

SBCC
HVAC Presentation July 2, 2021
Questions and Answers from the ZOOM Chat

As of August 24, 2021

During the HVAC presentation given on July 2, 2021, written questions were provided in the ZOOM chat. The questions taken from the ZOOM chat are included here, along with answers in blue font. The answers are subject to change as protocols and procedures continue to evolve with the pandemic.

1. Q: *When will this recording be available?*

A: on July 8, 2021 the link was sent by Lyndsay Maas via email to all employees.

2. Q: *Is there a link to a doc with the room results that you could share in the chat?*

A: All building HVAC assessment reports are posted on the [Business Services Return to Campus](#) website under the HVAC drop down section, entitled Airflow Study Reports.

3. Q: *What I'm not clear on is that my office does have HVAC but it wasn't tested -- he said only those without HVAC were not tested. And I don't have a window. Can you give me more info about that situation?*

A: We understand this question was specific to an office in the Administration Building, on the 1st floor wing. That area of the Administration Building does not have HVAC systems (for example, there is no outside air being forced into the room and no interior air being removed from the room to create air exchange). However, the office in question does have a wall mounted split unit to provide cooling to the office. This particular type of unit only provides cooling, it does not bring outside air into the office, which is why the HVAC consultant did not test it. Per the HVAC consultant's recommendations, we recommend the employee in this office request a HEPA air purifier from facilities.

4. Q: *Going back to the HVAC thermostat temperature control setting info. How does this affect the AC in buildings? It doesn't feel like it is on currently and I'm not sure if it is because of an assumption that people are not working inside the building.*

A: This question was from an employee who works in the EBS building on the second floor. The air conditioning is on in EBS, and it is on in all buildings that have centrally controlled air conditioning. The temperature is at a set point of 70 to 74 degrees. If the temperature rises above 74 degrees, the air conditioning comes on and brings the temperature down to 72 degrees.

5. Q: *Minimize capacity was mentioned? Was this quantified? If so, are the recommendations for capacity different for non-air-conditioned rooms vs air-conditioned rooms?*

A: This question is in reference to the mention of room capacities in the HVAC assessment reports. Facilities met with the HVAC consultant to learn the rationale

behind their recommendation to reduce room capacities. The recommendation was based on the concept of social distancing and was not specific to the HVAC systems or rooms specifically. The recommendations for capacity are not different for non-air conditioned rooms versus air-conditioned rooms.

6. Q: *DSPS is waiting for one of the East Campus Classrooms (ECC06) to pass the ventilation test. We plan to offer a class there in the fall. You mentioned that P&A will be on campus 7/7&8--will those classrooms be retested then? When should we expect an updated report for that area?*

A: The HVAC consultant retested ECC06 on July 8, 2021. The updated "East Campus Classroom" report is on the [Business Services Return to Campus](#) website under the HVAC Report drop down section. Rooms are under their correlating building reports.

7. Q: *Room temperature was mentioned. Is there a safety reason why the temperature should be between 70 and 74 degrees?*

A: The room temperature being set between 70 and 74 degrees is based on the district's desire to be energy conscious, while also providing a comfortable environment.

8. Q: *What is the status of classrooms in IDC? Airflow has been a serious problem there for a long time. We have some "internal" rooms that have no windows, and the wall-mounted AC units in there are old and pretty weak. It sounds like we are being informed that we can use all of those classrooms, but I'm very concerned that they're not safe.*

A: Offices and classrooms without HVAC systems or windows can be occupied. For offices and classrooms without HVAC, the HVAC consultant provided the following recommendations, which we are implementing when requested:

- Minimize classroom density.
- Place portable HEPA filter air purifiers in classrooms of concern. These units recirculate room air at a specified rate (can be tested) through a system of pre-filter and HEPA filters and help provide clean filtered air to the area.

9. Q: *What is the timeline for retesting the rooms that did not meet the ASHRAE standards?*

A: Many rooms have been retested on July 7, July 8, August 12, and August 24, 2021. The HVAC consultant will be available to retest additional rooms that have received modifications to the HVAC systems on a monthly basis at least through the end of 2021. Each revised Report is also listed on the [Business Services Return to Campus](#) website under the HVAC drop down section (Building name, REV 1 or REV 2)

10. Q: *Can the ionizing feature be "turned off" on the purifiers. As an asthmatic, I'd prefer not to have an ionizer in my office or classroom.*

A: Yes, the UV air purifier feature can be turned off on the two smaller Medify Air devices, by either pushing the "UV" button on the MA50 model, or pushing the "Ionizer" button on the MA112 model. Some additional information about the three models of

HEPA air purifiers we have purchased are as follows: the Medify Air model MA50 is the smaller size for offices and the MA112 is the medium size for most classrooms. The third model is made by a different company and is the Omni CleanAIRE OCA1200, which is the largest size for large lecture halls or large shared spaces. The Omni Clean does not have the option to disable the UV purification system.

