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TECHNICAL BULLETIN TB/ 048/4:
COVID19 AND AIR CONDITIONING SYSTEMS
8 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.

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 PRACTICAL MEASURES 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 or cleaning 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.

- **PPE:**

o Correct PPE should always be worn. At this time these will include disposable gloves, an FFP3 mask, goggles, and preferably a disposable coverall suit.

o 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.

- **General considerations:**

o Consider the type of system or area being served:

- Does it normally work under a negative or positive pressure?

- Does shutting the fan down create an issue in the area around the maintenance engineer whereby you are potentially drawing foul air towards the engineer or into the duct/equipment when access panels are opened or removed?

- Can air be drawn through the system while the filter(s) are removed?

o Switch the fans off before opening access panel doors to remove the filters and allow any air flow to cease and an equalization of the pressure to be established. No air should be flowing through the system without the correct filter in place and the operative should not be exposing themselves to any foul air flowing through or towards the system.

4 PRACTICAL MEASURES TO OBSERVE

- **Disposable filters (common uses include AHUs, etc.):**

o 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.

o The filter(s) should be immediately bagged to contain any particulate which does shake loose.

o The bag(s) should be tied securely before being moved.

o 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.

- **Washable plastic filters (common uses include modern Air Conditioning systems):**

o Should be handled, whenever possible, by the frame edges and the filter media left untouched. They should be handled with care to avoid the shaking loose of particulate matter in the filter media.

o The filter(s) should be immediately bagged and taken to a secure washing area.

o The filter(s) should be scrubbed in warm, soapy water for a minimum of 20 seconds in line with recommendations for the washing of hands as a preventative measure.

o The filter(s) must be dried before being re-inserted into the equipment.

- **Personal hygiene:**

o The Government recommended cleaning procedures should always be followed on completion of each stage of the work and before leaving site in relation to hand washing, disposal or storage of coveralls, etc. In particular you should not handle clean filters with the same gloves that you removed them with to minimise any risk of cross contamination.

o At all times personnel should refer to the latest guidance available.