10 CFR 2.201

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March 1, 1990

Docket No. 50-353
License No. NPF-85

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

SUBJECT: Limerick Generating Station, Unit 2
Reply to Notice of Violation
NRC Inspection Report No. 50-353/89-32

Dear Sirs:

Attached is Philadelphia Electric Company's reply to the "Notice of Violation" contained in NRC Inspection Report No. 50-353/89-32 for Limerick Generating Station (LGS), Unit 2.

NRC letter dated January 31, 1990, forwarded NRC Inspection Report No. 50-353/89-32 containing the "Notice of Violation." This violation of NRC requirements pertains to the control of Special Nuclear Material and was identified during an NRC inspection conducted between December 11-15, 1989, at LGS, Unit 2.

The attachment to this letter provides restatement of the violation and our response.

If you have any questions, or require additional information, please contact us.

Very truly yours,

DMS:nlk

Attachment

cc: W. T. Russell, Administrator, Region I, USNRC
T. J. Kenny, USNRC Senior Resident Inspector, LGS

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Reply to Notice of Violation

Restatement of the Violation

As a result of the inspection conducted on December 11-15, 1989, and in accordance with the General Statement of Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C (Enforcement Policy 1989), the following violation was identified:

10 CFR 70.51 (b)(1) requires that each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material (SNM) in his possession regardless of its origin or method of acquisition. Also, 10 CFR 74.13 (a)(1) and 74.15 (a) require, respectively, preparation and submission of Material Balance Reports concerning SNM received or transferred, and documentation of receipts or transfers by completion and distribution of Nuclear Material Transaction Reports.

Contrary to the above, the inspector determined on December 15, 1989 that:

> Two dunking chambers containing approximately 5 grams of uranium-235 (received from Reuter-Stokes, Inc. on shipment ZSZ-XIS-03 dated May 19, 1989) were not recorded nor reported to the NRC on a Nuclear Material Transaction Report, and Material Balance Report as required;
>
> The same two dunking chambers containing approximately 5 grams of uranium-235 were shipped offsite on September 29, 1989 to Public Service Electric and Gas Co., were not documented on a Nuclear Material Transaction Report and reported to the NRC on Material Balance Report, as required.

This is a Severity Level IV Violation (Supplement III).

RESPONSE

Admission of Alleged Violation

Philadelphia Electric Company acknowledges the violation.

Reason for the Violation

This violation has been attributed to the following causes identified below.

1) Procedures - While administrative controls existed for controlling Special Nuclear Material (SNM), the procedure implementing the administrative policies was inadequate in that:

   - o it did not contain a detailed procedural step for the onsite processing of a Nuclear Material Transaction Report, DOE/NRC Form 741, and
   - o no formalized method of communication existed between the plant and corporate groups which handle SNM accountability.

2) Training - No formalized training in SNM documentation, identification, security, and regulatory requirements existed for the group responsible to physically track SNM, or the various other personnel working with SNM items.

On May 20, 1989, Reuter Stokes Inc. shipped one wooden box containing SNM (5 grams of 93% Uranium-235) in the form of two fuel loading chambers (i.e., detectors) to Limerick Generating Station (LGS). On May 22, 1989, the shipment arrived at LGS and accompanying the shipment were three copies of DOE/NRC Form 741. This form listed the serial numbers of the fuel loading chambers and other pertinent information regarding the shipment. The three forms were forwarded to the LGS Reactor Engineering Department for dispositioning in accordance with Administrative Procedure A-44, "Special Nuclear Material Accountability." We note however, that Reuter Stokes, Inc. should have forwarded one of the three copies of the DOE/NRC Form 741 to the Philadelphia Electric Company (PECo) business address (i.e., the corporate group involved in handling SNM accountability) as directed by NUREG/BR-0006, "Instructions for Completing Nuclear Material Transaction Reports."

As previously stated in Item 1 above, a factor to the cause of this violation was that Procedure A-44 did not contain a detailed procedural step that explicitly directed onsite personnel how to process a DOE/NRC Form 741. As a result, the three copies of DOE/NRC Form 741 associated with the shipment were inadvertently placed into the Reactor Engineering SNM correspondence file without the required receipt acknowledgement being sent to Reuter Stokes, Inc. as directed by NUREG/BR-0006. Formal acknowledgement of SNM receipt by PECo is normally made from the corporate office.

As previously stated in Item 2 above, a second factor to the cause of this violation was that the Reactor Engineering group, responsible to physically track the onsite inventory of SNM, were not trained in SNM documentation, identification, or regulatory requirements. Since the Reactor Engineering group was not trained in the handling of SNM documentation (i.e., DOE/NRC Form 741), they failed to recognize that receipt acknowledgement of the SNM had not been made. As a result of mis-handling this DOE/NRC Form 741, the association between the Form 741 and the fuel loading chambers was never established. Therefore, the fuel loading chambers were presumed to be a commonly used boron trifluoride detector, which contains no SNM, and were not recorded into the LGS SNM Accountability System. This system is used by the corporate office to generate the Material Balance Report, DOE/NRC Form 742. Consequently, between May 23, 1989 and September 27, 1989, the fuel loading chambers were not treated as SNM. As a result, receipt of the SNM was not recorded or reported to Reuter Stokes, INC. and to Martin Marietta Energy Systems (SNM accounting consultant for the DOE/NRC) on a DOE/NRC Form 741 as directed by NUREG/BR-0006. Additionally, receipt of the SNM was not reported to the NRC on the DOE/NRC Form 742 as required by 10 CFR 74.13, that was issued by PECo dated September 30, 1989.

