

MEMORANDUM

TO: Alice Emmons, Chair of the House Institutions and Corrections Committee
Joe Benning, Chair of the Senate Institutions Committee

FROM: Jennifer M.V. Fitch, P.E., BGS Commissioner

DATE: May 12, 2021

SUBJECT: State House Room Capacity Assessment Based on Air Flow Analysis

BGS was asked to calculate the number of people that can be accommodated in committee rooms, the Senate and House chambers, and other rooms throughout the State House by the ventilation system. It is important to note that different ventilation systems with different capabilities have been installed over the years. This assessment was performed in accordance with "ASHRAE 62.1-2019 Ventilation for Acceptable Indoor Air Quality", using 0.06 cubic feet per square foot (CFM/SF) plus 5 CFM per person and is predominately on the amount of fresh air a system can deliver to a space at any given time. As more people occupy a space, the thermal load increases, and a greater amount of fresh air is needed. There is a point at which the system can no longer deliver the recommended amount of fresh air to a space and this is the maximum amount of people that can be accommodated.

In the case of the Senate committee rooms, a range is provided as opposed to a single number. The lower number represents the maximum if the system operated as was designed. The higher number represents the maximum if the system was manually overridden by BGS staff throughout the day. The capability is only provided for the ventilation system on the Senate side due to the type of ventilation system.

BGS compared the maximum amount of people that can be accommodated by the ventilation system to the number of committee members assigned to a committee room. From this analysis, we determined that there are several committee rooms that cannot accommodate the committees as assigned. It is important to note that we recognize there are typically additional people within a committee room such as the committee assistant, legislative council, the joint fiscal office, the public, and others. We used the number of committee members as a baseline for the analysis.

BGS also examined other spaces within the State House and found that several rooms within the State House allow for larger occupancy and could be converted into temporary or permanent committee rooms such as rooms 9, 10, 11, and the Legislative Lounge as recommended by the Freeman, French, Freeman space assessment. In addition, 7 temporary committee rooms were fit-up in the basement of 133 State Street and the connector between 109 and 111 State Street for the 21/22 biennium. This provides the legislature a variety of options to return to in-person committee sessions for the 2022 legislative session.



As an aside, at this time, the State of Vermont has not adopted building code requirements with respect to occupancy and ventilation. However, BGS recommends applying the ASHRAE 62.1-2019 standard as a best engineering practice.

Please let us know if we can be of further assistance. We are happy to continue to offer our services to support the legislature's goal and desire to return to in-person committees for the upcoming 2022 legislative session. For additional assistance, please contact Joe Aja, Design and Construction Director, Joe.Aja@vermont.gov, (802) 272-4949.