Executive Summary:

The purpose of this report is to determine if the two new buildings being constructed on the new Walter Reed National Military Medical Center Campus, Building A and B, are in compliance with both ASHRAE Standard 62.1-2007 as well as Standard 90.1-2007. Building A and B are close to 600,000sf of new construction and are mainly comprised of patient bedrooms, exam rooms, medical staff offices, and a variety of operating rooms.

ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality, was the first standard to be evaluated for building compliance. This standard describes means and methods to achieve acceptable indoor air quality within the building. An analysis of Section 5 was performed for both buildings which went through and determined compliance with requirements set forth for acceptable indoor air quality such as outdoor air intake requirements, mold resistance, particulate filtration, and building air classification. All HVAC requirements that were examined within Section 5 were determined to be compliant for both buildings. Section 6 outlines requirements for the minimum ventilation rates that must be supplied to the varying space types in order to maintain acceptable indoor air quality. Both buildings were analyzed using the ventilation rate procedure and exceeded the minimum ventilation rates required due to their constant volume supply of 100% outside air.

An analysis of ASHRAE Standard 90.1-2007, Energy Standard for Buildings Except Low Rise Residential Buildings, was then performed to determine the buildings compliance with minimum equipment efficiencies and building insulation values. Both buildings façade and glazing materials exceeded the minimum insulation values set forth within the section. The equipment being installed within the new buildings surpasses the minimum efficiencies stated. Both buildings also comply with special requirements set forth for 24 hour facilities to use both exhaust air energy recovery and chiller condenser energy recovery by the use of total energy wheels and heat recovery chillers respectively. Power distribution and lighting power densities were also determined to be in compliance with the requirements set forth in this section.

It is not surprising that both of these standards have been exceeded due to the fact that this building is striving towards a LEED® Silver certification. These two standards are building blocks to improve on when striving towards an energy efficient healthy building. Both an energy efficient building and a healthy environment to work in are important when designing a building of this size and occupancy classification.