

Thank you for the opportunity to provide input to the COVID-19 inquiry. I specifically wish to address the prevention of future epidemics potentially from any airborne biological infectious organism, including SARS-CoV-2.

My name is Bradley Prezant, and I am providing this submission on behalf of Prezant Environmental, a corporation based in Melbourne Australia. Prezant Environmental provides ventilation, air, quality, and occupational health services in Australia, New Zealand, and worldwide. Clients include federal, state, and local government agencies, major corporations, insurance companies, and private individuals.

I am a public health scientist with several relevant degrees (MSPH, MBA), a certified occupational hygienist (COH, AIOH), a certified air quality professional (CAQP, CASANZ), and have 40 years of professional experience conducting assessments of buildings for indoor air quality. I recently concluded a 4-year term as Vice-President for the leading international society addressing indoor air quality, the International Society for Indoor Air Quality and Climate (ISIAQ). I also have conducted research on indoor air quality, ergonomics, and other occupational health issues, as a University-based employee for Massey University, in New Zealand, and the University of Washington, in Seattle, Washington. I frequently function as an independent expert in federal courts in New Zealand, and Australia, and in state courts in New South Wales, and Victoria.

I developed the first web-based calculator for managing risk in buildings from SARS-COV-2 and co-chaired with Professor Lidia Morawska an international symposium sponsored by ISIAQ on this topic. I was retained by Coronavirus Quarantine Victoria (CQV) in January 2021 to reopen the quarantine hotels; I managed a team of engineers, scientists, and contractors to assess and remediate the hotels to prevent air movement leading to infection transmission. I have provided consulting services to schools, corporations, hospitals, and childcare facilities to manage ventilation for the purposes of infection control.

I recently was selected by the American Society of Heating Refrigeration, and Air Conditioning Engineers (ASHRAE) as the only Australian to be on the committee to develop ASHRAE 241, Control of Infectious Aerosols. ASHRAE has developed standards for air quality, thermal comfort, and ventilation for over 50 years, and is respected worldwide as a source of definitive information on these topics. The 241 committee included engineers, manufacturers, academics, and others representing a wide variety of stakeholders.

ASHRAE 241, Control of Infectious Aerosols, provides a framework for managing infection risk that is able to be applied in both new and existing buildings. It addresses the complexities a building owner faces, by providing multiple pathways to achieve reduced risk of infection transmission, including reduced occupancy, increased outdoor air, filtration, and other safe and effective air cleaning technologies.

The ASHRAE 241-2023 standard is quantitative, and provides guidance for varying types of occupancies including public, buildings, healthcare, schools, and both single-family and multifamily residences, specifying the safe amount of clean air that is necessary to reduce infection risk. It is written in a format that can be incorporated into building codes.

ASHRAE 241-2023, Control of Infectious Aerosols avoids some of the pitfalls of recommendations made by other individuals and organisations, such as maximum carbon dioxide (CO<sub>2</sub>) levels, that may be difficult to implement by building owners, may not be possible to achieve in existing buildings, and do not permit future innovation.

I recommend that a standard such as ASHRAE 241-2023 be adopted in Australia, both to prevent future pandemics, and also to reduce societal morbidity and mortality associated with seasonal flu, as well as potential seasonal bouts of SARS-Cov-2.