

# APPENDIX 5:

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Office of the Inspector General

Inspector General



July 11, 2003

Jonathan L. Arden, M.D.  
Chief Medical Examiner  
Office of the Chief Medical Examiner  
1910 Massachusetts Avenue, S.E.  
Washington, D.C. 20004

Dear Dr. Arden:

This is a Management Alert Report (MAR 03-I-005) to inform you of a significant issue that has come to our attention as a result of our inspection of the Office of the Chief Medical Examiner (OCME). The Office of the Inspector General (OIG) provides these reports when we believe a serious matter requires the immediate attention of a District of Columbia government official.

**Background:**

The inspection team (team) observed what appeared to be safety and health hazards in the use of radiographic equipment by OCME employees. The autopsy staff conducts radiographs<sup>1</sup> on decedents every day. Radiographic equipment is located in a separate room in the autopsy suite in the basement of the OCME building, and employees entering this area may be exposed to some level of radiation if the machines are in use.

OCME has no written policies or procedures regarding the use, maintenance, and safety of radiographic equipment. Therefore, in conducting this evaluation, the team referenced standards established by the National Association of Medical Examiners (NAME)<sup>2</sup> and outlined in NAME's accreditation checklist.<sup>3</sup> The team also referenced standard operating procedures for radiographic equipment in the surrounding jurisdictions of Maryland and Virginia.

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<sup>1</sup> An image produced on a radio-sensitive surface, such as a photographic film, by radiation other than visible light, especially by x-rays passed through an object. The word *radiograph* is synonymous with the word *x-ray*.

<sup>2</sup> NAME is the national professional organization of physician medical examiners, medical death investigators, and death investigation system administrators who perform medicolegal investigations of deaths of public interest in the United States. Its mission is to improve the quality of death investigation nationally and to recognize excellence in death investigation systems.

<sup>3</sup> See National Association of Medical Examiners Accreditation Checklist (Checklist) (1997) (amended 2002), available at <http://www.thename.org>.

**Observations:**

1. OCME does not properly monitor employee radiation exposure. OCME contracts with a monitoring company to provide monthly radiation monitoring badges, evaluation of the badges, and monthly radiation exposure reports for each employee who enters the autopsy suite. The film from the badges should be sent to the monitoring company monthly to determine the level of each employee's exposure to radiation. The company sends back fresh badges to OCME along with a report that notes the exposure readings for the previous month and any overexposures for each employee (see Attachment). The team found that:
  - OCME could only provide the team with monitoring reports for 1999. A review of these reports showed that OCME failed to send 99% of the radiation monitoring badges to the monitoring company every month. The reading of these badges is vital to ensure that overexposure to radiation is detected. The Risk Manager could not explain the absence of reports for the years 2000-2003.
  - The radiation monitoring badges are not stored properly. According to the monitoring company, when not in use, badges should be stored outside of the autopsy suite along with the control badge<sup>4</sup> provided to OCME by the company each month. However, the team found badges stored adjacent to the radiograph room, not outside of the autopsy suite area as required. In addition, the control badge was found taped to the wall inside the radiograph room. Monitoring reports from 1999 showed that the control badge was not returned to the monitoring company as required for several months in 1999.
  - OCME has no written policies and procedures for the use of radiation monitoring badges. Employees stated that they have never been instructed as to when to wear the badges or where the badges should be worn. In addition, employees were not aware that badges should be stored with the control badge when not in use; the team found employees storing badges in their offices.
  - OCME does not ensure that all employees turn in badges each month for evaluation. Until the recent appointment of an employee as Risk Manager, no employee had been designated to ensure that all badges are collected and sent to the monitoring company. As a result, many employees failed to turn in badges for 6 months or more.

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<sup>4</sup> A control badge is provided with each monthly shipment of badges to OCME. The control badge is to be maintained away from the source of radiation at all times. The control badge is used to account for the occurrence of any accidental exposures during the monthly transport of the badges from OCME to the monitoring company. This ensures that the readings from the individual employee badges are accurate.

- The Risk Manager has not been trained to evaluate the monthly radiation reports, and has no instructions as to what actions to take when a positive reading above acceptable radiation levels is found. She stated that during October or November of 2002, all badges sent to the company tested positive for excessive radiation exposure; however, no action was taken by OCME upon receipt of the company's report.<sup>5</sup>
2. The inspection team found OCME radiographic equipment has never been inspected. NAME standards state that in-house radiographic equipment should be periodically assessed for performance improvement, radiation protection, and safety. Additionally, 20 DCMR § 2103.10 states that "[e]ach radiation device (x-ray machine) used in the District shall be re-tested at not longer than six (6) months month intervals, or at intervals not to exceed three (3) years as is specified in the label required by this section."<sup>6</sup> The team also found that the Kevlar vests used for protection during x-rays are old, torn, and leaking threads and fibers.
  3. The team found OCME does not have a certified radiologist. NAME recommends that all operators of radiographic equipment be properly trained. OCME autopsy technicians who conduct radiographs daily have not been trained by a certified radiologist. Employees say they have requested training and certification but have not received any. They stated that they receive on the job training from fellow employees and are also responsible for training new employees. Employees further stated that they do not know how much radiation exposure to use when conducting radiographs, and they experiment with the process on a case-by-case basis.

The lack of monitoring, equipment inspections, and proper training may place the health and safety of OCME employees at risk for overexposure to radiation. Without periodic equipment inspections, the CME cannot ensure that all equipment is operating efficiently and safely. Additionally, OCME is wasting District funds by failing to send badges to the monitoring company on a monthly basis. OCME must pay for the badges and evaluation services each month whether they are evaluated or not. This amounts to approximately \$1,000 per month.<sup>7</sup>

#### Recommendations:

1. That the Chief Medical Examiner have all affected employees tested for possible overexposure to radiation because of the inadequate monitoring and evaluation of badge readings, the lack of inspections of radiation equipment, and the lack of employee training for operating the equipment.

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<sup>5</sup> OCME could not locate this monitoring report.

<sup>6</sup> The Department of Health, Bureau of Food, Drug and Radiation Protection is responsible for the testing of District radiation devices. This provision will be recodified at 22 DCMR § 6803.10.

<sup>7</sup> OCME could not provide a copy of the monitoring contract. These figures were obtained from a monthly purchase order provided by OCME.

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2. That the Chief Medical Examiner have all radiographic equipment inspected and certified for safety as required by District regulations.
3. That the Chief Medical Examiner ensure that monthly radiation monitoring of employees is carried out rigorously.
4. That the Chief Medical Examiner provide training and certification for all employees who operate radiographic equipment.
5. That the Chief Medical Examiner establish written policies and procedures for the use and storage of radiation monitoring badges.
6. That the Chief Medical Examiner provide to OIG all radiation monitoring reports for 2000, 2001, 2002, and 2003.

Please provide your comments to this MAR by July 28, 2003. Your response should include actions taken or planned, dates for completion of planned actions, and reasons for any disagreement with the concerns and recommendations presented. Please distribute this Management Alert Report only to those personnel who will be directly involved in preparing your response.

Should you have any questions or desire a conference prior to preparing your response, please contact Alvin Wright, Jr., Assistant IG for Inspections and Evaluations, 202-727-9249.

Sincerely,



*cc* Charles C. Maddox, Esq.  
Inspector General

CCM/AW/LP/jcs

Attachment: As stated

cc: Mr. John A Koskinen, City Administrator, Office of the City Administrator  
Mr. James Jacob, Director, Office of Risk Management  
Ms. Margret Kellems, Deputy Mayor, Public Safety and Justice