ASHRAE 241 Fact Sheet

ASHRAE Standard 241, titled "Control of Infectious Aerosols," aims to set foundational requirements for mitigating the risk of airborne disease transmission in both new and existing buildings, as well as during major renovations. This standard emphasizes the critical design, installation, commissioning, operation, and maintenance of outdoor air systems and air cleaning technologies.

Historically, indoor air quality (IAQ) standards have largely neglected airborne infection risk management, focusing instead on controlling chemical and particulate contaminants since the 1930s.

This shift resulted in halving the minimum ventilation rates, a standard that remained largely unchallenged until recent times. The introduction of ventilation recommendations by ASHRAE's predecessor, the American Society of Heating and Ventilating Engineers (ASHVE), in 1895 aimed at reducing disease transmission, influenced U.S. state codes well into the early 20th century.

However, the outbreak of **COVID-19** and subsequent studies showing the high risk of transmission in poorly ventilated spaces prompted a reevaluation of these standards.

In response, ASHRAE gathered a committee of international experts who dedicated thousands of hours to developing Standard 241, which has been described by Dr. Ashish Jha, the U.S. White House COVID-19 Response Coordinator, as one of the most significant public health interventions in recent decades. This standard was meticulously crafted to address over 1,000 comments from various stakeholders.

Standard 241 specifically defines the required amount of equivalent **clean airflow**, which is calculated based on the type of space, its occupancy, and a combination of ventilation, filtration, and air cleaning. This approach offers considerable flexibility in how compliance can be achieved, accommodating various technological solutions.

Key features of the standard include:

- Comprehensive requirements for mechanical filters and air cleaners, which must pass safety and performance tests. Filters must meet at least MERV-A 11 standards.

- Safety standards that include measurements for formaldehyde, ozone, and particulate emissions, ensuring they meet specified levels.

- Detailed guidelines for the assessment, planning, commissioning, operation, and maintenance of systems designed to control infectious aerosols, highlighted by the development of a Building Readiness Plan.