ENVIRONM

[EPA-HQ-OAR-2022-0794; FRL-10225-01-OAR]

Request for Information: Better Indoor Air Quality Management to Help Reduce COVID-19 and Other Disease Transmission in Buildings: Technical Assistance Needs and Priorities to Improve Public Health

AGENCY: Environmental Protection Agency, Office of Radiation and Indoor Air.

ACTION: Request for information through public comment.

SUMMARY: Through this Request for Information (RFI), the Environmental Protection Agency (EPA) seeks to promote and advance the widespread adoption of actions that lead to improvements in indoor air quality (IAQ) in the nation's building stock to help mitigate disease transmission (e.g., COVID-19). The agency is announcing a 60-day public comment period to solicit information and recommendations from a broad array of individuals and organizations with knowledge and expertise relating to the built environment and health, indoor air quality, epidemiology, disease transmission, social sciences and other disciplines. EPA will analyze information received from this RFI to consider and support the potential development, improvement, and implementation of technical assistance efforts (e.g., information, tools, training, guidance) and other strategies (e.g., incentives, recognition efforts) to support IAQ related improvements in the nation's building stock, with a particular emphasis on schools and commercial buildings.

DATES: Comments may be submitted on or before [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2022-0794 by any of the following methods:

- Federal eRulemaking Portal: https://www.regulations.gov (our preferred method). Follow the online instructions for submitting comments.

- E-mail: a-and-r-Docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2022-0794 in the subject line of the message.
- US Postal Service Mail: U.S. Environmental Protection Agency, EPA Docket Center, Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery / Courier: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

Instructions: All submissions received must include the Docket ID No. EPA-HQ-OAR-2022-0794 for this rulemaking. Comments received may be posted without change to https://www.regulations.gov/, including any personal information provided. For detailed instructions on sending comments, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Alisa Smith, Office of Radiation and Indoor Air/Indoor Environments Division (smith.alisa@epa.gov, 202-343-9372) or Ray Lee, Office of Radiation and Indoor Air/Radiation Protection Division (lee.raymond@epa.gov, 202-343-9463).

SUPPLEMENTARY INFORMATION: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2022-0794, at https://www.regulations.gov (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional

submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit https://www.epa.gov/dockets/commenting-epa-dockets.

You do not need to address every question and should focus on those where you have relevant expertise or experience. In your comments, please provide a brief description of yourself and your role or organization before addressing the question. Please identify the question(s) you are responding to by question number when submitting your comments.

1.0 Background

The Clean Air in Buildings Challenge

In March 2022, the Biden-Harris Administration launched the Clean Air in Buildings Challenge, a key component of the President's National COVID-19 Preparedness Plan. The Clean Air in Buildings Challenge is a call to action and a set of guiding principles and best practices to encourage and assist building owners and operators with reducing risks from airborne viruses and other contaminants indoors through the improvement of indoor air quality. The Clean Air in Buildings Challenge highlights a range of recommended best practices and resources for improving ventilation, filtration, air cleaning and indoor air quality in buildings, which can help to better protect the health of building occupants and reduce the risk of COVID-19 spread. The Administration invited and encouraged all building owners and managers – and organizations of all kinds – to take action based on the Clean Air in Buildings Challenge best practices guide.

To further promote awareness of and participation in the Clean Air in Buildings Challenge, the Administration also committed to identify ways to recognize leaders in this effort including organizations, building owners, managers, and operators across sectors and around the country for steps they take to improve ventilation, filtration, and indoor air quality to protect and promote public health. The intent of such recognition would be to provide one means to increase and sustain awareness of the need to improve ventilation and indoor air quality in our nation's

buildings to protect public health, and to acknowledge individuals and organizations that have taken these actions and inspire others to do so while leveraging the National COVID-19 Preparedness Plan and the Clean Air in Buildings Challenge.

Ventilation, filtration, and air cleaning in buildings are essential components of a multilayered approach to preventing disease transmission, including COVID-19.

There are straightforward steps that can be taken to reduce the potential for airborne transmission of COVID-19[1]. The layout, design, and operation of a building, including the operation of the heating, ventilation, and air conditioning (HVAC) system, as well as occupant behaviors, can all impact the potential airborne spread of COVID-19 in that building. Although improvements to ventilation, filtration and air cleaning cannot on their own eliminate the risk of airborne transmission of the virus, increasing ventilation with outdoor air accompanied by air filtration and air cleaning are important components of a layered prevention strategy to reduce the spread of COVID-19 and promote the overall health of building occupants. Additional components of a layered COVID-19 prevention strategy may include vaccination, physical distancing, wearing masks, and other precautions.

