



UPEIFA
UNIVERSITY OF PRINCE EDWARD ISLAND
FACULTY ASSOCIATION

3 August 2021

Dr. Alaa Abd-El-Aziz
President
University of Prince Edward Island

RE: UPEI Air Quality & COVID-19

Dear President Abd-El-Aziz,

As the leaders of the campus unions representing UPEI faculty members, librarians, sessional instructors, clinical nursing instructors, clinical veterinary professionals (UPEI Faculty Association) and UPEI support staff (CUPE-1870), we take the health and safety of our members and everyone who lives, works, and/or studies on campus seriously. In the context of COVID-19 and the return to campus this fall, we would like to draw your attention to concerns that many of our members have raised about air quality and ventilation in our classrooms, workspaces, and buildings.

It has become clear that while SARS-CoV-2 (the virus that causes COVID-19) is often transmitted by physical contact, there is also a strong scientific consensus that airborne transmission of the virus is sufficient for developing COVID-19 and that such transmission is more likely to occur in indoor spaces with inadequate ventilation. Researchers have noted that two key determinants for transmission of SARS-CoV-2 are the duration of exposure and viral load both of which are strongly related to indoor air quality and ventilation/filtration strategies. The *Public Health Agency of Canada* has stressed the importance of deploying enhanced and robust indoor ventilation strategies to mitigate the spread of SARS-CoV-2 while the *American Society of Heating, Refrigeration and Air-conditioning Engineers* (ASHRAE) has pointed to the importance of establishing higher rates of air exchange and careful attention to air flow patterns and exhaust in an effort to reduce viral loads.

As you are no doubt aware, *PEI Occupational Health and Safety Act General Regulations* (PEI OHSA-GR) specify that, **“the employer shall ensure that the workplace is adequately ventilated by either natural or mechanical means such that the atmosphere does not endanger the health and safety of employees under normal working conditions”** (11.1). In the context of COVID-19, it is clear that UPEI requires a robust and transparent ventilation strategy to protect the health and safety of everyone who works or studies on our campus.

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In an effort to address our members' concerns – concerns that are shared by much of the campus community – we are writing to seeking clarification on the following issues:

- What steps have been taken to clean/re-commission ducted air handling systems?
- Given the employers obligation to “ensure that all parts of ventilation systems are maintained, cleaned and that ventilation openings are always free of any obstruction or **source of contamination**” (PEI OHS-GR - 11.4), what steps are being taken to inspect and clean HVAC systems to ensure they maintain sufficient airflow and distribution, avoid recirculation of stale air, maximize outdoor air supply, and otherwise reduce the transmission of SARS-CoV-2?
- What steps have been taken to maximize outdoor air supply and air filtration in order to minimize levels of infectious aerosols?
- For those spaces on campus that rely on radiant heat and have limited or no forced-air heating or cooling, what sort of local ventilation/filtration options are being deployed to reduce potential airborne viral loads?

In addition, can you confirm which (if any) of the following ventilation strategies UPEI Administration intends to implement in workspaces/buildings in preparation for the 2021/2022 academic year:

- Complete air replacement with no recirculation to the maximum extent possible (disabling of demand-control systems and recirculation, and opening of outdoor dampers);
- Increasing the amount of air exchanged per hour. While the *PEI Occupational Health and Safety Act General Regulations* (11.7) specify that the minimum amount of outside air introduced into any room should be at least 0.45 m³/min. (15 c.f.m.) per person, it is generally recognized that mitigating the spread of SARS-CoV-2 requires exceeding these minimum requirements;
- Operating ventilation systems beyond the hours of occupancy (two hours before and after occupancy of a building) or around the clock in order to achieve complete flushing of buildings;

- Higher performance (minimum efficiency reporting value [MERV] 13 or better; ideally high efficiency particle arrestor [HEPA] filters with attention to sealing around the edges to prevent bypass;
- In the context of the employer’s responsibility to ensure “that the discharge of air from any exhaust system is in such a manner so as to prevent the **return of contaminants** to any workplace” (PEI OHSA-GR – 11.8), checking, adjusting, correcting, and optimizing air flow in occupied spaces to ensure that the proper quantities of air supply and exhaust are being provided in the correct locations;
- Installation of special exhaust systems from locations of greater risk;
- Use of stand-alone or portable systems if upgrades aren’t possible;
- Stand-alone filtration, humidification or dehumidification equipment to accommodate increased ventilation rates, depending on outdoor air conditions;
- Installation of high-capacity air exchange ventilation systems in buildings where there is currently limited or no mechanical ventilation or air conditioning;
- Upgrading of fan/filter units to include MERV 13 or better, or HEPA filters. Retrofits may also include pre-filters to ease the burden on the finer filters, and filters may require more frequent replacement;
- Upgrading of systems to provide more outdoor air than the current maximum; preferably 100 percent outdoor air and exhaust.

Finally, in the event that UPEI Administration has already conducted an evaluation of indoor air quality and the various natural/mechanical ventilation systems around campus, could you:

- Share with us any data and/or results related to those evaluations;

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- Identify who conducted these evaluations and when they were conducted;
- Provide us with the parameters that were used to determine if the current ventilation/filtration systems at UPEI meet or exceed COVID-19 air quality recommendations.

We believe it is important for detailed information around ventilation, filtration, and disinfection to be accessible to anyone who steps on campus as this will enable them to determine whether their learning and working environments are supportive of their unique health and safety needs. For example, the University of Toronto has published a COVID-19 heating, ventilation, and air conditioning strategy including detailed information about the air quality of their various campuses as well as signaling a commitment to at least six air changes per hour (ACH) in their classrooms:

<https://www.fs.utoronto.ca/services/hvac-mechanical-utilities/covid-hvac-strategy/>

It is clear from speaking to our members as well as other stakeholders in the campus community that in the midst of this global health care crisis, there are significant concerns regarding the indoor air quality at UPEI. For the health and well-being of everyone who works, lives, and/or studies on our campus, we believe it is of paramount importance for UPEI Administration to clarify what steps it is taking to ensure the health and safety of the campus community in these uncertain times.

Sincerely,



Dr. Michael Arfken
President, UPEI Faculty Association

TCarmichael

Ms. Tracy Carmichael
President, CUPE-1870

cc: Ms. Jackie Podger, VPAF, UPEI

References

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

https://www.ashrae.org/file%20library/about/position%20documents/pd_infectiousaerosols_2020.pdf

Canada Chief Science Advisor Expert Panel - The Role of Bioaerosols and Indoor Ventilation in COVID-19 Transmission

https://science.gc.ca/eic/site/063.nsf/eng/h_98176.html

Canadian Committee on Indoor Air Quality (CCIAQ)

<https://iaqresource.ca/wp-content/uploads/2020/09/CCIAQB-Module15-Eng.pdf>

PEI Occupational Health and Safety Act - General Regulations

<https://www.princeedwardisland.ca/sites/default/files/legislation/O%261-01G-Occupational%20Health%20and%20Safety%20Act%20General%20Regulations.pdf>

Public Health Agency of Canada

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/guide-indoor-ventilation-covid-19-pandemic.html#a5>

Workers Health & Safety Centre

<https://www.whsc.on.ca/What-s-new/News-Archive/Aerosol-spread-of-COVID-19-virus-evidence-and-experts-support-urgent-action>