THE MADISON ENERGY GROUP

ENERGY EFFICIENCY SOLUTIONS

Case Study:

EnerG² reduces energy consumption and compressor cycles in walk-in coolers and freezers by providing a more accurate means of temperature measurement through a specialized gel compound that simulates the food product temperature instead of the air temperature which fluctuates with more volatility. It retrofits to the existing thermostat air probe and requires no additional maintenance.

Guaranteed to Reduce Energy Costs 15 – 30%
Reduces Compressor Cycles by 40 – 60%
Prevents Wear and Tear
Extends Life of Equipment
12 Month ROI
Green Restaurant Association Endorsed
Reduced CO2 Emissions – Go Green!
Lifetime Warranty

EnerG² is a device that was developed by The Madison Energy Group and contains a non-toxic, food safe gel compound that has similar thermal properties to that of food and beverage. It is therefore, not subject to the same wider and more volatile standard of deviation in temperature that air is. The technology of EnerG² is based on the fact that food and beverage products contain significantly differently thermal properties than air. This means that their temperatures rise and fall at different rates and at different intervals. This causes inefficiency in operation because typical measurement is of the environment (air) and not the actual food and beverage product. Air, having very little density, fluctuates with more volatility thereby causing the coolers to engage in cooling cycles unnecessarily, while EnerG² simulates the stable temperature curve of food product and allows the cooler to operate only when it needs to.

When applied, EnerG² easily retrofits over the external air probe in commercial coolers and freezers and converts the temperature measurement from the ambient air temperature to that of food and beverage temperature. We are now measuring the *intended target of measurement* of food and beverage temperature instead of the immediate environment surrounding the thermostat. This creates an inherently more efficient scenario and results in an average energy reduction of 15-30%. EnerG² is also effective at reducing carbon emissions by several thousand pounds annually. It also increases food safety by maintaining more stable temperature ranges and reduces maintenance costs on equipment by minimizing unnecessary compressor cycles.

HMS Engineering Ltd.

Phillip Stewart

Engineering Consultant

Background and Qualifications for Energy Analysis

Mr. Stewart joined the US Military in 1982 and became a marine engineer involved with mechanical, electrical and structural engineering. After completing his military tour in 1990, he was recruited by Walt Disney World as a Control Specialist and Engineer. During that period Mr. Stewart became extremely interested in energy management systems. After opening Pleasure Island, MGM Studios, Disney Vacation Club, he realized that it was time for new growth in my life and joined Florida's largest Service Company BGSI. Mr. Stewart became certified as a Master Engineer for Refrigeration and Food Equipment.

After years of international endeavours Mr. Stewart entered semi-retirement where he established his consulting company, HMS Engineering Ltd. (HMS), based in Montego Bay, Jamaica in 2007.

As a Chief Engineer, Renewable Energy Consultant and Food Equipment expert, he continues to educate and assist many large companies on ways to reduce their energy consumption and increase their bottom line profits. Companies he has supported over years include Sandals, Couples Resorts, Montego Bay Convention Centre, KFC, Wendy's, Burger King, Moes, Margaritaville, and many others.

The attached Baseline/Performance Test Report was prepared by Mr. Stewart and all findings are based on analysis of the raw data logger information collected onsite and provided to him. I certify that neither I nor my company (HMS Ltd.) ever receive any compensation which correlates in any manner whatsoever to test report results and that the referenced report findings are accurate and unbiased.

Phillip Stewart

Chief Engineer
HMS Engineering Ltd.
Referenced Report No. __SUB62216__ Dated __6/22/2016__

HMS Engineering

Client : The Madison Energy Group
5 Hargett St., 4th Floor
Raleigh, North Carolina 27601

Report Print Date: 22-Jun-16

Report No.: SUB62216

Facility / Location: Subway

Room/Equip. Tested: Walk-in Cooler

Calculation Basis

Compressor Motor: HP: 0.3 Volts: 230 RLA: 8.0 Phase: 3

Power Consumption: 2.84 kW Electricity Rate: $0.10 per kWh

Operating Basis

	(Without EnerG²)	With EnerG²	Change	% Change
Projected Run Hours / Yr:	3,916	3,124	-792	-20.2%
Projected Cycles / Yr:	9,265	4,216	-5,049	-54.5%

Energy Use & Cost Savings per Month

	(Without EnerG²)	With EnerG²	Change	% Change
Operating Hours / Month:	326	260	-66	-20.2%
KWh / Month:	927	739	-187	-20.2%
Energy Cost / Month	$93	$74	-$19	-20.2%

