1ST GREEN SOLUTIONS LLC
Energy Efficiency Technologies

Marriott Hotel-Guam USES System Performance Results – Summation T-1 (16 units)

DM II Pro Data Logger recording graphs Timed Interval Samplings Results: Averaged between 18:30 to 18:40 Aug 25, 2012

Graph Title	USES System OFF (18:30 to 18:35)	USES System ON (18:35 to 18:40)	Change/ Savings
Real Power	874,000 Watts	844,000 Watts	- 30,000 Watts
Apparent Power	960,000 Volt Amps	850,000 Volt Amps	- 110,000 Volt Amps
Current	1,190 Amps	1,040Amps	- 150 Amps
Reactive Power	390,000 VAR	85,000 VAR	- 305,000 VAR
Voltage	275Volts	281Volts	+ 6 Volts
Power Factor	.91	.99	+ 8

KWH and Demand as billed by the Utility Company is based on all above factors.
50% of Real Power Savings plus 50% of Apparent Power Savings totaled together = Total kWh typically billed

30,000 Watts / 2 = 15,000 Watts
110,000 VA / 2 = 55,000 VA
Total 70,000 = 70 kWh / 16 units = approx. 4.37 kWh per USES unit.

4.37 kWh x (18) USES units (normal number of USES units running) = 78.66 kWh

Anticipated savings resulting from all above changes is 73 to 78 kWh reduction. = 74 as a conservative average.

If we take the 74 kWh conservative average and divide by (18) USES units then the average becomes 4.11 kWh per USES unit.

2. Actual new projected monthly savings results based on the recorded information from graphs.
Daily : 74 kWh x 24 hours x 30 days = 53,280 kWh
(1) Chiller off : (4) USES units x 4.11 kWh each x 10 hours x 30 days = 4,932 kWh

53,280 kWh
- 4,932 kWh
48,348 kWh Total 48,348 kWh x .28 = $13,537.00/mo. x 12 = $162,449.00/Yr. (Monthly/Annual savings T-1 only)

All Three Services Summation

	kWh reductions
T-1	48,348 kWh
T-2	19,380 kWh
T-3	30,398 kWh
Total	98,126 kWh x .28 = $27,475.28/month x 12 months = $329,703.36 Annually

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Marriott Hotel-Guam USES System Performance Results – Summation T-2 (3 units)

DM II Pro Data Logger recording graphs Timed Interval Samplings Results: Averaged between 12:30 to 12:50 Aug 25, 2012

Graph Title	USES System OFF (12:30 to 12:40 PM)	USES System ON (12:40 to 12:50 PM)	Change/ Savings
Real Power	130,000 Watts	115,000 Watts	- 15,000 Watts
Apparent Power	155,000 Volt Amps	115,000 Volt Amps	- 40,000 Volt Amps
Current	181 Amps	135 Amps	- 46 Amps
Reactive Power	80,000 VAR	15,000 VAR	- 65,000 VAR
Voltage	280Volts	281Volts	+ 1 Volts
Power Factor	.85	.995	+ 14

KWH and Demand as billed by the Utility Company is based on all above factors.
50% of Real Power Savings plus 50% of Apparent Power Savings totaled together = Total kWh typically billed

15,000 Watts / 2 = 7,500 Watts
40,000 VA / 2 = 20,000 VA
Total 27,500 = 27.5 kWh / 3 units = approx. 9.16 kWh per USES unit.

9.16 kWh x (4) USES units (normal number of USES units running) = 36.64 kWh

Anticipated savings resulting from all above changes is 32 to 36 kWh reduction. = 34 as a conservative average.

If we take the 34 kWh conservative average and divide by (4) USES units then the average becomes 8.5 kWh per USES unit.

2. Actual new projected monthly savings results based on the recorded information from graphs.
Daily : 34 kWh x 24 hours x 30 days = 24,480 kWh
(2) USES off : (2) USES units x 8.5 kWh each x 10 hours x 30 days = 5,100 kWh
24,480 kWh
- 5,100 kWh
19,380 Kwh Total 19,380 kWh x .28 = $5,426.40/mo. x 12 = $65,116.80/Yr. (Monthly/Annual savings T-2 only)

All Three Services Summation

	kWh reductions
T-1	48,348 kWh
T-2	19,380 kWh
T-3	30,398 kWh
Total	98,126 kWh x .28 = $27,475.28/month x 12 months = $329,703.36 Annually

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Marriott Hotel-Guam USES System Performance Results – Summation T-3 (8 units)

DM II Pro Data Logger recording graphs Timed Interval Samplings Results: Averaged between 11:40 to 12:00 Aug 10, 2012

Graph Title	USES System OFF (11:40 to 11:50 AM)	USES System ON (11:50 to 12:00)	Change/ Savings
Real Power	350,000 Watts	330,000 Watts	- 20,000 Watts
Apparent Power	420,000 Volt Amps	340,000 Volt Amps	- 80,000 Volt Amps
Current	500 Amps	400 Amps	- 100 Amps
Reactive Power	220,000 VAR	60,000 VAR	- 160,000 VAR
Voltage	277Volts	281Volts	+ 4 Volts
Power Factor	.83	.99	+ 16

KWH and Demand as billed by the Utility Company is based on all above factors.
50% of Real Power Savings plus 50% of Apparent Power Savings totaled together = Total kWh typically billed

20,000 Watts / 2 = 10,000 Watts
80,000 VA / 2 = 40,000 VA
Total 50,000 = 70 kWh / 8 units = approx. 6.25 kWh per USES unit.

6.25 kWh x (9) USES units (normal number of USES units running) = 56.25 kWh

Anticipated savings resulting from all above changes is 50 to 56 kWh reduction. = 53 as a conservative average.

If we take the 53 kWh conservative average and divide by (9) USES units then the average becomes 5.88 kWh per USES unit.

2. Actual new projected monthly savings results based on the recorded information from graphs.
Daily : 53 kWh x 24 hours x 30 days = 38,160 kWh
(3) USES off : (3) USES units x 5.88 kWh each x 10 hours x 30 days = 5,292 kWh
(2) USES off : (2) USES units x 5.88 kWh each x 7 hours x 30 days = 2,470 kWh

38,160 kWh
- 5,292 kWh
- 2,470 kWh
30,398 kWh Total 30,398 kWh x .28 = $8,511.44/mo. x 12 = $102,137.00/Yr. (Monthly/Annual savings T-3 only)

All Three Services Summation

	kWh reductions
T-1	48,348 kWh
T-2	19,380 kWh
T-3	30,398 kWh
Total	98,126 kWh x .28 = $27,475.28/month x 12 months = $329,703.36 Annually

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