

MONTHLY ENERGY CONSUMPTION

By M.E. Dept., hku

Alternative: 1 Midrise Office Building

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Electric													
On-Pk Cons. (kWh)	107,886	97,168	120,453	113,426	131,239	135,556	123,975	141,510	120,011	127,347	114,627	105,910	1,439,108
Off-Pk Cons. (kWh)	20,911	19,126	23,895	22,756	29,105	32,042	30,093	32,948	26,954	27,013	22,229	20,249	307,320
On-Pk Demand (kW)	692	701	709	743	783	799	797	797	781	750	719	704	799
Off-Pk Demand (kW)	583	585	610	691	754	789	801	800	776	723	652	591	801
Gas													
On-Pk Cons. (kWh)	2,843	2,595	3,113	2,707	2,978	2,978	2,707	3,113	2,707	2,978	2,843	2,707	34,271
Off-Pk Cons. (kWh)	1,741	2,396	2,578	492	541	541	492	566	492	541	517	706	11,605
On-Pk Demand (kW)	18	25	18	18	18	18	18	18	18	18	18	18	25
Off-Pk Demand (kW)	38	38	35	2	2	2	2	2	2	2	2	9	38
Water													
Cons. (kL)	374	354	525	634	892	1,016	947	1,046	814	735	529	423	8,288

Building Energy Consumption = 575 MJ/(m2-year)
 Source Energy Consumption = 1,714 MJ/(m2-year)
 Floor Area = 11,218 m2

EQUIPMENT ENERGY CONSUMPTION

By M.E. Dept., hku

Alternative: 1 Midrise Office Building

----- Monthly Consumption -----

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Lights													
Electric (kWh)	57,364.9	51,901.6	62,828.2	54,633.2	60,096.6	60,096.6	54,633.3	62,828.2	54,633.2	60,096.6	57,364.9	54,633.2	691,110.4
Peak (kW)	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8
MISC LD													
Electric (kWh)	37,192.8	33,650.7	40,735.0	35,421.8	38,963.9	38,963.9	35,421.8	40,735.0	35,421.8	38,963.9	37,192.8	35,421.8	448,085.2
Peak (kW)	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6	194.6
Bsu 1: Domestic hot water													
Gas (kWh)	3,359.5	3,039.6	3,679.5	3,199.5	3,519.5	3,519.5	3,199.5	3,679.5	3,199.5	3,519.5	3,359.5	3,199.5	40,474.1
Peak (kW)	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
Cpl 1: Centrifugal Chillers [Sum of dsn coil capacities=367.9 kW]													
Chiller #1 [Nominal Capacity=200 kW] (Cooling Equipment)													
Electric (kWh)	10,668.0	10,219.5	15,824.0	13,130.5	18,290.2	22,080.9	19,705.1	22,306.6	16,399.8	14,197.5	15,193.9	12,252.6	190,268.6
Peak (kW)	77.3	77.2	86.3	94.0	96.2	104.1	103.7	103.6	92.8	87.2	84.2	80.0	104.1
Eq5100 - Cooling tower													
Electric (kWh)	3,796.3	3,437.6	4,161.3	3,618.5	3,980.4	3,980.4	3,618.5	4,161.3	3,693.9	4,206.5	3,874.8	3,618.5	46,148.0
Peak (kW)	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1
Eq5100 - Cooling tower													
Make Up Water (kL)	373.8	353.8	525.2	413.3	543.2	620.6	558.2	636.6	495.4	462.3	504.7	423.1	5,910.3
Peak (kL/Hr)	2.6	2.5	2.7	2.8	2.7	2.8	2.8	2.8	2.6	2.7	2.7	2.7	2.8
Eq5001 - Cnst vol chill water pump (Misc Accessory Equipment)													
Electric (kWh)	1,702.5	1,540.4	1,864.7	1,621.4	1,783.6	1,783.6	1,621.4	1,864.7	1,655.2	1,884.9	1,736.3	1,621.4	20,680.1
Peak (kW)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Eq5010 - Cnst vol cnd water pump (Misc Accessory Equipment)													
Electric (kWh)	1,366.9	1,236.7	1,497.0	1,301.8	1,431.9	1,431.9	1,301.8	1,497.0	1,328.9	1,513.3	1,394.0	1,301.8	16,602.9
Peak (kW)	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Chiller #2 [Nominal Capacity=150 kW] (Cooling Equipment)													
Electric (kWh)	0.0	0.0	0.0	6,998.5	11,744.9	14,029.9	13,760.9	14,361.8	10,562.9	8,335.4	687.0	0.0	80,481.2
Peak (kW)	33.9	37.5	42.5	56.3	72.2	78.0	77.8	77.7	69.6	55.2	42.4	37.0	78.0
Eq5100 - Cooling tower													
Electric (kWh)	0.0	0.0	0.0	1,945.0	2,533.0	2,533.0	2,487.7	2,646.0	2,295.5	2,295.5	237.5	0.0	16,973.1
Peak (kW)	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
Eq5100 - Cooling tower													
Make Up Water (kL)	0.0	0.0	0.0	220.7	348.4	394.9	388.9	409.0	318.7	272.6	24.2	0.0	2,377.3
Peak (kL/Hr)	1.2	1.3	1.4	1.7	2.0	2.1	2.1	2.1	2.0	1.7	1.4	1.3	2.1

