

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 1 Proposed Building

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Lights</b>													
Electric (kWh)	6,450.5	5,826.3	6,450.5	6,242.4	6,450.5	6,242.4	6,450.5	6,450.5	6,242.4	6,450.5	6,242.4	6,450.5	75,949.4
Peak (kW)	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
<b>Misc. Ld</b>													
Electric (kWh)	8,487.6	7,666.2	8,487.6	8,213.8	8,487.6	8,213.8	8,487.6	8,487.6	8,213.8	8,487.6	8,213.8	8,487.6	99,934.0
Peak (kW)	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
<b>Cooling Coil Condensate</b>													
Recoverable Water (1000gal)	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.1	0.1	0.0	0.0	1.1
Peak (1000gal/Hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Bsu 1: VA-DHW-purchased Steam</b>													
Purchased Steam (therms)	44.2	40.0	47.4	42.5	45.8	45.5	42.8	47.4	42.5	45.8	43.9	42.8	530.3
Peak (therms/Hr)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Bsu 2: Tradable Exterior Lights</b>													
Electric (kWh)	68.5	61.9	68.5	66.3	68.5	66.3	68.5	68.5	66.3	68.5	66.3	68.5	806.7
Peak (kW)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Bsu 3: Non-Tradable Exterior Lights</b>													
Electric (kWh)	689.9	623.2	689.9	667.7	689.9	667.7	689.9	689.9	667.7	689.9	667.7	689.9	8,123.4
Peak (kW)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
<b>Cpl 1: Air Cooled Chiller [Sum of dsn coil capacities=43.98 tons]</b>													
<b>Air-cooled chiller - 001 [Clg Nominal Capacity/F.L.Rate=43.98 tons / 45.74 kW] (Cooling Equipment)</b>													
Electric (kWh)	1,202.5	1,101.3	1,453.2	2,071.0	2,988.2	4,185.2	6,099.0	5,962.0	4,228.1	2,251.0	1,335.1	1,154.1	34,030.6
Peak (kW)	6.7	6.1	9.4	21.0	18.0	23.6	26.5	33.8	30.0	18.6	11.1	5.9	33.8
<b>Air cooled Chiller (MFIA-200 ton) [Design Heat Rejection/F.L.Rate=56.99 tons / 5.78 kW]</b>													
Electric (kWh)	218.8	201.1	272.3	395.8	591.9	809.9	1,192.1	1,212.7	834.6	436.5	246.3	209.5	6,621.6
Peak (kW)	1.4	1.3	2.0	3.6	3.3	3.9	5.8	5.8	5.8	3.3	2.3	1.1	5.8
<b>90.1 Min CV Chilled Water pump [F.L.Rate=1.99 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	1,018.1	946.5	1,049.9	1,038.0	1,101.7	1,131.5	1,322.4	1,256.8	1,101.7	1,061.9	1,014.2	1,048.0	13,090.5
Peak (kW)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 1 Proposed Building

