

## NOTICE OF ALLEGED SAFETY OR HEALTH HAZARDS

### Pursuant to Section 27-a(5)(a) of the Public Employees Safety and Health (PESH) Act of 1980 Hazard Description and Locations

**Introduction.** Complainants are 46 public school teachers at nine (9) campuses throughout several boroughs of New York City (NYC), and as such are “public employees” pursuant to §27-a of the Public Employee Safety and Health (PESH) Act.<sup>1</sup> The General Duty Clause of PESH states that “[e]very employer shall: (1) furnish to each of its employees, employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to its employees and which will provide reasonable and adequate protection to the lives, safety or health of its employees.”<sup>2</sup> Because the PESH Act is remedial in nature it has been “liberally construed, to spread its beneficial result as widely as possible.”<sup>3</sup>

Complainants allege that NYC school buildings, their places of employment, are improperly ventilated and unable to protect them from SARS-CoV-2 (the virus that causes COVID-19), and as such, are recognized hazards which do not adequately protect their lives, safety or health. Complainants’ specific concerns are set forth below.

**Complainants.** Of the 46 Complainants, 14 are named, eight are named to PESH only but do not want their names revealed to their employer, and the remaining 24 are anonymous. Public Employees for Environmental Responsibility (PEER) and the Environmental Justice Initiative (EJI) are representing all Complainants in this matter. Seventeen Complainants currently have accommodations allowing them to work remotely; however, these accommodations expire on December 31, 2020, and these Complainants believe they will be asked to return to their unsafe workplaces in three months.

The complainants are employees at the following locations:

- 1) Newtown High School Queens, 48-01 90 Street, Queens, NY 11373
  - a. Complainants whose names may be revealed to the employer
    - i. Amanda Vender<sup>4</sup>
    - ii. Ariela Rothstein<sup>5</sup>
  - b. Complainants whose names may NOT be revealed to the employer

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<sup>1</sup> N.Y. Lab. Law § 27-a.

<sup>2</sup> §27-a(3)(a).

<sup>3</sup> Hartnett v. Ballston Spa, 152 A.D.2d 83, 86, 547 N.Y.S.2d 902, 904 (App. Div. 3rd Dept. 1989) (citing McKinney’s Cons Laws of NY, Book 1, Statutes §§ 35, 321).



- i. [REDACTED] <sup>6</sup>
    - ii. [REDACTED] <sup>7</sup>
  - c. Anonymous Employees
    - i. John Doe 1
    - ii. John Doe 2
    - iii. John Doe 3
- 2) Grace Hoadly Dodge Campus (including Crotona International High School and Bronx Academy for Software Engineering), 2474 Crotona Avenue, Bronx, 10458
  - a. Complainants whose names may NOT be revealed to the employer
    - i. [REDACTED] <sup>8</sup>
  - b. Anonymous Employees
    - i. John Doe 4
    - ii. John Doe 5
    - iii. John Doe 6
    - iv. John Doe 7
    - v. John Doe 8
    - vi. John Doe 9
    - vii. John Doe 10
    - viii. John Doe 11
    - ix. John Doe 12
- 3) The Urban Assembly School for Green Careers, 145 W. 84th Street New York, NY 10024
  - a. Anonymous Employees
    - i. John Doe 13
- 4) Murry Bergtraum Campus (including Urban Assembly Maker Academy), 411 Pearl Street, Manhattan, NY 10038
  - a. Anonymous Employees
    - i. John Doe 14
    - ii. John Doe 15
    - iii. John Doe 16
- 5) Louis Armstrong Middle School, 32-02 Junction Blvd., East Elmhurst, NY 11369
  - a. Complainants whose names may NOT be revealed to the employer
    - i. [REDACTED] <sup>9</sup>
- 6) The Flushing International High School, 144-80 Barclay Avenue, Queens, 11355
  - a. Complainants whose names may be revealed to the employer

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[REDACTED]

- i. Jordan Wolf<sup>10</sup>
    - ii. Jillian Leedy<sup>11</sup>
  - b. Complainants whose names may NOT be revealed to the employer
    - i. [REDACTED]<sup>12</sup>
    - ii. [REDACTED]<sup>13</sup>
    - iii. [REDACTED]<sup>14</sup>
  - c. Anonymous Employees
    - i. John Doe<sup>17</sup>
- 7) The Earth School, P.S. 364, 600 East 6 Street, NYC, NY 10009
  - a. Complainants whose names may be revealed to the employer
    - i. Vanessa Keller<sup>15</sup>
    - ii. Jessica Smith<sup>16</sup>
    - iii. Emmy Matias<sup>17</sup>
    - iv. Jia Lee<sup>18</sup>
    - v. Suzanne Budesza<sup>19</sup>

[REDACTED]