EQUIPMENT ENERGY CONSUMPTION

By M.E. Dept., hku

Alternative: 1 Midrise Office Building

----- Monthly Consumption -----

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Cpl 1: Centrifugal Chillers [Sum of dsn coil capacities=367.9 kW]													
Eq5001 - Cnst vol chill water pump (Misc Accessory Equipment)													
Electric (kWh)	0.0	0.0	0.0	871.5	1,135.0	1,135.0	1,114.7	1,185.7	1,028.6	1,028.6	106.4	0.0	7,605.6
Peak (kW)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Eq5010 - Cnst vol cnd water pump (Misc Accessory Equipment)													
Electric (kWh)	0.0	0.0	0.0	699.7	911.2	911.2	895.0	951.9	825.8	825.8	85.4	0.0	6,106.1
Peak (kW)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Hpl 1: Gas Fired Boilers [Sum of dsn coil capacities=1,830 kW]													
Eq5020 - Heating water circ pump (Misc Accessory Equipment)													
Electric (kWh)	11.0	11.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	32.2
Peak (kW)	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Eq5240 - Boiler forced draft fan (Misc Accessory Equipment)													
Electric (kWh)	9.6	9.6	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	28.0
Peak (kW)	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
Eq5307 - Boiler cntl panel & inter (Misc Accessory Equipment)													
Electric (kWh)	6.0	6.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	17.5
Peak (kW)	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
Eq5020 - Heating water circ pump (Misc Accessory Equipment)													
Electric (kWh)	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
Peak (kW)	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Eq5240 - Boiler forced draft fan (Misc Accessory Equipment)													
Electric (kWh)	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
Peak (kW)	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Eq5307 - Boiler cntl panel & inter (Misc Accessory Equipment)													
Electric (kWh)	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Peak (kW)	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Hpl 1: Gas Fired Boilers [Sum of dsn coil capacities=53.63 kW]													
Boiler #1 [Nominal Capacity=23.44 kW] (Heating Equipment)													
Gas (kWh)	1,224.5	1,918.7	2,012.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	213.5	5,368.9
Peak (kW)	281.4	281.4	270.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.2	281.4
Boiler #2 [Nominal Capacity=30.19 kW] (Heating Equipment)													
Gas (kWh)	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.7
Peak (kW)	10.3	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5

EQUIPMENT ENERGY CONSUMPTION

By M.E. Dept., hku

Alternative: 1 Midrise Office Building

----- Monthly Consumption -----

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
VAV Reheat for Perimeter													
Eq4003 - FC Centrifugal const vol (Main Clg Fan)													
Electric (kWh)	9,329.4	7,653.3	9,357.6	8,814.9	11,478.4	12,553.7	12,079.4	13,460.6	11,782.3	13,039.6	11,505.4	10,234.6	131,289.1
Peak (kW)	65.7	66.2	64.4	64.2	73.8	73.8	73.8	73.8	73.8	73.8	73.2	70.3	73.8
VAV for Interior													
Eq4003 - FC Centrifugal const vol (Main Clg Fan)													
Electric (kWh)	7,349.0	6,611.8	8,062.7	7,125.0	7,994.9	8,097.6	7,428.3	8,459.6	7,336.7	7,972.5	7,477.5	7,068.1	90,983.6
Peak (kW)	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0

SYSTEM LOAD PROFILES

By M.E. Dept., hku

Alternative: **Midrise Office Building**
 System Number : **VAV Reheat for Perimeter**

Percent Design Load	---- Cooling Load ----			---- Heating Load ----			---- Cooling Airflow ----			---- Heating Airflow----		
	Cap. (kW)	Hours (%)	Hours	Cap. (kW)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours
0 - 5	37.3	1	25	-11.3	22	7	2.0	1	25	0.0	0	0
5 - 10	74.6	0	0	-22.5	0	0	3.9	0	0	0.0	0	0
10 - 15	111.9	0	4	-33.8	0	0	5.9	0	0	0.0	0	0
15 - 20	149.2	4	112	-45.0	0	0	7.8	0	0	0.0	0	0
20 - 25	186.4	6	169	-56.3	0	0	9.8	0	0	0.0	0	0
25 - 30	223.7	10	310	-67.5	22	7	11.7	0	0	0.0	0	0
30 - 35	261.0	6	193	-78.8	13	4	13.7	0	0	0.0	0	0
35 - 40	298.3	10	292	-90.1	0	0	15.6	14	428	0.0	0	0
40 - 45	335.6	7	229	-101.3	0	0	17.6	9	270	0.0	0	0
45 - 50	372.9	5	142	-112.6	0	0	19.5	11	323	0.0	0	0
50 - 55	410.2	8	232	-123.8	0	0	21.5	8	250	0.0	0	0
55 - 60	447.4	3	101	-135.1	0	0	23.5	10	292	0.0	0	0
60 - 65	484.7	10	296	-146.3	13	4	25.4	13	401	0.0	0	0
65 - 70	522.0	12	378	-157.6	0	0	27.4	17	521	0.0	0	0
70 - 75	559.3	12	376	-168.8	13	4	29.3	8	230	0.0	0	0
75 - 80	596.6	2	68	-180.1	9	3	31.3	4	132	0.0	0	0
80 - 85	633.9	0	11	-191.4	9	3	33.2	1	43	0.0	0	0
85 - 90	671.2	0	4	-202.6	0	0	35.2	1	36	0.0	0	0
90 - 95	708.5	0	12	-213.9	0	0	37.1	1	24	0.0	0	0
95 - 100	745.7	3	107	-225.1	0	0	39.1	3	86	0.0	0	0
Hours Off	0.0	0	5,699	0.0	0	8,728	0.0	0	5,699	0.0	0	8,760