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Cpl 1: Air Cooled Chiller [Sum of dsn coil capacities=43.98 tons]</b>													
<b>Cntl panel &amp; interlocks - 0.1 KW [F.L.Rate=0.10 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	51.2	47.6	52.8	52.2	55.4	56.9	66.5	63.2	55.4	53.4	51.0	52.7	658.3
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Var vol chill water pump [F.L.Rate=2.49 kW] (Cooling Plant Circulation Pump)</b>													
Electric (kWh)	50.4	46.6	60.8	86.8	126.2	181.9	272.2	267.9	185.9	94.6	55.9	49.2	1,478.3
Peak (kW)	0.3	0.3	0.4	1.0	0.9	1.2	1.4	1.7	1.5	0.9	0.5	0.2	1.7
<b>Hpl 1: Steam to Water Converter [Sum of dsn coil capacities=846.6 mbh]</b>													
<b>Boiler - 001 [Nominal Capacity/F.L.Rate=846.6 mbh / 8.47 Therms] (Heating Equipment)</b>													
Purchased Steam (therms)	293.9	172.0	118.5	61.5	21.5	4.8	0.5	1.9	6.1	72.6	145.3	244.9	1,143.4
Peak (therms/Hr)	1.5	1.6	1.2	1.0	0.9	0.6	0.2	0.3	0.5	1.3	1.4	1.5	1.6
<b>90.1 Min CV Hot Water Pump [F.L.Rate=0.75 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	382.5	256.5	193.9	120.8	66.4	32.1	7.5	15.7	35.8	139.5	237.9	390.0	1,878.4
Peak (kW)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
<b>Eq5061 - Condensate return pump [F.L.Rate=0.04 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	20.4	13.7	10.3	6.5	3.5	1.7	0.4	0.8	1.9	7.4	12.7	20.8	100.2
Peak (kW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Var Flow Heating Pump [F.L.Rate=0.99 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	83.0	53.4	44.1	30.0	16.2	5.6	0.9	2.9	7.4	30.8	49.9	77.4	401.6
Peak (kW)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Sys 1: Chilled Beams-First</b>													
<b>90.1-07 Min CV Fan system 3 4 [DsnAirflow/F.L.Rate=2,897 cfm / 2.06 kW] (Main Clg Fan)</b>													
Electric (kWh)	935.9	840.6	933.1	908.8	953.2	948.3	1,021.1	1,019.7	957.5	954.3	909.4	933.4	11,315.4
Peak (kW)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>90.1-07 Min CV Fan system 3 4 [DsnAirflow/F.L.Rate=2,897 cfm / 0.59 kW] (Main Return Fan)</b>													
Electric (kWh)	267.9	240.6	267.1	260.1	272.8	271.4	292.3	291.9	274.1	273.2	260.3	267.2	3,238.8
Peak (kW)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
<b>Sys 2: Chilled Beams-second</b>													

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 1 Proposed Building

Equipment - Utility	----- Monthly Consumption -----												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
<b>Sys 2: Chilled Beams-second</b>													
90.1-07 Min CV Fan system 3 4 [DsnAirflow/F.L.Rate=3,188 cfm / 2.52 kW] (Main Clg Fan)													
Electric (kWh)	1,138.5	1,024.5	1,159.8	1,153.3	1,218.8	1,241.5	1,379.5	1,344.4	1,219.3	1,177.8	1,104.5	1,127.9	14,289.9
Peak (kW)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
90.1-07 Min CV Fan system 3 4 [DsnAirflow/F.L.Rate=3,188 cfm / 1.78 kW] (Main Return Fan)													
Electric (kWh)	805.0	724.5	820.1	815.5	861.8	877.9	975.5	950.6	862.2	832.8	781.0	797.5	10,104.4
Peak (kW)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

Equipment - Utility	----- Monthly Consumption -----												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
<b>Lights</b>													
Electric (kWh)	7,638.8	6,899.6	7,638.8	7,392.4	7,638.8	7,392.4	7,638.8	7,638.8	7,392.4	7,638.8	7,392.4	7,638.8	89,940.5
Peak (kW)	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
<b>Misc. Ld</b>													
Electric (kWh)	8,487.6	7,666.2	8,487.6	8,213.8	8,487.6	8,213.8	8,487.6	8,487.6	8,213.8	8,487.6	8,213.8	8,487.6	99,934.0
Peak (kW)	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
<b>Cooling Coil Condensate</b>													
Recoverable Water (1000gal)	0.0	0.0	0.0	0.1	0.1	0.3	0.7	0.9	0.1	0.0	0.0	0.0	2.1
Peak (1000gal/Hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Bsu 1: VA-DHW-purchased Steam</b>													
Purchased Steam (therms)	44.2	40.0	47.4	42.5	45.8	45.5	42.8	47.4	42.5	45.8	43.9	42.8	530.3
Peak (therms/Hr)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Bsu 2: Tradable Exterior Lights</b>													
Electric (kWh)	387.3	349.8	387.3	374.8	387.3	374.8	387.3	387.3	374.8	387.3	374.8	387.3	4,559.9
Peak (kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Bsu 3: Non-Tradable Exterior Lights</b>													
Electric (kWh)	689.9	623.2	689.9	667.7	689.9	667.7	689.9	689.9	667.7	689.9	667.7	689.9	8,123.4
Peak (kW)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
<b>Cpl 1: Cooling plant - 001 [Sum of dsn coil capacities=6.15 tons]</b>													
<b>Air-cooled unitary - 001 [Clg Nominal Capacity/F.L.Rate=6.15 tons / 4.99 kW] [**Orig F.L.Rate=6.71 kW] (Cooling Equipment)</b>													
Electric (kWh)	75.4	136.4	168.1	232.3	408.6	763.4	1,217.0	1,122.7	714.5	265.9	154.4	77.3	5,335.9
Peak (kW)	1.6	1.6	1.8	3.2	3.0	3.8	4.6	5.0	4.5	3.0	1.9	1.6	5.0
<b>90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=7.69 tons / 0.43 kW]</b>													
Electric (kWh)	5.5	10.2	12.8	18.5	33.1	62.3	102.0	96.4	58.5	21.1	11.5	4.6	436.2
Peak (kW)	0.1	0.1	0.2	0.3	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.1	0.4
<b>Cntl panel &amp; interlocks - 0.05 KW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)</b>													
Electric (kWh)	4.6	7.4	8.2	8.9	14.6	19.6	25.4	23.9	18.9	10.8	8.1	5.8	155.9
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Cpl 2: Cooling plant - 003 [Sum of dsn coil capacities=2.86 tons]</b>													

