



Office of Audits  
Office of Inspector General  
U.S. General Services Administration

# COVID-19: PBS Faces Challenges in Its Efforts to Improve Air Filtration in GSA-Controlled Facilities

Report Number A201018/P/4/R22008  
September 30, 2022

---

## ***Executive Summary***

---

### **COVID-19: PBS Faces Challenges in Its Efforts to Improve Air Filtration in GSA-Controlled Facilities**

Report Number A201018/P/4/R22008

September 30, 2022

#### **Why We Performed This Audit**

In April 2020, we began monitoring GSA's activities in response to the nationwide public health emergency resulting from Coronavirus Disease 2019 (COVID-19) and GSA's implementation of the Coronavirus Aid, Relief, and Economic Security Act. During our COVID-19 monitoring efforts, we identified concerns with air filtration practices in GSA-controlled (owned and leased) facilities that may lead to an increased risk of exposure to COVID-19. As a result, we began this audit to determine whether GSA's Public Buildings Service (PBS) has implemented the Centers for Disease Control and Prevention (CDC) recommendations and GSA policy to limit exposure to COVID-19 in GSA-controlled facilities by improving central air filtration in heating, ventilation, and air conditioning (HVAC) systems.

#### **What We Found**

The CDC's *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)* recommends improving building ventilation to slow the spread of COVID-19 in the workplace. To do so, the CDC recommends increasing air filtration to the highest possible level without significantly reducing design airflow. It also advises employers to check air handling unit air filters to ensure they are within their service lives and are appropriately installed. The CDC guidance incorporates the American Society of Heating, Refrigeration, and Air-Conditioning Engineers technical resources, which state that the Minimum Efficiency Reporting Value (MERV) of 13 or higher rated air filters are efficient at capturing airborne viruses.

PBS faces challenges in its efforts to improve air filtration in GSA-controlled facilities to help prevent workplace exposures to COVID-19. We found that PBS cannot install the recommended air filters in some GSA-owned facilities because the aging HVAC systems cannot handle MERV 13 air filters. In addition, PBS is not consistently verifying that operations and maintenance contractors change air filters or meet preventive maintenance requirements for air handling units in GSA-owned facilities. We also found that PBS is not consistently inspecting GSA-leased space to ensure that air filters meet lease requirements. In some cases, lessors used noncompliant air filters or did not change them regularly. As a result, PBS is using air filters in some GSA-controlled facilities that are less efficient at capturing airborne viruses, including the virus that causes COVID-19.

## What We Recommend

We recommend that the PBS Commissioner:

1. For GSA-owned facilities:
  - a. Conduct an accurate and complete assessment of HVAC systems to identify deficiencies in air filtration. Based upon the assessment, PBS should maximize central air filtration in existing HVAC systems without significantly reducing design airflow;
  - b. Review and update current and future operations and maintenance contracts to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules;
  - c. Establish controls to ensure that PBS obtains and maintains complete preventive maintenance records; and
  - d. Ensure that contracting officer representatives conduct inspections of mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.
  
2. For GSA-leased space:
  - a. Review and update current and future lease agreements to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules;
  - b. Ensure that lessors maintain and provide required preventive maintenance records and provide timely access to mechanical rooms; and
  - c. Ensure that PBS representatives inspect mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.

The PBS Commissioner agreed with Recommendations 1c-d and partially agreed with Recommendations 1a-b and 2a-c. GSA's written comments are included in their entirety in **Appendix C**. In response to these comments, we made certain revisions to Recommendation 1a, as described in our *OIG Response*. These revisions did not affect our findings and conclusions.

---

## **Table of Contents**

---

<b>Introduction .....</b>	<b>1</b>
<b>Results</b>	
<i>Finding 1 – PBS faces challenges adopting the CDC and ASHRAE air filtration guidance in GSA-owned facilities. ....</i>	<i>5</i>
<i>Finding 2 – PBS is not consistently inspecting mechanical rooms in GSA-leased space to ensure that air filters meet lease requirements.....</i>	<i>12</i>
<b>Conclusion.....</b>	<b>17</b>
<i>Recommendations .....</i>	<i>18</i>
<i>GSA Comments.....</i>	<i>18</i>
<i>OIG Response .....</i>	<i>19</i>
<b>Appendixes</b>	
<b>Appendix A – Objective, Scope, and Methodology .....</b>	<b>A-1</b>
<b>Appendix B – Building Inspection Details .....</b>	<b>B-1</b>
<b>Appendix C – GSA Comments.....</b>	<b>C-1</b>
<b>Appendix D – Report Distribution .....</b>	<b>D-1</b>

---

## **Introduction**

---

We performed an audit of GSA’s response to the Coronavirus Disease 2019 (COVID-19) specific to its assessment of heating, ventilation, and air conditioning (HVAC) systems in GSA-controlled (owned and leased) facilities. This audit stemmed from a monitoring project of GSA’s activities in response to the nationwide public health emergency resulting from COVID-19 and GSA’s implementation of the Coronavirus Aid, Relief, and Economic Security Act.

### **Purpose**

During our COVID-19 monitoring efforts, we identified concerns with air filtration practices in GSA-controlled facilities that may lead to an increased risk of exposure to COVID-19. As a result, we began this audit on March 29, 2021.

### **Objective**

Our audit objective was to determine whether GSA has implemented the Centers for Disease Control and Prevention (CDC) recommendations and GSA policy to limit exposure to COVID-19 in GSA-controlled facilities by improving central air filtration in HVAC systems.

See **Appendix A** – Objective, Scope, and Methodology for additional details.

### **Background**

COVID-19 is an infectious viral disease first discovered in Wuhan, China, in December 2019. It quickly spread to a pandemic and has infected approximately 612 million people worldwide and caused approximately 6.5 million deaths.<sup>1</sup> In the United States, COVID-19 spread to approximately 96 million people, resulting in approximately 1 million deaths.<sup>2</sup>

In response to the pandemic, the federal government issued laws, policies, and guidance to slow the spread of COVID-19. On March 13, 2020, the President of the United States issued an emergency declaration for COVID-19 response efforts in the United States. Congress passed the Coronavirus Aid, Relief, and Economic Security Act on March 27, 2020, which authorized the transfer of funds to federal agencies—including \$275 million to GSA’s Federal Buildings Fund—to prevent, prepare for, and respond to COVID-19.<sup>3</sup>

---

<sup>1</sup> World Health Organization Coronavirus (COVID-19) Dashboard, accessed September 28, 2022, [covid19.who.int](https://covid19.who.int).

<sup>2</sup> Centers for Disease Control and Prevention, COVID Data Tracker, accessed September 28, 2022, <https://covid.cdc.gov/covid-data-tracker>.

<sup>3</sup> The Federal Buildings Fund is a revolving fund used to finance GSA’s property management.

As COVID-19 spread, the CDC issued and updated guidance to help provide a safe and healthy workplace during the pandemic. For example, the CDC's *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)* recommends increasing ventilation and air filtration to as high as possible without significantly reducing design airflow. This CDC guidance incorporates the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) technical resources, which develop HVAC guidelines for the commercial industry and the public at large. Together, these standards and guidance provide parameters for improving air filtration in facilities to minimize the risk of exposure to COVID-19.

