

Ventilation of indoor spaces to prevent the spread of Coronavirus

The NEC Group has reviewed all available publications, guidelines and documentation in providing this statement on how our spaces have been assessed and will be operated to ensure the best possible conditions to prevent the transmission of COVID-19.

On 23 October 2020, the UK Government published a paper “**Role of Ventilation in Controlling SARS-CoV-2 Transmission SAGE-EMG**”, which was prepared by the Environmental and Modelling group on behalf of the Scientific Advisory Group for Emergencies (SAGE). This states that ventilation is an important factor in mitigating against the risk of far-field aerosol transmission and as such ventilation systems should be prioritised as a key method of preventing transmission of the coronavirus.

The key actions from this paper are summarised as follows:

- Ventilation should be integral to a COVID-19 risk mitigation strategy
- Poorly ventilated spaces should be identified and prioritised for improvement
- Spaces where an enhanced aerosol generation rate is expected (e.g. singing, loud speech, aerobic activity) should aim to maintain ventilation at 10-15 litres/second/person, should restrict occupation and include the use of face coverings
- Ventilation should be balanced against other factors such as thermal comfort.

Mechanical Ventilation Assessments

We have been working extensively on our venue ventilation systems to ensure we meet the guidance as published, supported by the Chartered Institute of Building Services Engineers (CIBSE) guidelines for a safe return to events. The NEC Group’s venues contain a broad mix of different types and ages of ventilation systems, so it was important to conduct a full and thorough review of each system to assess its type, condition and capability to provide the conditions required.

We have engaged a team of specialist engineers to re-commission our systems and measure the amount of fresh air we can supply to each of our spaces with the system optimised for fresh air supply. From these results we have been able to calculate the optimum occupancy we can accommodate within our spaces whilst supplying the ideal level of 8-10 litres/second of air per person within the guidelines.

Where mechanical ventilation is limited, we will maximise the natural ventilation to a space by opening doors and windows to provide fresh air.

Building on the experience gained when constructing and operating the NHS Nightingale Birmingham facility we have upgraded all the filter media within our ventilation systems to high efficiency F7 media, which was the standard specified by University Hospitals Birmingham (UHB) NHS Trust.

Due to the requirement to maximise fresh air in each space, there may be occasions where ambient temperatures and comfort conditions are less than ideal, and some spaces may feel hot or cold and some may experience excessive draughts. We will balance these thermal comfort issues with the requirement to provide the maximum amount of fresh air to each space and to maintain ideal levels of ventilation for the occupancy levels.