to radwaste and transportation personnel to supplement the vendor supplied training. The training will expand on that given by the vendor and will be site specific.

#### 4.4 Implementation of the Solid Radioactive Waste Program

The inspector toured the licensee's facility and observed that those portions of the facility having to do with the solid radioactive waste program were as described in Chapter 11.4 of the Final Safety Analysis Report. The licensee's original cement solidification equipment was not in use. The licensee had the capability of compacting waste as described in Chapter 11.4.9 of the Final Safety Analysis Report but elected to send dry activated waste to one of three vendors for supercompaction and ultimate disposal. Resins were dewatered using a vendor supplied rapid dewatering system. Vendor procedures for dewatering were implemented after being reviewed and approved by the plant review committee.

Licensee representatives stated that, if there were no major outages, they had interim waste storage capacity for 9 months to a year in concrete onsite storage containers, should it become necessary. Chapter 11.4.10.4 of the Final Safety Analysis Report states, "A permanent onsite low-level radioactive storage facility has been designed, sited, and a construction package - completed." It goes on to estimate that if the building were needed, a construction time of 24 months would be required. The licensee had some resin and filters stored in high integrity containers at the time of the inspection; however, the amount was small relative to the storage capacity. The licensee had no mixed waste.

The licensee used the RADMAN computer program to classify most shipments of waste; however, the classification and characterization for the incore instrumentation being readied for disposal during the week of the inspection were performed by a vendor. Waste stream sample analyses were performed by a vendor. Shipment manifests were generated by the compute program and included the information required by 10 CFR 20.311.

During a tour of the licensee's facility, the inspector observed construction and excavation and was informed that the licensee intended to discontinue the use of onsite sewage treatment in favor of using the public sanitary sewage treatment facility of the community of Killona. The inspector discussed with licensee representatives NRC Information Notice 88-22 and IE Bulletin 80-10, and the possible need for sampling. Licensee representatives stated that an analysis of plant systems was performed to identify possible paths of unmonitored releases, but nothing was identified which would affect the planned work.

#### 4.5 Shipping of Low-Level Waste for Disposal and Transportation

The licensee made approximately 30 shipments of radioactive waste in 1991 and approximately 50 other shipments involving radioactive materials. The inspector reviewed selected transportation packages and determined that they were in compliance with NRC and Department of Transportation requirements. Procedures provided guidance of good quality. The inspector verified that the licensee was a registered user of the transportation casks used and that the licensee had copies of the Certificates of Compliance for the casks. The licensee's quality assurance approval expires June 30, 1996.

There were no transportation incidents or accidents involving the licensee's shipments since the previous inspection. No violations were cited by state regulatory authorities at low-level waste facilities.

The inspector observed the early stages of the preparation of a shipment of irradiated incore instrumentation for burial. The inspector determined that approximately 12 people involved in unloading the transportation cask on April 15, 1992, and the early morning hours of April 16 had signed and were working in accordance with Radiation Work Permit 92-80. The inspector reviewed the radiation work permit and noted that the first of the special instructions stated, "Pre-job brief to be conducted and attendance documented prior to start of the job." The inspector asked to see the attendance list of the prejob briefing and was informed that it had not been given, but it was scheduled prior to the loading of incore instrumentation into the cask on April 16. The inspector discussed the matter with representatives of the Health Physics Department who stated that the individuals (including two health physics technicians) had signed the radiation work permit prematurely, and they should have been working under their standing radiation work permits.

Technical Specification 6.8.1 requires that written procedures be established, implemented, and maintained for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 3, February 1978. Section 7.e.(1), Appendix A, Regulatory Guide 1.33, references the radiation work permit

system. Step 4.2.6 of Administrative Procedure UNT-005-022, "RCA Access Control," states, "Radiation Workers are responsible for reviewing and signing their applicable radiation worker permits prior to entry into a RCA . . . ." The failure to follow Procedure UNT-005-022 is considered a violation of Technical specification 6.8.1 (382/9210-01). This item is significant because the use of an incorrect radiation work permit could result, in some cases, in workers taking insufficient precautions to prevent radiation exposure.

Contributing to the violation was the fact that Radiation Work Permit 92-80 was apparently authorized and entered on the access control computer prematurely. Additionally, Step 5.4.1 of Administrative Procedure HP-001-110, "Radiation Work Permits," states, "Workers shall stop at the Health Physics Office or other area designated by Health Physics and request the RWP [radiation work permit] governing the work to be performed." The inspector was informed by health physics representatives on April 15 that workers had a copy of Radiation Work Permit 92-80 with them in the fuel handling building. This indicates that, since they supplied a copy of the radiation work permit, health physics personnel had an opportunity to identify the problem but did not do so.

One violation and no deviations were identified.

#### 4.6 Conclusion

One violation involving the failure to follow radiation work permit requirements was identified. Quality assurance audits of solid radwaste management and transportation programs were excellent. Responses to audit findings were technically sufficient but were not timely. Good quality specialized training was provided and radwaste personnel met qualification requirements. The solid radwaste program was implemented effectively with no changes from the previous inspection. Good procedural guidance for the preparation and shipment of radwaste and radioactive materials was provided. There were no enforcement issues in this area involving accidents or incidents of radioactive shipments.

#### 5 EXIT MEETING

The inspector met with the senior resident inspector and the licensee's representatives denoted in paragraph 1 at the conclusion of the inspection on April 17, 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 inspector during the inspection.