

**Jayne Antolik**  
 Mechanical Option  
**Philadelphia School District Administration Headquarters**  
 Technical Assignment #1

**Executive Summary**

Philadelphia School District Administration Headquarters was evaluated by air handling unit to determine compliance with ASHRAE Standard 62.1 Addendum N. In a zone evaluation it was found that all air handling units complied except for AHU4.1. However, this is not due to a design fault as the design of this system was done previous to the Addendum N approval (January 8, 2004). The following chart gives a brief summary of the results found from the analysis:

<b>AHU Summary</b>							
	Zone Outdoor Airflow	Zone Primary Airflow (Minimum Design Flow Rate)	Zone Primary Outdoor Air Fraction	Outdoor Air Intake Flow Required	Supplied Outdoor Air Fraction	Outdoor Air Supplied	Complies with Std 62.1?
Equation Designation	$V_{oz} = V_{bz}/E_z$	$V_{pz}$	$Z_p = V_{oz}/V_{pz}$	$V_{ot} = V_{ou}/E_v$			
Units	cfm	cfm		cfm		cfm	
AHU1.1	2425.0	28000.0	0.09	2425.0	0.10	2800.0	Yes
AHU1.2	2425.0	28000.0	0.09	2425.0	0.10	2800.0	Yes
AHU1.3	2500.0	28000.0	0.09	2500.0	0.10	2800.0	Yes
AHU1.4	2500.0	28000.0	0.09	2500.0	0.10	2800.0	Yes
AHU1.5	2687.5	28000.0	0.10	2687.5	0.10	2800.0	Yes
AHU2.1	2800.0	31500.0	0.09	2800.0	0.10	3150.0	Yes
AHU2.2	2800.0	31500.0	0.09	2800.0	0.10	3150.0	Yes
AHU2.3	2800.0	31500.0	0.09	2800.0	0.10	3150.0	Yes
AHU2.4	2800.0	31500.0	0.09	2800.0	0.10	3150.0	Yes
AHU3.1	2800.0	35000.0	0.08	2800.0	0.10	3500.0	Yes
AHU3.2	2800.0	35000.0	0.08	2800.0	0.10	3500.0	Yes
AHU3.3	2800.0	35000.0	0.08	2800.0	0.10	3500.0	Yes
AHU3.4	2800.0	35000.0	0.08	2800.0	0.10	3500.0	Yes
AHU3.5	2725.0	32000.0	0.09	2725.0	0.10	3200.0	Yes
AHU4.1	4750.0	35000.0	0.14	4750.0	0.10	3500.0	No
AHU5.1	2068.8	28000.0	0.07	2068.8	0.10	2800.0	Yes
AHU5.2	2068.8	28000.0	0.07	2068.8	0.10	2800.0	Yes