Executive Summary

This report is intended to verify the compliance of the Hauptman-Woodward Medical Research Institute with ASHRAE Standard 62.1-2004, using the prescribed Ventilation Rate Calculation Procedure. The Hauptman Woodward Institute is a 3 story, 73,000 square foot building consisting of office and collaborating space, as well as a biomedical research lab with supporting instrument and experiment spaces. Located between these two distinct areas is a grand atrium and lobby which serves as a gathering space and a bridge between the offices and laboratory spaces.

The Hauptman-Woodward Institute has 3 primary air systems which serve the building. Two rooftop units supply approximately 42,500 cfm of mixed air to the south and west portions of the building, and two air-handling units located in the roof penthouse provide 58,000 cfm of 100% outside air to the laboratory and supporting spaces. A fourth air handling unit, providing 3,000 cfm of makeup air to the penthouse, was not analyzed in this report.

The ventilation distribution effectiveness for each zone was required in order to complete the ventilation rate procedure. According to Table 6-2 of ASHRAE Standard 62.1-2004, the assumed ventilation distribution effectiveness (E_Z) for the Hauptman-Woodward Institute was 0.8, based upon warm air which is supplied and returned through ceiling diffusers.

ASHRAE Standard 62.1-2004 was followed to determine the minimum required amount of outdoor air each system much supply. It was found that for each rooftop unit, the sum of the zone outdoor airflow ($\sum V_{OZ}$) was less than the design outdoor air intake airflow (V_{OT}). According to the design schedules, the minimum outdoor air was sufficient to comply with Standard 62.1. In addition, the air handling units that supply the laboratory space provide 100% outdoor, thus provide a significantly greater amount of required outside air than is required to the laboratory. It is therefore in compliance with Standard 62.1.