

## Executive Summary

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standards 62.1-2007 and 90.1-2007 provide a basis of design for minimum ventilation requirements and ensure proper energy efficiency in buildings. This report analyzes in detail the HITT Contracting Headquarters building to the above standards. The HITT Contracting Headquarters is a 135,000 square foot office building located next to the Capital Beltway in Falls Church, Virginia. The building consists of a variety of spaces including office space, conference rooms, café space, a fitness center and covered, under building, parking.

The ASHRAE 62.1-2007 compliance analysis exposed two minor deficiencies in the building ventilation system. The first ASHRAE 62.1 requirement that was not met was the ASHRAE 62.1 Section 5.6.5 specification indicating that bird screens must be installed on outdoor air intakes. No such specification was found in the design documents or specifications. Aside from the bird screen requirement the building passed the minimum outdoor air ventilation requirements set forth in ASHRAE 62.1 Section 6.2 by a margin of over 40%. However, it failed to meet Section 6.2.8 Exhaust Ventilation in two building spaces. These spaces had exhaust systems, but they did not displace enough air as required.

The ASHRAE 90.1-2007 compliance analysis revealed one major deficiency in the building energy system. The lighting system failed to meet the standards provided in ASHRAE 90.1 Section 9 Lighting. The building exceeds the total maximum allowable wattage for lighting systems by 12%. ASHRAE 90.1 Sections 5, 6 and 7; building envelope, HVAC equipment and service water heating were all sufficient.