Memorandum

New York City Transit

Date April 22, 1999

To Anthony Borelli, Manager, Workscopes & Standards, Division of Car Equipment

From Doreen A. Boatswain, Manager, Industrial Hygiene, Office of System Safety

Re **INDUSTRIAL HYGIENE SURVEY: CONEY ISLAND YARD TECHNICAL SERVICES BUILDING**

The Industrial Hygiene Section of the Office of System Safety performed a survey at Coney Island Yard Technical Services Building on February 19, 1999. This was in response to your memo expressing employee concerns about the air quality in the second floor offices, prompted by the odors from gunfire infiltrating from the first floor firing range. Subsequent follow-up surveys were conducted on March 24, and April 7, 1999 to evaluate the effect of corrective measures made on the ventilation system at the firing range.

METHODOLOGY:

Combustion by-products of gunfire include lead, carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2).

Area measurements were taken in the second floor office area, for CO, SO_2, and NO_2, with Dräeger colorimetric tubes.

Area monitoring was conducted at three locations to determine the airborne lead concentration: by the 2nd floor door in the front stairwell (which connects the firing range and Car Equipment offices), by the rear freight elevator, and in a 2nd floor office doorway.

DuPont Alpha-1 air sampling pumps with mixed cellulose ester (MCE) filters were used to collect airborne lead particulates. The sampling pumps were calibrated prior to and after the completion of the sampling period. The analysis was performed following National Institute for Occupational Safety and Health (NIOSH) 7300 method utilizing inductively coupled plasma spectrophotometry.

OBSERVATIONS:

- On February 19, 1999, the firing range entrance door remained in an open position due to the airflow out of the doorway. There was a slight odor from gunfire but no visible emissions present in the front entrance stairwell.
- No odors or visible emissions were observed on the March 24, or April 7, 1999 surveys. In addition, the firing range entrance door remained closed.

FINDINGS:

- Complaints of gunfire odors coincided with preventive maintenance activity (replacement of the supply fan belts) performed on the firing range ventilation system in February 1999. This activity had the net effect of supplying more air to the firing range than was being exhausted, which subsequently forced the range doors open and released the gunfire odor into the stairwell and the second floor.
- Following the February 19, 1999 survey, the New York Police Department (NYPD) promptly contacted KelAir, their ventilation system contractor. KelAir made adjustments to the ventilation system to reverse the direction of the airflow at all entrances to the firing range. This was confirmed by smoke testing, on the March 24 and April 7, 1999 surveys.
- The High Efficiency Particulate (HEPA) filters were replaced.
- The maximum lead particulate concentration was 4.1 micrograms/cubic meter.
- CO, SO_2, and NO_2 concentration levels were not detected on either survey.

CONCLUSION:

Based on the area findings, the airborne lead measurements were negligible and not anticipated to exceed the New York State Department of Labor standard. Moreover, the measurements for the other combustion by-products of gunfire (i.e., CO, SO_2, & NO_2) did not pose a health risk.

c: C.B. Burrus
W. Galante
J. Asti (NYPD)

CIFrRnRp.sep
IH037

PLEASE DISTRIBUTE TO ALL EMPLOYEE'S WHO COMPLETED THE SYSTEM SAFETY QUESTIONNAIRE

THANK YOU
12/4/02

Memorandum

MTA New York City Transit

CAR EQUIPMENT
MAINTENANCE STANDARDS
AND PROCEDURES
DEC 3 2002
OFFICE OF DIRECTOR

Date November 27, 2002

To Paul Prasek, Director, Maintenance Standards and Procedures, DCE

From Charles Burrus, Director, Environmental Protection and Industrial Hygiene, OSS

Re **INDOOR AIR QUALITY COMPLAINT (MOLD/MILDEW CONTAMINATION): CONEY ISLAND YARD - TECHNICAL SERVICES BUILDING**

The Industrial Hygiene Section of the Office of System Safety (OSS) conducted an evaluation of the Technical Services Building located at the Coney Island Yard on October 30, 2002. This evaluation was performed in response to employee complaints regarding mold/mildew contamination. Indoor air quality (IAQ) questionnaires were distributed to the employees. Environmental conditions (e.g., uncomfortable temperatures, odors) and non-specific symptoms (e.g., itchy eyes and skin, respiratory infections, headaches) were the common complaints indicated in the questionnaires. The Methodology, Observations/Findings are attached.

CONCLUSION:

The complaint was not substantiated. Although stained ceiling tiles are evidence of ongoing infiltration of water from the damaged roof, no mold and/or mildew growth was observed on any of the surfaces. The temperature and humidity measurements were within the American Society of Heating, Refrigerating and Air Conditioning Engineers' (ASHRAE) recommended ranges for comfort and to minimize microbial growth. Consequently, the environmental conditions in the Technical Services Building do not constitute a health risk to occupants.

REQUIRED ACTIONS:

- Monitor water damaged surfaces (e. g., ceiling tiles, walls) for possible mold/mildew growth. If such growth is observed, the affected surfaces must be cleaned with a disinfectant such as 10% bleach solution. Employees engaged in the cleaning process must wear rubber gloves and chemical splash goggles. When the overhead cleaning is performed, a face shield in conjunction with chemical splash goggles must be utilized. Disposable respirators may also be provided. Note that along with the disposable respirator, Appendix D (attached) of the Respiratory Protection Policy Instruction must be provided.

- Follow-up periodically on the roof repair work order. The underlying conditions of water infiltration promote mold/mildew growth. Therefore, these conditions must be corrected to eliminate the potential for this contamination.

RECOMMENDATION:

- Comfort related issues (e.g., temperature regulation, air distribution) and those affecting the quality of life should be directed to Plant Maintenance personnel. The Office of System Safety will offer assistance if requested.

If you have, any questions regarding this matter please contact Doreen Boatswain, Manager, Industrial Hygiene, at (718) 243-4891.

Attachments

c: D. A. Boatswain

ATTACHMENT 1

METHODOLOGY:

Temperature and humidity readings, to assess employee comfort, were collected utilizing a Cole-Palmer-Testo 625, thermohygrometer. These parameters can also promote growth of microorganisms (e.g., mold, mildew) that may cause symptoms as those described in the indoor air quality questionnaires.

OBSERVATIONS/FINDINGS:

The Technical Services Building is located in the Coney Island Yard. It is occupied by approximately 40 employees. Most of these employees remain in the building for the 8-hour shift.

Water stains were observed on the surface of the ceiling titles and walls. This is an indication of ongoing water infiltration from damaged roof. Moist surfaces and standing water promote the growth of microorganisms (e.g., mold, mildew) and may be associated with the symptoms described by the employees. However, no mold and/or mildew growth was observed on any of the surfaces. Furthermore, no odor was perceived during the site visit.

As you indicated, the work order for roof repairs has been already submitted. However, due to financial difficulties, roof repairs have been deferred to July 2005. In the interim the Plant Maintenance personnel perform minor roof repairs and replacement of the water-damaged ceiling tiles.

The relative humidity and temperature readings ranged from 42% to 48% and 73.6°F to 75.0°F, respectively. Both parameters were within the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) recommended comfort ranges for indoor office environments. ASHRAE recommends maintaining temperature between 68.0-76.0°F during heating season and the relative humidity between 30% to 60 % for occupant comfort and to minimize microbial growth.

APPENDIX D

INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED PER 29CFR1910.134

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.