HVAC systems consist of equipment that functions to provide ventilation or temperature control to building spaces. Air handling units (AHUs) are part of an HVAC system and include a fan, filter, and coil enclosed in a large metal box used to create and move clean, temperature-controlled air throughout a space. Air filters used in AHUs remove particles from airstreams. Air filter efficiency is measured in Minimum Efficiency Reporting Value (MERV), which specifies an air filter's ability to capture particles. The higher the MERV rating, the better the air filter is at trapping specific types of particles. The ASHRAE technical resources state that air filters rated at MERV 13 or higher are efficient at capturing airborne viruses. ASHRAE technical resources also state that HVAC systems should be checked to make sure they can handle upgrades without negative impacts to air flow prior to changing air filters.

### **GSA's Roles and Responsibilities**

GSA controls 1,699 federally owned facilities and leases space in over 7,700 commercial facilities nationwide. As the landlord of the federal government, GSA is statutorily mandated to operate, maintain, and protect these properties.<sup>4</sup> In addition, GSA has the authority to regulate conduct on its properties, which provide space for almost 1 million occupants.

**Preventive maintenance for GSA-owned facilities.** To fulfill part of GSA's duties for GSA-owned buildings, GSA's Public Buildings Service (PBS) enters into agreements with operations and maintenance (O&M) contractors. According to GSA, O&M contractors perform preventive maintenance of GSA's equipment, systems, and structures to maximize operations and provide reliable and suitable conditions for building occupants.

PBS created the *Public Buildings Maintenance Standards* to manage building equipment and systems in GSA-owned facilities.<sup>5</sup> Also referred to as the Preventive Maintenance Guide (PM Guide), this guidance is based on building maintenance industry standards or manufacturer recommendations and provides special instructions and inspection checkpoints for HVAC systems, including AHU air filters. The PM Guide requires replacing air filters when they lose their efficiency and using Magnehelic gauges to measure air filter efficiency. Magnehelic gauges

---

<sup>4</sup> *Management of buildings by Administrator of General Services*, 40 U.S.C. 582.

<sup>5</sup> The *Public Buildings Maintenance Standards* document was last updated January 1, 2022.

measure air filter resistance against airflow through the AHU and indicate when to replace the air filter.

PBS uses the National Computerized Maintenance Management System to maintain information about each GSA-owned facility's maintenance operations, including equipment maintenance schedules, work orders, and maintenance history. The National Computerized Maintenance Management System stores GSA-owned facility preventive maintenance records, including HVAC and air filter maintenance. Additionally, O&M contracts we reviewed contain Federal Acquisition Regulation 52.212-5, *Contract Terms and Conditions Required to Implement Statutes or Executive Orders-Commercial Items*, which requires O&M contractors to make preventive maintenance records available to GSA upon request.

GSA issued guidance and several policies in response to COVID-19, including *Guidance for COVID-19 HVAC Operations*, which implemented the collection of information on building equipment and systems. Within this guidance, GSA referred to the CDC's recommendation to use higher-rated MERV air filters to improve performance during the COVID-19 pandemic. To collect and assess this information, PBS surveyed its regional offices in August 2020 and compiled the responses into a *GSA COVID-19 HVAC Response Google Assessment Survey* (assessment survey). The assessment survey requested the current planned or completed HVAC system actions, including the existing level of air filtration.

**Preventive maintenance for GSA-leased space.** According to the *PBS Leasing Desk Guide*, the lessor provides maintenance services for the facility. PBS incorporates clauses into its lease agreements to ensure that lessors provide a healthy work environment. For example, many lease agreements include General Services Administration Acquisition Manual (GSAM) 552.270-9, *Inspection—Right of Entry*. This clause gives GSA the right to inspect the lease facility's HVAC system, maintenance records, and mechanical rooms. Lease agreements also incorporate GSAM 552.215-70, *Examination of Records*, which grants GSA access to examine any records required to verify compliance with the lease agreement. Lastly, the lease agreement clause titled *Ventilation*, which is included in the majority of our sampled leases, specifies a minimum efficiency of air filters for use in tenant-leased space.

### **Previous Office of Inspector General COVID-19 Reports**

We issued the following audit products alerting GSA management to COVID-19 related issues we identified since we began monitoring GSA's response to the COVID-19 pandemic in April 2020:

- On September 3, 2020, we issued an alert memorandum identifying concerns with PBS's communication and cleaning process for COVID-19 exposures.<sup>6</sup> We found that PBS did not have a standard inspection process for COVID-19 cleaning and disinfection services,

---

<sup>6</sup> *Alert Memorandum: Concerns Regarding PBS's Communication and Cleaning Procedures for Coronavirus Disease 2019 (COVID-19) Exposures* (Memorandum Number A201018-2).

and it did not have assurance that contractors cleaned and disinfected space in accordance with PBS and CDC guidance. PBS agreed with our findings with the exception of information specific to PBS's notification and cleaning and disinfection process. We revised our memorandum to address these concerns; however, these revisions did not affect our conclusions.

- On January 15, 2021, we issued an alert memorandum notifying GSA that it was impeding our oversight of its COVID-19 activities.<sup>7</sup> We found that GSA attempted to restrict and limit our access to information and resources by establishing a centralized review team for all Office of Inspector General audit inquiries. The then-GSA Administrator mostly disagreed with the findings, but offered no new or compelling information to refute our findings. GSA subsequently disbanded the team that was primarily responsible for impeding our oversight.
- On August 26, 2021, we reported that PBS did not always receive or provide timely notice of positive COVID-19 incidents.<sup>8</sup> In addition, building occupants, contractors, and visitors may have unknowingly passed through space contaminated by COVID-19. PBS acknowledged the issues and agreed with the recommendations.

---

<sup>7</sup> *Alert Memorandum: GSA Is Impeding Oversight of Its COVID-19 Activities* (Memorandum Number A201018-4).

<sup>8</sup> *PBS Did Not Always Follow CDC and Internal Guidance to Limit the Risk of COVID-19 Exposure* (Report Number A201018/P/4/R21005).



---

## Results

---

The CDC's *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)* recommends improving building ventilation to slow the spread of COVID-19 in the workplace. To do so, the CDC recommends increasing air filtration to the highest possible level without significantly reducing design airflow. It also advises employers to check AHU air filters to ensure they are within their service lives and are appropriately installed. The CDC guidance incorporates the ASHRAE technical resources, which state that MERV 13 or higher rated air filters are efficient at capturing airborne viruses.

PBS faces challenges in its efforts to improve air filtration in GSA-controlled facilities to help prevent workplace exposures to COVID-19. We found that PBS cannot install the recommended air filters in some GSA-owned facilities because the aging HVAC systems cannot handle MERV 13 air filters. In addition, PBS is not consistently verifying that O&M contractors change air filters or meet preventive maintenance requirements for AHUs in GSA-owned facilities. We also found that PBS is not consistently inspecting GSA-leased space to ensure that air filters meet lease requirements. In some cases, lessors used noncompliant air filters or did not change them regularly. As a result, PBS is using air filters in some GSA-controlled facilities that are less efficient at capturing airborne viruses, including the virus that causes COVID-19.

