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DUKE POWER

April 5, 1990

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413
NRC Inspection Report No. 50-413/90-02
Reply to a Notice of Violation and a Notice of Deviation

Gentlemen:

Enclosed is the response to the Notice of Violation transmitted per Thomas A. Peebles' March 9, 1990 letter. This violation involved a failure to follow procedures for surveying radioactive waste containers for alpha contamination.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

WRC141/JGT

Attachment

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U. S. Nuclear Regulatory Commission
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xc: Mr. Stewart D. Ebnetter
Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

Mr. W. T. Orders
NRC Resident Inspector
Catawba Nuclear Station

DUKE POWER COMPANY
REPLY TO A NOTICE OF VIOLATION
50-413/90-2

Review of Licensee Radioactive Waste Shipments 89-48 and 49.

Licensee TS 6.8.1.a requires written procedures to be established, implemented, and maintained to cover the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Regulatory Guide 1.33, Appendix A, 1978, requires written procedures for radiation and contamination surveys.

Licensee procedures HP/O/B/1006/09, Shipment of Radwaste Filters and Filter Media, dated February 1989, states, in part, that contamination surveys shall consist of a beta-gamma survey with 10 percent of the smears counted for alpha.

The inspector requested selective radioactive waste classification and transportation documents for radioactive waste shipments made in 1989. When the inspector received those records, later that day, the RPM reported that his staff had reviewed the requested documentation and found problems with missing alpha contamination surveys on radioactive waste shipment CNS-89-48 and CNS-89-49. The RPM stated that contamination smears, taken for surveys of radioactive waste containers, had not been counted for alpha contamination as required by radioactive shipping procedure HP/O/B/1006/09. Additionally, the RPM reported that a licensee employee knowingly allowed the shipments to leave the site without the alpha contamination surveys required by licensee procedures for the reasons discussed below.

The inspector interviewed all of the radiation protection personnel that assisted in the radioactive waste shipment preparations to determine how the contamination surveys were missed. The licensee was shipping four drums of radioactive waste, containing dewatered mechanical filter media, for disposal. The drums were divided and processed into two radioactive shipments, 89-48 and 89-49. The radioactive waste was shipped to a land disposal facility on December 29, 1989.

The licensee received the two shipping casks that would be used for transporting the radioactive waste on December 27, 1989. The shipping cask internals were surveyed for smearable contamination in accordance with licensee procedures. The shipping cask for radioactive shipment 89-48 contained some loose beta-gamma contamination. However, licensee survey records showed that the contamination was not wide spread and less than the contamination limits of 49 CFR 173.427 when averaged over 300 cm². The licensee did not detect any significant smearable beta-gamma contamination in the 89-49 cask or alpha contamination in either cask.

On December 28, 1989, the licensee loaded two HICs with the drums and surveyed the HICs before placing them into the USA/9168 shipping cask. The licensee's survey included contact and general area radiation measurements. The technicians also smeared the HICs for loose surface contamination. The licensee utilized the direct contact radiation measurements of the HICs in determining the radioactivity of container contents. The measured general

area dose rates from the HICs placed into casks 89-48 and 89-49 were 4 and 3 rem per hour, respectively. The smears for those surveys were counted for beta and gamma contamination by a HPT and recorded. The technician planned to count the smears for alpha contamination as required by licensee procedure HP/O/B/1006/09; however, the technician counting the smears was called to other monitoring duties and left the smears unattended. Someone utilizing the counting equipment, later in the day, threw the smears away.

The radioactive waste group determined the package activity and shipment requirements. The licensee determined that the shipment name for 89-48 would be Radioactive Material, Not Otherwise Specified (NOS) and 89-49 would be Radioactive Material, Low Specific Activity (LSA). The Certificate of Compliance (COC) for Radioactive Materials Package USA/9168/B(U) requires, in part, that prior to each shipment (except for the contents meeting the requirements for LSA material which is transported by exclusive use vehicle), the packaging must be leak tested in accordance with the directions specified in the package approval application. Therefore, the licensee was required to perform an inspection and leak rate test on the lid of the package for radioactive material shipment 89-48.

That evening the radiation specialist responsible for coordinating and preparing the radioactive waste shipments determined that the contamination surveys of the HICs did not have alpha contamination information. The specialist determined that the smears had not been counted and had been disposed of. At that time, the specialist chose not to lift the HICs out of their respective cask for another alpha contamination survey and did not notify his management of the problem. The following day, the second leak rate test for shipment 89-48 passed and the shipments were allowed to depart.