Mechanical Cost Savings per Month

	(Without EnerG²)	With EnerG²	Change	% Change
Cycles / Month:	772	351	-421	-54.5%
Compressor Maintenance Cost/ Month:	$42	$19	-$23	-54.5%

Combined Energy and Mechanical Cost Savings

	(Without EnerG²)	With EnerG²	Change	% Change
Energy & Mechanical Cost / Month:	$134	$93	-$41	-30.9%
Energy & Mechanical Cost / Year:	$1,612	$1,115	-$497	-30.9%

EnerG² Return on Investment Months: 14.45

SMARTware 11 - [Data Download]

File Edit View Logger Tools Data Window Help

Summary

Subway.log (CT15152332)

Data File Name:	CT15152332 Subway Baseline (*saved*)
Logger Serial Number:	CT15152332
Description:	DENT SMART LOGGER
Elapsed Time Since Reset:	168.00 hrs
On-Time Since Reset:	75.10 hrs
Percent On Since Reset:	44.70%
Connected Load:	No Load Defined
Energy Cost:	Unknown
Data Starts:	6/6/2016 12:00:00 PM
Data Ends:	6/13/2016 12:00:00 PM
Data Elapsed Time:	168.00 hrs
Estimated Annual Hours On:	3916 hrs
Number of Turn Ons:	178
Percent On:	44.70 %
Data On-Time:	75.10 hrs
Average On-Time:	.01 hrs
Longest On-Time:	.17 hrs
Shortest On-Time:	<0.01 hrs
Number of Turn Offs:	179
Percent Off:	17.10 %
Data Off-Time:	92.90 hrs
Average Off-Time:	.77 hrs
Longest Off-Time:	1.51 hrs
Shortest Off-Time:	<0.01 hrs

SMARTware 11 - [Data Download]

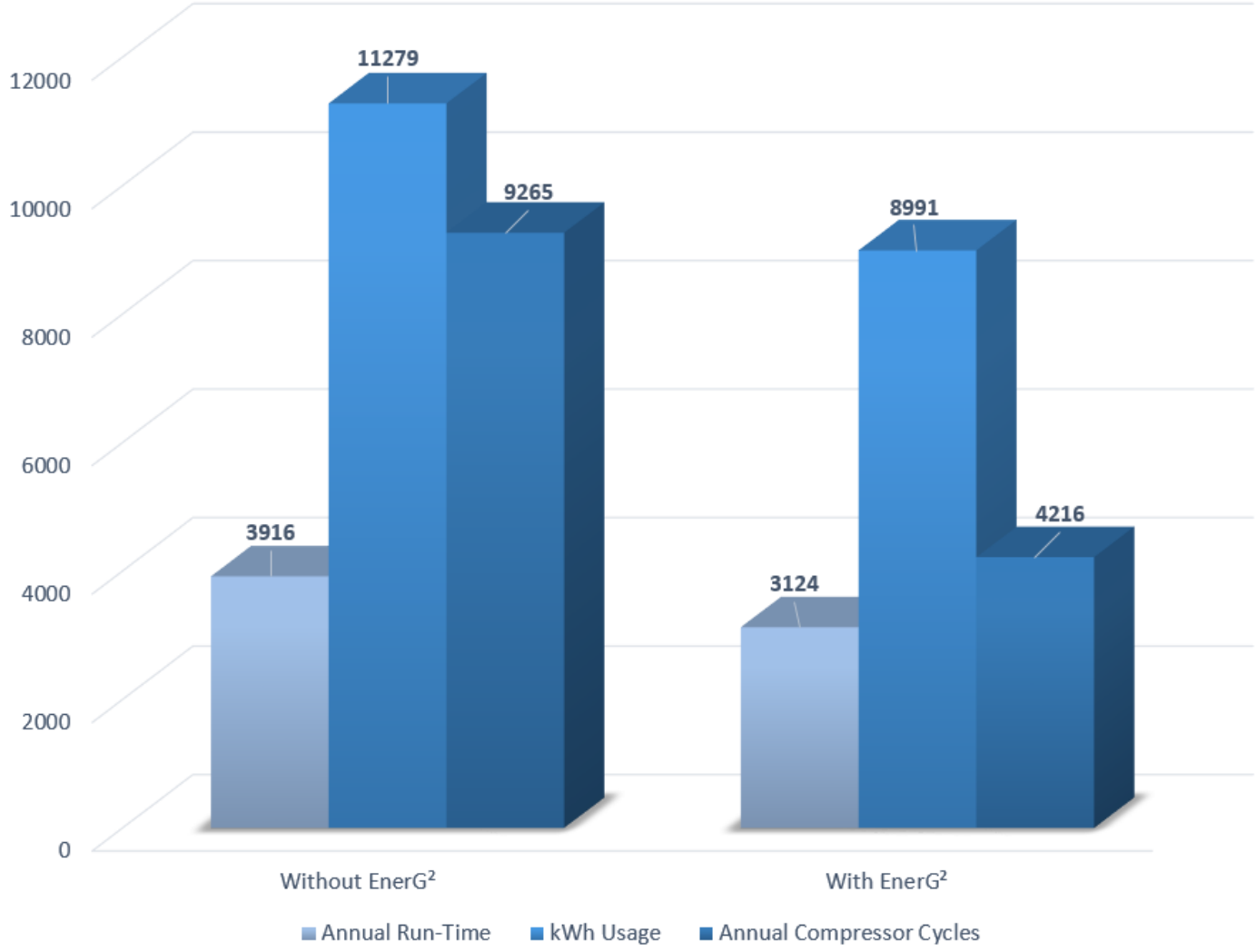
File Edit View Logger Tools Data Window Help