Significant public health gains can be achieved by improving building ventilation and filtration.

Well managed IAQ is a critical component of the pandemic response and has multiple co-benefits. Improvements in ventilation, filtration, air cleaning and other indoor air quality parameters are important for the multiple health impacts they achieve; such actions also support important performance, productivity, and economic benefits.[2] For example, increases in classroom ventilation rates are associated with improvements in student performance.

Challenges and Opportunities for improving IAQ in buildings—What we've learned to date.

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[1] https://www.epa.gov/coronavirus/indoor-air-and-coronavirus-covid-19
[2] https://iaqscience.lbl.gov/

The Administration and Congress have taken unprecedented steps to ensure that funding is available to support the pandemic response. This includes funding through the American Rescue Plan which provided $122 billion to schools and billions more to state, local, and tribal governments which they may use, among other uses of the funds, to support indoor air quality improvements in schools, small businesses, industrial settings, commercial buildings, low-income housing, and transportation hubs.[3]

School decision makers are implementing HVAC improvements as one means to help reduce the spread of COVID-19 and remain open for in person learning. CDC recently published the results of the National School COVID-19 Prevention Study, an assessment of ventilation practices in schools.[4] This study found "the most common reported ventilation improvement strategies by schools were lower-cost strategies, including relocating activities outdoors (74%), inspecting and validating existing HVAC systems (71%), and opening doors (67%) or windows (67%) when safe to do so. Fewer schools reported more resource-intensive strategies such as replacing or upgrading HVAC systems (39%) or using HEPA filtration systems in classrooms (28%) or eating areas (30%). Rural and mid-poverty schools were less likely to report implementing several resource-intensive strategies." Professional organizations, HVAC-related industries, trade unions, and others are reporting they are mobilizing their resources to help improve building assets, operations, and services to improve indoor air quality. Anecdotally, some school representatives are reporting that they face challenges implementing improvements that require professional services because they have not yet been able to efficiently secure qualified workers in a timely manner.

While recent assessments of the use of federal funds to support ventilation and other indoor air quality improvements show encouraging action, there remains important work to do to

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[3] Dowell D, Lindsley WG, Brooks JT. Reducing SARS-CoV-2 in Shared Indoor Air. *JAMA.* Published online June 07, 2022. doi:10.1001/jama.2022.9970

[4] Pampati S, Rasberry CN, McConnell L, et al. Ventilation Improvement Strategies Among K-12 Public Schools – The National School COVID-19 Prevention Study, United States, February 14-March 27, 2022. MMWR Morb Mortal Wkly Rep 2022; 71:770-775. DOE: http://dx.doi.org/10.15585/mmwr.mm7123e2

help schools and other buildings to improve indoor air. Public health initiatives that inform the public about indoor air quality have proven impacts. The EPA environmental tobacco smoke risk assessment provided critical public health information that led to significant improvements to IAQ through state, local, and private smoke-free policies and practices in buildings. The Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities has focused support for community-level interventions on the preventable factors, including indoor environmental exposures, that underlie persistent and pervasive disparities in asthma outcomes. The National Radon Action Plan spearheaded by EPA in collaboration with other Federal agencies and leading not-for-profit organizations has mobilized a unique public-private partnership to prevent lung cancer deaths from avoidable radon exposure in homes and schools. And State weatherization assistance programs, supported with Federal funds, have linked energy efficiency with IAQ protective measures such as mold and moisture management, to deliver healthier homes for thousands of low-income families. The opportunity exists now to scale up proven practices, fast track innovative research and development, and mobilize public and private assets to make sustained improvements to indoor air quality, reduce COVID-19 risk, and improve school and workplace health and safety.

2.0 Request for Information

Through this RFI, EPA is seeking input from a diverse array of stakeholders (e.g., building owners and operators, HVAC professionals, engineers, building and construction contractors, academics, architects, industrial hygienists, managers, researchers, Federal, State, Tribal and local government representatives, school and school district leaders and facility managers, industry, philanthropists, non-governmental organizations and the public at large) about actions, strategies, tools and approaches that support ventilation, filtration and air cleaning improvements, and other actions that would promote sustained improvements in indoor air quality in the nation's building stock to help mitigate disease transmission.

