

IMechE Covid Task Force Meeting Summary No 1

25<sup>th</sup> June 2020

The Institution has formed a Covid 19 task force under the Technical Strategy Board which is co-ordinating the work of the Divisions and Groups who are working to develop engineered solutions to the Covid crisis.

CBSD has already developed guidance on the **re-occupation of buildings after Covid lockdown** and posted information onto the website for members and others to use. Process Division is developing safe working methods for process plants, and similarly Power Division. Transport sectors – Aerospace, Rail and Automobile Divisions have all been working on safe travel and particularly in the areas of Mass Transit. The task force has contributed to government via the Royal Academy Engineering on ways to get transport back to normal.

Groups too have been working hard to develop solutions – such as Fluids Group's input to CFD modelling.

The task force meets weekly and is developing more detailed guidance and will also be considering online training/information to support members who need to know and apply best practices in their applications.

The following topics are being discussed:

1. Construction and Building Services Division (CBSD) would like to see the extensive installation of UV units in building air systems particularly schools. This is a low cost, well proven method of disinfection which can provide sterilised, cleaned air into spaces and can dilute and kill off Covid 19 and other viruses – as well as many bacteria. UV is a technology which uses 'hidden from view' UV lamps to kill viruses as they pass across the lamps which can be inside floor mounted units (wheel into place), recessed ceiling units (ceiling jets air supply) or in duct units where the lamps are inside ductwork or air handling plants.
2. Process Division are interested in investigating the detection of virus evidence in wastewater. Several countries are reported to be considering this as a possible early warning system for further virus outbreaks.
3. CBSD would like to see more widespread knowledge of the effect of humidity on virus spread. Research has shown that relative humidity between 40 -60% dramatically reduces the spread and survival of virus particles and other pathogens.
4. Masks are part of infection control and are specific to individuals. There is much information available about masks and some degree of confusion. The group is considering whether a simple guide to masks could help and whether pragmatic solutions may have benefit such as using a blue mask covered by a second covering such as a scarf. This may be suitable for use on public transport, etc. and be simple to apply and very cost effective.
5. Temperature screening is another excellent engineering tool which measures temperatures of individuals as they arrive/enter and provides immediate notice of a potential Covid arrival which can then be stopped and checked before it has the chance to spread. Temperature screening can be integrated into a BMS or security system and is a very low-cost practical solution.