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February 3, 1984

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370

Subject: RII:GBK
IE Inspection Report 50-369/83-45, 50-370/83-52

Dear Mr. O'Reilly:

Please find attached a response to Violation 50-369/83-45-03, 50-370/83-52-03 which was identified in the subject report.

Duke Power Company does not consider any information contained in this report to be proprietary.

Very truly yours,

H.B. Tucker /BS

Hal B. Tucker

WHM/php

Attachment

cc: Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Duke Power Company
McGuire Nuclear Station
Response to Violation 50-369/83-45-03, 50-370/83-52-03

Violation 50-369/83-45-03, 50-370/83-52-03, Severity Level IV:

10 CFR 20.201b requires a licensee to perform such surveys as (1) may be necessary to demonstrate compliance with 10 CFR 20.106 which limits the release of radioactivity in unrestricted areas to the concentrations in Appendix B, Table II and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

Contrary to the above, during the period from June to December 1983, the licensee did not make surveys which were reasonable under the circumstances to evaluate the release of radioiodine in airborne effluents to unrestricted areas. The licensee used improperly calibrated gamma-ray detectors to measure radioiodine in airborne effluents.

Response:

Duke Power Company agrees that during the period from June to December 1983, McGuire Nuclear Station used improperly calibrated gamma-ray detectors to measure radioiodine in airborne effluents. However, the violation is inaccurate as stated in that McGuire did make surveys which were reasonable under the circumstances to adequately evaluate any radiation hazards present due to radioactive effluent releases.

In order to meet the requirements of 10 CFR 20.201(b), surveys of airborne effluent hazards involve the following significant steps.

1) Selection of an appropriate sample location, flow rate, sample size, and sampling apparatus.

2) Use of calibrated flow and pressure vacuum measurement devices.

3) Evaluation of sample volume using time, flow rate and pressure data.

4) Use of calibrated detectors and utilization of a computer to evaluate the results.

5) Review of the analysis results by an authorized individual who is familiar with radioiodine analysis.

6) Measurement of the volume discharged and flow rate.

7) Analysis of the environment for receptor sites, food chain pathways and dispersion characteristics.

8) Development of an algorithm to evaluate information and calculation of resultant offsite doses.

While the inspection did identify an error in one of the survey steps the resultant effect on the radiation hazard assessment can only have academic significance in that McGuire Nuclear Station released approximately 2.78E-3 curies of I-131 and 4.74E-4 curies of I-133 during the second half of 1983 in airborne effluents. The calculated dose of an infant thyroid from this effluent is 2.14E-1 mRem or 2.85% of one half of the annual limit. The error identified in radioiodine analysis during the inspection was conservative and indicated that the actual releases were only half of the measured values.

Due to the above described circumstances the survey conducted was reasonable and does not constitute a violation since compliance with 10 CFR 20.201(b) was demonstrated.

The gamma-ray detectors were improperly calibrated by using a sample cartridge incorrectly. All of the detectors have been recalibrated and a procedure change has been implemented which requires a qualified individual to compare new calibration data with previous data. This procedure step ensures consistent, correct calibrations. McGuire Nuclear Station is presently in full compliance.