

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261
September 27, 2001

Mr. Luis A. Reyes, Administrator
United States Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23 T85
Atlanta, GA 30303-8931

Dear Mr. Reyes:

VIRGINIA ELECTRIC AND POWER COMPANY
MOUNT STORM POWER STATION
WRITTEN REPORT CONCERNING THE APPARENT LOSS OF LICENSED MATERIAL

Pursuant to 10 CFR 31.5(c)(10) and 10 CFR 20.2201(a), Virginia Electric and Power Company (Dominion) reported the apparent loss of a flyash level detector containing byproduct material subject to general license GL 6-1105. This report was made from our Mount Storm Power Station to the NRC Operations Center on August 30, 2001. The attached written report provides the follow-up information required to be submitted by 10 CFR 20.2201(b).

If you have any questions or require additional information, please contact Mr. Bill Wilkinson at 304.259.4156.

Very truly yours,



Martin L. Bowling
Vice President Operations - Regulated

Enclosure – 10 CFR 20.2201: Reports of theft or loss of licensed material

cc: U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Director
Office of Nuclear Material Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ENCLOSURE #1

**10 CFR 20.2201: REPORTS OF THEFT OR LOSS OF LICENSED MATERIAL
MOUNT STORM POWER STATION**

VIRGINIA ELECTRIC AND POWER COMPANY

10 CFR 20.2201: Reports of Theft or Loss of Licensed Material
Mount Storm Power Station

Pursuant to 10 CFR 31.5(c)(10) and 10 CFR 20.2201(a), Virginia Electric and Power Company (Dominion) reported the apparent loss of a flyash level detector containing byproduct material subject to general license GL 6-1105. This report was made from our Mount Storm Power Station to the NRC Operations Center on August 30, 2001. The attached written report provides the follow-up information required to be submitted by 10 CFR 20.2201(b).

20.2201(b)(1)(i) A description of the licensed material involved, including kind, quantity, and chemical and physical form

The Thermo MeasureTech (formerly Texas Nuclear) Model 5197 (S/N B847) Level Gauge that is missing contained a solid, sealed 100 mCi Cesium-137 source when initially assayed on June 16, 1980. (Current activity: 61.72 mCi on June 12, 2001)

20.2201(b)(1)(ii) A description of the circumstances under which the loss or theft occurred

On July 17, 1980, TN Level Gauge S/N B847 was shipped to Mount Storm Power Station located near Bismark, West Virginia to determine the feasibility of using this type of device to measure coal flyash level in station hoppers. Successful testing resulted in Mount Storm purchasing 88 level gauges from Texas Nuclear in November 1981. (These 88 Model 5197 Level Gauges are still operable and accounted for at Mount Storm.)

During June 1982, Texas Nuclear personnel conducted a required wipe test / inspection at Mount Storm. Texas Nuclear furnished a report to Mount Storm concluding that all 88 level gauges tested (Serial Nos. B1418-1505) were accounted for and operable.

During August 1982, a wipe test was performed on TN Level Gauge S/N B847 by a contracted vendor (Arcadia Controls). The test was satisfactory, but a handwritten note on the back of the wipe test reads, "This was a source used for the pre-installation evaluation and installed and removed by Arcadia Controls." This is the last record Mount Storm Power Station has of level gauge S/N B847. (Arcadia Controls was sold in 1985. The new owner was unable to furnish any information on the missing source when contacted.)

Texas Nuclear conducted a post installation wipe test of Mount Storm's level gauges during October 1982. TN Level Gauge S/N B847 does not have a certificate on file at Mount Storm for this testing. Texas Nuclear conducted subsequent wipe tests / inspections in December 1984, September 1987, September 1989, July 1992, August 1995 and July 1998. 88 level gauges (Serial Nos. B1418-1505) are accounted for in each report; S/N B847 is not mentioned. Mount Storm Power Station inventories also account for these same 88 Model 5197 Level Gauges during this period.

On August 2 and 3, 2001, Thermo MeasureTech was onsite at Mount Storm Power Station to perform the triennial wipe test / inspection of the station's level gauges. The Mount Storm Radiation Safety Officer (RSO) was informed by Thermo MeasureTech personnel that 88 station level gauges had been located during his work and that his inventory for Mount Storm listed 89 level gauges. The Thermo MeasureTech supplied inventory indicated TN Level Gauge S/N B847 as missing. An investigation was initiated at that time.

20.2201(b)(1)(iii) A statement of disposition, or probable disposition, of the licensed material involved

The following actions taken at Mount Storm Power Station failed to turn up either the device or any mention of TN Level Gauge S/N B847 since the August 1982 wipe test by Arcadia Controls discussed in the previous section:

- an extensive physical search of the plant site
- a review of all RSO associated / generated documentation
- interviews of past RSOs and employees involved with the installation of the level gauges at Mount Storm
- a review of corporate records associated with Mount Storm licensed material
- discussions with the new owner of Arcadia Controls
- search of Mount Storm archives retained at onsite record retention facility
- search of corporate archives
- search of security department gate pass material records
- review of associated purchase orders

Given the above, it appears that the most probable disposition of TN Level Gauge S/N B847 involves the device being taken offsite by Arcadia Controls in August 1982, however there is no formal documentation to substantiate this possibility. Subsequent actions taken by Arcadia Controls would be speculation, but safe handling with respect to public exposure would seem likely. Inadvertent disposal and loss onsite are also possible scenarios, but appear less likely given the labeling present on these types of devices and the extensive search that has been conducted indicating no formal disposition of material. Theft of the device is not considered credible given site security measures, the remote location of Mount Storm Power Station, and the low commercial value of the device.

20.2201(b)(1)(iv) Exposures of individuals to radiation, circumstances under which the exposures occurred, and the possible total effective dose equivalent to persons in unrestricted areas

Dominion believes that no exposures to individuals occurred as a result of the loss of TN Level Gauge S/N B847. The most plausible scenarios described above (i.e., removal by Arcadia Controls, inadvertent disposal, loss onsite) would not result in significant exposures to either members of the public or Dominion employees. The sources are well shielded by a robust design and labeled as containing radioactive material. As a result, concerted effort would be required to intentionally access the Cesium-137 source. In the case of inadvertent disposal, burial of the device would

likely preclude exposures to members of the public by eliminating potential access to the source and providing additional shielding via burial.

20.2201(b)(1)(v) Actions that have been taken, or will be taken, to recover the material

As detailed above, Dominion has conducted an extensive physical and records search. Facility and retired employees have been interviewed. Thermo MeasureTech and Arcadia Controls were requested to furnish all of their records concerning TN Level Gauge S/N B847. None of these efforts resulted in any further evidence as to the location of the device. No further efforts to locate TN Level Gauge S/N B847 are planned at this time.

Accountability and testing of the remaining 88 level gauges at Mount Storm Power Station have been and continue to be consistent with applicable regulations and license conditions.

20.2201(b)(1)(vi) Procedures or measures that have been, or will be, adopted to ensure against a recurrence

An enhanced nuclear detector program has been implemented at Mount Storm Power Station clearly defining station roles and responsibilities. Station employees have been trained on this program. Additionally, all Dominion Fossil & Hydro generating facilities with licensed material onsite are completing a self-assessment of their respective nuclear detector programs including any lessons learned at Mount Storm.