In interviews with the radiation specialist that was in charge of the shipment, the inspector determined that the specialist did not perceive any safety significance to the lack of alpha contamination assessment. The worker reported that he did not think the additional exposure received in resurveying the HICs for alpha contamination was justifiable for ALARA. The employee reported that at the time he was comfortable with his decision. The employee also reported that, upon review, his decision was incorrect. The employee's supervisor was on vacation when the shipments were made and the acting supervisor did not detect the survey inadequacies.

Failure to assess alpha contamination, in accordance with licensee procedure HP/O/B/1006/09, for the HICs utilized in radioactive shipments 89-48 and 89-49 was identified as an apparent violation of TS 6.8.1 (50-413/90-02-01. Although the licensee found the procedure violation, it is not clear that the licensee would have detected the procedure inadequacy if the inspector had not requested the documents for review. The licensee had already made its formal review of the documentation without detecting missing survey information. Additionally, the violation decision was deliberate, in that, a licensee representative chose not to collect new smears, for reasons he believed to be sufficient. The inspector did not identify any additional examples of the procedure violation.

One violation was identified.

RESPONSE:

1. Admiss. on or Denial of Violation

Duke Power Company admits the Violation.

2. Reason for Violation as Denied

Personnel error with contributory Procedural weaknesses. Failure of the Radiation Protection (RP) Specialist to conduct Alpha smears on the High Integrity Containers (HIC) and the failure of supervisory review to detect the omission resulted in the above stated violation of Technical Specification 6.8.1.a.

3. The Corrective Steps Which Have Been Taken and the Results Achieved

- 1) Disciplinary action was administered to the RP Specialist on 1/15/90, for failure to follow Procedure.
- 2) All Radioactive Material Control (RMC) Technicians were trained on 2/1/90, that 10% of the contamination surveys shall be counted for Alpha contamination on all containers to be shipped.
- 3) The Supervisors reviewing the shipping paperwork were directed to insure the Alpha surveys have been counted prior to shipment.
- 4) All RMC Shipping and Receipt Procedures were reviewed to verify that contamination surveys for Alpha were clearly identified. All the reviewed procedures had the requirement.
- 5) All RMC Shipping and Receipt Procedures were reviewed for weaknesses. Six of these procedures were found to need strengthening and the changes in all have been completed.

HP/O/B/1006/01 (Shipment of Radioactive Material was approved on March 22, 1990.

HP/O/B/1006/03 (Receipt and Opening of Radioactive Material Packages) was approved on March 22, 1990.

HP/O/B/1006/08 (Shipment of Dry Active Waste) was approved on March 23, 1990.

HP/O/B/1006/11 (Receipt of Transport Vehicles For Shipment of Radioactive Waste) was approved on Feb. 1, 1990.

Procedure HP/O/B/1006/09 (Shipment Of Radwaste Filters and Filter Media) has been revised to move the Limit and Precaution directing the Alpha survey to be taken. Survey requirements were clearly stated in the body of the procedure and a change was made to clarify the need to survey containers (HICs, B-25 Boxes, etc.) in addition to the transport vehicle and cask. This procedure was approved March 30, 1990.

Procedure HP/O/B/1006/15 (Handling and Packaging of Radwaste Filters and Filter Medias) has been revised to direct the technician to count 10% of contamination surveys for Alpha. Changes in this packaging procedure will strengthen the requirements added to the shipping procedure HP/O/B/1006/09. This procedure was approved March 30, 1990.

4. The Corrective Steps Which will be Taken to Avoid and Future Violations.

Our review of RMC procedures for weaknesses has been comprehensive. Most Limits and Precautions have been incorporated into the body of the procedures where compliance is more easily assured. These procedures were reviewed for improving the tie between procedure steps and use of their related enclosures. The supervisory review of the paperwork package prior to approval for shipment has been clarified in the procedures and the RMC section has expanded the use of Working Copies of procedures to further improve compliance.

The combined efforts of training, supervisory review, and human engineered procedure changes will provide the assurance that future violations will be avoided.

5. The Date When All Corrective Steps Will Be Achieved.

All Corrective Actions are complete.