- vi. Erica Zimetbaum<sup>20</sup>
  - vii. Nykenna Middlebrooks<sup>21</sup>
  - viii. Kimberly Fritschy<sup>22</sup>
  - b. Complainants whose names may NOT be revealed to the employer
    - i. [REDACTED]<sup>23</sup>
  - c. Anonymous Employees
    - i. John Doe 18
    - ii. John Doe 19
    - iii. John Doe 20
- 8) Landmark High School, 351 West 18 Street, Manhattan, NY 10011
- a. Anonymous Employees
    - i. John Doe 21
    - ii. John Doe 22
    - iii. John Doe 23
    - iv. John Doe 24
- 9) Liberty High School Academy for Newcomers, 250 West 18 Street, Manhattan, NY 10011
- a. Complainants whose names may be revealed to the employer
    - i. Gabrielle Tessler<sup>24</sup>
    - ii. William Russell<sup>25</sup>

**Background.** SARS-CoV-2, the virus that causes COVID-19, is roughly 0.1 µm (micron) in diameter, and is spread primarily through the air.<sup>26</sup> Virus particles attach to liquid droplets and are expelled from people’s noses and mouths when they cough, sneeze, talk, sing, and breathe. Larger droplets will fall to the ground or on surfaces, but smaller droplets can float in the air for hours. Given the tiny size of the virus, ordinary heating and air-condition (HVAC) systems cannot remove the virus from the air.

[REDACTED]

Note, however, that virus particles themselves are typically attached to small droplets of liquid, resulting in a size of roughly 0.3 microns, as discussed in more detail below.

Moreover, there is evidence that the virus can be spread throughout a room through an air conditioning system.<sup>27</sup>

**Ventilation standards.** Despite the fact that the science is clear as to the specifics of protective ventilation and filtration necessary to reduce the risk of SARS-CoV-2 transmission in schools and other buildings, the NYC Department of Education (DOE) is relying on an array of conflicting standards.

Current science on ventilation. Scientists researching ventilation necessary to protect workers in schools and office buildings from SARS-CoV-2 state that in order to reduce risk, proper ventilation can be achieved by:

1) supplying a sufficient amount of clean outdoor air and delivering it to the breathing zone, and 2) effectively diluting the concentration of pollutants. In many parts of the world such as the U.S., mechanically ventilated classrooms and offices typically have about 20% of their air supplied from outdoors, and the rest is recirculated air. This is done to save heating and cooling energy while maintaining acceptable levels of Indoor Air Quality (IAQ). To reduce the risk of the SARS CoV-2 virus infection, the outdoor ventilation rate should be increased to the maximum operational capacity of the building ventilation system, which can be 2 or more times of that under the normal operation mode per the existing standard. Unless it is a 100% outdoor air supply system by design, the recirculated air should be filtered with high efficiency particulate air filters (HEPA) or at least MERV 14 filters to minimize the possible cross contamination between different rooms. For naturally ventilated rooms, an exhaust fan can be placed on one of the windows while keep at least one of the windows on the opposite side or far end of the same side open to increase the ventilation rate, especially under no wind and low indoor-outdoor temperature differential conditions. To be effective, high efficiency filters and sufficient airflow through them are necessary. At the building level, high efficiency particulate (HEPA) filters in the recirculated or mixed air duct can reduce the cross contamination between rooms and increase the total clean air delivery rate (outdoor plus filtered air) for diluting the virus concentration in the ventilated space. HEPA filters have a minimum efficiency of 99.97% for 0.3 to 10 µm particles. MERV 14 or higher rating filters have a minimum efficiency of 75% – 84% for 0.3 – 1.0 µm, and 90% or greater for 1.0 – 3.0 µm particles. Assuming that 80% of the air is recirculated, use of MERV 14 or HEPA filters to treat the recirculated air can further dilute the pollutant concentration by a factor of 4 or 5, respectively.<sup>28</sup>

Therefore, it is abundantly clear that the mere ability of air being able to flow in and out of a room or building does not render that room or building safe. Rather, sufficient airflow and high efficiency filters are necessary to reduce the risk of virus transmission.

Department of Education standards. The NYC Department of Education (DOE) discusses what they believe is adequate ventilation in school buildings in light of SARS-CoV-2.<sup>29</sup> Specifically, they state:

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<sup>27</sup> See, e.g., Lu J, Gu J, Li K, Xu C, Su W, Lai Z, et al., *COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China*, 26 EMERG. INFECT DIS. 1628 (2020), <https://dx.doi.org/10.3201/eid2607.200764> (also available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7323555/>).

<sup>28</sup> Jensen Zhang, *Integrating IAQ control strategies to reduce the risk of asymptomatic SARS CoV-2 infections in classrooms and open plan offices*, 26 SCIENCE AND TECHNOLOGY FOR THE BUILT ENVIRONMENT 1013 (2020), <https://www.tandfonline.com/doi/full/10.1080/23744731.2020.1794499>.

<sup>29</sup> <https://www.schools.nyc.gov/school-year-20-21/return-to-school-2020/health-and-safety>.

According to our city and federal public health experts, *a room is safe when air is able to flow in and out—whether through natural or mechanical means*. This flow can be achieved either through use of an HVAC, an open window, or air handlers. All rooms must have adequate ventilation to be used for the school year.

Following public health guidance, we are assessing and making repairs on buildings designed and built to permit air flow through windows. We expect repairs to be completed by the opening of school and rooms without adequate ventilation will not be occupied by students or staff.