See **Appendix B** for a complete list of issues found during our audit.

### **Finding 1 – PBS faces challenges adopting the CDC and ASHRAE air filtration guidance in GSA-owned facilities.**

The CDC and ASHRAE guidance recommend the use of air filters rated at MERV 13 or higher coupled with regular air filter replacement to prevent exposure to airborne viruses, including the virus that causes COVID-19. However, the AHUs in 8 of the 17 GSA-owned facilities we inspected were not equipped with air filters rated at MERV 13 or higher. In addition, 2 of these 17 facilities were using air filters past their scheduled replacement dates.

PBS is not adopting these recommendations for two primary reasons:

1. Aging HVAC systems in some GSA-owned facilities cannot handle MERV 13 air filters; and
2. PBS did not always ensure O&M contractors changed air filters or met preventive maintenance requirements for AHUs in GSA-owned facilities.

We detail each of these reasons in the following sections.

## Aging HVAC Systems in Some GSA-Owned Facilities Cannot Handle MERV 13 Air Filters

O&M contractors in 6 of the 17 GSA-owned facilities we inspected told us that the aging HVAC systems in these facilities are not capable of running MERV 13 or higher rated air filters. According to the O&M contractors, use of MERV 13 or higher rated air filters in these aging HVAC systems would reduce airflow and potentially cause the systems to fail.

The following are examples of GSA-owned facilities with aging HVAC systems.

**GSA Headquarters Building, Washington, D.C.** The O&M contractor's chief engineer told us that some of the AHUs in this facility date back to 1947 (see *Figure 1*). The building is a mixture of renovated and unrenovated space. The renovated space currently uses MERV 15 air filters. However, the chief engineer told us that AHUs in the unrenovated space are incapable of handling MERV 13 or higher rated air filters. He also told us that he upgraded to MERV 10 air filters prior to the pandemic and added that existing MERV 10 air filters in the unrenovated space are already stressing the AHUs.

**Figure 1 – AHU in the GSA Headquarters Building, Washington, D.C.<sup>9</sup>**



**U.S. Department of Agriculture South Building, Washington, D.C.** According to the O&M contractor's chief engineer, the South Building has seven wings, three of which have been

---

<sup>9</sup> GSA Headquarters Building AHU in fan mechanical room 5319. Photograph taken by the audit team on September 7, 2021.

renovated in the last 20 years. He told us that some of the AHUs in the building's unrenovated space are approximately 60 years old (see *Figure 2*). The chief engineer also told us that these AHUs are not capable of running MERV 13 air filters and run either MERV 8 or MERV 11 air filters.

**Figure 2 – AHU in the U.S. Department of Agriculture South Building, Washington, D.C.<sup>10</sup>**



GSA entered into a Delegation of Authority agreement for this facility with the U.S. Department of Agriculture in 1984. This agreement delegates the operation, maintenance, repair, preservation, alteration, and protection of the building to the U.S. Department of Agriculture. Accordingly, the PBS building manager told us that they did not collect air filter information for delegated facilities.

*GSA's Standard Operating Procedures for Operation and Maintenance of Delegated Real Property* require GSA to conduct an operational analysis of delegated buildings, at least biennially, to assess the condition of the property site, building structure, systems, and equipment. These procedures also provide that GSA is responsible for the replacement of "entire HVAC or complete major components, e.g., boilers, chillers, and air handling units" for delegated buildings. Nonetheless, a PBS Facilities Management and Services official told us that the "USDA is fully responsible for all O&M and all repairs (minor and capital)."

**James V. Forrestal Federal Building, Washington, D.C.** GSA entered into a Delegation of Authority agreement for this facility with the U.S. Department of Energy in 2004. The U.S. Department of Energy building manager told us that MERV 6 or MERV 8 air filters are in use

---

<sup>10</sup> U.S. Department of Agriculture South Building AHU. Photograph taken by the audit team on September 8, 2021.

throughout the facility. During our inspection, we observed multiple dirty roll-type air filters (see *Figure 3*). The building manager said that these AHUs were originally designed to automatically unroll new air filter material at set intervals. However, they now require manual operation to properly unroll the air filters because of the deteriorating condition of the AHUs. In addition, he told us that the majority of the AHU Magnehelic gauges do not work.

We requested the results of the latest operational analysis, as described in GSA's *Standard Operating Procedures for Operation and Maintenance of Delegated Real Property*, for each of the delegated buildings we inspected. However, a PBS National Capital Region official stated that they have not been formally performing regular operational analyses of their delegated facilities and do not have a program to review delegated customers' operations. He added that they are in the process of establishing parameters to begin conducting the reviews.

**Figure 3 – AHU and Magnehelic Gauge Display in the James V. Forrestal Federal Building, Washington, D.C.<sup>11</sup>**



**2306 East Bannister Road, Kansas City, Missouri.** We observed a broad mix of old and new AHUs during our inspection of this facility (see *Figure 4* on the next page). The O&M contractor's project manager told us that some units are original to the building, which was built in 1960, and use MERV 8 air filters. He also told us that the older AHUs cannot handle MERV 13 or higher rated air filters.

---

<sup>11</sup> Left photo: Roll-type air filter in the James V. Forrestal Federal Building. Right photo: Inoperable Magnehelic static pressure gauge in the James V. Forrestal Federal Building. Photographs taken by the audit team on September 10, 2021.

During our inspection, the building was undergoing a major renovation project. A PBS field office director who participated in our inspection told us that the project started off as a \$110 million project and included an update of all AHUs; however, GSA later approved a reduced \$60 million budget. As a result, some of the AHUs were excluded from the renovation project.

**Figure 4 – AHUs at 2306 East Bannister Road, Kansas City, Missouri<sup>12</sup>**



Due to the age and condition of HVAC systems in many GSA-owned facilities, PBS faces challenges with full adoption of the CDC’s air filtration recommendations and guidance to help prevent workplace exposures to airborne viruses, including the virus that causes COVID-19. Accordingly, PBS should take steps to maximize central air filtration in existing HVAC systems without significantly reducing airflow.

**PBS Did Not Always Ensure O&M Contractors Changed Air Filters or Met Preventive Maintenance Requirements for AHUs in GSA-Owned Facilities**

To improve air filtration, the CDC’s *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)* advises employers to check AHU air filters to ensure they are within their service lives and are appropriately installed. In addition, GSA’s PM Guide instructs O&M contractors to inspect air filters quarterly and monitor Magnehelic static pressure readings for air filter efficiency.

As described below, PBS did not confirm that O&M contractors changed air filters or performed the necessary preventive maintenance for AHUs in 2 of the 17 GSA-owned facilities in our sample. Additionally, we could not fully assess the existing condition of air filters in three other

---

<sup>12</sup> Left photo: New AHU at 2306 East Bannister Road. Right photo: Aging AHU at 2306 East Bannister Road. Photographs taken by the audit team on May 13, 2021.