Summary

Subway.log (CT15152332)

Data File Name:	CT15152332 Subway Performance (*saved*)
Logger Serial Number:	CT15152332
Description:	DENT SMART LOGGER
Elapsed Time Since Reset:	168.00 hrs
On-Time Since Reset:	59.91 hrs
Percent On Since Reset:	35.66%
Connected Load:	No Load Defined
Energy Cost:	Unknown
Data Starts:	6/13/2016 12:00:00 PM
Data Ends:	6/20/2016 12:00:00 PM
Data Elapsed Time:	168.00 hrs
Estimated Annual Hours On:	3124 hrs
Number of Turn Ons:	81
Percent On:	35.66 %
Data On-Time:	59.91 hrs
Average On-Time:	.01 hrs
Longest On-Time:	.26 hrs
Shortest On-Time:	<0.01 hrs
Number of Turn Offs:	82
Percent Off:	64.34 %
Data Off-Time:	108.09 hrs
Average Off-Time:	.91 hrs
Longest Off-Time:	1.83 hrs
Shortest Off-Time:	<0.01 hrs

CT15152332 Data Graph Series | Subway Cooler



Serial Number: CT15152332
Description: DENT SMART LOGGER
On-Time Since Reset: 135.01 hrs
Off-Time Since Reset: 200.99 hrs

Date	TOU/Day (hrs)
Monday, June 6, 2016	5.68
Tuesday, June 7, 2016	9.11
Wednesday, June 8, 2016	9.89
Thursday, June 9, 2016	10.20
Friday, June 10, 2016	13.04
Saturday, June 11, 2016	14.25
Sunday, June 12, 2016	8.20
Monday, June 13, 2016	9.46
Tuesday, June 14, 2016	6.33
Wednesday, June 15, 2016	7.02
Thursday, June 16, 2016	8.15
Friday, June 17, 2016	9.61
Saturday, June 18, 2016	10.86
Sunday, June 19, 2016	6.09
Monday, June 20, 2016	7.12

HMS Engineering

Client : The Madison Energy Group
5 Hargett St., 4th Floor
Raleigh, North Carolina 27601

Report Print Date: 22-Jun-16

Report No.: SUB62216

Facility / Location: Subway

Room/Equip. Tested: Walk-in Freezer

Calculation Basis

Compressor Motor: HP: 0.3 Volts: 230 RLA: 8.0 Phase: 3

Power Consumption: 3.24 kW Electricity Rate: $0.10 per kWh

Operating Basis

	(Without EnerG²)	With EnerG²	Change	% Change
Projected Run Hours / Yr:	4,428	3,382	-1,046	-23.6%
Projected Cycles / Yr:	12,441	4,741	-7,700	-61.9%

Energy Use & Cost Savings per Month

	(Without EnerG²)	With EnerG²	Change	% Change
Operating Hours / Month:	369	282	-87	-23.6%
KWh / Month:	1,196	913	-282	-23.6%
Energy Cost / Month	$120	$91	-$28	-23.6%