SYSTEM LOAD PROFILES

By M.E. Dept., hku

Alternative: **Midrise Office Building**
 System Number : **VAV for Interior**

Percent Design Load	---- Cooling Load ----			---- Heating Load ----			---- Cooling Airflow ----			---- Heating Airflow----		
	Cap. (kW)	Hours (%)	Hours	Cap. (kW)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours
0 - 5	27.4	1	21	-4.3	0	0	1.0	0	0	0.0	0	0
5 - 10	54.8	3	90	-8.6	0	0	2.0	0	0	0.0	0	0
10 - 15	82.2	4	129	-12.9	0	0	2.9	0	0	0.0	0	0
15 - 20	109.6	3	86	-17.2	0	0	3.9	0	0	0.0	0	0
20 - 25	137.0	2	65	-21.5	0	0	4.9	0	0	0.0	0	0
25 - 30	164.4	2	68	-25.8	0	0	5.9	0	0	0.0	0	0
30 - 35	191.8	3	96	-30.1	0	0	6.9	14	431	0.0	0	0
35 - 40	219.2	4	121	-34.4	0	0	7.8	10	302	0.0	0	0
40 - 45	246.6	10	312	-38.7	0	0	8.8	1	24	0.0	0	0
45 - 50	274.0	10	309	-43.0	0	0	9.8	0	0	0.0	0	0
50 - 55	301.4	7	210	-47.3	0	0	10.8	0	4	0.0	0	0
55 - 60	328.8	5	156	-51.6	16	4	11.7	0	4	0.0	0	0
60 - 65	356.1	3	86	-55.9	16	4	12.7	0	3	0.0	0	0
65 - 70	383.5	5	152	-60.3	68	17	13.7	0	0	0.0	0	0
70 - 75	410.9	4	120	-64.6	0	0	14.7	1	16	0.0	0	0
75 - 80	438.3	3	79	-68.9	0	0	15.7	1	43	0.0	0	0
80 - 85	465.7	7	210	-73.2	0	0	16.6	0	4	0.0	0	0
85 - 90	493.1	8	233	-77.5	0	0	17.6	1	25	0.0	0	0
90 - 95	520.5	14	426	-81.8	0	0	18.6	17	527	0.0	0	0
95 - 100	547.9	2	67	-86.1	0	0	19.6	54	1,653	0.0	0	0
Hours Off	0.0	0	5,724	0.0	0	8,735	0.0	0	5,724	0.0	0	8,760

SYSTEM LOAD PROFILES

By M.E. Dept., hku

Alternative: **Midrise Office Building**
 System Number : **System Totals**

Percent Design Load	---- Cooling Load ----			---- Heating Load ----			---- Cooling Airflow ----			---- Heating Airflow----		
	Cap. (kW)	Hours (%)	Hours	Cap. (kW)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours	Cap. (lps)	Hours (%)	Hours
0 - 5	64.7	1	25	-15.6	20	7	2.9	1	25	0.0	0	0
5 - 10	129.4	0	4	-31.1	0	0	5.9	0	0	0.0	0	0
10 - 15	194.1	3	87	-46.7	0	0	8.8	0	0	0.0	0	0
15 - 20	258.7	3	95	-62.2	17	6	11.7	0	0	0.0	0	0
20 - 25	323.4	5	160	-77.8	0	0	14.7	0	0	0.0	0	0
25 - 30	388.1	2	71	-93.4	0	0	17.6	0	0	0.0	0	0
30 - 35	452.8	6	174	-108.9	0	0	20.5	0	0	0.0	0	0
35 - 40	517.5	11	324	-124.5	11	4	23.5	17	516	0.0	0	0
40 - 45	582.1	8	249	-140.0	11	4	26.4	3	80	0.0	0	0
45 - 50	646.8	7	223	-155.6	0	0	29.3	2	61	0.0	0	0
50 - 55	711.5	6	169	-171.2	0	0	32.3	2	56	0.0	0	0
55 - 60	776.2	5	167	-186.7	0	0	35.2	2	62	0.0	0	0
60 - 65	840.9	7	215	-202.3	11	4	38.1	10	297	0.0	0	0
65 - 70	905.6	3	81	-217.8	0	0	41.1	11	329	0.0	0	0
70 - 75	970.2	9	281	-233.4	11	4	44.0	16	495	0.0	0	0
75 - 80	1,034.9	11	334	-249.0	17	6	46.9	22	666	0.0	0	0
80 - 85	1,099.6	11	333	-264.5	0	0	49.9	11	329	0.0	0	0
85 - 90	1,164.3	1	29	-280.1	0	0	52.8	3	81	0.0	0	0
90 - 95	1,229.0	0	13	-295.6	0	0	55.7	1	43	0.0	0	0
95 - 100	1,293.6	1	27	-311.2	0	0	58.7	1	21	0.0	0	0
Hours Off	0.0	0	5,699	0.0	0	8,725	0.0	0	5,699	0.0	0	8,760