GSA-owned buildings in our sample because O&M contractors replaced the air filters after we notified building managers of our planned inspections or immediately before our inspections.

**Mary E. Switzer Federal Building, Washington, D.C.** Multiple tenants occupy this GSA-owned building, including the U.S. Department of Health and Human Services (HHS). The O&M contractor’s assistant chief engineer told us that, as part of their preventive maintenance, they conduct quarterly inspections of the AHUs and use Magnehelic static pressure readings to measure air filter efficiency. In addition, he told us that air filter changes occur twice a year regardless of the static pressure readings. However, during our inspection on September 10, 2021, we observed MERV 13 air filters in two different AHUs that were significantly past due for replacement. For example, as shown in *Figure 5*, we identified dirty air filters in one AHU dated July 2019, indicating that the O&M contractor had not changed them in 2 years. In the other AHU, we found air filters dated September 2019.

The PBS building manager told us that this occurred because PBS did not inspect the AHUs during the transition to a new O&M contractor in August 2021. PBS provided limited preventive maintenance records for this building that only indicated that the O&M contractor discarded all air filters on March 31, 2021. However, these records were not consistent with our observations.

**Figure 5 – Air Filter in Operation at the Mary E. Switzer Federal Building, Washington, D.C.<sup>13</sup>**



**James R. Browning U.S. Courthouse, San Francisco, California.** During our inspection, the O&M contractor’s chief engineer told us that they changed air filters either quarterly or annually, depending on the location of the air filter within the AHU. We observed air filters that the O&M

---

<sup>13</sup> Air filter at the Mary E. Switzer Federal Building. Photograph taken by the audit team on September 10, 2021.

contractor had not replaced in a timely manner. The O&M contractor should have replaced the air filters, installed in an AHU that required an annual air filter change, by August 19, 2021. However, at the time of our site visit on October 13, 2021, the contractor had not replaced the air filters in that AHU. We also observed an air filter pulled from another rack of air filters on a quarterly maintenance schedule dated August 24, 2020, that was 11 months beyond its replacement date.

In response to our repeated requests for preventive maintenance records for this and other facilities, PBS provided records for the other facilities but did not provide any for this facility. Therefore, we could not determine how long other air filters throughout the facility were in operation past their service lives. We also concluded that PBS did not ensure that the required preventive maintenance records were maintained for this facility.

While the examples above clearly demonstrate that PBS is not ensuring that O&M contractors change air filters and perform necessary preventive maintenance on the AHUs, the problem is likely worse. For three of the GSA-owned facilities in our sample, the O&M contractors replaced air filters after we notified building managers of our planned inspections or immediately before our inspections. As a result, we could not assess the condition of the air filters in these facilities prior to replacement.

Failure to conduct inspections and preventive maintenance can lead to decreased airflow performance. To improve airflow and help prevent workplace exposures to COVID-19 in GSA-owned facilities, PBS should ensure that O&M contractors inspect and change air filters in accordance with the CDC guidance and the PM Guide.

### **Additional Factors Limiting PBS's Adoption of the CDC and ASHRAE Air Filtration Guidance**

In addition to aging HVAC systems and inconsistent oversight of O&M contractors, we identified two other factors limiting PBS's ability to improve air filtration.

First, most O&M contracts for GSA-owned facilities do not specify a minimum MERV air filter rating. Of the 17 O&M contracts for the GSA-owned facilities we reviewed, 10 do not specify a MERV air filter requirement. In addition, we could not find any minimum air filter requirement in GSA's PM Guide, which contains standards for managing building equipment, including air filters.

Second, PBS did not accurately assess existing air filter conditions at some of its owned facilities. In August 2020, in response to the COVID-19 pandemic, PBS compiled assessment survey responses from its regional offices on building equipment and systems. Although the assessment survey asked for the initial and current air filter MERV rating in use, it did not address whether AHUs could handle MERV 13 or higher rated air filters.

We also found inaccuracies in the assessment survey data. For example, during our inspection of the Phillip Burton Federal Building and U.S. Courthouse in San Francisco, California, we

observed that several courtroom AHUs use MERV 8 air filters. However, the assessment survey response for the facility did not mention these courtrooms and stated the facility only uses MERV 13 air filters. In another example, the O&M contractor for the James R. Browning U.S. Courthouse in San Francisco, California, stated that changes to HVAC operation and air filter change frequency reported in the assessment survey were not made.

In sum, PBS is unable to consistently adopt the CDC guidance for improving air filtration in its owned facilities to help prevent workplace exposures to COVID-19. PBS should assess its HVAC systems to identify deficiencies in air filtration and use the results of this assessment to maximize central air filtration in existing HVAC systems without significantly reducing design airflow. In addition, PBS should ensure that O&M contractors change air filters to maintain air filter efficiency. PBS should also ensure that: (1) MERV air filter and preventive maintenance requirements are clearly identified in O&M contracts and (2) it accurately assesses AHU capabilities to identify areas to improve air filtration in GSA-owned facilities.

**Finding 2 – PBS is not consistently inspecting mechanical rooms in GSA-leased space to ensure that air filters meet lease requirements.**

PBS is not inspecting GSA-leased space to ensure that the air filters installed in the AHUs conform to lease requirements. As a result, lessors were using noncompliant air filters or air filters past their useful lives. This could lead to decreased air quality and increase the risk of workplace exposures to airborne viruses, including the virus that causes COVID-19, in these facilities.

All 16 GSA leases in our sample contain clauses that grant GSA access for inspections. For example, GSAM 552.270-9, *Inspection—Right of Entry*, grants PBS the right to perform mechanical room inspections and review preventive maintenance records of GSA-leased spaces.

Of those 16 lease agreements, 12 contained a minimum MERV air filter requirement. However, as demonstrated in the series of examples below, we found that PBS is not exercising its contractual rights to inspect the mechanical rooms. Therefore, PBS cannot ensure that lessors are meeting air filter requirements.

**Winchester Center, Kansas City, Missouri.** The U.S. Department of Agriculture occupies this building. The lease agreement for this building has required the use of MERV 13 air filters since March 1, 2010. During our inspection, we found that MERV 11 air filters were installed in the building’s AHUs. Additionally, the lessor’s building engineer told us the AHUs could not handle MERV 13 air filters.

We requested that PBS provide us with maintenance records for air filter changes as of January 2020. PBS did not provide the information we requested. Instead, PBS forwarded an email from the lessor’s building engineer that stated, “All we used are MERV 11 filters.”