Mechanical Cost Savings per Month

	(Without EnerG²)	With EnerG²	Change	% Change
Cycles / Month:	1,037	395	-642	-61.9%
Compressor Maintenance Cost/ Month:	$42	$16	-$26	-61.9%

Combined Energy and Mechanical Cost Savings

	(Without EnerG²)	With EnerG²	Change	% Change
Energy & Mechanical Cost / Month:	$161	$107	-$54	-33.5%
Energy & Mechanical Cost / Year:	$1,935	$1,286	-$648	-33.5%

EnerG² Return on Investment Months: 11.09

SMARTware 11 - [Data Download]

File Edit View Logger Tools Data Window Help

Summary

..... Subway.log (CT15123362)

Data File Name:	CT15123362 Subway Baseline (*saved*)
Logger Serial Number:	CT15123362
Description:	DENT SMART LOGGER
Elapsed Time Since Reset:	168.00 hrs
On-Time Since Reset:	84.92 hrs
Percent On Since Reset:	50.55%
Connected Load:	No Load Defined
Energy Cost:	Unknown
Data Starts:	6/6/2016 12:00:00 PM
Data Ends:	6/13/2016 12:00:00 PM
Data Elapsed Time:	168.00 hrs
Estimated Annual Hours On:	4428 hrs
Number of Turn Ons:	239
Percent On:	50.55 %
Data On-Time:	84.92 hrs
Average On-Time:	.01 hrs
Longest On-Time:	.25 hrs
Shortest On-Time:	<0.01 hrs
Number of Turn Offs:	240
Percent Off:	49.45 %
Data Off-Time:	83.08 hrs
Average Off-Time:	.32 hrs
Longest Off-Time:	1.02 hrs
Shortest Off-Time:	<0.01 hrs

SMARTware 11 - [Data Download]

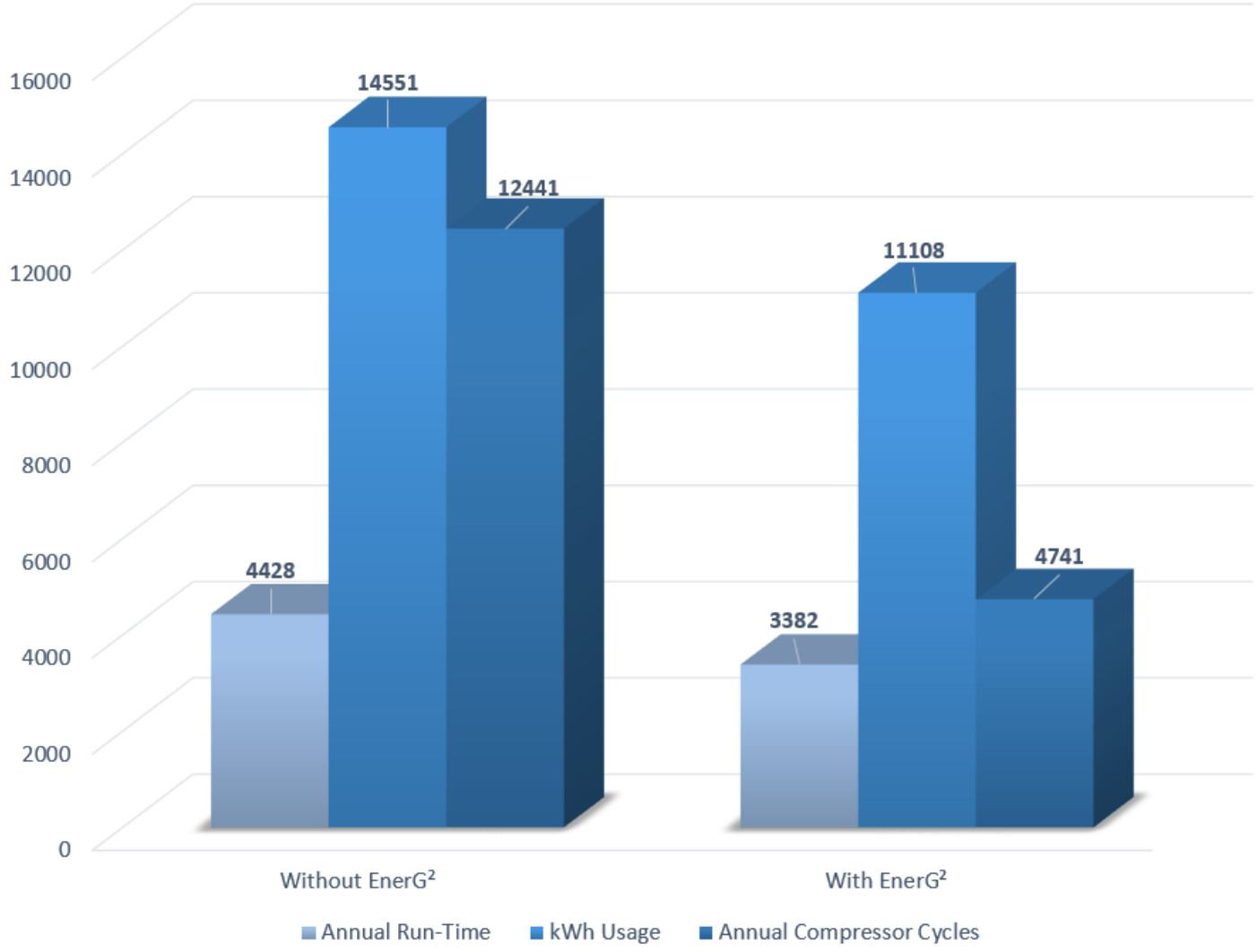
File Edit View Logger Tools Data Window Help