Ventilation in school buildings is provided by a combination of the following systems:

- supply and exhaust fans
- windows and exhaust fans
- HVAC Systems: rooftop units, air handling units, and dedicated outside systems in newer buildings, such as Univents

These systems are installed to meet the Building Code Requirements at the time of design and construction.

- Buildings that have supply and exhaust fans do not need operable windows. Windows can be used for additional air dilution and supplemental ventilation, or if the mechanical system failed.
- ***Buildings that have operable windows and exhaust fans meet the ventilation requirements.***
- Mechanical ventilation can be with both supply and exhaust fans, or only exhaust fans and the use of windows for make-up air.
- Mechanical ventilation is provided by HVAC Units that supply fresh air into inner core rooms of buildings that do not have windows. Outside air dampers should be opened (either manually or using the Building Management System) to between 75%-100% to maximize outside air supply and still maintain building comfort levels.

All DOE school buildings were surveyed by the NYC School Construction Authority (emphasis added).<sup>30</sup>

This web page provides a hyperlink to the “School Building Ventilation Survey.”<sup>31</sup> The Building Ventilation Survey states:

Properly ventilated classrooms are key to our reopening our schools safely. We have been working around the clock to ensure that every school has been carefully surveyed for ventilation by consulting engineers under the direction of the New York City School Construction Authority... We found that ***the ventilation in more than 95 percent of our classrooms is in good working order***. Out of the 64,000 classrooms we surveyed, fewer than 3,000 had issues. These results for individual schools are preliminary and are intended

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<sup>30</sup> Id.

<sup>31</sup> <https://www.schools.nyc.gov/about-us/reports/school-building-ventilation-survey>.

to help focus our repair and maintenance efforts. They do not indicate any space's ability to open, as we are continuing to repair and correct any outstanding ventilation issues.

The DOE will make repairs or improvements with rooms prior to opening, and/or will close any rooms until repairs are made. *A room requires at least one functioning method of ventilation to be cleared for occupancy.* This could be a window that opens, a type of mechanical ventilation (exhaust fan, supply fan, unit ventilator) or a combination of the both. Ongoing updates will be provide [sic] as repairs or improvements are made.

Any room that does not meet our stringent safety standards will not be used for instructional purposes unless it is repaired or remediated. We want to remind you that while ventilation is essential to our COVID-19 prevention plan, it is only one part of a comprehensive strategy to keep our students, educators, and staff members safe inside and outside our schools.<sup>32</sup>

Unfortunately, the DOE's statements on what makes a building safe for occupancy is not based on science or current knowledge of the spread of SARS-CoV-2. A room is *not* safe simply because some air can flow in and out; buildings that have "operable" windows and exhaust fans do *not* render that building safe; ventilation in 95% of the classrooms is not in "good working order" (nor does ventilation being in "good working order" necessarily render that room safe from the spread of the SARS-CoV-2 virus); and "one functioning method of ventilation" is not sufficient to allow it to be "cleared for occupancy."

ASHRAE standards. The American Society for Heating, Refrigerating and Airconditioning Engineers (ASHRAE) has standards for design, maintenance, and testing building ventilation systems. Although ASHRAE developed a task force to "address the challenges of the COVID-19 pandemic and possible future epidemics as it relates to the effects of heating, ventilation, and air-conditioning systems on disease transmission" in schools,<sup>33</sup> their standards are *not* sufficiently protective for the novel SARS-CoV-2 virus. ASHRAE states that the "[t]ransmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating, and air-conditioning [HVAC] systems, can reduce airborne exposures."<sup>34</sup> ASHRAE acknowledges that educational facilities have a wide range of types and ages of HVAC systems, and their guidance stresses the importance of increasing outside air while properly filtering and treating return air in order to minimize the spread of SARS-CoV-2.

The relevant standard in this case is ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality." However, it is critical to note that the purpose of ASHRAE's standard 62.1 is to "specify minimum ventilation rates and other measures intended to provide indoor air quality (IAQ) that is acceptable to human occupants and that minimizes adverse health effects."<sup>35</sup> In other words, these standards were based on designing an energy efficient system that would provide a minimum of outside air to keep carbon dioxide (CO<sub>2</sub>) levels down. These standards are *not* designed to protect people from an airborne

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<sup>32</sup> Id. (emphasis added).

<sup>33</sup> <https://www.ashrae.org/file%20library/technical%20resources/covid-19/guidance-for-the-re-opening-of-schools.pdf>.

<sup>34</sup> Id. at 2.

<sup>35</sup> [https://ashrae.iwrapper.com/ASHRAE\\_PREVIEW\\_ONLY\\_STANDARDS/STD\\_62.1\\_2019](https://ashrae.iwrapper.com/ASHRAE_PREVIEW_ONLY_STANDARDS/STD_62.1_2019).

virus like SARS-CoV-2, particularly when the virus can linger in the air for hours and recirculate through traditional HVAC systems.