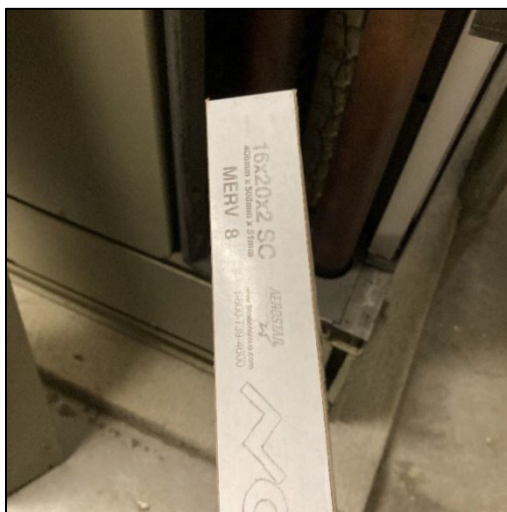
**Two Pershing Square, Kansas City, Missouri.** This building has a mix of government tenants, including a GSA regional office. The lease agreement for this building has required the use of MERV 13 air filters since November 16, 2006. During our inspection on May 11, 2021, we observed new air filters in operation dated May 5, 2021, just 6 days before our visit. We also asked PBS to provide us with maintenance records for air filter changes as of January 2020 for this building. In response, PBS forwarded an email from the property management company, which admitted to using MERV 11 air filters in some AHUs as recently as January 2021. They attributed this primarily to a shortage of MERV 13 air filters.

In addition, as described in the two examples below, lessor representatives impeded our efforts to access mechanical rooms to determine if the installed air filters met lease requirements. While we were ultimately able to work with PBS to gain access to these mechanical rooms, we found that the air filters either did not meet lease requirements or were replaced only after we attempted to conduct our inspections.

**Corporate Square Business Park, Buildings 8 and 12 (CDC Complex), Atlanta, Georgia.** GSA leases these buildings on behalf of the CDC. When we arrived on May 6, 2021, the lessor's property manager, RMR Group, initially denied us access to the mechanical rooms. However, after escalating the matter to the PBS Deputy Commissioner, we eventually gained access and conducted our inspections later that day.

The lessor's lead property engineer for the complex told us that both buildings require and use MERV 13 air filters, adding that RMR Group upgraded the AHUs from MERV 8 air filters in 2008. Upon inspection, we observed that MERV 13 air filters in some AHUs appeared to be new, with no dust accumulation. Further, in the fourth floor mechanical room of Building 8, we found MERV 8 air filters in operation (see *Figure 6*).

**Figure 6 – MERV 8 Air Filter in Operation at Building 8 of the CDC Complex, Atlanta, Georgia<sup>14</sup>**



<sup>14</sup> MERV 8 air filter in Building 8 of the CDC Complex. Photograph taken by the audit team on May 6, 2021.

When we asked the lead property engineer about the MERV 8 air filters, he stated that he did not know why those air filters were in use. In response to our requests for the preventive maintenance records for Building 8, the PBS building manager only provided an email from the RMR Group property manager that listed when they changed air filters by building. The PBS building manager provided no records, such as paper logs or Building Automation System reports, to support the dates provided in the email. In her email, the PBS building manager also stated, “Per the lessor, the [sic] have only used MERV 13 rating filters.” This response was not consistent with our observations.

**National Square, Washington, D.C.** On September 10, 2021, we inspected GSA-leased space at this location, which houses the U.S. Agency for International Development headquarters. We interviewed the lessor’s chief engineer, who was employed by the Lincoln Property Company. The lease agreement for this building has required the use of a combination of MERV 10 and MERV 13 air filters since March 8, 2018. During our inspection, we observed that some AHUs were fitted with MERV 8 air filters. The chief engineer told us that one of his employees erroneously marked the air filters as MERV 8 instead of MERV 13. He stated that he would provide purchase orders to support this, but failed to do so. After our inspection, we contacted the air filter manufacturer, who confirmed that MERV ratings are marked on the air filters prior to shipping.

During our interview with the chief engineer, he also told us that the air filters are replaced quarterly. However, we noted during our inspections that paper maintenance logs on the AHUs showed that the air filters had not been changed in more than a year. When we attempted to take pictures of the paper maintenance logs and other deficiencies noted during our inspection, the tenant agency’s building manager prevented us from doing so, citing U.S. Agency for International Development security restrictions. We returned the following week, on September 16, 2021, after PBS clarified our authority to conduct inspections of GSA-controlled facilities with the tenant agency. Upon our return, we observed new MERV 13 air filters throughout the facility. Additionally, the paper maintenance logs had been removed from the AHUs.

When we asked to see the old air filters and paper maintenance logs, property management officials told us that the old air filters had been disposed of and that they had destroyed the paper maintenance logs. We also requested that PBS provide us with the preventive maintenance records for this facility. However, PBS provided us with incomplete records. From those records, we could not confirm the frequency of air filter changes or the type of air filters previously in operation.

Finally, air filters were replaced at six GSA-leased spaces after we notified PBS of our planned inspections. We provide two examples below.

**Parklawn Office Building, Rockville, Maryland.** At this HHS location, we noted air filters that were dated September 8, 2021, the day we arrived for our inspection. It also appeared that one air filter date was changed from January 4, 2021, to September 7, 2021. Upon close inspection,

we noted that the pleats of this air filter also had dust and dirt accumulation, which would not be consistent with a newly installed filter (see *Figure 7*).

**Figure 7 – Air Filter in an AHU at the HHS Parklawn Office Building, Rockville, Maryland<sup>15</sup>**



We requested that PBS provide us with the preventive maintenance records for this facility. In response, the PBS National Capital Region Chief of Staff told us that the lessor was unable to provide the records because it performs repair and maintenance work using the building engineer instead of an O&M contractor. However, regardless of whether the work is performed by the building engineer or by a contractor, the lessor should have preventive maintenance records available in accordance with the lease agreement.

**Airport Corporate Centre, Oakland, California.** During our inspection of U.S. Transportation Security Administration office space at this location, we observed entire racks of air filters missing from the AHUs we inspected (see *Figure 8* on the next page). In addition, we observed open boxes with new air filters in the mechanical rooms. The lessor's property manager arrived late to our scheduled interview and did not participate in the mechanical room inspection. PBS did not provide us with preventive maintenance records for this facility.

---

<sup>15</sup> MERV 13 air filter at the HHS Parklawn Office Building photographed from top view (left photo) and side view (right photo). Photographs taken by the audit team on September 8, 2021.

Figure 8 – AHU with Missing Air Filters at the Airport Corporate Centre, Oakland, California<sup>16</sup>



In sum, PBS building managers for 13 of the 16 leased spaces we inspected told us that GSA does not inspect mechanical rooms. Instead, building managers told us that annual inspections of lease locations are typically limited to areas such as cleaning, repair and alteration projects, and space configuration. However, PBS has much broader access rights available under GSAM 552.270-9, *Inspection—Right of Entry*. PBS should exercise these rights to periodically inspect mechanical rooms to ensure that air filters meet lease requirements and help prevent workplace exposures to airborne viruses, including the virus that causes COVID-19.

---

<sup>16</sup> AHU air filter racks with missing air filters at the Airport Corporate Centre. Photographs taken by the audit team on October 14, 2021.

---

## ***Conclusion***

---

The CDC's *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)* recommends improving building ventilation to slow the spread of COVID-19 in the workplace. To do so, the CDC recommends increasing air filtration to the highest possible level without significantly reducing design airflow. It also advises employers to check AHU air filters to ensure they are within their service lives and are appropriately installed. The CDC guidance incorporates the ASHRAE technical resources, which state that MERV 13 or higher rated air filters are efficient at capturing airborne viruses.