Summary

..... Subway.log (CT15123362)

Data File Name:	CT15123362 Subway Performance (*saved*)
Logger Serial Number:	CT15123362
Description:	DENT SMART LOGGER
Elapsed Time Since Reset:	168.00 hrs
On-Time Since Reset:	64.86 hrs
Percent On Since Reset:	38.61%
Connected Load:	No Load Defined
Energy Cost:	Unknown
Data Starts:	6/13/2016 12:00:00 PM
Data Ends:	6/20/2016 12:00:00 PM
Data Elapsed Time:	168.00 hrs
Estimated Annual Hours On:	3382 hrs
Number of Turn Ons:	91
Percent On:	38.61 %
Data On-Time:	64.86 hrs
Average On-Time:	.02 hrs
Longest On-Time:	.28 hrs
Shortest On-Time:	<0.01 hrs
Number of Turn Offs:	92
Percent Off:	61.38 %
Data Off-Time:	103.14 hrs
Average Off-Time:	.43 hrs
Longest Off-Time:	1.11 hrs
Shortest Off-Time:	<0.01 hrs

CT15123362 Data Graph Series | Subway Freezer



Serial Number: CT15123362
Description: DENT SMART LOGGER
On-Time Since Reset: 149.78 hrs
Off-Time Since Reset: 186.22 hrs

Date	TOU/Day (hrs)
Monday, June 6, 2016	7.71
Tuesday, June 7, 2016	11.19
Wednesday, June 8, 2016	8.88
Thursday, June 9, 2016	11.93
Friday, June 10, 2016	15.19
Saturday, June 11, 2016	15.45
Sunday, June 12, 2016	9.58
Monday, June 13, 2016	9.97
Tuesday, June 14, 2016	6.84
Wednesday, June 15, 2016	7.48
Thursday, June 16, 2016	9.44
Friday, June 17, 2016	10.08
Saturday, June 18, 2016	11.30
Sunday, June 19, 2016	7.50
Monday, June 20, 2016	7.23

Tower Heating and Air
Craig Andes
Owner / HVAC Engineer

Fuquay-Varina, North Carolina

J. Craig Andes, MBA

With close to 40 years of experience, Mr. Andes has been an industry veteran since 1977 and has a keen eye toward efficiency for his customers. Mr. Andes has owned and operated numerous businesses including several mechanical companies, an insulating company, has built numerous structures, and has directed large service oriented companies. Mr. Andes has also been hired as a consultant by several companies to assist them in their growth and process management.

Currently Mr. Andes owns and operates Tower Heating & Air in the Raleigh, NC metro market.

After earning his MBA at Union University in Jackson, TN, Mr. Andes is able to merge the real-world practical side of HVAC with financial feasibility and ROI making for good common-sense guidance. With regard to Madison Energy Group, Mr. Andes serves as an independent, 3rd party consultant and assists the company specifically with the IntelliHVAC technology. Mr. Andes has help Madison Energy consult with companies such as McDonalds, Disney, Darden Restaurants, CBL Properties, and others in helping them to understand the mechanics of their systems as well as the benefits of the IntelliHVAC technology. Mr. Andes also manages the pilot program process, analysis and reporting on behalf of Madison.

