



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

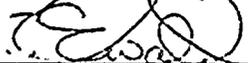
Report Nos. 50-259/79-41, 50-260/79-41, and 50-296/79-41

Licensee: Tennessee Valley Authority
 500A Chestnut Street
 Chattanooga, Tennessee 37401

Facility Name: Browns Ferry, 1, 2, and 3

License Nos. DPR-33, DPR-52, and DPR-68

Inspection at Browns Ferry 1, 2, and 3 near Decatur, Alabama

Inspectors:		<u>12/6/79</u>
	L. L. Jackson	Date Signed
		<u>12/6/79</u>
	J. M. Puckett	Date Signed
Approved by:		<u>12/6/79</u>
	A. F. Gibson, Section Chief, FFMS Branch	Date Signed

SUMMARY

Inspection on November 13-16, 1979

Areas Inspected

This routine, unannounced inspection involved 58 inspector-hours onsite in the areas of radioactive waste transportation, bulletin followup, circular followup, licensee event report followup and posting and labelling involving potential radiation hazards.

Results

Of the five areas inspected, no apparent items of noncompliance or deviations were identified in four areas, one apparent item of noncompliance was found in one area (Deficiency - Failure to adequately label certain containers of radioactive materials (50-259/79-41-01, 50-260/79-41-01 and 50-296/79-41-01) - Paragraph 5)



DETAILS

1. Persons Contacted

Licensee Employees

- *J. L. Harness, Assistant Power Plant Superintendent
- *M. W. Haney, Mechanical Maintenance Supervisor
- *T. E. Brown, Power Stores Supervisor
- *S. G. Bugg, Health Physics Supervisor
- *R. T. Smith, Quality Assurance Supervisor
- *A. L. Clement, Jr. Chemical Engineer
- D. W. Mims, Chemical Engineer
- J. E. Rawlston, Shift Supervisor - Health Physics
- C. Cumming, Assistant Health Physics Supervisor
- E. Cargill, Assistant to the Health Physics Supervisor

Other Organizations

One radwaste transport tractor driver.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 16, 1979 with those persons indicated in Paragraph 1 above. The Assistant Plant Superintendent acknowledged the item of noncompliance and had no questions regarding the item. As a result of questions arising from the inspectors review of construction drawings for radwaste shipping liners, the inspector asked the Assistant Plant Superintendent for a commitment to conduct an evaluation of the amount of free water left in the radwaste shipping liners. The Assistant Plant Superintendent stated that a thorough evaluation would be completed in 60 days and that a preliminary evaluation would probably be completed within 30 days.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 7.a.



5. Posting and Labeling

Certain caution signs and labels are required by 10 CFR 20, paragraph 20.203. The inspectors performed independent surveys in various areas of the plant to check the adequacy of posting and labeling. All posting of radiation areas and high radiation areas in the areas surveyed appeared to meet regulatory requirements. One ALARA consideration was raised by the survey. A laundry area on the third floor of the Unit 3 reactor building was located in an actual radiation area (5 mr/hr) due to high radiation levels coming from nearby Spent Fuel Pool Cooling Heat Exchangers. Discussions with health physics personnel working in the nearby Outage Health Physics Office indicated that radiation levels from these heat exchangers had been increasing recently due to fuel movement in the Spent Fuel Pool. The inspectors recommended to licensee management that an effort be made to identify a new area of lower radiation background to which the laundry could be relocated and still be convenient to the work being supported. The inspectors had no further questions regarding the posting of radiation areas and high radiation areas.

The inspectors surveyed several plywood containers in the Turbine Buildings which were found to contain radioactive materials and which were not labeled in accordance with 10 CFR 20 paragraph 20.203(f)(1) and (2). Although none of the containers surveyed appeared to present a significant radiological hazard to a would be user, the system for identifying and controlling contaminated items coming out of outage work areas appears inadequate and has the potential for allowing significant radiological hazards to exist in inadequately labeled containers. Plant management representatives were informed that failure to have the containers of radioactive materials labeled in accordance with 10 CFR 20.203 was an item of noncompliance (50-259/79-41-01, 50-260/79-41-01, and 50-296/79-41-01). A similar item of noncompliance was identified in Inspection Report Nos. 50-259/79-7, 50-260/79-7, and 50-296/79-7 dated March 30, 1979. The inspectors had no further questions in this area.

6. Radwaste Shipments

The inspectors measured the dose rates from a loaded radwaste transport and visually inspected the vehicle and load for compliance with regulations in 49 CFR, Parts 173.393, General Packaging and Shipment Requirements, and 10 CFR, Part 71, Packaging of Radioactive Material For Transport And Transportation Of Radioactive Material Under Certain Conditions. The dose rates were very low (less than 2 mr/hr on contact with cask) and well within regulatory requirements. In addition, warning placards were attached to the transport as required by regulations and an emergency kit and emergency instructions were available for use by the driver. Discussions with the driver indicated that he was well aware of what to do in the event of an accident.

The completed paperwork package pertaining to the radwaste shipment inspected was reviewed and discussed briefly with the Power Stores Supervisor. Inspections, surveys, isotopic analysis and identification of



material being shipped appeared to be adequate and had been approved by the appropriate supervisors. The inspectors had no more questions in this area.

7. Followup on Bulletins and Circulars

- a. Bulletin No. 79-19, Packaging of Low-Level Radioactive Waste for Transport and Burial.