PBS faces challenges in its efforts to improve air filtration in GSA-controlled facilities to help prevent workplace exposures to COVID-19. PBS cannot install the recommended air filters in some GSA-owned facilities because the aging HVAC systems cannot handle MERV 13 air filters. In addition, PBS is not consistently verifying that O&M contractors change air filters or meet preventive maintenance requirements for AHUs in GSA-owned facilities. Also, PBS is not consistently inspecting GSA-leased space to ensure that air filters meet lease requirements. In some cases, lessors used noncompliant air filters or did not change them regularly. As a result, PBS is using air filters in some GSA-controlled facilities that are less efficient at capturing airborne viruses, including the virus that causes COVID-19.

PBS should address these deficiencies to decrease the risk of exposure to COVID-19 in GSA-controlled facilities. For GSA-owned facilities, PBS should implement actions to maximize central air filtration without significantly reducing design airflow. PBS should also ensure that O&M contractors change air filters regularly. In addition, PBS should ensure that O&M contracts clearly identify MERV air filter and preventive maintenance requirements. Further, PBS should establish controls to ensure that it obtains and maintains preventive maintenance records. Lastly, PBS should accurately assess AHU capabilities to identify areas to improve air filtration in GSA-owned facilities.

For GSA-leased space, PBS should review and update future lease agreements to ensure MERV air filter and preventive maintenance requirements are documented. Additionally, PBS should ensure that lessors maintain preventive maintenance records and provide timely access to mechanical rooms. PBS should also conduct regular inspections of mechanical rooms and preventive maintenance records to verify lessor compliance with air filtration and record-keeping requirements.

## Recommendations

We recommend that the PBS Commissioner:

1. For GSA-owned facilities:
  - a. Conduct an accurate and complete assessment of HVAC systems to identify deficiencies in air filtration. Based upon the assessment, PBS should maximize central air filtration in existing HVAC systems without significantly reducing design airflow;
  - b. Review and update current and future O&M contracts to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules;
  - c. Establish controls to ensure that PBS obtains and maintains complete preventive maintenance records; and
  - d. Ensure that contracting officer representatives conduct inspections of mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.
2. For GSA-leased space:
  - a. Review and update current and future lease agreements to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules;
  - b. Ensure that lessors maintain and provide required preventive maintenance records and provide timely access to mechanical rooms; and
  - c. Ensure that PBS representatives inspect mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.

## GSA Comments

The PBS Commissioner agreed with Recommendations 1c-d, and partially agreed with Recommendations 1a-b and 2a-c. The PBS Commissioner's comments are summarized below.

1. Addressing the timing and context of our audit, the PBS Commissioner commented that when our audit commenced in March 2021, PBS building managers had little flexibility in meeting CDC air filtration recommendations. According to the PBS Commissioner, this was due to the ongoing pandemic, limited operations of federal and commercial buildings, supply shortages, and engineering limitations in existing HVAC systems.
2. In partially agreeing with Recommendation 1a, the PBS Commissioner commented that an assessment of PBS's inventory may require additional resources and potentially take several years to complete. PBS also expressed concern with wording that was originally included in the recommendation that called for PBS to "identify and prioritize maintenance projects to improve central air filtration to as high as possible without significantly reducing airflow." PBS commented that improving central air filtration is highly resource intensive and essentially requires the redesign of all HVAC systems.

3. In partially agreeing with Recommendation 1b, the PBS Commissioner commented that it would be redundant to modify all existing O&M contracts to include MERV ratings because the MERV ratings are already included in O&M contracts by reference.
4. In partially agreeing with Recommendations 2a-c, the PBS Commissioner wrote that PBS “will investigate the scope and severity of the findings to determine an appropriate course of action.” The PBS Commissioner added that “[l]eases are performance-based contracts and do not have prescriptive submission requirements for preventive maintenance schedules.”
5. The PBS Commissioner commented that PBS is concerned that we did not incorporate findings from this report into our ongoing audit on ventilation, writing that “[f]iltration is an integral component of ventilation, and they are not segregable from an operational standpoint.”

PBS’s written comments are included in their entirety in **Appendix C**.

## OIG Response

In consideration of PBS’s comments, we made certain revisions to Recommendation 1a. These revisions did not affect our findings and conclusions. We address PBS’s comments and describe our revisions below.

1. We purposefully chose our audit period to provide management with the clearest and most useful picture of existing HVAC conditions. Our audit commenced 10 months after the CDC’s May 2020 issuance of its *Guidance for Businesses and Employers Responding to Coronavirus Disease 2019*, which recommended increased air filtration in HVAC systems. We recognize the unprecedented challenges brought about by the pandemic. Nonetheless, these challenges do not diminish PBS’s responsibility to adopt CDC guidance for limiting exposure to COVID-19 by improving central air filtration in GSA-controlled facilities.
2. We disagree with PBS’s assertion that the assessment of HVAC systems called for in Recommendation 1a will take a significant amount of time and resources. PBS previously surveyed its regional offices in August 2020 to determine AHU capabilities and compiled the responses into a *GSA COVID-19 HVAC Response Google Assessment Survey*. This assessment survey requested the current planned or completed HVAC system actions, including the existing level of air filtration. PBS could use this assessment survey as a good starting point for the accurate and complete assessment called for in our recommendation.

While we reaffirm the need for an assessment of HVAC systems, we acknowledge PBS’s concerns with the draft report’s recommendation that PBS “identify and prioritize maintenance projects to improve central air filtration to as high as possible without

significantly reducing airflow.” Accordingly, in the final report we revised the recommendation to provide that, based on the assessment of HVAC systems:

PBS should maximize central air filtration in existing HVAC systems without significantly reducing design airflow.

We made other revisions in the report to mirror the revised recommendation. These revisions did not affect our findings and conclusions.

3. The PBS Commissioner disagreed with modifying all current and future O&M contracts to include building-specific air filter MERV requirements, as called for in Recommendation 1b. The PBS Commissioner asserted that the contracts already incorporate these requirements by reference. We disagree. The contract clauses incorporated by reference into the O&M contracts are not building-specific. Moreover, as described in *Finding 1*, HVAC system MERV requirements varied significantly among buildings. Therefore, we reaffirm our recommendation.
4. In commenting on Recommendations 2a-c, the PBS Commissioner wrote:

PBS partially agrees with the recommendation and will investigate the scope and severity of the findings to determine an appropriate course of action. Leases are performance-based contracts and do not have prescriptive submission requirements for preventive maintenance schedules.

We reaffirm our recommendation.

While the PBS Commissioner is correct in that PBS does not dictate preventive maintenance schedules for leases, the majority of the leases we sampled provide GSA access to mechanical rooms and preventive maintenance records. Accordingly, PBS is entitled to the lessor-developed preventive maintenance schedules necessary to perform effective quality assurance and physical inspections. This is particularly important since, as described in *Finding 2*, multiple lessors failed to comply with air filter MERV requirements or change air filters that were well past their useful lives.

