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September 14, 1995

Mr. D. M. Smith  
Senior Vice President-Nuclear  
PECO Energy  
Nuclear Group Headquarters  
Correspondence Control Desk  
P.O. Box 195  
Wayne, Pennsylvania 19087-0195

SUBJECT: COMBINED INSPECTION 50-352/95-10 AND 50-353/95-10

Dear Mr. Smith:

This letter refers to your September 5, 1995 correspondence, in response to our August 7, 1995 letter.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

ORIGINAL SIGNED BY:

Clifford J. Anderson, Chief  
Reactor Projects Section 2B, PB2  
Division of Reactor Projects

Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

cc:

W. MacFarland, Vice President - Limerick Generating Station  
G. A. Hunger, Jr., Director - Licensing, Chairman - Nuclear Review Board  
J. L. Kantner, Regulatory Engineer - Limerick Generating Station  
Secretary, Nuclear Committee of the Board

cc w/cy of Licensee's Response Letter:  
Nuclear Safety Information Center (NSIC)  
D. Screnci, PAO (2)  
NRC Resident Inspector, Limerick  
Commonwealth of Pennsylvania

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Mr. D. M. Smith

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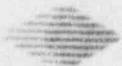
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# PECO ENERGY

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10 CFR 2.201

September 5, 1995  
Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

SUBJECT: Limerick Generating Station, Units 1 and 2  
Reply to a Notice of Violation  
NRC Combined Inspection Report Nos. 50-352/95-10 and  
50-353/95-10

Attached is the PECO Energy Company reply to a Notice of Violation for Limerick Generating Station, Units 1 and 2, that was contained in your letter dated August 7, 1995. The violation concerned contamination monitoring of personnel and materials leaving the radiological controlled area. The attachment to this letter provides a restatement of the violation followed by our reply.

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

Very truly yours,

GHS

Attachment

cc: T. T. Martin, Administrator, Region I, USNRC w/attachment  
N. S. Perry, USNRC Senior Resident Inspector, LGS "

~~9509116179~~

### Reply to a Notice of Violation

#### Restatement of the Violation

During an NRC inspection conducted on May 23-July 18, 1995, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (60 FR 34381; June 30, 1995), the violation is listed below:

Technical Specification 6.11.1 requires in part, that procedures for personnel radiation protection shall be adhered to for all operations involving personnel radiation exposure.

Radiation protection procedure No. HP-C-810, revision 0, requires in section 7.5.1, that all material shall be monitored prior to release from the radiological controlled area (RCA) as specified therein and shall meet the conditions for release also specified therein.

Radiation protection procedure HP-C-818, revision 0 (dated January 1, 1994) and revision 1 (dated April 10, 1995), require in section 5.1 that plant personnel are responsible for monitoring themselves in accordance with the procedure and for notifying health physics when contamination is detected during monitoring, and requires in section 7.1.5 that radiation protection personnel may approve release of personnel if personnel contamination is less than 100 counts per minute above background.

Contrary to the above, procedures for personnel radiation protection were not adhered to as evidenced by the following examples:

1. On February 9, 1995, a worker attempting to exit the Unit 1 refueling floor was identified with fixed contamination on the individual's underwear. Subsequent licensee review indicated the individual had previously exited the RCA and, due to inappropriate monitoring, did not detect the contamination.
2. On or about March 17, 1995, a worker was identified to have been released by radiation protection personnel with contamination of the right and left shoes of 150 and 400 counts per minute (respectively) above background.
3. On or about March 27, 1995, a second worker was identified to have been released by radiation protection personnel with contamination of the right and left shoes of 1500 counts per minute above background.
4. On April 3, 1995, approximately 12 contaminated miscellaneous items (eg., tools and material) were identified outside the RCA in various tool rooms that did not meet the conditions for release specified in procedure HP-C-810. Specifically, the items exhibited radioactive contamination above the limits specified therein.
5. On June 29, 1995, radiation protection personnel approved release of an individual who was later determined that day to exhibit personnel contamination of the skin of 600 counts per minute above background and 120 counts per minute above background on a shoelace.

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6. Between July 7 and July 17, 1995, approximately 60 items (eg., tools and material) were identified outside the RCA that did not meet the conditions for release specified in procedure HP-C-810. Specifically, the items exhibited radioactive contamination above the limits specified therein.

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

## RESPONSE

### Admission of the Violation

PECO Energy Company acknowledges the violation.

### Reason for the Violation

Management and workers were not sensitive enough to the need to minimize the amount of tools and equipment taken into and out of the RCA. The high volume of items routinely handled at the plant access points challenged our controls and was a significant contributor to this violation.

In response to previous contamination control issues, small article monitors (SAMs) had been purchased and installed at all plant access points. During 1993, use of the SAM for release of hand carried items was transferred from Health Physics to the individual workers. However, the limitations of the SAMs were not effectively communicated to the workers. In addition, the postings on the SAMs did not provide adequate detail to ensure proper use.