11. Q: *The entire SEL program is in Wake and Schott campuses — “older buildings”. Do all teachers have to go into their classrooms after August 16 and verify that the HEPA purifiers are there and that the Windows have been repaired so that they will actually open?*

A: No. Facilities has placed HEPA air purifiers in all classrooms on Wake and Schott campuses, and all of the windows are operational.

12. Q: *Are the filters going to be replaced regularly, if so how often? It was my understanding that the filters are good for 30 days. Do we have the workforce to place these filters in a timely matter?*

A: The filters are good for more than 30 days. The HEPA filters last for 2,500 hours for the MA50 and 3,000 hours for the MA112 within the Medify Air purifiers. The MERV filters last for 2,160 hours and the HEPA filters last for 1 year within the Omni CleanAire OCA1200 purifier (these are the largest HEPA air purifiers). Facilities has replacement air filters on hand and are prepared to replace the filters in a timely manner when in need of replacement. Facilities will rely on staff to notify them when they need to be replaced, based on the indicator light on the filters.

13. Q: *Our CS lab classrooms H244 and H245 have no windows, and only 1 door each and H245 had one of the worst airflow results in the report and did not meet the ASHRAE standards. Will airflow/ventilation get retested after modification/HEPAs are installed? Is there a timeline for this?*

A: Humanities rooms H244 and H245 were retested on July 8, 2021. The updated “Humanities” building report is on the [Business Services Return to Campus](#) website under the HVAC drop down section.

14. Q: *Are you only going to accept chat questions now? My comments and questions are a bit long for the chat. I was the 2nd person to raise my hand, way, way before most of the chat questions!*

A: Thank you for your patience while we answered the multitude of written and verbal questions during the zoom meeting. Verbal questions and answers were recorded during the zoom meeting and answered as time allowed in the order received, verbally. Yes, Chat questions were requested and are answered in this document for reference.

15. Q: *Are the stand-alone devices available to anyone, HEPA filter devices only, or are they only air ionizing devices?*

A: Any employee can request a HEPA air purifier through a facilities work order. The devices include a HEPA air purifier feature and an ionization feature, which can be turned off on the Medify Air models.

16. Q: *I'm concerned that we are being asked to come back in august when the status of the rooms is uncertain, there is no vaccine mandate, there is no mask mandate, and we will not be at reduced capacity. How can claims of safety be accurate?*

A: The district is going above and beyond state and local requirements to provide the safest environment possible. As of August 6, the Santa Barbara County Public Health Department reinstated the requirement of face coverings indoors. As of August 12, The District has implemented a vaccination mandate for employees and students when inside campus buildings. Additionally there is a \$100 incentive for students to upload their vaccination card into our system. Per the July 2021 MOU with the Faculty Association: for Fall 2021, class caps are lowered to 65% of the regular class size for in-person classes based on the course of record (COR). Departments may schedule up to 100% capacity classes upon request of the department chair.

The HVAC reports are not to be relied on as the way to determine if rooms are safe to occupy. The scope of work was to test supply airflows for all indicated classrooms, lecture halls and offices to determine air change rates for each room/area. All tested airflows listed in the report can only be used to evaluate the condition of the HVAC system. The standards referenced are meant to evaluate the HVAC systems only and cannot in any way be used in regard to health and safety recommendations. Air change rate levels listed in these reports are based on current ASHRAE Standard recommendations.

17. Q: *Or are they a combination of both HEPA filter and air ionizing devices?*

A: The portable HEPA air purifiers the district purchased for use in classrooms and offices are indeed a combination of both HEPA air filters and air ionizing devices. The ionization feature can be turned off on the Medify Air models.

18. Q: *I'm almost positive a "UV air purifier" is just a type of ionizing device.*

A: The UV air purifier is not the same technology as an air ionizer device. UV light is used to degrade DNA or RNA rendering the virus or bacteria nonviable. UV light causes electromagnetic energy that destroys cells. Ionization charges the air so that particles stick together and form easily filterable particles. An additional explanation is as follows: UV-C light does create ions, by breaking up covalent bonds and ionizer creates ions by electrically adding electrons, which negatively charges O₂, making it susceptible to binding to a third oxygen atom, which produces ozone.