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Cpl 2: Cooling plant - 003 [Sum of dsn coil capacities=2.86 tons]</b>													
Air-cooled unitary - 002 [Clg Nominal Capacity/F.L.Rate=2.86 tons / 2.26 kW] [ <b>**Orig F.L.Rate=3.09 kW</b> ] (Cooling Equipment)													
Electric (kWh)	34.5	49.1	69.1	113.2	181.8	333.7	543.5	508.4	318.6	116.2	60.7	39.0	2,367.7
Peak (kW)	0.7	0.6	0.7	1.5	1.4	1.8	2.2	2.5	2.1	1.4	0.8	0.6	2.5
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=3.56 tons / 0.20 kW]													
Electric (kWh)	2.7	4.2	6.2	10.3	16.3	29.3	47.7	45.4	27.8	10.3	5.1	2.6	207.7
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	5.5	6.4	7.8	9.7	15.7	21.0	25.9	24.9	21.3	10.7	7.7	6.7	163.1
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Cpl 3: Cooling plant - 004 [Sum of dsn coil capacities=5.24 tons]</b>													
Air-cooled unitary - 003 [Clg Nominal Capacity/F.L.Rate=5.24 tons / 4.20 kW] [ <b>**Orig F.L.Rate=5.67 kW</b> ] (Cooling Equipment)													
Electric (kWh)	104.3	132.1	176.4	259.0	344.7	547.8	885.6	866.0	587.3	275.1	157.3	103.8	4,439.3
Peak (kW)	1.3	1.3	1.4	3.4	2.8	3.7	4.2	4.7	4.0	3.0	1.9	1.2	4.7
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=6.54 tons / 0.36 kW]													
Electric (kWh)	7.5	11.0	15.9	23.7	30.6	46.1	73.7	74.3	50.7	24.9	13.3	6.5	378.2
Peak (kW)	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.4
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	8.1	8.5	11.2	12.6	15.5	18.6	23.9	22.9	18.9	12.7	10.0	8.7	171.4
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Cpl 4: Cooling plant - 005 [Sum of dsn coil capacities=3.66 tons]</b>													
Air-cooled unitary - 004 [Clg Nominal Capacity/F.L.Rate=3.66 tons / 2.95 kW] [ <b>**Orig F.L.Rate=3.95 kW</b> ] (Cooling Equipment)													
Electric (kWh)	62.1	83.3	116.6	172.2	238.3	412.6	676.8	652.6	421.9	180.8	99.9	60.5	3,177.6
Peak (kW)	0.9	0.9	0.9	2.3	1.9	2.6	2.9	3.3	2.8	2.1	1.2	0.8	3.3
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=4.57 tons / 0.25 kW]													
Electric (kWh)	4.6	7.1	10.7	15.7	21.1	35.3	57.4	56.3	36.4	16.2	8.5	3.9	273.1
Peak (kW)	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.3
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	7.0	7.6	9.8	11.4	15.4	19.4	24.6	23.5	19.1	11.8	8.8	7.6	165.8
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<u>Cpl 5: Cooling plant - 006 [Sum of dsn coil capacities=7.38 tons]</u>													
Air-cooled unitary - 005 [Clg Nominal Capacity/F.L.Rate=7.38 tons / 6.26 kW] [ <b>**Orig F.L.Rate=8.20 kW</b> ] (Cooling Equipment - Cooling Mode)													
Electric (kWh)	100.2	159.5	227.5	358.9	524.3	924.3	1,494.6	1,395.2	877.4	322.3	167.2	96.3	6,647.6
Peak (kW)	1.8	1.8	2.0	4.4	3.9	5.2	6.0	6.7	5.9	3.9	2.1	1.8	6.7
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=9.31 tons / 0.51 kW]													
Electric (kWh)	7.6	12.9	19.3	31.1	44.1	76.3	123.0	116.6	71.9	26.9	13.5	6.1	549.2
Peak (kW)	0.2	0.2	0.2	0.4	0.3	0.4	0.5	0.5	0.5	0.3	0.2	0.2	0.5
Cntl panel & interlocks - 0.1 kW [F.L.Rate=0.10 kW] (Misc Accessory Equipment)													
Electric (kWh)	11.6	14.7	19.0	24.4	33.5	40.3	50.0	48.3	40.1	24.2	16.6	13.1	335.8
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<u>Cpl 6: Cooling plant - 007 [Sum of dsn coil capacities=7.54 tons]</u>													
Air-cooled unitary - 006 [Clg Nominal Capacity/F.L.Rate=7.54 tons / 6.21 kW] [ <b>**Orig F.L.Rate=8.23 kW</b> ] (Cooling Equipment)													
Electric (kWh)	114.9	180.7	253.0	394.8	512.9	817.6	1,340.7	1,293.2	856.0	383.1	205.1	99.6	6,451.6
Peak (kW)	2.3	2.3	2.5	5.1	4.3	5.5	6.1	7.0	5.9	4.6	2.8	2.0	7.0
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=9.46 tons / 0.52 kW]													