Between May 23, 1989 and September 27, 1989, the fuel loading chambers were moved to the LGS refueling floor, unpackaged, inspected, and stored on the refueling floor in preparation for their use during Unit 2 fuel loading operations. However, the fuel loading chambers were never used, and were never contaminated. Therefore, the fuel loading chambers were repackaged and prepared to be shipped back to Reuter Stokes, Inc.

Between September 27, 1989 and September 29, 1989, the fuel loading chambers were prepared for shipment offsite. The original destination for the shipment was revised from Reuter Stokes, Inc. to Hope Creek Generating Station, since Hope Creek personnel requested the use of these fuel loading chambers. Exit surveys were conducted by Health Physics personnel, and the chambers were moved from the refueling floor to the new fuel storage area for shipment to Hope Creek Generating Station. On September 29, 1989, the fuel loading chambers were shipped by Able Network Inc., under contract to Public Service Electric and Gas (PSE&G) Company, to the Hope Creek Generating Station.

On November 14, 1989, Martin Marietta Energy Systems (MMES) notified PECo that there was a 5 gram SNM discrepancy between their records and the PECo Material Balance Report, DOE/NRC Form 742, for September 30, 1989. After being notified, PECo identified the serial numbers of the SNM in question to be the two fuel loading chambers that had been shipped to Hope Creek Generating Station on September 29, 1989. Since it was not

recognized by PECo that the shipment contained SNM, no DOE/NRC Form 741 was processed for transmittal to MMES and to PSE&G. Additionally, this shipment was not reported to the NRC on the DOE/NRC Form 742 that was issued by PECo dated September 30, 1989.

Corrective Actions Taken and Results Achieved

On November 16, 1989, PECo acknowledged receipt of the shipment of the fuel loading chambers to LGS on a duplicate DOE/NRC Form 741 reissued by Reuter Stokes Inc. Copies of the Form 741 were transmitted on November 16, 1989, to Reuter Stokes, Inc. and to MMES as directed by NUREG/BR-0006.

On December 7, 1989, a DOE/NRC Form 741 was issued from PECo to MMES and to PSE&G for the shipment of the fuel loading chambers to Hope Creek Generating Station that occurred on September 29, 1989.

Per conversation between PECo and MMES on November 14, 1989, PECo will document both the receipt and shipment of the fuel loading chambers on the next Semi-annual DOE/NRC Form 742. This report will be completed by April 30, 1990.

Corrective Actions to Avoid Future Non-Compliance

1. Reactor Engineering implementing procedures will be developed to supplement Procedure A-44, "Special Nuclear Material Accountability," and will include the following:

   - Provide detailed instructions for the onsite handling of a DOE/NRC Form 741. These instructions will include the formal transmittal of the DOE/NRC Form 741 to the corporate office. This will ensure that every DOE/NRC Form 741 is recorded into the LGS SNM Accountability System and included into the next required DOE/NRC Form 742.

   - Provide guidance to assure that communication is coordinated between the plant and corporate groups which handle SNM accountability.

   These items will be completed and implemented by April 30, 1990.

2. Reactor Engineers and the various other personnel working with SNM items will receive formal training in SNM identification, handling, security, and regulatory requirements. This training will include a yearly one day requalification training for the Reactor Engineers. The SNM formal training sessions will begin during the 1991 calendar year. While the lesson plans for this formal training are being developed, Reactor Engineering personnel will receive training within their group on the handling and identification of SNM. This interim training will be completed by May 31, 1990.

In addition to the Corrective Actions identified in Items 1 and 2 as stated above, the following additional actions will be implemented.

A. Detailed routine procedures to supplement Procedure A-44 will be written to:

- govern the recording and logging of all movement of SNM at LGS, and
- control the handling, security, and tagging requirements of SNM.

These items will be completed and implemented by April 30, 1990.

B. Procedure A-44 will be revised to accomplish the following.

- Provide guidance to outline work group interactions and regulations governing the procedures to be implemented in the additional Action A, as stated above.
- Provide for tagging of all SNM in storage or transit by requiring the use of distinctive tags. The tags will identify the SNM and will require Reactor Engineering approval prior to the SNM being moved. The significance of SNM tags will be addressed as part of General Employee Training (GET).

These items will be completed and implemented by April 30, 1990.

C. Additional Reactor Engineering implementing procedures will be developed to supplement Procedure A-44 to accomplish the following:

- Control the increased physical barriers for SNM that will be developed (i.e., locked storage cage for SNM and LGS storeroom computer coding that notifies Reactor Engineering when SNM is being "signed out" or removed from the storeroom).

  This item will be completed and implemented by September 15, 1990.

- A detailed routine procedure will be written to supplement Surveillance Test Procedure ST-3-097-350-0, "Annual Inventory of Special Nuclear Material," to conduct increased periodic auditing of SNM at LGS.

  This item will be completed and implemented by April 30, 1990.

The Corrective Actions above were identified by using the Human Performance Evaluation System (HPES) root cause analysis techniques in conjunction with an appointed task force.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved by April 30, 1990 when PECo submits to the NRC the next Semi-annual DOE/NRC Form 742. This report will document both the receipt and shipment of the fuel loading chambers.