

Correction

Correction: Progress of High-Performance Building Design with Cooling Load Variation from Solar Heat in HVAC Equipment Energy and Power and Operation

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In the originally published version of this article, there were some mistakes in **Table 2** and **Table 4**.

In Table 2, PM 2.5 has been updated for inside room by NAQQS instead of PM 10, and PM 10 has been added before “150 ug/m³”. In Table 4, NYC local law 97 should be passed in 2019. The Convert Factor has been corrected from 2016 to 2019. The corrected **Table 2** and **Table 4** appear below.

Table 2. Cooling load distribution, air supply, coil load and Indoor air quality (IAQ) [11–15].

Cooling Load Distribution, Air Supply, Coil Load, ASHRAE Standard and IAQ Check						
	Adjustment of Cooling Load:	1,957,081.72		Btu/hr		
		South		North		Corridor/Stair/Elev
Cooling Coil Load Btu/h (power)		467,383.94	0.29	619,700.37	0.41	869,997.41
Cooling Coil Load W (power)		136,982.40		181,623.79		254,981.66
Cooling Coil Load Tons		38.96		51.65		72.52
SHF		0.90		0.92		0.93
i3	Btu/lb dry air	29.80		29.80		29.80
i2	Btu/lb dry air	26.70		26.60		26.80
v2	ft ³ /lb dry air	13.40		13.41		13.42
dm/dt m2	lbma/hr	56,062.79		70,177.12		103,599.71
Q2	cfm	12,520.69		15,684.59		23,171.80
Qo	cfm	1,800.00		1,800.00		2,080.00
dm/dt m0	lbma/hr	7,552.45		7,552.45		8,727.27
dm/dt m4	lbma/hr	48,510.34		62,624.67		94,872.44
line ratio 31/30	line on Chart 1a	0.13		0.11		0.08
t1	F	78db		77db		77.5db
rh1	%	0.53		0.54		0.53
i1	Btu/lb dry air	31.00		30.80		30.90
dqc/dt	Btu/hr	241,069.99		294,743.91		424,758.82
dqc/dt	Ton	20.09		24.57		35.40
SHF-Coil		0.78		0.82		0.87
dqcs/dt	Btu/hr	188,034.60		241,690.01		369,540.17
dqcl/dt	Btu/hr	53,035.40		53,053.90		55,218.65
Check standard: cfm/ft ² = 0.75/2.0; NAQQS PM 2.5 50 ug/m ³ a a; effective outdoor air <=1						
Air move	cfm/ ft ²	0.99	12,600.00	1.24		1.84
Recirculation rate R		0.87		0.89		0.92
Effective outdoor air rate		0.95		0.96		0.97
PM C under Produced C=100 ug/m ³		47.95	PM 10 150 ug/m ³ -24 h a	39.26		27.47

Table 4. Energy performance/GHG reduction and operation analysis [16,17].

Construction Energy Footage for Chillers and Energy Operation Analysis				
Daily Time	Unit	Quantity	Subtotal Hrs	Chillers' Ton to KW during Operation Hrs.
1:00–6:00	KW-Hrs	54,000	6Hrs × 5M	1 × 75 TON × 0.8KW/TON
6:00–8:00	KW-Hrs	25,200	2Hrs × 5M	(1 × 75 TON+ 1 X 30 TON) × 0.8KW/TON
8:00–17:00	KW-Hrs	194,400	9Hrs × 5M	(2 × 75 TON+ 1 X 30 TON) × 0.8KW/TON
17:00–19:00	KW-Hrs	25,200	2Hrs × 5M	(1 × 75 TON+ 1 X 30 TON) × 0.8KW/TON
19:00–24:00	KW-Hrs	45,000	5Hrs × 5M	1 × 75 TON* × 0.8KW/TON
Total KW-Hrs/Year	KW-Hrs	343,800		
	MMW-Hrs	343.80		
Equivalent CO ₂	Kgs CO ₂	88,831.04		US Average 22.5 KWh/sf/yr
	Tons CO ₂	88.83		1 KWh = 0.000258 Ton CO ₂ e/0.00021233, NYC Convert Factor
NYC 2024 Standard	tCO ₂ e /sf/yr	0.0019		2010/NYC; LL 97 Convert Factor 2019
	tCO ₂ e /sf/yr	0.0076		22.5KWh /sf/yr 0.0058 tCO ₂ e/sf/yr 0.005 tCO ₂ e/sf/yr
NYC 2030 Standard	tCO ₂ e /sf/yr	0.0027	NYC Convert Factor, 2010/2019 Data	343800KWh/yr = 88.704t CO ₂ /yr = 0.00065/0.348
				= 0.00186 tCO ₂ /sf/yr
				=72.99tCO ₂ /yr=0.000534/0.348=0.00153 tCO ₂ e/sf/yr

The author states that the scientific conclusions are unaffected. This correction was approved by the Editor-in-Chief. The original publication has also been updated.

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