The PBS Commissioner also provides that PBS will assess “the scope and severity of the findings to determine an appropriate course of action.” While we do not object to PBS’s plans to perform such an assessment, we are concerned with PBS’s assertion that it will determine an “appropriate course of action.” *Finding 2* clearly demonstrates that problems exist in the preventive maintenance practices in leased space. The actions described in our recommendation provide an “appropriate course of action” based on our finding. We look forward to a corrective action plan that details the specific actions PBS will take to address our recommendation.



5. We recognize the close link between air filtration and ventilation. However, we elected to conduct our air filtration and ventilation audits separately to more effectively allocate our available audit resources. We will consider and reference the actions PBS takes in response to this audit report in our ongoing ventilation audit.

### **Audit Team**

This audit was managed out of the Southeast Sunbelt Region Audit Office and conducted by the individuals listed below:

Nicholas V. Painter	Regional Inspector General for Auditing
David Garcia	Audit Manager
Wesley C. Zehms	Auditor-In-Charge
Jeremy D. Boozikee	Management Analyst

---

## **Appendix A – Objective, Scope, and Methodology**

---

### **Objective**

Our audit objective was to determine whether GSA has implemented the CDC recommendations and GSA policy to limit exposure to COVID-19 in GSA-controlled facilities by improving central air filtration in HVAC systems.

### **Scope and Methodology**

We evaluated policies, procedures, and internal controls related to central air filtration in HVAC systems.

To accomplish our objective, we:

- Reviewed O&M contracts and lease agreements for requirements that provide parameters for HVAC air filter maintenance;
- Inspected mechanical rooms for a judgmental sample of 33 GSA-controlled (17 owned and 16 leased) facilities;
- Analyzed GSA, CDC, ASHRAE, and other guidance related to the operation of HVAC systems during COVID-19;
- Reviewed available Facility Security Assessments for our sample of GSA-controlled facilities;
- Reviewed the results of the *GSA COVID-19 HVAC Response Google Assessment Survey*, which was conducted in response to the COVID-19 pandemic;
- Requested preventive maintenance records for our sample of 33 GSA-controlled facilities and reviewed the records for 21 facilities that PBS provided; and
- Interviewed PBS officials and O&M contractor and lessor representatives.

### **Data Reliability**

We assessed the reliability of data through reconciliation and analysis of assessment survey and preventive maintenance records to building inspections and interviews. We found that the assessment survey response data contained incomplete or blank entries, errors, and entries that were inconsistent with our own inspections. We also could not rely on the majority of the preventive maintenance records provided to us because they were incomplete. Therefore, we relied on our own observations through building inspections and reviews of O&M contracts and lease agreements.

## Sampling

We derived our judgmental sample from a listing of GSA-controlled facilities that PBS provided on December 29, 2020. Our nationwide sample included 33 buildings from five metropolitan areas—Atlanta, Georgia; Washington, D.C.; San Francisco, California; Oakland, California; and Kansas City, Missouri. We considered the following factors when selecting the sample:

- Climate
- Proximity to and between building locations to limit travel
- Distribution between owned and leased locations within each metropolitan area
- Building population
- Security level
- Mix of tenant agencies
- Public access (open or closed) due to the pandemic

## Internal Controls

We assessed internal controls significant within the context of our audit objective against GAO-14-704G, *Standards for Internal Control in the Federal Government*. The methodology above describes the scope of our assessment and the report findings include any internal control deficiencies we identified. Our assessment is not intended to provide assurance on GSA's internal control structure as a whole. GSA management is responsible for establishing and maintaining internal controls.

## Compliance Statement

We conducted the audit between March 29, 2021, and February 4, 2022, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

## Appendix B – Building Inspection Details

GSA-Controlled Facility	Location #	Type	Min. Air Filter in Use	Aging HVAC	Contract Req. Not Met	MERV Not Required	Past Service Life	Impeded Audit
Note (1)			(2)	(3)	(4)	(5)	(6)	(7)
50 United Nations Plaza	CA0093	Owned	MERV13			✘		
James R. Browning U.S. Courthouse	CA0096	Owned	MERV13			✘	✘	
Phillip Burton Federal Building and U.S. Courthouse	CA0154	Owned	MERV8			✘		
Ronald Dellums Federal Building	CA0281	Owned	MERV13			✘		
San Francisco Federal Building	CA0305	Owned	MERV13			✘		
USDA South Building	DC0005	Owned	MERV8	✘				
Herbert C. Hoover Building	DC0013	Owned	ROLL	✘				
GSA Headquarters Building	DC0021	Owned	MERV10	✘		✘		
Mary E. Switzer Federal Building	DC0033	Owned	MERV13			✘	✘	
James V. Forrestal Federal Building	DC0093	Owned	ROLL	✘				
Ronald Reagan Federal Building	DC0459	Owned	MERV13					
M.L. King Jr. Federal Building	GA0007	Owned	MERV13			✘		
IRS Annex Atlanta	GA0010	Owned	MERV7			✘		
Peachtree Summit Federal Building	GA0087	Owned	MERV8	✘				
2306 E. Bannister Road	MO0039	Owned	MERV8	✘		✘		
Richard Bolling Federal Building	MO0127	Owned	MERV13					
8930 Ward Parkway	MO0134	Owned	MERV13					
Airport Corporate Centre	CA6124	Leased	MERV13					
75 Hawthorne Street	CA6330	Leased	MERV15					
1111 Broadway	CA7344	Leased	MERV15					
120 Montgomery	CA7833	Leased	MERV13				✘	
1 Sansome Street	CA8409	Leased	MERV14					
National Square	DC0290	Leased	MERV8		✘		✘	✘
Judiciary Center	DC0321	Leased	MERV13			✘		
Union Center Plaza IV	DC0454	Leased	MERV13			✘	✘	
Sam Nunn Atlanta Federal Center	GA1007	Leased	MERV12			✘		
CDC 12 Corporate Square	GA2073	Leased	MERV13					✘
CDC 8 Corporate Square	GA2188	Leased	MERV 8			✘		✘
HHS Parklawn Office Building	MD1324	Leased	MERV13					
Parklawn North	MD1869	Leased	MERV13					
Winchester Center	MO1867	Leased	MERV11		✘			
IRS Kansas City Campus	MO1937	Leased	MERV13					
Two Pershing Square	MO1965	Leased	MERV11		✘			

**Notes:**

1. This column presents our nationwide sample of 33 facilities we inspected.
2. This column presents the minimum MERV ratings for the air filters used in each of the 33 facilities. Air filters in the 13 facilities that had MERV ratings below MERV 13 limit the ability to capture airborne viruses. See *Finding 1* and *Finding 2* for more details.
3. This column indicates the six facilities with aging HVAC systems. See *Finding 1* for more details.
4. This column indicates the three GSA-leased locations that failed to meet the minimum MERV air filter lease agreement requirements. See *Finding 2* for more details.
5. This column indicates 14 GSA-controlled facility contracts we reviewed that do not specify a minimum MERV rating for their air filters. See *Finding 1* and *Finding 2* for more details.
6. This column indicates the five GSA-controlled facilities with AHU air filters in operation past their service lives. See *Finding 1* and *Finding 2* for more details.
7. This column indicates the lessors at three GSA-leased spaces who impeded our audit. See *Finding 2* for more details.