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

January Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	14.8	12.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	14.6	12.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	14.4	12.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	14.3	12.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	14.2	11.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	14.2	11.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	14.2	11.4	-243	176.5	0	189.2	0	0.0	0	0.0	-136	152.0
8	14.5	11.8	-44	167.0	0	142.0	0	0.0	0	0.0	-116	124.7
9	15.2	12.0	0	206.1	0	305.0	0	0.0	0	0.0	-3	159.5
10	15.9	12.3	0	413.5	0	424.3	0	0.0	0	0.0	0	311.5
11	16.4	12.3	0	548.6	0	432.1	0	0.0	0	0.0	0	388.8
12	16.8	12.7	0	548.7	0	414.1	0	0.0	0	0.0	0	377.3
13	17.1	12.4	0	556.8	0	439.8	0	0.0	0	0.0	0	392.8
14	17.1	12.7	0	652.1	0	510.5	0	0.0	0	0.0	0	454.4
15	17.0	12.3	0	673.7	0	518.6	0	0.0	0	0.0	0	486.5
16	16.7	12.6	0	734.1	0	517.3	0	0.0	0	0.0	0	498.8
17	16.2	12.8	0	716.6	0	619.8	0	0.0	0	0.0	0	599.4
18	15.7	12.4	0	300.3	0	255.4	0	0.0	0	0.0	0	252.5
19	15.4	12.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	15.3	12.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	15.2	12.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	15.1	12.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	14.9	12.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	14.8	12.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

February Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	14.4	14.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	14.3	14.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	14.2	14.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	14.1	14.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	14.1	14.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	13.9	13.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	14.0	13.6	0	255.6	0	230.3	0	0.0	0	0.0	-243	177.4
8	14.3	13.8	0	222.4	0	174.8	0	0.0	0	0.0	-235	145.8
9	14.9	14.1	0	361.3	0	342.5	0	0.0	0	0.0	-57	191.8
10	15.4	14.3	0	560.6	0	472.7	0	0.0	0	0.0	-6	300.6
11	15.8	14.6	0	644.6	0	482.7	0	0.0	0	0.0	0	440.5
12	16.1	14.7	0	655.3	0	461.3	0	0.0	0	0.0	0	417.7
13	16.4	14.5	0	659.7	0	448.8	0	0.0	0	0.0	0	411.6
14	16.4	14.5	0	717.6	0	488.8	0	0.0	0	0.0	0	448.2
15	16.3	14.5	0	756.4	0	518.9	0	0.0	0	0.0	0	457.1
16	16.1	14.6	0	792.7	0	539.8	0	0.0	0	0.0	0	472.2
17	15.7	14.4	0	777.6	0	534.4	0	0.0	0	0.0	0	493.7
18	15.3	14.2	0	352.5	0	291.0	0	0.0	0	0.0	0	275.5
19	15.1	14.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	14.9	14.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	14.9	14.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	14.8	14.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	14.7	14.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	14.6	14.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

March Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	16.9	16.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	16.7	17.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	16.6	16.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	16.4	16.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	16.4	16.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	16.4	16.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	16.4	16.6	0	342.8	0	315.6	0	0.0	0	0.0	-225	279.9
8	16.8	16.8	0	313.4	0	266.0	0	0.0	0	0.0	-194	242.3
9	17.3	16.8	0	511.8	0	464.5	0	0.0	0	0.0	0	288.3
10	17.8	17.4	0	683.9	0	579.0	0	0.0	0	0.0	0	497.4
11	18.1	17.2	0	691.5	0	574.5	0	0.0	0	0.0	0	523.7
12	18.5	17.1	0	726.2	0	541.8	0	0.0	0	0.0	0	498.3
13	18.8	17.6	0	717.6	0	561.4	0	0.0	0	0.0	0	512.4
14	18.8	17.5	0	805.8	0	617.0	0	0.0	0	0.0	0	549.1
15	18.7	17.5	0	856.4	0	623.8	0	0.0	0	0.0	0	558.7
16	18.4	16.6	0	851.0	0	597.6	0	0.0	0	0.0	0	572.7
17	18.2	16.8	0	844.7	0	602.9	0	0.0	0	0.0	0	589.6
18	17.8	16.3	0	403.0	0	307.2	0	0.0	0	0.0	0	301.6
19	17.5	16.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	17.4	17.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	17.3	17.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	17.2	17.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	17.2	17.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	17.1	17.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

April Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	20.6	21.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	20.4	21.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	20.3	21.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	20.3	20.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	20.2	20.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	20.2	20.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	20.4	21.1	0	511.3	0	465.3	0	0.0	0	0.0	0	487.8
8	20.3	21.2	0	482.9	0	416.2	0	0.0	0	0.0	0	403.2
9	21.4	21.7	0	828.7	0	721.5	0	0.0	0	0.0	0	558.2
10	21.8	21.3	0	879.6	0	753.3	0	0.0	0	0.0	0	703.0
11	22.2	21.9	0	907.7	0	796.6	0	0.0	0	0.0	0	743.2
12	22.5	21.7	0	868.8	0	752.1	0	0.0	0	0.0	0	726.7
13	22.7	21.7	0	878.8	0	741.5	0	0.0	0	0.0	0	731.4
14	22.7	21.7	0	972.9	0	791.6	0	0.0	0	0.0	0	778.2
15	22.6	21.7	0	1,012.2	0	809.7	0	0.0	0	0.0	0	800.7
16	22.3	21.2	0	1,025.1	0	804.5	0	0.0	0	0.0	0	781.0
17	21.9	21.2	0	1,021.7	0	810.4	0	0.0	0	0.0	0	795.5
18	21.6	21.4	0	509.7	0	403.8	0	0.0	0	0.0	0	402.9
19	21.2	21.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	21.1	21.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	20.9	21.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	20.8	21.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	20.8	21.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	20.7	21.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

May Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	24.3	24.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	24.2	24.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	24.1	24.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	24.0	24.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	23.9	24.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	24.1	24.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	24.4	24.1	0	774.7	0	744.7	0	0.0	0	0.0	0	1,027.4
8	24.9	24.0	0	708.0	0	552.1	0	0.0	0	0.0	0	782.9
9	25.4	24.5	0	1,085.8	0	958.0	0	0.0	0	0.0	0	977.5
10	25.8	24.6	0	1,095.6	0	949.1	0	0.0	0	0.0	0	974.9
11	26.1	24.1	0	1,086.6	0	939.9	0	0.0	0	0.0	0	952.1
12	26.4	24.6	0	1,039.9	0	913.7	0	0.0	0	0.0	0	921.0
13	26.6	24.7	0	1,041.1	0	910.5	0	0.0	0	0.0	0	915.8
14	26.5	24.3	0	1,122.2	0	963.2	0	0.0	0	0.0	0	963.9
15	26.4	24.1	0	1,150.0	0	965.2	0	0.0	0	0.0	0	966.1
16	26.1	24.2	0	1,178.9	0	972.3	0	0.0	0	0.0	0	973.1
17	25.8	23.9	0	1,174.0	0	957.9	0	0.0	0	0.0	0	958.7
18	25.4	24.1	0	596.6	0	465.0	0	0.0	0	0.0	0	474.0
19	24.9	23.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	24.7	23.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	24.7	23.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	24.6	24.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	24.4	24.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	24.4	23.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

June Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	26.6	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	26.4	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	26.3	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	26.3	24.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	26.3	25.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	26.3	25.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	26.7	25.3	0	1,093.4	0	971.0	0	0.0	0	0.0	0	1,256.7
8	27.1	25.6	0	869.3	0	702.9	0	0.0	0	0.0	0	1,047.7
9	27.6	25.9	0	1,201.9	0	1,033.0	0	0.0	0	0.0	0	1,219.5
10	27.9	26.1	0	1,211.0	0	1,034.4	0	0.0	0	0.0	0	1,123.0
11	28.2	25.9	0	1,197.1	0	1,048.4	0	0.0	0	0.0	0	1,084.8
12	28.4	26.2	0	1,134.6	0	1,002.7	0	0.0	0	0.0	0	1,023.7
13	28.6	26.5	0	1,143.0	0	1,011.7	0	0.0	0	0.0	0	1,031.7
14	28.6	26.2	0	1,223.3	0	1,064.5	0	0.0	0	0.0	0	1,076.3
15	28.5	26.2	0	1,258.2	0	1,071.3	0	0.0	0	0.0	0	1,078.0
16	28.3	25.9	0	1,270.6	0	1,062.0	0	0.0	0	0.0	0	1,066.9
17	27.9	26.0	0	1,287.1	0	1,064.9	0	0.0	0	0.0	0	1,069.4
18	27.6	25.7	0	649.8	0	506.3	0	0.0	0	0.0	0	541.2
19	27.2	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	27.0	25.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	26.9	25.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	26.8	25.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	26.7	25.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	26.6	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

July Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	26.9	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	26.8	25.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	26.7	25.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	26.6	25.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	26.6	25.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	26.6	25.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	27.1	25.4	0	1,087.4	0	974.5	0	0.0	0	0.0	0	1,293.6
8	27.6	25.1	0	915.5	0	802.9	0	0.0	0	0.0	0	1,093.8
9	28.1	25.7	0	1,212.9	0	1,060.5	0	0.0	0	0.0	0	1,252.8
10	28.5	25.7	0	1,204.1	0	1,098.6	0	0.0	0	0.0	0	1,284.9
11	28.9	25.5	0	1,180.0	0	1,134.5	0	0.0	0	0.0	0	1,221.3
12	29.2	25.6	0	1,118.9	0	1,013.5	0	0.0	0	0.0	0	1,079.3
13	29.4	25.9	0	1,116.7	0	987.4	0	0.0	0	0.0	0	1,009.5
14	29.4	25.9	0	1,206.3	0	1,062.9	0	0.0	0	0.0	0	1,079.8
15	29.3	25.9	0	1,243.4	0	1,070.7	0	0.0	0	0.0	0	1,086.1
16	29.1	25.4	0	1,247.3	0	1,054.6	0	0.0	0	0.0	0	1,069.2
17	28.7	25.1	0	1,238.2	0	1,034.3	0	0.0	0	0.0	0	1,046.0
18	28.3	25.3	0	635.8	0	497.9	0	0.0	0	0.0	0	536.4
19	27.8	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	27.6	24.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	27.4	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	27.2	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	27.1	24.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	27.0	25.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

August Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	26.7	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	26.6	25.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	26.5	25.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	26.4	25.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	26.3	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	26.3	25.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	26.8	25.3	0	1,078.6	0	968.5	0	0.0	0	0.0	0	1,280.4
8	27.4	25.0	0	911.4	0	630.3	0	0.0	0	0.0	0	1,028.6
9	27.9	25.3	0	1,179.9	0	1,022.7	0	0.0	0	0.0	0	1,241.8
10	28.4	25.2	0	1,165.2	0	1,013.1	0	0.0	0	0.0	0	1,165.3
11	28.8	25.5	0	1,180.2	0	1,048.1	0	0.0	0	0.0	0	1,117.4
12	29.1	25.6	0	1,120.1	0	991.2	0	0.0	0	0.0	0	1,026.7
13	29.2	25.9	0	1,129.0	0	997.2	0	0.0	0	0.0	0	1,019.5
14	29.3	25.7	0	1,211.0	0	1,059.9	0	0.0	0	0.0	0	1,074.7
15	29.2	25.7	0	1,245.0	0	1,067.4	0	0.0	0	0.0	0	1,081.5
16	28.9	25.4	0	1,244.5	0	1,059.2	0	0.0	0	0.0	0	1,069.9
17	28.6	25.2	0	1,237.2	0	1,041.9	0	0.0	0	0.0	0	1,048.3
18	28.1	24.9	0	614.2	0	488.1	0	0.0	0	0.0	0	525.4
19	27.6	25.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	27.4	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	27.2	25.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	27.1	25.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	26.9	25.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	26.8	25.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

September	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	Hour	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)
1	26.2	22.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	26.1	22.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	26.0	23.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	25.8	22.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	25.7	22.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	25.7	22.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	26.1	22.4	0	1,006.7	0	750.8	0	0.0	0	0.0	0	1,160.1
8	26.7	22.7	0	640.4	0	519.6	0	0.0	0	0.0	0	958.2
9	27.3	23.4	0	1,065.2	0	932.0	0	0.0	0	0.0	0	1,152.3
10	27.8	23.5	0	1,104.4	0	960.1	0	0.0	0	0.0	0	1,073.5
11	28.3	23.4	0	1,105.8	0	967.4	0	0.0	0	0.0	0	1,007.2
12	28.6	23.1	0	1,027.9	0	893.1	0	0.0	0	0.0	0	916.5
13	28.7	23.4	0	1,034.1	0	893.3	0	0.0	0	0.0	0	914.8
14	28.7	23.4	0	1,131.5	0	968.2	0	0.0	0	0.0	0	981.5
15	28.6	23.6	0	1,165.9	0	983.4	0	0.0	0	0.0	0	992.4
16	28.3	23.2	0	1,156.7	0	966.6	0	0.0	0	0.0	0	972.8
17	27.9	23.7	0	1,158.2	0	973.1	0	0.0	0	0.0	0	978.8
18	27.4	23.5	0	544.3	0	455.1	0	0.0	0	19.7	0	490.5
19	27.0	23.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	26.8	23.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	26.7	23.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	26.6	22.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	26.4	22.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	26.3	22.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
October	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
Hour	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	23.7	19.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	23.6	19.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	23.6	19.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	23.4	19.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	23.3	19.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	23.2	19.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	23.4	18.9	0	544.3	0	418.1	0	0.0	0	0.0	0	871.6
8	24.1	19.2	0	512.2	0	385.5	0	0.0	0	0.0	0	686.8
9	24.7	19.2	0	921.8	0	757.0	0	0.0	0	0.0	0	856.1
10	25.4	19.2	0	947.2	0	805.8	0	0.0	0	0.0	0	837.2
11	25.3	19.8	0	986.8	0	827.3	0	0.0	0	0.0	0	841.0
12	26.1	19.5	0	904.6	0	767.0	0	0.0	0	0.0	0	776.8
13	26.3	19.8	0	904.6	0	764.5	0	0.0	0	0.0	0	771.7
14	26.3	19.8	0	1,003.7	0	838.6	0	0.0	0	0.0	0	841.2
15	26.1	19.9	0	1,033.0	0	853.9	0	0.0	0	16.8	0	856.7
16	25.8	19.7	0	1,021.9	0	840.5	0	0.0	0	20.7	0	842.9
17	25.4	19.7	0	985.9	0	815.9	0	0.0	0	7.2	0	817.8
18	24.8	19.7	0	415.9	0	373.4	0	0.0	0	0.0	0	393.9
19	24.5	19.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	24.4	19.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	24.2	19.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	24.1	19.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	23.9	19.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	23.8	19.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