Electric (kWh)	7.9	13.2	19.9	32.3	41.3	64.5	106.6	105.5	69.5	31.1	15.5	5.7	513.0
Peak (kW)	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.2	0.1	0.5
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	6.1	7.7	10.2	12.5	15.7	18.3	22.9	22.0	17.7	12.0	9.1	6.3	160.2
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<u>Cpl 7: Cooling plant - 008 [Sum of dsn coil capacities=4.81 tons]</u>													
Air-cooled unitary - 007 [Clg Nominal Capacity/F.L.Rate=4.81 tons / 3.91 kW] [ <b>**Orig F.L.Rate=5.20 kW</b> ] (Cooling Equipment)													
Electric (kWh)	60.2	99.7	147.6	224.4	313.6	570.8	921.5	858.3	534.8	196.4	101.6	52.1	4,080.9
Peak (kW)	1.1	1.1	1.2	2.8	2.4	3.3	3.7	4.2	3.6	2.4	1.3	1.1	4.2
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=6.02 tons / 0.33 kW]													
Electric (kWh)	4.9	8.4	12.9	20.1	27.2	48.7	78.4	74.1	45.4	17.0	8.6	3.5	349.3
Peak (kW)	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.3
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	7.2	9.7	12.6	14.6	17.9	21.1	25.0	24.0	19.4	13.7	10.6	7.8	183.3
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Cpl 8: Cooling plant - 009 [Sum of dsn coil capacities=8.18 tons]</b>													
Air-cooled unitary - 008 [Clg Nominal Capacity/F.L.Rate=8.18 tons / 6.93 kW] [ <b>**Orig F.L.Rate=9.09 kW</b> ] (Cooling Equipment - Cooling Mode)													
Electric (kWh)	143.7	190.9	235.1	382.0	505.0	889.9	1,475.4	1,420.8	927.8	377.6	212.3	134.7	6,895.1
Peak (kW)	2.1	2.1	2.2	5.4	4.6	6.1	6.7	7.7	6.6	4.8	2.6	2.0	7.7
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=10.32 tons / 0.57 kW]													
Electric (kWh)	10.4	15.0	19.4	32.8	42.0	71.4	117.6	116.0	75.8	31.9	17.1	8.3	557.7
Peak (kW)	0.2	0.2	0.2	0.5	0.4	0.5	0.6	0.6	0.6	0.4	0.2	0.2	0.6
Cntl panel & interlocks - 0.1 kW [F.L.Rate=0.10 kW] (Misc Accessory Equipment)													
Electric (kWh)	17.1	18.9	22.8	26.9	32.5	39.4	47.5	45.4	37.7	26.2	22.1	18.5	355.0
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Cpl 9: Cooling plant - 002 [Sum of dsn coil capacities=7.57 tons]</b>													
Air-cooled unitary - 009 [Clg Nominal Capacity/F.L.Rate=7.57 tons / 6.21 kW] [ <b>**Orig F.L.Rate=8.26 kW</b> ] (Cooling Equipment)													
Electric (kWh)	146.1	207.2	254.9	377.2	495.9	784.1	1,288.4	1,252.5	853.3	392.6	244.1	150.6	6,447.0
Peak (kW)	2.2	2.3	2.3	4.8	4.1	5.3	5.9	6.8	5.7	4.5	2.7	2.0	6.8
90.1 Min Air Cooled Condenser [Design Heat Rejection/F.L.Rate=9.49 tons / 0.52 kW]													
Electric (kWh)	9.3	14.9	19.5	30.5	39.7	61.2	102.4	103.1	69.2	31.6	17.9	8.2	507.7
Peak (kW)	0.2	0.2	0.2	0.4	0.3	0.4	0.5	0.5	0.5	0.4	0.2	0.2	0.5
Cntl panel & interlocks - 0.05 kW [F.L.Rate=0.05 kW] (Misc Accessory Equipment)													
Electric (kWh)	8.1	8.7	10.5	12.4	15.6	18.3	23.3	22.3	18.9	12.8	10.9	9.3	170.7
Peak (kW)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Hpl 1: Heating plant - 011 [Sum of dsn coil capacities=0.00 mbh]</b>													
<b>Hpl 10: Heating plant - 020 [Sum of dsn coil capacities=63.97 mbh]</b>													
Gas-fired heat exchanger - 010 [Nominal Capacity/F.L.Rate=63.97 mbh / 0.64 Therms] (Heating Equipment)													
Purchased Steam (therms)	26.8	22.3	17.0	7.8	1.7	0.3	0.0	0.2	0.6	7.6	14.2	22.5	121.0
Peak (therms/Hr)	0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3
<b>Hpl 2: Heating plant - 012 [Sum of dsn coil capacities=54.33 mbh]</b>													
Gas-fired heat exchanger - 002 [Nominal Capacity/F.L.Rate=54.33 mbh / 0.54 Therms] (Heating Equipment)													
Purchased Steam (therms)	15.3	12.2	9.7	5.5	2.2	0.4	0.1	0.1	0.2	4.0	7.3	12.7	69.6
Peak (therms/Hr)	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