19. Q: *Was the "minimize capacity" recommendation quantified? If not, can you please ask the outside evaluator to please quantify this recommendation?*

Do UV purifiers emit ozone too?

A: The "minimize capacity" recommendations from the HVAC consultant was not quantified. Facilities met with the HVAC consultant to learn the rationale behind their

recommendation to reduce room capacities. The recommendation was based on the concept of social distancing and was not specific to the HVAC systems or rooms specifically.

The HEPA air purifiers purchased for use on our campuses utilize a UV-C bulb, which does not emit ozone. The manufacturers confirmed this information provided us with the specifications of the UV-C bulb. According to the manufacturers, Medify Air and Spycor, the UV lights produce wavelength of 254 nm, which is safely between the 240-280 nm of UV light that is required to destroy ozone via photosynthesis of the ozone molecule. An explanation of ozone creation from UV can be found here.

<https://www.oxidationtech.com/ozone/ozone-production/uv-lamp.html>

Despite the manufacturer's information that these devices do not emit ozone, if you have concerns with ozone production, you can turn off the UV light purification feature. The HEPA air purifier is more than sufficient to purify the air without the UV lights turned on. The UV air purifier feature can be turned off on the two smaller Medify Air devices, by either pushing the "UV" button on the MA50 model, or pushing the "Ionizer" button on the MA112 model. The larger Spycor model does not have a feature to turn off the UV air purifier.

Some additional information about the HEPA air purifiers is at the following links:

<https://medifyair.com/pages/faq>

https://www.spycor.com/help_answer.asp?ID=19#217

20. Q: *We have had our hands up from the beginning. Why are you ignoring us? This feels really disrespectful.*

A: Verbal questions were answered as much as possible during the presentation and afterwards. We appreciate everyone's participation and providing written questions in the chat when time did not permit during discussion. The extension of time for the discussion after the presentation seemed to conclude that the "hands up" were addressed verbally. If there are more questions not answered in the recording or in this Q&A for the group chat questions, please send them to facilities@sbcc.edu for immediate feedback.

21. Q: *I would like to echo PG.'s concern. I've heard that we have met or exceeded standards, but I don't understand how that's consistent with the status of our classrooms in IDC.*

A: Yes, the district has exceeded previously published California Department of Public Health Higher Education guidelines specific to ventilation, CalOHSAs recommendations, and CDC guidelines. Specific to the IDC classrooms, classrooms without HVAC systems or windows can be occupied, as the district is working to implement the HVAC consultants following recommendations:

- Minimize classroom density.
- Place portable HEPA filter air purifiers in classrooms of concern. These units recirculate room air at a specified rate (can be tested) through a system of

pre-filter and HEPA filters and help provide clean filtered air to the area.

22. Q: *Devices with HEPA filters often have an inexpensive pre-filter to make the HEPA filter last longer.*

A: The Medify Air HEPA Purifiers utilize:

- Pre-filter removes hair, fibers, and large particles like dander.
- The high-efficiency H13 TRUE HEPA filter is tested to removed 99.9% of particles down to 0.1 microns. This higher-grade of HEPA filter easily catches pollen, dust mites, and other tiny airborne particles.
- Substantial carbon filters with carbon pellets remove toxic odors, smoke, and formaldehyde.

Onmi CleanAire OCA1200 utilize:

- The MERV PreFilter removes larger airborne particles such as pollen, dust, tobacco smoke etc.) This also extends the life of high efficiency filter.

23. Q: *I'm concerned that we are being asked to come back in august when the status of the rooms is uncertain, there is no vaccine mandate, there is no mask mandate, and we will not be at reduced capacity. How can claims of safety be accurate?*

A: Please see question and answer number 16 above.

24. Q: *We also have the very contagious Delta variant now in SB County. Is leadership talking about this? Again, without a vaccine mandate we will become a magnet school for those who will not be able to attend the CUs and CSUs*

A: Yes, the leadership team continues to monitor the COVID pandemic situation and will continue to follow any recommendation or requirements issued by CalOSHA, the California Department of Public Health and the Santa Barbara County Public Health Department. As of August 12, The District has implemented a vaccination mandate for employees and students when inside campus buildings.

