CTS

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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

June 4, 2007

Attention: Document Control Desk

Subject: High Exposure to Film Badge

The following is a description of the recent events regarding a reported high exposure to a film badge and the corrective action steps taken to prevent recurrence.

***Notification*:** On May 10, 2007, Calumet Testing Services (CTS) received a high exposure notification from Landauer, Inc. showing that Badge No. 00216 was exposed to 8578 to 8902 millirems during the month of April 2007. A second processing and review by Landauer confirmed these readings. The film badge report for April showed no unusual dose for any of our other personnel.

First Response: I immediately notified the NDT Manager and the president of the company that the radiographer assigned to badge 00216 was to be suspended from radiography indefinitely pending an internal investigation. This investigation would be to determine how or if the radiographer was exposed to the radiation levels reported by Landauer. An interview with the radiographer needed to be conducted as soon as possible. A review of the regulations indicated that a written report was required within 30 days from the time that we were notified of the exposure. This was confirmed by telephone contact with the USNRC Region III.

- First Interview: On the afternoon of May 10, the radiographer was brought in for an interview and was informed of the high exposure readings on his film badge. The radiographer was informed that he was suspended indefinitely from any radiography operations. The radiographer confirmed that he had worn all the required personnel monitoring equipment, conducted proper surveys and followed all of our safety procedures. He stated that he did not recall hearing any ratemeter alarms or notice any unusual pocket dosimeter readings.

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However, he also stated that because he had trouble keeping his film badge clipped on, he recently began carrying his badge inside his jacket pocket to avoid losing it. He also stated that he remembered removing the jacket prior to conducting some Co60 radiography at our facility and may have left the jacket in the vicinity of the camera during the exposures. A check of the Daily Utilization Logs for April confirmed Co60 exposures he conducted on April 19.

The radiographer showed no physical indication of excessive radiation dose and had not experienced nausea or any other symptoms. Research[1] indicated that at these levels of exposure (< 25 rem), effects would not be detectable by laboratory testing, so the radiographer was not sent for medical examination.

- Additional Employee Interviews: All employees who performed radiography operations with this radiographer during the month of April were individually interviewed. Each employee was asked about any problems cranking out or retracting the source, unusual pocket dosimeter readings or ratemeter alarms, or witnessing any safety violations. None of the interviewed employees recalled any problems or violations, and no unusual occurrences were documented on any of their records.

- Exposure Demonstration / Simulation: On May 16, we had an in-house Co60 radiography job scheduled for a customer. Using spare film badges, we took this opportunity to simulate the radiography operations conducted on April 19 as closely as could be recalled. Landauer processed those badges and the readings verified that a film badge placed in that area would have received a radiation dose close to the levels recorded on badge 00216.

- Follow-up Interview: We conducted a follow-up interview with the radiographer to review our findings and discussed safety procedures including the requirement to properly wear all personnel monitoring equipment.

- Final Meeting and Disposition: A final meeting was held with management to discuss findings and corrective action. After review of the records and the results of employee interviews, we felt confident that the radiographer was not exposed to the radiation levels indicated on badge 00216 during the month of April 2007. As a result, the radiographer's suspension was lifted and he was made eligible for duty on May 30, 2007

- **Root Cause of High Exposure Reading:** The radiographer inadvertently removed his film badge and placed it in an area where it received an excessive amount of radiation during radiographic operations.

[1] Gamma Radiation Safety Guide- Second Edition, 02/03

- **Corrective Action:** All employees have been reminded that all personnel monitoring equipment, i.e. pocket dosimeters, film badges and ratemeters must be worn at all times. They have been informed that failure to comply with our safety procedures will result in disciplinary action.

  In addition, management is looking into providing our personnel with pouches, cases or other accessories that can be used to carry film badges and dosimeters. This would minimize the risk of losing or inadvertently removing dosimeters or badges.

- **Date of Full Compliance:** We believe we are in full compliance as of this writing.

Details of our internal investigation and personally identifiable information are on file at this office, and are available for review by representatives of the USNRC.

Very Truly Yours,

CALUMET TESTING SERVICES, INC.

Thomas J. Keilman

Thomas J. Keilman
Radiation Safety Officer

cc: Regional Administrator, Region III

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