If a school has an HVAC system in good operating condition meeting ASHRAE's standard 62.1, it *may* be repurposed into a system that can provide decent infection control that can reduce risk to employees and students. Typically, HVAC systems accomplish their goals by drawing small amounts of air from outside and adding that fresh air to a much larger amount of recirculated air. The amount of fresh air is usually less than 20%. This air mixture is then adjusted for temperature and humidity, run through a particulate filter, and returned to rooms throughout the building. This cycle is continuous so as to cleanse the air throughout the day. The speed at which these cycles occur is typically quantified as air changes per hour ("ACH").

The inadequacy of ASHRAE's ventilation standards are eloquently laid out by Monona Rossol, M.S., M.F.A., industrial hygienist and President of Arts, Crafts and Theater Safety (ACTS), Safety Officer for local USA829 of IATSE, and the Safety Consultant for SAG-AFTRA. Ms. Rossol describes the mechanics and the necessary ACH in a paper entitled, "Ventilation for Theaters and Film Locations" dated September 20, 2020:

The ceilings of most rooms with these ventilation systems have circular or square "diffusers" where this mixture of recirculated air and fresh air comes into the room. And in other locations, usually also in the ceiling, there are grilles or slots through which the room air is returned to the air handler to go through another recirculating cycle. When the volume of air coming through the diffuser equals the volume of air in the room, one air exchange has been achieved. This does not mean all the air in the room has been replaced because the air flows slowly into the room through the diffuser and mixes with the air in the room... it takes many air changes in order to completely replace the air in a room... theoretically, you never remove every last molecule.<sup>36</sup>

As an example, Ms. Rossol explains that if there are six ACH, it will take 46 minutes to replace 99% of the air in a room.

ASHRAE's rating system for filters is called the Minimum Efficiency Reporting Value (MERV). All filters have a MERV rating of one to 20. Filters with higher ratings can remove smaller particles. High efficiency particulate filters (HEPA filters) can remove 99.97% of particles that are 0.3 microns. HEPA filters have a MERV rating of 17 to 20.

Virus particles can be in droplets as small as 0.3 microns in diameter.<sup>37</sup> A table in Ms. Rossol's paper shows the filtration capabilities of different MERV ratings (see Table, below).<sup>38</sup> Therefore, filters should have a MERV rating of 17 or above to minimize risk of SARS-CoV-2 infection.

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<sup>36</sup> Attachment A.

<sup>37</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7094991/>.

<sup>38</sup> Attachment A.



**TABLE 2 - MERV FILTER PARAMETERS**

| MERV #    | 0.1 - 0.3 $\mu$ * | 1.0 - 3.0 $\mu$ * |
|-----------|-------------------|-------------------|
| 9         | n/a               | 35 %              |
| 10        | n/a               | 50 %              |
| 11        | 20 %              | 65 %              |
| 12        | 35 %              | 80 %              |
| 13        | 50 %              | 85 %              |
| 14        | 75 %              | 90 %              |
| 15        | 85 %              | 90 %              |
| 16        | 95 %              | 95 %              |
| 17 (HEPA) | 99.97 %           | ~100 %            |

\* $\mu$  = micron

Ms. Rossol concludes:

The reason an ASHRAE-compliant ventilation system can no longer be considered safe for occupants is that the ASHRAE standard is totally inappropriate for controlling a tiny particle generated inside the rooms by the occupants. This tiny airborne particle can travel on air currents all through the room. If the HVAC system provides the typical two ACH, then the air in the room is only replaced 99 % after over two hours. And if the filter is not a MERV 17, the virus can be recirculated back into rooms in the building.<sup>39</sup>

AIHA and ACGIH guidance. The American Industrial Hygiene Association (AIHA) published a guidance document entitled “Reducing the Risk of COVID-19 using Engineering Controls, Version 1,” on August 11, 2020.<sup>40</sup> In this guidance, they state that 6 ACH is necessary to achieve a 95% risk reduction of contracting COVID-19 (see Figure 1):<sup>41</sup>