BUILDING COOL HEAT DEMAND

By M.E. Dept., hku

November Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	20.0	15.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	19.8	15.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	19.7	14.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	19.6	14.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	19.4	14.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	19.3	14.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	19.3	14.2	0	278.4	0	250.5	0	0.0	0	0.0	0	423.6
8	20.0	14.7	0	277.7	0	235.1	0	0.0	0	0.0	0	293.5
9	20.8	14.7	0	647.2	0	472.3	0	0.0	0	0.0	0	440.1
10	21.6	15.2	0	802.7	0	599.0	0	0.0	0	0.0	0	638.2
11	22.2	15.7	0	815.5	0	676.2	0	0.0	0	0.0	0	676.2
12	22.6	15.4	0	755.4	0	616.9	0	0.0	0	0.0	0	620.2
13	22.7	15.7	0	761.8	0	611.7	0	0.0	0	0.0	0	614.4
14	22.7	15.7	0	855.7	0	666.8	0	0.0	0	0.0	0	684.7
15	22.5	15.7	0	879.3	0	685.9	0	0.0	0	0.0	0	698.9
16	22.1	15.4	0	868.1	0	685.1	0	0.0	0	0.0	0	684.9
17	21.6	14.4	0	794.7	0	703.4	0	0.0	0	17.8	0	703.5
18	21.1	15.3	0	335.7	0	295.4	0	0.0	0	0.0	0	295.4
19	20.8	15.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	20.6	15.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	20.4	14.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	20.3	15.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	20.2	15.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	20.1	15.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

December Hour	Typical Weather (°C)		Design		Weekday		Saturday		Sunday		Monday	
	OADB	OAWB	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)	Htg (kW)	Clg (kW)
1	16.4	12.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	16.2	12.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	16.1	12.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	16.0	12.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	15.9	12.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	15.8	12.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	15.8	12.3	0	229.6	0	206.0	0	0.0	0	0.0	-59	242.2
8	16.3	12.3	0	209.8	0	167.3	0	0.0	0	0.0	0	169.3
9	17.1	13.1	0	371.9	0	360.8	0	0.0	0	0.0	0	266.8
10	17.8	13.2	0	636.9	0	472.3	0	0.0	0	0.0	0	465.1
11	18.4	13.2	0	705.7	0	535.2	0	0.0	0	0.0	0	526.5
12	18.8	12.9	0	674.2	0	505.7	0	0.0	0	0.0	0	499.1
13	19.0	13.7	0	677.0	0	527.5	0	0.0	0	0.0	0	503.5
14	19.1	13.6	0	737.1	0	586.5	0	0.0	0	0.0	0	562.2
15	18.9	13.7	0	793.0	0	586.8	0	0.0	0	0.0	0	582.8
16	18.5	13.4	0	790.0	0	683.1	0	0.0	0	0.0	0	691.8
17	18.1	13.2	0	740.9	0	650.8	0	0.0	0	0.0	0	645.5
18	17.6	13.1	0	303.3	0	265.6	0	0.0	0	0.0	0	265.8
19	17.2	13.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	17.1	12.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
21	16.9	13.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
22	16.7	13.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23	16.6	12.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
24	16.4	12.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

ECONOMIC PARAMETERS

By M.E. Dept., hku

Project Name: TRACE 700 Sample File
Location: St Louis, Missouri
Building Owner: Version 6
Program User:
Company:
Comments:

Study Life:	20 Yrs	Income Tax Rate:	0.0 %
Mortgage Life:	20 Yrs	Cost of Capital:	10.0 %
Depreciation Life:	20 Yrs	Property tax rate:	0.0 %
Mortgage Interest Rate:	10.0 %	Insurance Expense rate:	0.0 %
Percent Financed:	0.0 %		
Depreciation Method:	None	<u>Annual Inflation Rate Of</u>	
Declining Balance Taxes:	100.0 %	Maintenance Expense	0.0 %
		Replacement Expense	0.0 %
		Property Taxes	0.0 %
		Insurance Expense	0.0 %

Alt #	First Cost (\$/kW)	First Cost (\$/m ²)	Additional First Cost	Total First Cost	Maintenance Cost (\$/kW)	Maintenance Cost (\$/m ²)	Total Maint. Cost	Total Alt. Cost
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

