PCSD

JUN - 1 2018

DIVISION OF
SAFETY AND HEALTH

PUBLIC EMPLOYEE
SAFETY AND HEALTH BUREAU

FACILITIES & OPERATIONS

INVESTIGATION NARRATIVE

1. REPORTING I.D. 253610

3. INVESTIGATION (Type and Number)

COMPLAINT 1327711

ACCIDENT

OTHER(Specify)

4. ESTABLISHMENT NAME AND SITE ADDRESS

Poughkeepsie City School District
(Governor George) Clinton Elementary School (CES)
100 Montgomery Street
Poughkeepsie, NY 12601

5. DATE(S) OF INVESTIGATION

April 19, 2018

6. INSPECTION NUMBER

1310349

A partial-scope health complaint inspection was conducted by the NYS Department of Labor Public Employee Safety and Health (PESH) Bureau at the above premises on April 19, 2018, by Associate Industrial Hygienist Mark Thorsland, in response to a formal complaint that was received from an employee on April 12, 2018, in accordance with NYS Labor Law Article 2 Section 27-a, "Public Employee Safety and Health Act".

The written complaint is summarized as follows:

"Teachers have gotten sick due to environment of working in basement classrooms at school. Possible mold contamination and poor indoor air quality."

Employees at this location are represented by three (3) unions: the Poughkeepsie Public School Teachers Association (PPSTA), the Poughkeepsie Paraprofessionals (PPPSTA), and the Civil Service Employees Association (CSEA).

An opening conference was conducted on April 19, 2018. At this time the PESH Act, scope of the inspection, and nature of the complaint were explained to the participants. The following personnel were present during the opening conference:

David A. Scott – Principal of CES
Samantha Mitchell – Assistant Principal of CES
Susan Vogler – Teacher and Chief Building Representative for PPSTA
(Representatives for the other two unions were unavailable at the time of the opening conference but were informed of the inspection results during the April 19 initial closing conference and the May 8 online final closing)

Immediately prior to the opening conference this hygienist contacted John Willibay, Facilities Director for the Poughkeepsie City SD, via telephone to gather some additional information about the complaint allegations.

The following materials, including a copy of the complaint, were explained to the participants during the opening conference (The complainant's identity was not revealed):

SH 909 – PESH Act
12 NYCRR – Parts 801, 802, 803, 804, 805, and 820

SH 907 – Employer's Rights and Responsibilities pamphlet
P 906 – Employee's Rights and Responsibilities pamphlet
SH 900 – Log and Summary of Injuries and Illnesses/recordkeeping information and forms (SH 900, SH 900.1, SH 900.2)
P 206 – Consultation Assistance pamphlet
SH 908 – PESH poster
SH 918 – Penalty Information for Public Employers
NYS Right to Know / Hazard Communication information
Workplace Violence regulation (12 NYCRR Part 800.6)
SH 904 – Closing Conference pamphlet

These materials may be accessed at:
http://www.labor.ny.gov/workerprotection/safetyhealth/Inspector%20Reference%20Material.shtm

A copy of the PESH 'Inspection Reference Material' sheet was given to each of the opening conference attendees. This sheet lists the above references that are available at the above website link.

The Clinton Elementary School was built in 1925 and is a two-story (plus basement) masonry building. The basement is below grade but has windows to the outside. The inside walls are mostly plaster, most of the floors have vinyl floor tiles, and most of ceilings have 2' x 4' suspended drop tiles. Some basement classrooms had portable air filtering/purifying units hooked up that some of the teachers had brought in on their own. The school has approximately fifty-five (55) employees (Approximately 800 for entire school district).

Listed below was the hygienist's observation of conditions relevant to the alleged hazards in the complaint, applicable PESH standard, if any, and determination of whether a violation exists.

Alleged hazard: Teachers have gotten sick due to environment of working in basement classrooms at school. Possible mold contamination and poor indoor air quality.

Conditions observed: After the opening conference Mr. Scott and Ms. Vogler accompanied the hygienist on a walkaround inspection of the affected basement classrooms, where air screening sampling was conducted.

During the opening conference and walkaround it was explained that PESH does not check for mold behind walls, in heating/ventilating/air-conditioning (HVAC) systems, or in any other hidden areas. No mold was visible in any of the visited areas and there were no mold/mildew-type odors noticed anywhere. There are no specific OSHA or PESH standards that regulate mold in the workplace. For this reason, air sampling for mold is not done by PESH. If mold growth is visible in a significant amount than a citation can be issued for a violation of section (a)(3)(i) of the OSHA Sanitation standard (29CFR1910.141) which states that "all places of employment shall be kept clean to the extent that the nature of the work allows". This sanitation standard needs to be tied into some type of health hazard in order to be cited. The sanitation standard was not cited because there was no visible mold in any of the inspected areas.