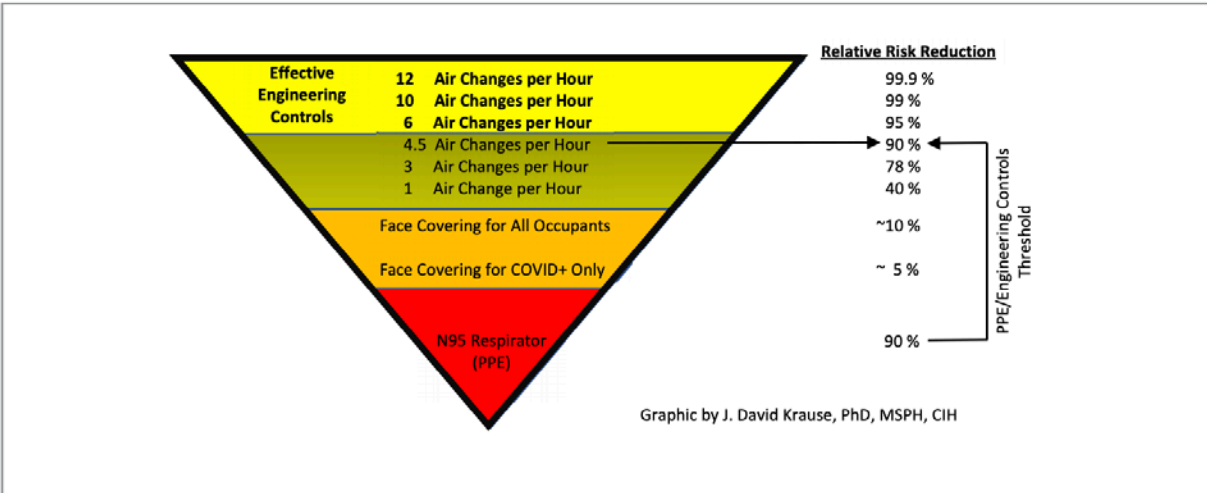
**Figure 1**

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<sup>39</sup> Id.

<sup>40</sup> <https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/Guidance-Documents/SUPPLEMENT-to-Reducing-the-Risk-of-COVID-19-Using-Engineering-Controls-Guidance-Document.pdf>.

<sup>41</sup> Id. at 2.



However, AIHA states that this relative risk reduction will hold true only with a MERV 17 or above filter.

The American Conference of Governmental Industrial Hygienists (ACGIH) published their White Paper in August of 2020 on “Ventilation for Industrial Settings during the COVID-19 Pandemic.”<sup>42</sup> ACGIH is in agreement with AIHA that an ACH of at least 6 is needed, as well as a MERV of 13 or higher, and that the more outdoor air brought in the better.

Distancing and masks. It is important to note that neither masks nor social distancing can substitute for adequate ventilation. These tiny virus particles, some as small as 0.3 microns, will not be stopped by distancing within a room, or by cloth masks. Therefore, requirements for teachers, staff, and students to wear masks (most of which will be cloth, rather than N95s) and distance are not sufficient to protect Complainants.

**Requirements necessary to make school buildings safe for employees and students given the risk of SARS-CoV-2 transmission.** It is clear that the DOE’s ventilation standards do not align with the current state of science, experts such as Ms. Rossol, or the AIHA and ACGIH ventilation guidance. Therefore, in order to make classrooms, staff spaces, hallways, lobbies, stairwells, rest rooms, etc. safe from SARS-CoV-2, NYC schools must include three parameters in any ventilation system:

1. Sufficient ACH (6 or greater);
2. MERV rating of 13 or greater (where a MERV 17 or greater rating gives the greatest risk reduction); and
3. Adequate percentage of outside (i.e., fresh) air.

Please note that these parameters are applicable only in systems with air handling or rooftop units (RTU’s) providing ventilation/conditioned air, or, in the case of a “chilled beam” system (present in some of the newer schools), a Direct Outside Air System (DOAS). Buildings whose HVAC systems cannot accommodate these requirements are not safe for Complainants.

<sup>42</sup> [https://www.acgih.org/docs/default-source/vent-committee/iv\\_position-test.pdf?sfvrsn=4b10ba0d\\_2](https://www.acgih.org/docs/default-source/vent-committee/iv_position-test.pdf?sfvrsn=4b10ba0d_2)

**Specific locations of workplaces with health hazards.** Complainants are submitting details of nine campuses that have inadequate ventilation such that the spread of SARS-CoV-2, and thus the risk of becoming ill with COVID-19, are likely. Data displayed below are from NYC Schools, and are based on inspections that were conducted this year. Specifically, NYC Schools state, “In order to ensure maximum safety for staff and students, all school buildings have been surveyed for ventilation. The DOE will make repairs or improvements prior to Monday, September 21, and/or will close any rooms not repaired by that date.”<sup>43</sup> Please note that all Room Assessments, copied in Figures below, were pulled from the NYC Department of Education website on Sunday, October 4, 2020.

1) Newtown High School Queens, 48-01 90 Street, Queens, NY 11373 (Q455).

There are seven Complainants from this school: named Complainants Amanda Vender and Ariela Rothstein; Complainants [REDACTED] and [REDACTED] who are willing to be named to PESH only and not to their employer, and three who would like to remain anonymous. In Newtown High School, there are 201 rooms, and of these, 24 (11.9%) have no windows or windows that do not open; 196 (97.5%) do not have operational supply fans; 115 (57.2%) do not have operational exhaust fans; and 186 (92.5%) do not have operational unit ventilators (see Figure 2, below).<sup>44</sup> Of the windows that do open, some only open 7 inches. Only three rooms of the 201 (1.5%) have operation supply fans *and* operational exhaust fans. Exhaust fans are irrelevant without a supply fan. There are no data for ventilation in lobbies, hallways, cafeterias, or elevators. As students and teachers change classrooms, or enter/depart the school buildings, hallways and lobbies will be crowded and potential areas where the virus can be transmitted.