---

## Appendix C – GSA Comments

---

DocuSign Envelope ID: DA25A450-C879-4836-AEA3-B181B68BF4AD



Public Buildings Service

September 07, 2022

**MEMORANDUM FOR:** NICHOLAS V. PAINTER  
REGIONAL INSPECTOR GENERAL FOR AUDITING  
SOUTHEAST SUNBELT REGION AUDIT OFFICE (JA-4)  
OFFICE OF INSPECTOR GENERAL

**FROM:** NINA M. ALBERT  
COMMISSIONER  
PUBLIC BUILDINGS SERVICE (P)

**SUBJECT:** PBS Response to OIG Draft-COVID-19: *PBS Faces Challenges in its Efforts to Improve Air Filtration in GSA-Controlled Facilities*  
*Report No. A201018-5 (August 12, 2022)*

Thank you for the opportunity to comment on the subject draft report. The Public Buildings Service (PBS) appreciates the U.S. General Services Administration (GSA) Office of Inspector General (OIG) sharing the draft version of the report and providing an opportunity for feedback. PBS reviewed the draft audit report and provides the following information in response.

### Timing and Context

According to the draft report, OIG commenced the audit on March 29, 2021, 12 months after COVID-19 was declared a pandemic. It is important to note that the pandemic was still ongoing, the majority of the Federal workforce was working remotely and many Federal and commercial buildings were closed or operating in a limited capacity. Furthermore, the filter material used to manufacture Minimum Efficiency Reporting Value (MERV) filters and N95 masks was in short supply, as prominently documented in the media, and significant shortages existed in the marketplace. These factors, and engineering limitations of existing heating, ventilation, and air conditioning (HVAC) systems, left building managers little flexibility in meeting the Centers for Disease Control and Prevention air filtration recommendations.

### Responses to OIG Recommendations

001A: OIG recommends that, for GSA-owned facilities,<sup>1</sup> the PBS Commissioner conduct an accurate and complete assessment of HVAC systems to identify and prioritize maintenance projects to improve central air filtration to as high as possible without significantly reducing design airflow.

---

<sup>1</sup> PBS notes that the facilities referred to by OIG as "GSA-owned" are federally owned and under the jurisdiction, custody and control of GSA.

PBS partially agrees with this recommendation and recognizes the importance of improving central air filtration. However, PBS notes that a complete assessment of its inventory, as OIG recommends, may require additional resources and take a significant amount of time, potentially several years. As such, PBS will determine how best to prioritize the assessments to have the most impact on the portfolio quickly. The recommendation to improve central air filtration to as high as possible without significantly reducing design airflow is highly resource intensive, essentially requiring the redesign of all HVAC systems. Further, most air handling systems are designed for a specific purpose, and problems can be created by modifying them from the original design to exceed the intended performance specifications. Each air handling unit (AHU) should be capable of performing as designed and PBS agrees to verify that the AHUs are performing as designed. Lastly, it would be wasteful of government funds to redesign HVAC systems without the funding necessary to implement the proposed modifications, which usually would require significant alteration or replacement of the systems. For that reason, it would be most effective to redesign units as funding for their replacement or renovation becomes available.

001B: OIG recommends that, for GSA-owned facilities, the PBS Commissioner review and update current and future operations and maintenance (O&M) contracts to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules.

PBS partially agrees with this recommendation. PBS will identify the required MERV air filters and the Contracting Officer's Representative will review and approve preventive maintenance schedules submitted by the vendor in all new O&M contracts and will modify existing contracts in those cases where significant deficiencies are identified during the investigatory work performed in accordance with Recommendation 001A, above. PBS will provide oversight to verify that the required air filters and preventative maintenance schedules are maintained. PBS disagrees with the recommendation to modify all existing contracts to include a parenthetical MERV rating, which is already included in the contract by reference, because doing so would be redundant.

001C: OIG recommends that, for GSA-owned facilities, the PBS Commissioner establish controls to ensure that PBS obtains and maintains complete preventive maintenance records.

PBS agrees with the recommendation to expand and monitor implementation of current systems to assure inventory-wide consistency. PBS seeks clarification on the finding that "PBS is not consistently verifying that O&M contractors change air filters or meet preventive maintenance requirements for air handling units in GSA-owned facilities." Neither the findings nor the accompanying narrative in general include examples of incomplete maintenance records (e.g., work orders).

001D: OIG recommends that, for GSA-owned facilities, the PBS Commissioner ensure contracting officer representatives conduct inspections of mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.

PBS agrees that Contracting Officer's Representatives should inspect and review records to verify that the filters meet the MERV design requirements.

002A: OIG recommends that, for GSA-leased space, the PBS Commissioner review and update current and future lease agreements to ensure that they clearly identify the required MERV air filters and preventive maintenance schedules.

PBS partially agrees with this recommendation and will investigate the scope and severity of the findings to determine an appropriate course of action. Leases are performance-based contracts and do not have prescriptive submission requirements for preventive maintenance schedules.

002B: OIG recommends that, for GSA-leased space, the PBS Commissioner ensure that lessors maintain and provide required preventive maintenance records and provide timely access to mechanical rooms.

PBS partially agrees with the recommendation and will investigate the scope and severity of the findings to determine an appropriate course of action. Leases are performance-based contracts and do not have prescriptive submission requirements for preventive maintenance schedules.

002C: OIG recommends that, for GSA-leased space, the PBS Commissioner ensure PBS representatives inspect mechanical rooms and preventive maintenance records to ensure that air filters meet MERV requirements.

PBS partially agrees with the recommendation and will investigate the scope and severity of the findings to determine an appropriate course of action. Leases are performance-based contracts and do not have prescriptive submission requirements for preventive maintenance schedules.

Additionally, PBS remains concerned that the findings from this draft report were not incorporated into the ongoing OIG audit on ventilation (Report No. A201018-6). Filtration is an integral component of ventilation, and they are not segregable from an operational standpoint.

Thank you again for the opportunity to review and comment on the draft report. If you have any questions, please contact me on (202) 501-1100.



---

## ***Appendix D – Report Distribution***

---

GSA Administrator (A)

GSA Deputy Administrator (AD)

PBS Commissioner (P)

PBS Deputy Commissioner (PD)

Chief of Staff (PB)

Deputy Chief of Staff (PB)

Assistant Commissioner for Strategy & Engagement (PS)

Chief Financial Officer (B)

Deputy Chief Financial Officer (B)

Office of Audit Management and Accountability (BA)

Assistant Inspector General for Auditing (JA)

Deputy Assistant Inspector General for Acquisition Program Audits (JA)

Deputy Assistant Inspector General for Real Property Audits (JA)

Director, Audit Planning, Policy, and Operations Staff (JAO)