The inspectors reviewed the Licensees written response to Bulletin 79-19. The Licensee's written response to the bulletin dated September 24, 1979 appeared to adequately address the questions contained in the bulletin. The inspectors determined through discussions with licensee personnel and through direct observation that references and procedures required by the bulletin were available. Procedures were reviewed for content and it was determined that the procedures adequately covered the items specifically addressed in Bulletin 79-19.

Discussions with licensee representatives indicated that the training required by the Bulletin is being developed and is on schedule for a January 1980 implementation date.

The inspectors reviewed Amendment 26, dated October 30, 1979, to South Carolina Radioactive Material License No. 097 issued to Chem-Nuclear Systems, Inc. (CNSI), specifying conditions applicable to the burial ground operation in Barnwell, South Carolina. The new license issued to CNSI will require revisions to several TVA procedures as a result of changed burial ground requirements and more restrictive definitions of free standing water and what constitutes an adequate solidification agent. Amendment 26 to South Carolina Radioactive Material License 097 will allow no more than one percent by volume of free liquid to be received at the burial ground until December 31, 1980. Commencing January 1, 1981, the limit on free liquid is reduced to 0.5 percent or one gallon per container, whichever is less.

The inspectors reviewed construction drawings for the radwaste shipping liners utilized by TVA for shipping dewatered resins to determine if the design allows for adequate removal of free liquid based on the definitions established in Amendment 26 to South Carolina Radioactive Material License 097. From this review, the inspectors could not determine the amount of free water which would be left in the radwaste liners. The inspectors felt that the current design on the radwaste shipping liners may not be adequate in that more than one percent by volume of free liquid may be left as a resin water mixture below the last dewatering element which is located approximately four inches from the bottom of the cask. Should free standing liquid exist in amounts greater than allowed by the license it would be necessary to redesign the dewatering apparatus installed in the radwaste liners if this packaging method is to be retained. The inspectors asked the



Plant Superintendent for a commitment to perform an evaluation of the free liquid remaining in the cask after completion of the dewatering procedure. The Plant Superintendent stated that a preliminary evaluation should be completed within 30 days and a final evaluation within 60 days.

This item is being carried as an Unresolved Item (50-259/79-41-02, 50-260/79-41-02, and 50-296/79-41-02) since it is possible that radwaste shipments have not been conforming to the limitations on free standing liquid contained in Amendment 26 to South Carolina Radioactive Material License 097. 10 CFR 30.41.c requires that the licensee transferring radioactive material verify that the transferee's license authorizes the receipt of the type, form and quantity of byproduct material to be transferred. If the free standing liquid in the liners exceeds one percent by volume, after dewatering, the shipments of dewatered resin made since October 30 have been in noncompliance with the transferees license and thus in noncompliance with 10 CFR 30.41.c.

The inspectors observed several drums of compacted waste which had been placed on their side (with the top loose but not off) to check for liquid in the drums. There were no signs of liquid coming from any of the drums.

The inspectors reviewed the results of several audits of the radwaste packaging process (HP-1A-QAS-79-297, HP-1A-QAS-79-365, HP-1A-QAS-79-436, and HB-1A-QAS-79-440) performed between July 1979 and November 1979. All of the audits reviewed were performed as part of QA Section Instruction Letter (SIL) 4.1 with attachments. Those audit results reviewed appeared to be adequate for ensuring that personnel responsible for processing and packaging radioactive waste for shipment are following procedures. The inspectors had no further questions in this area.

b. Circular No. 79-21, Prevention of Unplanned Releases of Radioactivity.

This circular pointed out certain problem areas which have contributed to a number of unplanned releases at various plants over the past several months and recommended that licensees take certain actions to prevent similar occurrences at their respective facilities. By discussions with licensee personnel and through direct observations, the inspectors determined that Items 1 and 2 of Circular 79-21 have been adequately addressed by plant procedures and plant design. The tests and inspections of certain systems as required by Item 3 had not been fully implemented, however, a Mechanical Maintenance Instruction (MMI-93) is being written to implement the recommendations in Item 3. The inspectors had no further questions in this area.

8. Licensee Event No. BFRO-50-259/79-32, Failure to conduct daily source checks on certain constant air monitors (CAMS) as required by Technical Specification 4.8.B.4.

The inspector discussed this event with the Plant Chemical Engineer. It was determined that access to the CAMs had been restricted because of higher than normal airborne radioactivity on the Refueling Floor. With appropriate respiratory protection, entry could have been permitted in order to source check the instruments, however, the chemical analysts assigned to check the CAMs failed to realize that the daily CAM source check was a Technical Specification requirement. To prevent recurrence, all chemical analysts were instructed by letter to arrange the necessary entries with Health Physics personnel if a similar situation occurs again.

This item is closed.

9. Licensee Event No. BFERO-50-259/79-24, Contrary to Technical Specification 3.8.B.8, radiation monitor, RM90-250, was out of service for nine and one half hours.

Discussions with certain licensee representatives revealed that moisture in the sample lines affected the detector. Placing a trap in the line to prevent recurrence has been considered but has not been pursued because of the potential invalidating the sample. The inspector stated that significant condensation in the sample line might affect the validity of the sample with or without a trap. Since this is a recurring event, the inspectors suggested to the responsible Chemical Engineer that additional studies be performed in order to reduce recurrence. Even though this a recurring item, it did not appear to the inspector to be a significant safety hazard. The Licensee Event Report is closed and this item will be investigated in more depth at a later date (Open Item 50-259/79-41-03, 50-260/79-41-03, and 50-296/79-41-03).

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