**Figure 2**



Unit ventilators, although sparsely distributed in Newtown High School, are not adequate for ventilation. Specifically, Ms. Rossol states:

These units, common in schools, draw room air from the bottom, heat or cool it, and blow that same air out a grille on top. Some are connected to the outside and provide some fresh air as well. The filter is usually not even rated, and a few models (e.g., made by Trane) can be upgraded to use a MERV 7. Even if the unit runs at 100 % outdoor air, it usually provides between 750 and 1500 cubic feet/minute (cfm), an amount unlikely to create more than one ACH. And this outside air is expelled into the room under positive pressure which drives it with its potential viral load into the rest of the building.<sup>45</sup>

<sup>43</sup> See, e.g., <https://www.schools.nyc.gov/schools/M402> under “Building Ventilation Information.”

<sup>44</sup> <https://www.nycenet.edu/roomassessment?code=Q455>

<sup>45</sup> Attachment A

Complainant Vender works in rooms 313, 317, 319, 416 to 450. Although all of her rooms have minimally operable windows, none of them have operational supply fans *and* operational exhaust fans, and none have operational unit ventilators. Picture 1, below, shows how the vent in room 416 does not pass the “tissue test” (whereby a tissue on a stick is placed before the vent to determine if there is any airflow).

**Picture 1**



Room 416 also only has a window that opens 7 inches (see Picture 2, below).

**Picture 2**



Room 431's exhaust fan is, according to the walkthrough checklist, operational. It is located in a closet (see Picture 3, below). It is unclear how an exhaust fan in a closet would be effective.

Picture 3



Named Complainant Rothstein currently has an accommodation to work remotely, which expires on December 31, 2020. Complainant [REDACTED] who is willing to be named to PESH for purposes of this complaint, but not to employers and other entities, also has an accommodation to work remotely. Both of these Complainants fear for their health and safety should they be forced to return to work after the accommodation expires on December 31, 2020. Three other anonymous Complainants in this school are in similar situations as these four Complainants. Therefore, Complainants Vender, Rothstein, [REDACTED] and the anonymous employees are

being asked to work in a workplace that does not comply with ACGIH or AIHA standards, and which, according to scientific data regarding the size of aerosolized SARS-CoV-2 virus particles, and the spread of the disease throughout enclosed spaces, puts her at risk from recognized hazards that are causing or are likely to cause death or serious physical harm. Moreover, Complainant Vender, Rothstein, [REDACTED], and the anonymous employees' employer is not providing reasonable and adequate protection to the lives, safety or health of its employees, contrary to the General Duty Clause of the PESH Act.

2) Grace Hoadly Dodge Campus (including Crotona International High School and Bronx Academy for Software Engineering), 2474 Crotona Avenue, Bronx, 10458 (X660).

There are ten Complainants from the schools on this campus, nine of whom wish to remain anonymous, and one, Complainant [REDACTED], who wishes to be named to PESH but not to any employer or the public. Most Complainants do not have accommodations to work remotely. Some of Complainants teach in different schools within the campus.

Out of 123 spaces designated “student-staff space” in the building, 21 (17%) do not have windows or have windows that do not open; 120 rooms (97.6%) do not have fully operational supply fans; 118 (95.9%) do not have fully operational exhaust fans; and 0 (0%) have operational unit ventilators.<sup>46</sup> No bathrooms, hallways, cafeterias, lobbies, or elevators are listed on the checklist, so status of these areas is unknown. Only two rooms (1.6%) have both operational supply and exhaust fans. Exhaust fans are irrelevant without a supply fan.

**Figure 3**



3) The Urban Assembly School for Green Careers (located in the Louis D. Brandeis High School), 145 W. 84th Street New York, NY 10024 (M402/M470)<sup>47</sup>:

There is one anonymous Complainant from the Urban Assembly School for Green Careers. Staff at this school were provided with a “UA Green Careers Room Ventilation” chart. Of the 23 rooms to be used for teachers instructing remotely or classrooms with students in the school, 5 (21.7%) do not have operable windows; and 14 (60.9%) have no mechanical ventilation whatsoever.<sup>48</sup> No bathrooms, hallways, cafeterias, lobbies, elevators, or auditoriums are on the chart, so status of these spaces is unknown. The Urban Assembly school is located within the Louis D. Brandeis High School, and that school as a whole has 182 rooms, 48 (26.4%) of which do not have windows; 131 rooms (72%) have no operational supply fans; 60 rooms (33%) do not

<sup>46</sup> <https://www.nycenet.edu/roomassessment?code=X660>

<sup>47</sup> Note that the “Room Assessment” for this school is listed under Code M470, not M402.

<sup>48</sup> Attachment B

have operational exhaust fans (67%); and there are 0 unit ventilators (0%). One hundred and thirty-one rooms (72%) do not have both an operational supply fan and an operational exhaust fan. Exhaust fans are irrelevant without a supply fan.

**Figure 4**



4) Murry Bergtraum Campus, Urban Assembly Maker Academy, 411 Pearl Street, Manhattan, NY 10038 (M520):

There are three anonymous Complainants at the Urban Assembly Maker Academy within the Murry Bergtraum Campus. Of the 225 rooms in the school, 223 (99%) do not have windows or do not have windows that open; nine (4%) do not have operational supply fans; 36 (16%) do not have operational exhaust fans; and 190 (84.4%) do not have unit ventilators (see Figure 5, below).<sup>49</sup>

**Figure 5**



5) Louis Armstrong Middle School, 32-02 Junction Blvd., East Elmhurst, NY 11369 (Q227).