Limerick Generating Station (LGS) practice allowed release of material with a frisker even if it had previously alarmed a SAM. Since frisker effectiveness is highly dependant on how it is used, this effectively introduced some inconsistency in our process for the release of material from the RCA.

### Corrective Actions Taken and Results Achieved

As referenced in Section 5.1.6, "Radioactive Material and Contamination Controls," of NRC Inspection Report Nos. 50-352/95-10 and 50-353/95-10, the following corrective actions were implemented.

- Surveillance of tools at the tool rooms were increased from quarterly to monthly and the sample size was increased from 25 to 75 after discovery of miscellaneous tools with fixed contamination.
- Health Physics (HP) procedure HP-C-818 was revised on April 21, 1995, to require material to be dry before final monitoring.
- A 100% survey of all tools in the tool rooms was performed when two additional contaminated tools were found in tool rooms on July 5, 1995.
- On July 10, 1995, frisking of tools to be issued to personnel from tool rooms was initiated.



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- On July 11, 1995, a memorandum was issued to all station personnel regarding worker responsibility for contamination control.
- On July 11, 1995, the "5" line (Unit 1) RCA exit point was closed down. The Unit 2 269' Turbine building monitoring location was also closed down. Station personnel were also informed that no tools or materials were to be removed from the protected area.
- On July 12, 1995, a "station standdown" was held with all appropriate personnel to discuss contamination control concerns. There was significant management interest in the review and resolution of the identified concerns.
- As of this date, the "5" line (Unit 1) RCA access point remains closed. The Unit 2 269' Turbine Building access is reopened. Radiation Protection personnel are required to observe station workers frisking material to be removed from the RCA.

In addition to the above actions, analysis of the contaminated items previously released, including dose consequences, have been completed. The results of the analysis indicate that there was no significant effect on station workers or the public.

#### **Corrective Actions to Avoid Future Noncompliance**

Construction of a new in-plant tool room is currently in progress. This facility is a long-planned step to minimize the need to routinely carry tools into and out of the RCA at LGS, and is scheduled to be opened by the end of 1995.

A Contamination Control Improvement Plan has been developed and actions are underway to fully understand the circumstances which led up to this event and to make process changes to prevent recurrence. The following is a summary of the plan and the actions being taken.

#### **Evaluate Instrumentation and Response to LGS Isotopic Mix**

This portion of the plan involves three separate actions. The first action was to send representative samples of contamination found throughout various areas of the plant offsite for isotopic analysis (complete). The second action was to use the results of the isotopic analysis to determine the efficiencies of LGS instrumentation to detect the radionuclides present (complete). The third action will involve performing a review of the calibration and response of LGS instrumentation to the results of the isotopic analysis, and designating the preferred instrument for free release from the RCA. This review will include the following devices: dosimeters, portal monitors, small article monitors, bag monitor, tool monitor, friskers and survey instrumentation. This action will be completed by September 30, 1995.

#### **Review of the LGS Contamination Control Practices**

This portion of the plan requires a comprehensive review of LGS facilities, procedures, protective clothing, the Routine Surveillance program and a reassessment of LGS performance in the area of contamination control over the past 3 years. Specific elements of this review are described below.

- Evaluate plant exit point flow path, release points and process.
- Evaluate fuel floor flow path.

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- Evaluate all outside buildings.
- Evaluate laundry (scrubs and protective clothing) as a source of personnel contaminations.
- Evaluate Performance Enhancement Program (PEP) reports from the last three years for generic concerns.
- Review contamination control practices at step off pads, including the role of the Advanced Radiation Worker (ARW) program.
- Investigate desensitization to personnel contamination monitor (PCM) alarms due to Noble Gas.
- Review outage critique items.
- Benchmark current LGS practices against the industry, including Peach Bottom Atomic Power Station.
- Upgrade cameras and communications at the plant exits.
- Evaluate the Routine Surveillance program and plant changes.
- Review Administrative Procedure A-30.6, "Control of Plant Contaminated Tools," for consistency with new program.
- Review ARW contamination control practices.

The goal of this review is to identify and remove factors which challenge the effectiveness of the contamination control program. Any required procedure revisions or other contamination control program changes based on the results of this review will be implemented by September 30, 1995.

#### **Communications and Training**

Any further improvements to the contamination control program will be communicated to the station work force. In addition, training of the HP technicians and station workers to effectively implement such improvements will be conducted as necessary. These actions will be completed by September 30, 1995.

#### **Date When Full Compliance was Achieved**

Full compliance was achieved on July 25, 1995, when the survey of all tools outside of the RCA was completed and all tools that were identified as being contaminated were returned to the RCA.