MONTHLY UTILITY COSTS

By M.E. Dept., hku

Alternative: 1

Utility	----- Monthly Utility Costs -----												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Electric													
On-Pk Cons. (\$)	3,442	3,100	3,842	3,618	4,187	4,324	3,955	4,514	3,828	4,062	3,657	3,379	45,908
Off-Pk Cons. (\$)	502	459	573	546	699	769	722	791	647	648	533	486	7,376
On-Pk Demand (\$)	5,625	5,698	5,762	6,038	6,363	6,494	6,482	6,479	6,350	6,094	5,847	5,720	72,950
Off-Pk Demand (\$)	3,421	3,433	3,579	4,056	4,424	4,632	4,702	4,695	4,557	4,244	3,829	3,470	49,042
Total (\$):	12,989	12,689	13,757	14,258	15,672	16,219	15,861	16,478	15,382	15,049	13,866	13,055	175,275
Gas													
On-Pk Cons. (\$)	45	41	50	43	47	47	43	50	43	47	45	43	545
Water													
On-Pk Cons. (\$)	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Total (\$):	13,034	12,731	13,806	14,301	15,720	16,266	15,904	16,528	15,425	15,097	13,911	13,098	175,821

TRACE® 700 Economic Summary

By M.E. Dept., hku

Project Information

Weather file Hong Kong
 Project Name TRACE 700 Sample File
 Location St Louis, Missouri
 Building Owner Version 6
 User
 Company
 Comments

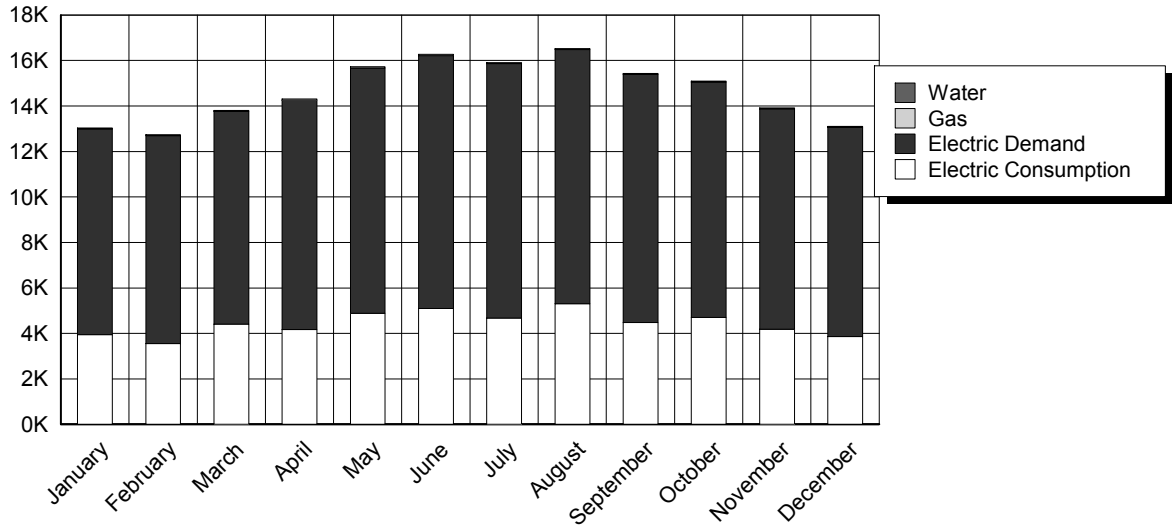
Alternative 1 - - Midrise Office Building

Economic Summary

Alternative Number	Installed Cost	First Year Util. Cost	Final Year Util. Cost	First Year Maint. Cost	Final Year Maint. Cost	Life Cycle Cost
1	0.00	175,820.62	175,820.62	0.00	0.00	1,496,860.14

Monthly Utility Costs per Utility

(1 alternative)



Equipment Energy Consumption by Alternative

	Elect Cons. (kWh)	Gas Cons. (kwh)	Water Cons. (liters)	Percent of Total Energy	Total Building Energy (kWh/yr)	Total Source Energy* (kWh/yr)
Alternative: 1 - Midrise Office Building						
Primary heating		5,402		0.3%	5,402	5,686
Other Htg Accessories	55			0.0%	187	166
Cooling Compressor	270,750			15.1%	924,069	820,454
Tower/Cond Fans	63,121		8,288	3.5%	215,432	191,276
Condenser Pump	22,709			1.3%	77,506	68,815
Supply Fans	222,273			12.4%	758,617	673,553
Pumps	28,325			1.6%	96,674	85,834
Stand-alone Base Utilities		40,474		2.3%	40,474	42,604
Lighting	691,110			38.6%	2,358,760	2,094,274
Receptacles	448,085			25.0%	1,529,315	1,357,834
Totals**	1,746,428	45,876	8,288	100.0%	6,006,435	5,340,497

* Note: Resource Utilization factors are included in the Total Source Energy value.