Complainant [REDACTED], who wishes to be named to PESH only, (name redacted for purposes of the employer and the public), works in the Louis Armstrong Middle School. Of the 184 rooms in this school, only 82 (44.6%) have no windows or windows that cannot be opened; 113 rooms (61.4%) do not have fully operational supply fans; and 58 rooms (31.5%) do not have fully operational exhaust fans. The building does not have any (0%) unit ventilators (see Figure 6, below).<sup>50</sup>

**Figure 6**

<sup>49</sup> <https://www.nycenet.edu/roomassessment?code=M520>

<sup>50</sup> <https://www.nycenet.edu/roomassessment?code=Q227>





6) The Flushing International High School, 144-80 Barclay Avenue, Queens, 11355 (Q189).

Named Complainants Jordan Wolf and Jillian Leedy, plus Complainants [REDACTED], who wish to be named to PESH only and not their employer or the public, and one anonymous Complainant (six total) work at The Flushing International High School. Complainant Wolf currently has an accommodation to work at home until December 31, 2020. Complainant Leedy works in Rooms 316 and 315A. Of the 122 rooms in this school, nine (7.4%) do not have windows; 105 rooms (86%) do not have operational supply fans; 85 rooms (69.7%) do not have fully operational exhaust fans; and none (0%) have unit ventilators (see Figure 7).<sup>51</sup> Of Complainant Leedy’s workspaces, Room 316 has an operable window, but no supply fan or exhaust fan; Room 315A has an operable window, no supply fan, and an inoperable exhaust fan.<sup>52</sup>

**Figure 7**



7) The Earth School, P.S. 364, 600 East 6 Street, NYC, NY 10009 (M064).

Named Complainants Vanessa Keller, Jessica Smith, Jia Lee, Suzanne Budeska, Erica Zimetbaum, Nykenna Middlebrooks, Kimberly Fritschy, Emmy Matias, plus Complainant [REDACTED] who would like to be named to PESH only and not their employer or the public, and three anonymous Complainants (total of 12) work at P.S. 64. Of the 114 rooms in this school, 18 (15.8%) have windows that do not open or no windows at all; 106 (93%) do not have supply fans; 30 (26.3%) do not have operational exhaust fans; and zero (0%) have unit ventilators (see Figure 8, below)<sup>53</sup>. Complainants Smith and Lee work in Room 114, which has a window and an exhaust fan, but no supply fan. Kimberly Fritschy works in Room 141, which has a window that opens and an operational exhaust fan, but no supply fan. Some of the Complainants have an accommodation allowing them to work remotely until December 31, 2020.

**Figure 8**

<sup>51</sup> <https://www.nycenet.edu/roomassessment?code=Q189>

<sup>52</sup> Id.

<sup>53</sup> <https://www.nycenet.edu/roomassessment?code=M064>



8) Landmark High School, 351 West 18 Street, Manhattan, NY 10011 (M419, but ventilation report is under M440, Bayard Rustin Educational Complex).

Four Complainants have signed onto this complaint anonymously; all believe they will be exposed to recognized hazards should they be made to work from this building. Of the 192 rooms in this school, eight (4.2%) do not have windows, or have windows that do not open; 153 (79.7%) do not have operational supply fans; 137 rooms (71.4%) do not have operational exhaust fans; and 145 (75.5%) do not have operational unit ventilators (see Figure 9, below).<sup>54</sup>

Figure 9



9) Liberty High School Academy for Newcomers, 250 West 18 Street, Manhattan, NY 10011 (M550; but the ventilation report is under M451).

Named Complainants Gabrielle Tessler and William Russell have signed onto this Complaint. Of the 97 rooms in this school, 68 (70.1%) do not have windows or (in one case) the window cannot be opened; 36 do not have fully operational supply fans (37.1%); 35 rooms (36%) do not have fully operational exhaust fans; and there are zero (0%) unit ventilators (see Figure 10).<sup>55</sup> Complainant Tessler is the Staff Nurse, and works in Medical Room 516. Room 516 has no window, but does have a supply fan and exhaust fan.

Figure 10



**Requested Remedy.** Complainants request inspection reports of NYC schools with more comprehensive metrics than “whether or not” a room has: 1) a window; 2) window that opens; 3) supply (fan/diffuser); 4) exhaust (fan/return); and 5) unit ventilator. The so-called “tissue test,” as shown in

<sup>54</sup> <https://www.nycenet.edu/roomassessment?code=M440>

<sup>55</sup> <https://www.nycenet.edu/roomassessment?page=2&code=M451>

Picture 1, above, is also inadequate to determine either the *quantity* or the *quality* of air moving throughout a room.<sup>56</sup> It is impossible to demonstrate even basic building code compliance for required ventilation without including the actual cubic feet per minute (CFM – the most common way to measure airflow) for both supply and return air for each room.

