



1650 CALVERT CLIFFS PARKWAY • LUSBY, MARYLAND 20657-4702

GEORGE C. CREEL
VICE PRESIDENT
NUCLEAR ENERGY
(410) 260-4455

May 21, 1992

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
NRC Region I Inspection Report Nos. 50-317/92-13 and 50-318/92-13
(April 13-17, 1992)

REFERENCE: (a) Letter from Mr. J. H. Joiner (NRC) to Mr. G. C. Creel (BG&E),
NRC Region I Inspection Report Nos. 50-317/92-13 and 50-318/92-13
(April 13-17, 1992), dated April 21, 1992

Gentlemen:

Reference (a) forwarded a Notice of Violation [Appendix A to Reference (a)] regarding incorrect resin-waste shipment manifests. Attachment (1) provides our response to this Notice of Violation as requested.

Should you have any further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

GCC/REF/ref/bjd

Attachment

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
D. G. McDonald, Jr., NRC
T. T. Martin, NRC
P. R. Wilson, NRC
R. I. McLean, DNR
J. H. Walter, PSC

*Out No
P807376350
IE06
11*

9205270306 920521
PCR ADDCK 05000317
Q PDR

ATTACHMENT (1)

REPLY TO A NOTICE OF VIOLATION INSPECTION REPORT NOS. 50-317/92-13 AND 50-318/92-13 VIOLATION NO. 1

I. DESCRIPTION AND CAUSE OF VIOLATION

Appendix A of Reference (a), Notice of Violation, cites five shipments of radioactive spent resin to a waste-management facility. These were shipped and buried with incorrect manifests which over-reported their radionuclide contents by about 20 percent. Although these shipment manifests were overly conservative, they were not in strict compliance with 10 CFR Parts 71.5 and 20.311.

Baltimore Gas and Electric Company self-identified these violations as a result of programmatic improvement and self-assessment efforts. We promptly reported them to both our Senior Resident Inspector and a Region I Senior Radiation Health Specialist.

The shipments occurred between March 1991 and March 1992. The event root cause is linked to the acquisition of new chemistry lab equipment just prior to this time. The equipment, a computerized gamma-scanning system, was to be set up for analyzing a variety of samples. The programmatic controls established by Chemistry management did not adequately ensure that all of Materials Processing's sample requirements were met.

Chemistry did not identify resin-waste analysis as a system requirement. They did not specifically set up the system to accommodate resin samples. The reasons this occurred include: the resin waste analysis is infrequent making it difficult to single out; Chemistry thought of this type of equipment as their own and did not recognize others as end-users; and the analysis procedure was general and did not specifically address resin. In addition, the software intensive nature of the analysis contributed to Chemistry's failure to detect the error.

Because no software function for resin analysis existed, the software validation and verification process did not detect the quality problem. Had the resin-waste analysis requirement been identified and accommodated, the analysis process could have been checked. The Notice of Violation incorrectly described the software as having been set up with the wrong parameters.

When performing an analysis, technicians select a resin-sample geometry from the system menu. Current practice was to select an equivalent sample geometry. This geometry was intended for volumetric samples (i.e., samples analyzed by volume (cc)). Resin is weighed out and analyzed in grams. This geometry produced correct concentrations for $\mu\text{Ci/gm}$, but reported activity units as $\mu\text{Ci/cc}$.

Chemistry reported these results in $\mu\text{Ci/cc}$ and Materials Processing used this information in developing the shipping manifests. Because resin is less dense than 1 gm/cc, the use of $\mu\text{Ci/cc}$ instead of $\mu\text{Ci/gm}$ resulted in shipment activity over-reporting.

On one early occasion, technicians annotated correct units onto the analysis report. We believe an acute attention to detail allowed them to do this. They correctly believed they were providing good analysis to Materials Processing. They did not, however, fully understand how the analysis was used and didn't realize they had found an interdepartmental problem. Chemistry's lack of knowledge on how the data was used contributed to inadequate data review.

Following an earlier procedural compliance issue Materials Processing personnel received training emphasizing the need for a questioning attitude. This training led Materials Processing personnel to question a subsequent analysis, resulting in discovery of the problem.

ATTACHMENT (1)

REPLY TO A NOTICE OF VIOLATION
INSPECTION REPORT NOS. 50-317/92-13 AND 50-318/92-13
VIOLATION NO. 1

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

The following corrective actions have been taken:

- ◆ the system software has been modified to specifically accommodate resin-sample analysis,
- ◆ a procedure addressing resin-sample analysis has been written that requires an analysis supervisory review,
- ◆ Materials Processing Unit corrected the manifests and informed the waste-management facility of the corrections.

These corrective actions fixed the analytical problems and allow us to ship resin wastes today.

III. CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

To avoid future violations, Chemistry will take the following actions:

- ◆ develop a program to ensure analysis end-users are more directly considered in future projects,
- ◆ ensure appropriate procedures are written for other tasks identified as infrequently performed,
- ◆ continue to emphasize management expectations with regards to maintaining a questioning attitude.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on March 19, 1992 when resin-waste shipment 92-014 was sent correctly to the waste-management facility.