Responses to this RFI will inform ongoing and future efforts by EPA and others to support both the implementation and the sustainability of proven indoor air quality risk reduction measures with a special focus on activities that will address those aspects of building operations that can reduce disease transmission indoors.

EPA is particularly interested in feedback about current opportunities and priorities that can be implemented quickly and with existing resources. We are also interested in needs, tools, training, and other approaches that will lead to sustainable, systems-based improvements in the nation's building stock over the longer term and any obstacles and how they may be addressed. This RFI is for informational gathering purposes only and should not be construed as a solicitation or as an obligation on the part of EPA.

3.0 Key Questions

3.1 In your opinion, what approach(es) could the Federal government consider deploying to move decision makers/owners/managers toward making and sustaining improved ventilation, filtration, and air cleaning practices to reduce the risk of disease transmission?

- What could these efforts look like (e.g., awareness campaigns, job training programs, voluntary labeling or other recognition programs, financial incentives, rebate programs)?
- How might these efforts function (e.g., public-private partnership, expansion of existing public and or private programs)?
- Who are the stakeholders for action (general public, industry, government, academia, public health professionals, schools, commercial building owners, faith-based community, special- interest organizations)?
- What technical assistance, tools, resources, and/or guidance is needed by stakeholders?

3.2 In your opinion, what are the near-term indoor air quality related actions that could help schools respond to a COVID-19 disease surge?

- What specific supports for improving indoor air quality could be helpful to the school community?
- In addition to Federal tools, guidance, and funding resources, what other stakeholders are in a position or have assets that can help schools address IAQ issues?
- What approaches could a school system consider if they are willing and able to make IAQ changes but are having difficulty securing labor or supplies to complete their improvements?

3.3 In your opinion, over the longer term, how can ventilation, filtration and air cleaning improvements be prioritized and made standard practices in building design, construction, commissioning, renovation, and operations and maintenance efforts (e.g., building code adoption, training or other efforts to sustain proper practices such as operation and maintenance of HVAC systems as designed, weatherization and other retrofit programs)?

- What policies and or practices need to be put in place to support such efforts?
- Who can take these actions?
- What tools and technical assistance are needed?
- What are the obstacles to implementing appropriate upgrades to HVAC systems, in schools in particular?

3.4 In your opinion, what is an effective approach for a building recognition program (e.g., pledge campaign, performance tiers, certification program)?

- What do you think are the primary incentives for decision makers to invest in ventilation, filtration, and air cleaning improvements and upgrades?
- What are the obstacles that decision makers may be facing?
- What approaches can help ensure buildings and organizations of all types can participate in a building recognition program?
- How can equity be integrated into a building recognition program so that it recognizes various types of significant improvements while taking into consideration diversity in the

quality of existing buildings and differences in available financial resources? Could tiered recognition help address this equity consideration and what tiering approach should be considered?

3.5 In your opinion, what are key characteristics of a building recognition program that would be needed to document credible efforts toward improved ventilation, filtration, and air cleaning in buildings?

- What would be the principal IAQ parameters, measures, or other characteristics that could be included?
- How could these parameters, measures or other characteristics be assured or verified?
- What are ways to effectively recognize organizations that have taken action across a large portion of their building stock or occupied spaces within their buildings and or expended significant resources in their efforts?
- How frequently would a building need to be re-certified?
- What else could be noted about a building recognition, labeling or certification program?

3.6 In your opinion, what quantifiable metrics or targets could be helpful in evaluating or assessing ventilation, filtration, and air cleaning parameters in a building?

- What types of tools or technologies could support real time assessment of ventilation, filtration and or air cleaning parameters in a building?
- What qualitative or quantitative features could be helpful in assessing or describing ventilation, filtration, and air cleaning parameters in a building?

3.7 In your opinion, what changes would you recommend to the Clean Air in Buildings Challenge best practices document to improve public engagement and participation by a broad set of stakeholders?

3.8 In your opinion, how might lessons from the COVID pandemic be useful for long-term efforts to improve ventilation, filtration, air cleaning and other indoor air quality parameters in the nation's building stock?

3.9 What else would you like to note about opportunities and issues that could improve indoor air quality in the nation's building stock?

Authority: Title IV of the Superfund Amendments and Reauthorization Act (SARA); Title III Toxic Substances Control Act (TSCA); Clean Air Act (CAA).

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