In order to calculate CFM, the following measurements are needed: 1) square footage of each space; 2) ceiling height of each space; and 3) the CFM that is being pulled through and filtered. This would involve a mechanical plan of each building, and testing every source of air supply and exhaust/return (e.g. vents, diffusers, and registers) for specific air flow, typically done with equipment such as a balometer, by a testing, adjusting, and balancing (TAB) firm that issues a full system balancing report. It is not possible to obtain accurate ACH in a space that is naturally ventilated only.

Until testing is conducted which can determine the safety of these classrooms, the Department of Education cannot be deemed to be meeting its general duty to provide a place of employment free from the recognized hazard presented by SARS-CoV-2 and COVID-19 and alternate provisions should be made for teachers who cannot be provided a safe workplace.

In addition, Complainants note that the changing inspection data on the DOE’s website is not only confusing but also does not instill confidence in the accuracy of the data and/or the inspections themselves. For example, Room Assessments done for School M451 had the following two charts, pulled less than one week apart:

**Figure 11**



The first chart in Figure 11 was captured on September 30, 2020, and shows that only one room in this school does not have a window, 67 have windows that can be opened, and 29 have windows that cannot be opened. However, the same chart captured on October 4, 2020 has the numbers “flipped,” showing 67 rooms *without* windows, 29 with windows that can be opened, and one that has a window that cannot be opened.

This change certainly was not made because the school somehow eliminated the windows from 66 classrooms in the last week (not to mention that one would wonder *why* a school would eliminate

<sup>56</sup> See also <https://www.nyl.com/nyc/all-boroughs/news/2020/08/27/video-shows-inspectors-using-toilet-paper-on-a-stick-to-measure-classroom-air-flow>

windows). While this example appears to *worsen* the case for re-opening, some of the other changes noticed by Complainants did the opposite. Regardless of the impact on re-opening decisions, these drastic after-the-fact changes in inspection reports issued with no public notice or explanation substantially undermine Complainants' already minimal comfort with the quality of the inspections.

**Conclusion.** While this PESH complaint only involves nine schools within the NYC public school system, it is abundantly clear that there is a systemic underassessment of the ventilation problems in the city's school buildings. Complainants, other teachers, school support staff, janitors, cafeteria workers, and parents of students need to be able to make an informed choice as to whether returning to school in person is safe. Without the comprehensive ventilation tests described above, they will not have the information necessary to make such a choice. Therefore, we are providing a copy of this complaint to the Commissioner requesting such inspections pursuant to PESH §27-a (5), which states:

Any employee or representative of employees who believes that a violation of a safety or health standard exists, or that an imminent danger exists, may request an inspection by giving notice to the commissioner of such violation or danger. Such notice and request shall be in writing, shall set forth with reasonable particularity the grounds for the notice, shall be signed by such employee or representative of employees, and a copy shall be provided by the commissioner to the employer or the person in charge no later than the time of inspection, except that on the request of the person giving such notice, his name and the names of individual employees or representatives of employees shall be withheld. Such inspections shall be made forthwith.

The risk of contracting COVID-19 in NYC schools is not hypothetical. As reported by the New York Times on September 23, 2020, 100 NYC school buildings have already reported at least one positive case by the first day of in-person instruction.<sup>57</sup> Not all people who tested positive went into the school buildings, but others did, resulting in quarantining of close contacts.<sup>58</sup>

We understand that in the best of all possible worlds, students and teachers would be able to return to schools this fall. There is incredible pressure on administrators, parents, state agencies, and teachers to return to "normal" as soon as possible. However, given that the SARS-CoV-2 virus can be deadly and is highly contagious, we must be cognizant of the health and safety of school employees and the students. SARS-CoV-2 is a recognized hazard that can cause death or serious physical harm to NYC school employees. It is incumbent on the Department of Labor to ensure that Complainants are provided reasonable and adequate protection to the lives, safety and health. Such protection includes comprehensive inspections of all the school buildings and classrooms, hallways, lobbies, stairwells, etc., and adequate ventilation and filtration. Unless and until these inspections are conducted and changes to ventilation and filtration made, we respectfully urge PESH to allow all NYC schoolteachers to work remotely.

Inspections conducted by the Department of Education have demonstrably failed to adequately inform DOE employees and public stakeholders of the risk of airborne spread of the SARS-CoV-2 virus. The results of those inspections are seemingly subject to change without notice and their methodology, to the extent it is available, is unsound. All nine facilities discussed in this complaint displayed a different set

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<sup>57</sup> <https://www.nytimes.com/2020/09/23/nyregion/coronavirus-new-york-schools.html>

<sup>58</sup> *Id.*

of data just one week ago, though specific discussion of those changes has been limited to the data set for Liberty High School to avoid unnecessary confusion.

Action on this complaint is urgently needed, as thousands of children and teachers return to hundreds of potentially unsafe classrooms across New York City amid a “third wave” spike. Placing dozens of people in unventilated rooms for seven or more hours a day will guarantee a massive new wave of infections among teachers, staff, students, and all of their families. This is an imminent and unavoidable threat, and the Department of Labor has a legal and moral duty to intervene to protect New York’s public employees.

Sincerely,

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