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TECHNICAL BULLETIN TB / 048/3:
COVID-19 AND AIR CONDITIONING SYSTEMS

2 April 2020

1 CORONAVIRUS COVID-19

The current coronavirus (COVID-19) outbreak is developing rapidly with Government and medical professional advice changing rapidly. This statement is based on the best advice currently available at the time of writing. Government and NHS websites should be consulted for any rapidly developing changes to the situation. This guidance addresses the safe management of common ventilation systems.

2 BACKGROUND

Recent newspaper stories have been widely circulated suggesting that research has suggested that "the coronavirus could be spread by air conditioning systems". There is very little robust research to support this, and whilst there is much that is not yet known about this novel coronavirus, early research published in the Lancet indicated that the primary transmission route is person to person. The current Public Health England guidance on infection control states that "The transmission of COVID-19 is thought to occur mainly through respiratory droplets generated by coughing and sneezing, and through contact with contaminated surfaces. The predominant modes of transmission are assumed to be droplet and contact." (See section 2.1 of the guide). In their guidance on disinfecting business premises in the event that someone is sick, the US Centres for Disease Control and Prevention give is a lengthy list of things
to be cleaned, but it does not extend to the ventilation or air-conditioning system, and this guidance is intended for use where such systems are almost ubiquitous. At this stage there is no reason to consider that ventilation or air conditioning systems are contributing to the spread of the virus.

The recent reports of research from Singapore seem to suggest from finding "traces of the virus" in "an air duct connected to the room of a patient" who had tested positive for the virus, that the natural conclusion was that the virus was being transferred via the air flowing through the duct. Not only is this unscientific because it does not consider the distinct probability that someone has touched the outlet grille and left the trace amount there, but the scaremongering this creates is unhelpful to those trying to get to grips with the reality of the situation.

3 PREVENTION

The primary mechanisms for preventing the transmission of coronavirus remain regular, thorough handwashing using soap and hot water for at least 20 seconds, coupled with strict adherence to social distancing requirements and staying at home. Dilution of contaminated air will reduce risk from that contamination, so it is recommended that any ventilation or air conditioning system that normally runs with a recirculation mode should be set up to run on full fresh air, if that system needs to be running at this time and cannot be shut down. The potential benefit to public health at this time outweighs the reduction in energy efficiency caused by not recirculating air.

Given the requirement for many business premises to close for the immediate future, there is unlikely to be a requirement to undertake work on their ventilation or air conditioning systems at this time. Having said that, any airborne contaminants can be minimised by proper and effective filtration, regular maintenance and, where appropriate cleaning of ventilation systems, as set out in existing industry guidance.

4 PROCEDURES TO OBSERVE

Questions have been raised in relation to what special measures should be taken at this time when dealing with maintenance tasks, the changing of filters, etc.

It is important to emphasise that many measures that should be taken are standard practice and should always be taken, not just during the present pandemic crisis.

- Correct PPE should always be worn. At this time these will include disposable gloves, an FFP3 mask, goggles, and preferably a disposable coverall suit.
- Face fit testing must be completed before the wearing of any tight fitting RPE. It is important to note that if the RPE type changes due to lack of supplies then further face fit testing must be completed.
- Switch the fans off before opening access panel doors to remove the filters and allow any air flow to cease. No air should be flowing through the system without the correct filter in place and the operative should not be exposing themselves to any air flowing through the system.
- Disposable filters should be handled, whenever possible, by the cardboard frame and the filter media left untouched. They should be handled with care to avoid the shaking loose of particulate matter in the filter media.

- The filter(s) should be immediately bagged to contain any particulate which does shake loose.
- The bag(s) should be tied securely before being moved.
- At this time, and if possible, the filter(s) should be left for at least 72 hours before being disposed of in a secure storage area.

REFCOM and The BESA thank CIBSE, and particularly, Hywel Davies for his valued input into this revision.