MAY 16 1991

ENCLOSURE

NOTICE OF VIOLATION

Johnston-Willis Hospital
Richmond, Virginia

Docket No. 030-03313
License No. 45-02888-01

During an NRC inspection conducted on April 18, 1991, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1990), the violations are listed below:

A. Condition 19 of NRC License No. 45-02888-01 dated August 26, 1985, requires that the licensed material be used and possessed in accordance with the statements, representations and procedures described in the license application dated June 20, 1979, and in the documents submitted in support of that application.

Item III(a)(3) of licensee letter dated January 6, 1981, requires the Radiation Safety Officer to perform quarterly reviews of radiation level surveys.

Contrary to the above, between November 1, 1988 and April 18, 1991, the Radiation Safety Officer did not perform quarterly reviews of radiation level surveys.

This is a Severity Level IV violation (Supplement VI).

B. 10 CFR 35.50(c) requires the licensee to perform appropriate checks and tests following adjustment or repair of a dose calibrator to include accuracy, linearity and geometric dependence.

Contrary to the above, the licensee installed and put into use a dose calibrator on February 21, 1990, following adjustments and repairs, and did not perform accuracy and linearity tests until June 6, 1990 and March 12, 1990, respectively. In addition, as of April 18, 1991, the licensee had not performed a geometric dependence test on the dose calibrator following the adjustments and repairs made on February 21, 1990.

This is a Severity Level IV violation (Supplement VI).

C. 10 CFR 35.50(d) requires, in part, a licensee to mathematically correct dosage readings for any linearity error that exceeds 10 percent if the dosage is greater than 10 microcuries.

Contrary to the above, between January 7, 1991 and January 16, 1991, the licensee did not mathematically correct dosage readings for linearity

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errors greater than 10 percent when the dosage exceeded 10 microcuries. Specifically, the linearity test performed on January 7, 1991, indicated that the linearity error of the dose calibrator was 16.8 percent for dosages between 10 and 50 microcuries. The licensee continued to use the dose calibrator without mathematically correcting dosage readings until another linearity test was performed on January 16, 1991, and found to be linear down to 9.9 microcuries. Assays performed in this range included daily molybdenum-99 breakthrough tests.

This is a Severity Level IV violation (Supplement VI).

D. 10 CFR 35.50(b)(2) and (3) require a licensee to test each dose calibrator for accuracy and linearity upon installation.

Contrary to the above,

1. As of April 18, 1991, the licensee had not tested a dose calibrator installed and put into use on January 5, 1991, for accuracy.

2. The licensee installed and put into use a dose calibrator on January 5, 1991, and did not test for linearity until January 7, 1991.

This is a Severity Level IV violation (Supplement VI).

E. 10 CFR 35.51(b)(1) requires a licensee to check each dose calibrator for constancy with a dedicated check source at the beginning of each day of use on a frequently used setting.

Contrary to the above, between November 1, 1988 and April 18, 1991, the licensee did not check the dose calibrator for constancy with a dedicated check source at the beginning of each day of use on a frequently used setting. Specifically, the setting most frequently used by the licensee was technetium-99m. However, the licensee was performing the daily constancy check on the cobalt-57 setting.

This is a Severity Level IV violation (Supplement VI).

F. 10 CFR 35.70(a) requires a licensee to survey with a radiation detection survey instrument at the end of each day of use all areas where radiopharmaceuticals are routinely prepared for use or administered.

Contrary to the above, between November 1, 1988 and April 18, 1991, the licensee did not survey with a radiation detection survey instrument at the end of each day of use areas where radiopharmaceuticals were prepared for use or administered. Specifically, on 12 occasions when nuclear medicine procedures were performed on weekends, the surveys were not conducted.

This is a Severity Level IV violation (Supplement VI).

G. 10 CFR 35.33(c) requires a licensee to notify the appropriate NRC Office within 15 days of a misadministration involving a diagnostic procedure if the misadministration of byproduct material is such that the patient is likely to receive an organ dose greater than 2 rem.

Contrary to the above, as of April 18, 1991, the licensee had not notified the NRC Region II Office of a diagnostic misadministration that occurred on December 10, 1990, involving the administration of 35 millicuries (mCi) of technetium-99m (Tc-99m) DTPA and 3 mCi of Tc-99m MAA. Specifically, the patient was prescribed to receive Tc-99m DTPA as an inhaled aerosol and Tc-99m MAA by intravenous injection. However, the patient was administered the Tc-99m DTPA by intravenous injection and the Tc-99m MAA as an inhaled aerosol. This diagnostic misadministration resulted in an organ dose of 9.8 rems to the patient's bladder wall.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Johnston-Willis Hospital is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include [for each violation]: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

FOR THE NUCLEAR REGULATORY COMMISSION

William E. Cline, Chief
Nuclear Materials Safety and
Safeguards Branch
Division of Radiation Safety
and Safeguards

Dated at Atlanta, Georgia
this 16th day of May 1991