Equipment - Utility	----- Monthly Consumption -----												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
<u>Hpl 3: Heating plant - 013 [Sum of dsn coil capacities=27.32 mbh]</u>													
Gas-fired heat exchanger - 003 [Nominal Capacity/F.L.Rate=27.32 mbh / 0.27 Therms]	(Heating Equipment)												
Purchased Steam (therms)	9.4	8.5	7.2	4.0	1.2	0.1	0.0	0.0	0.1	3.3	6.0	8.5	48.3
Peak (therms/Hr)	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
<u>Hpl 4: Heating plant - 014 [Sum of dsn coil capacities=32.17 mbh]</u>													
Gas-fired heat exchanger - 004 [Nominal Capacity/F.L.Rate=32.17 mbh / 0.32 Therms]	(Heating Equipment)												
Purchased Steam (therms)	8.2	6.3	4.7	2.3	0.8	0.1	0.0	0.0	0.0	1.6	3.0	6.3	33.2
Peak (therms/Hr)	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
<u>Hpl 5: Heating plant - 015 [Sum of dsn coil capacities=25.00 mbh]</u>													
Gas-fired heat exchanger - 005 [Nominal Capacity/F.L.Rate=25.00 mbh / 0.25 Therms]	(Heating Equipment)												
Purchased Steam (therms)	7.7	6.1	4.5	2.2	0.5	0.0	0.0	0.0	0.0	1.2	2.5	5.7	30.3
Peak (therms/Hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
<u>Hpl 6: Heating plant - 016 [Sum of dsn coil capacities=71.04 mbh]</u>													
Gas-fired heat exchanger - 006 [Nominal Capacity/F.L.Rate=71.04 mbh / 0.71 Therms]	(Heating Equipment)												
Purchased Steam (therms)	20.2	13.9	8.7	3.3	0.7	0.1	0.0	0.1	0.2	5.2	9.1	16.3	77.7
Peak (therms/Hr)	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
<u>Hpl 7: Heating plant - 017 [Sum of dsn coil capacities=69.79 mbh]</u>													
Gas-fired heat exchanger - 007 [Nominal Capacity/F.L.Rate=69.79 mbh / 0.70 Therms]	(Heating Equipment)												
Purchased Steam (therms)	24.1	17.8	13.7	7.3	3.1	0.6	0.1	0.3	0.7	9.0	13.5	20.9	110.9
Peak (therms/Hr)	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2
<u>Hpl 8: Heating plant - 018 [Sum of dsn coil capacities=45.89 mbh]</u>													
Gas-fired heat exchanger - 008 [Nominal Capacity/F.L.Rate=45.89 mbh / 0.46 Therms]	(Heating Equipment)												
Purchased Steam (therms)	11.4	7.8	4.9	1.9	0.5	0.1	0.0	0.0	0.0	3.0	5.0	9.2	43.7
Peak (therms/Hr)	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
<u>Hpl 9: Heating plant - 019 [Sum of dsn coil capacities=72.90 mbh]</u>													
Gas-fired heat exchanger - 009 [Nominal Capacity/F.L.Rate=72.90 mbh / 0.73 Therms]	(Heating Equipment)												
Purchased Steam (therms)	15.4	11.0	7.4	3.2	1.0	0.1	0.0	0.0	0.1	4.6	7.0	12.4	62.2
Peak (therms/Hr)	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
<u>Sys 1: System - 001 1st South-West</u>													



# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Sys 1: System - 001 1st South-West</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=2,210 cfm / 1.30 kW (**Orig F.L.Rate=2.34 kW)] (Main Clg Fan)													
Electric (kWh)	643.0	567.6	609.5	568.3	570.0	551.1	575.1	572.5	550.5	582.2	576.5	625.5	6,991.6
Peak (kW)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
FC Centrifugal const vol [DsnAirflow/F.L.Rate=2,210 cfm / 0.66 kW (**Orig F.L.Rate=1.18 kW)] (Main Return Fan)													
Electric (kWh)	324.7	286.7	307.9	287.0	287.9	278.3	290.5	289.1	278.0	294.1	291.2	315.9	3,531.1
Peak (kW)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
<b>Sys 10: System - 010 unconditioned</b>													
<b>Sys 2: System - 002 1st South-East</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=2,600 cfm / 1.53 kW (**Orig F.L.Rate=2.76 kW)] (Main Clg Fan)													
Electric (kWh)	757.6	669.8	722.0	678.1	680.8	647.9	671.9	671.6	647.7	690.1	690.5	746.5	8,274.5
Peak (kW)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
FC Centrifugal const vol [DsnAirflow/F.L.Rate=2,600 cfm / 0.77 kW (**Orig F.L.Rate=1.39 kW)] (Main Return Fan)													
Electric (kWh)	382.6	338.3	364.7	342.5	343.8	327.2	339.3	339.2	327.1	348.5	348.5	377.0	4,178.8
Peak (kW)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
<b>Sys 3: System - 003 1st North West</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=1,035 cfm / 0.63 kW (**Orig F.L.Rate=1.10 kW)] (Main Clg Fan)													
Electric (kWh)	318.9	291.5	321.6	298.9	291.4	272.5	280.2	281.4	274.4	307.2	309.1	319.4	3,566.4
Peak (kW)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
FC Centrifugal const vol [DsnAirflow/F.L.Rate=1,035 cfm / 0.32 kW (**Orig F.L.Rate=0.55 kW)] (Main Return Fan)													
Electric (kWh)	161.0	147.1	162.3	150.9	147.1	137.6	141.5	142.1	138.6	155.1	156.0	161.2	1,800.6
Peak (kW)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
<b>Sys 4: System - 004 1st North East</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=1,816 cfm / 1.10 kW (**Orig F.L.Rate=1.92 kW)] (Main Clg Fan)													
Electric (kWh)	581.0	510.6	543.3	501.7	495.4	467.7	485.0	484.8	467.7	501.7	504.5	559.3	6,102.6
Peak (kW)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
FC Centrifugal const vol [DsnAirflow/F.L.Rate=1,816 cfm / 0.56 kW (**Orig F.L.Rate=0.97 kW)] (Main Return Fan)													
Electric (kWh)	293.4	257.9	274.4	253.4	250.2	236.2	244.9	244.9	236.2	253.4	254.8	282.5	3,082.1
Peak (kW)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Sys 5: System - 005 Teaching Kitchen</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=1,244 cfm / 0.76 kW (**Orig F.L.Rate=1.32 kW)] (Main Clg Fan)													
Electric (kWh)	395.9	349.3	372.1	341.9	334.9	320.4	333.7	333.5	321.1	340.7	341.8	379.5	4,164.9
Peak (kW)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
FC Centrifugal const vol [DsnAirflow/F.L.Rate=1,244 cfm / 0.38 kW (**Orig F.L.Rate=0.67 kW)] (Main Return Fan)													