25. Q: *It's not good to tell people the HVAC is working and on when it's not. Is the HVAC working?*

A: To date, all systems are operational and continue to be monitored by Facilities.

26. Q: *Chelsea isn't worried about it *changing* She's calling attention that it's weird that it was exactly double*

A: PS Room 208:

Total SA (Supply Airflow) is the sum of all supply airflow coming from registers inside room 208 – in this case there are 4 registers in the room, (see individual room data sheets at the end of the report) = 817 CFM (cubic feet per minute). This is the airflow being supplied to the room by the HVAC system.

OSA (Outside airflow) – set at 100% (factor 1). Outside airflow is calculated by multiplying the total Supply airflow (817 CFM) by the outside air factor (1) which comes out to 817 CFM. Again, 100% of the total supply airflow is outside air.

The Total SA and OSA figures in the report for the second floor of the PS building are calculated and listed accurately. The Total SA and OSA amounts are equal. The airflow being supplied by the HVAC system is set to 100% of outside air, therefore they are the same figure.

ASHRAE Minimum required OSA is calculated based on room type. As room 208 is listed as a Class Lab, the “Science Laboratories” listed factor is 0.57. ASHRAE calculates the required OSA amount by room area only. To calculate the required OSA amount, you multiply the total room area (1,164 sq ft) x the factor (here: 0.57). Hence, the calculation is as follows: $1164 \times 0.57 = 663$ CFM. Thus, our outside airflow tested (817 cfm) is more than ASHRAE required (663 CFM).

PS Room 101:

Total SA in this location (see individual room data sheets at the end of the report) = 2,557 CFM.

OSA (Outside airflow) – set at 20% (factor 0.2). Outside airflow is calculated by multiplying the total Supply airflow (2,557 cfm) by the outside air factor (0.2) which comes out to 511.4 CFM. Again, only 20% of the total supply airflow is outside air.

ASHRAE Minimum required OSA is calculated using a factor of 0.73 (Lecture Classroom). ASHRAE calculates the required OSA amount by room area only. To calculate the required OSA amount, you multiply the total room area (1,988 sq ft) x the factor (here: 0.73). Hence, the calculation is as follows: $1988 \times 0.73 = 1,451$ CFM. Thus, the outside airflow tested (511.4 CFM) is less than ASHRAE requirements (1,451 CFM). Although this room has airflow less than ASHRAE requirements, we are meeting all ventilation requirements (see numbers 1 through 5 of guidelines above), and therefore the room is prepared to be occupied.

27. Q: Yes, if staff and faculty are to be back on campus July 12th, that seems awfully quick to know status of rooms and buildings that seem to still be uncertain.

A: This appears to be a question regarding HVAC standards and health and safety being ensured. The answer is yes, the campus buildings and rooms with or without HVAC units are safe to occupy. We do not need to be in compliance with the ASHRAE standards (guidelines). See Slide 28 from the Presentation:

YES, offices and classrooms without HVAC systems can be occupied.

- For offices and classrooms without HVAC, Palt and Associates provided the following recommendations, which we are implementing:

- Open windows to increase outside air amount and fresh air circulation throughout the room, to increase the outside airflow in the classroom.
- Minimize classroom density.
- Place portable HEPA filter air purifiers in classrooms of concern. These units recirculate room air at a specified rate (can be tested) through a system of pre-filter and HEPA filters and help provide clean filtered air to the area.

28. Q: *Did they actually retest? It looks like the numbers were just “revised”.*

A: When first tested, the calculations were based on 50% OSA (Outside Supply Air). F&O adjusted the HVAC system to pull in 100% OSA (Outside Supply Air) to maximize ventilation. After the supply airflow was adjusted to increase the amount of outside airflow to 100% of outside air (in an effort to increase ventilation), the calculations were revised to the newly reported OSA.

29. Q: *Re-tested and all were exactly double? That is a weird and wild coincidence*

A: Results are doubled because the newly reported OSA of 100% is double the previously reported amount of 50%.

30. Q: *Placing the questions with answers from the chat on the website would be great!*

A: Yes, please email facilities@sbcc.edu with any further questions.

General Questions: facilities@sbcc.edu

Rob Morales, Director of Facilities & Operations
moralesr@sbcc.edu

Carlos Campos, Environmental Health & Safety Specialist
c.campos@pipeline.sbcc.edu

Timothy Fouch, COVID Response Coordinator
tmfouch@pipeline.sbcc.edu