Some general air screening sampling was conducted in six (6) locations in the basement of CES (i.e., Music/Band Room 28, Classroom 30, Classroom 27, Classroom 23, Speech Room 25B, and Classroom 25A). The sampling was conducted using a Gastec Model GV-100S handpump with colorimetric detector tubes and a TSI Inc. Q-Trak Model 8550 IAQ Monitor. The Gastec handpump was leak-checked before testing and draws a known volume of air through specific detector tubes. These tubes are useful to screen for a wide range of air contaminants. If a significant quantity of an air contaminant is present in the air it will be drawn into the detector tube and chemically react with a reagent in the tube, causing a discoloration stain to occur which can be

read against a scale to determine parts per million (ppm) of contaminant in the air – the greater the length of the stain, the greater the amount of contaminant in the air. Tubes were used to detect for the presence of carbon monoxide (CO), nitrogen dioxide (NO2), and assorted (mixed) hydrocarbons (Polytec I tube). The Polytec I colorimetric tube is a qualitative tube used for the detection of multiple gases (i.e., carbon disulfide, hydrogen sulfide, carbon monoxide, acetone, acetylene, ethylene, benzene, propane, propylene, styrene, trichloroethylene, gasoline, toluene, and xylene). For the Polytec tube there is no scale to read the stain; instead, a specific color change corresponds to a specific contaminant. Carbon dioxide (CO2), temperature (degrees Fahrenheit), and percent relative humidity readings were taken with the Q-Trak monitor.

All of the carbon monoxide (CO), nitrogen dioxide (NO2), and Polytec tests were negative (i.e., no detectable reading or stain on the tube and, therefore, no air contaminants detected). The carbon dioxide (CO2) results for the above locations were 450, 463, 665, 540, 685, and 735 parts CO2 per million parts of air (ppm), respectively. The temperature readings for the above locations were 72.0, 72.5, 81.6, 81.3, 82.4, and 82.6 degrees Fahrenheit, respectively. The relative humidity levels for the above locations were 31.9, 26.4, 33.3, 23.8, 24.5, and 24.0%, respectively. All of the CO2 results were well below the PESH Permissible Exposure Limit (PEL) of 10,000 ppm for an 8-hour time weighted average (TWA) (PESH PEL is enforced under 12NYCRR Part 800.5). There are no OSHA or PESH standards for temperature or relative humidity.

Carbon dioxide (CO2) gas, generated by human respiration, is a useful indicator of the adequacy of ventilation and fresh air dilution. As concentrations reach approximately 1000 ppm it is indicative of poor air circulation and possibly stale air buildup. Outside CO2 levels are usually between 350 and 400 ppm. The only enforceable standards that apply to this situation are the PESH Permissible Exposure Limits (PELs) for air contaminants. The sample results were all well below this comfort guideline of 1000 ppm, with all sampled rooms unoccupied at the time of sampling. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) use this CO2 concentration (1000 ppm) as an indicator of poor air quality (ASHRAE Standard 62-1989, Ventilation for Acceptable Indoor Air Quality – Atlanta, GA 1989). The readings were all well below the PESH PEL of 10,000 ppm for an 8-hour TWA. If the rooms were occupied at the time of the sampling the CO2 results would have been higher, although still well below the PESH PEL.

ASHRAE also has recommended temperature guidelines of 68 - 74 degrees Fahrenheit for winter and 73 - 78 degrees Fahrenheit for summer (ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy) and recommended relative humidity levels of 30 – 60% (ASHRAE Standard 62-1999, Ventilation for Acceptable Indoor Air Quality). Like the 1000 ppm guideline for CO2 mentioned above, these guidelines are advisory only and not enforceable by PESH or OSHA. Four (4) of the six (6) temperature readings were above the ASHRAE recommended range. Four (4) of the six (6) relative humidity readings were below the ASHRAE recommended range, which is often common in buildings during the winter months. Sometimes lower humidity levels can cause symptoms such as dry eyes, throats, and nasal passages in employees. The recommended ASHRAE CO2, temperature, and relative humidity guidelines are based on comfort rather than hazardous levels.

Some people are more sensitive to various air contaminants than others. These sensitized individuals could develop symptoms such as headaches, respiratory irritation, dry/burning eyes, and even dizziness when exposed to air contaminant levels well below the OSHA/PESH standards and/or ACGIH (American Conference of Governmental Industrial Hygienists) adopted threshold limit values (TLVs). When indoor CO2 levels exceed 1000 ppm, people often begin to notice and complain about symptoms such as those mentioned above.

Carbon monoxide (CO) was monitored mainly to determine if any gasoline-generated exhaust was entering the building. Nitrogen dioxide (NO2), the main component of diesel exhaust, was monitored mainly to determine if any diesel exhaust was entering the building. The Polytec I tube was used to analyze for other common

read against a scale to determine parts per million (ppm) of contaminant in the air – the greater the length of the stain, the greater the amount of contaminant in the air. Tubes were used to detect for the presence of carbon monoxide (CO), nitrogen dioxide (NO2), and assorted (mixed) hydrocarbons (Polytec I tube). The Polytec I colorimetric tube is a qualitative tube used for the detection of multiple gases (i.e., carbon disulfide, hydrogen sulfide, carbon monoxide, acetone, acetylene, ethylene, benzene, propane, propylene, styrene, trichloroethylene, gasoline, toluene, and xylene). For the Polytec tube there is no scale to read the stain; instead, a specific color change corresponds to a specific contaminant. Carbon dioxide (CO2), temperature (degrees Fahrenheit), and percent relative humidity readings were taken with the Q-Trak monitor.

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