Electric (kWh)	200.0	176.4	187.9	172.7	169.2	161.8	168.5	168.5	162.2	172.1	172.6	191.7	2,103.5
Peak (kW)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<b>Sys 6: System - 006 2nd South-West</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=2,425 cfm / 1.43 kW (**Orig F.L.Rate=2.57 kW)] (Main Clg Fan)													
Electric (kWh)	683.1	599.7	645.5	610.3	624.7	606.2	632.1	630.7	606.0	636.5	626.5	670.9	7,572.2
Peak (kW)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
FC Centrifugal const vol [DsnAirflow/F.L.Rate=2,425 cfm / 0.72 kW (**Orig F.L.Rate=1.30 kW)] (Main Return Fan)													
Electric (kWh)	345.0	302.9	326.0	308.3	315.5	306.2	319.2	318.5	306.1	321.5	316.4	338.8	3,824.3
Peak (kW)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
<b>Sys 7: System - 007 2nd South-East</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=2,541 cfm / 1.49 kW (**Orig F.L.Rate=2.69 kW)] (Main Clg Fan)													
Electric (kWh)	718.1	634.1	686.0	648.5	659.5	633.5	658.3	657.2	633.3	675.0	664.8	708.7	7,977.1
Peak (kW)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
FC Centrifugal const vol [DsnAirflow/F.L.Rate=2,541 cfm / 0.75 kW (**Orig F.L.Rate=1.36 kW)] (Main Return Fan)													
Electric (kWh)	362.7	320.3	346.5	327.5	333.1	320.0	332.5	331.9	319.8	340.9	335.8	357.9	4,028.9
Peak (kW)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
<b>Sys 8: System - 008 2nd North-West</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=1,580 cfm / 0.96 kW (**Orig F.L.Rate=1.67 kW)] (Main Clg Fan)													
Electric (kWh)	457.1	403.3	436.4	413.8	422.8	409.6	426.7	425.9	409.6	431.0	422.5	449.5	5,108.0
Peak (kW)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FC Centrifugal const vol [DsnAirflow/F.L.Rate=1,580 cfm / 0.49 kW (**Orig F.L.Rate=0.85 kW)] (Main Return Fan)													
Electric (kWh)	230.8	203.7	220.4	209.0	213.5	206.9	215.5	215.1	206.9	217.7	213.4	227.0	2,579.8
Peak (kW)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Sys 9: System - 009 2nd North East</b>													

# EQUIPMENT ENERGY CONSUMPTION

By MFIA Inc.

Alternative: 2 ASHRAE Baseline 90.1-10 Climate Zone 4C

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

Equipment - Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Sys 9: System - 009 2nd North East</b>													
FC Centrifugal Const Vol [DsnAirflow/F.L.Rate=2,704 cfm / 1.59 kW (**Orig F.L.Rate=2.86 kW)] (Main Clg Fan)													
Electric (kWh)	739.9	656.7	715.2	683.5	699.4	676.0	702.7	701.5	675.6	708.6	691.9	730.6	8,381.7
Peak (kW)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
FC Centrifugal const vol [DsnAirflow/F.L.Rate=2,704 cfm / 0.80 kW (**Orig F.L.Rate=1.45 kW)] (Main Return Fan)													
Electric (kWh)	373.7	331.7	361.2	345.2	353.2	341.4	354.9	354.3	341.2	357.9	349.5	369.0	4,233.2
Peak (kW)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8