

## Executive Summary

The purpose of this report is to determine if the EMD Serono Research Center – existing building is in compliance with ASHRAE Standard 62.1-2007 and ASHRAE Standard 90.1-2007.

The EMD Serono Research Center – existing building is located in Billerica, MA. The building program contains management office, research and development laboratories, and vivarium rooms. Designed in 1999 and constructed in 2000, this building's HVAC design follows ASHRAE Standard 62.1 -1989 and ASHRAE Standard 90.1-1898.

The ASHRAE Standard 62.1-2007 analysis showed that the EMD Serono Research Center – existing building is entirely compliant with the requirement from section 5 and 6. This building was designed to prevent mold growth, prevent re-entry of contaminated air, and provide high quality indoor air to its occupants. Results of the ventilation rate requirement analysis in section 6 showed that the building's HVAC design goes beyond the ventilation requirement for all occupied spaces. With different air handling units for different types of space and with high efficiency filter, the HVAC design ensures contaminated air does not recirculate and transfer inside the building.

The ASHRAE Standard 90.1 analysis showed that this building is largely compliant with the standard. The only two areas that do not meet the requirement are building envelope and fan power limitation. However, none of the inadequacies are extremely large in terms of compliance and a few changes could be made for this building to meet the requirement for Standard 90.1

It was determined that the EMD Serono Research Center –existing building is entirely compliant with ASHRAE Standard 62.1-2007 and largely compliant with ASHRAE Standard 90.1-2007. The mechanical system design of the building provides excellent control over contaminated air and gives the building occupants healthy indoor air quality.