The attached reporting is hereby approved and certified by Mr. Andes as accurate in its entirety. Mr. Andes is not compensated in any manner that is based on test results.

J. Craig Andes

Tower Heating and Air
Owner / HVAC Engineer
Date: 6/22/2016

Report Date:	6/22/2016

Craig Andes
HVAC Engineering Contractor

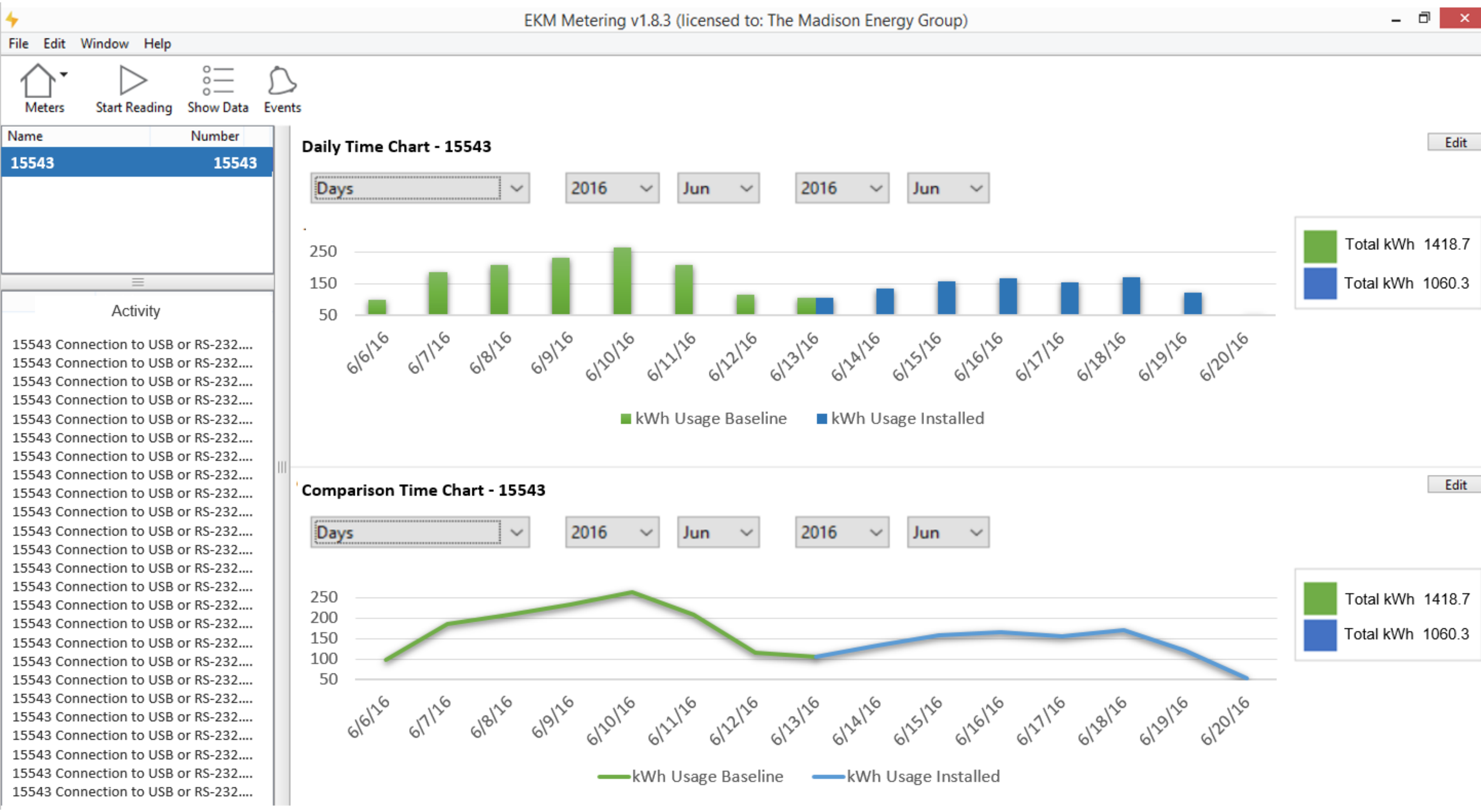
On Behalf of:	The Madison Energy Group
For Client:	Subway

Kwh Rate:	0.10

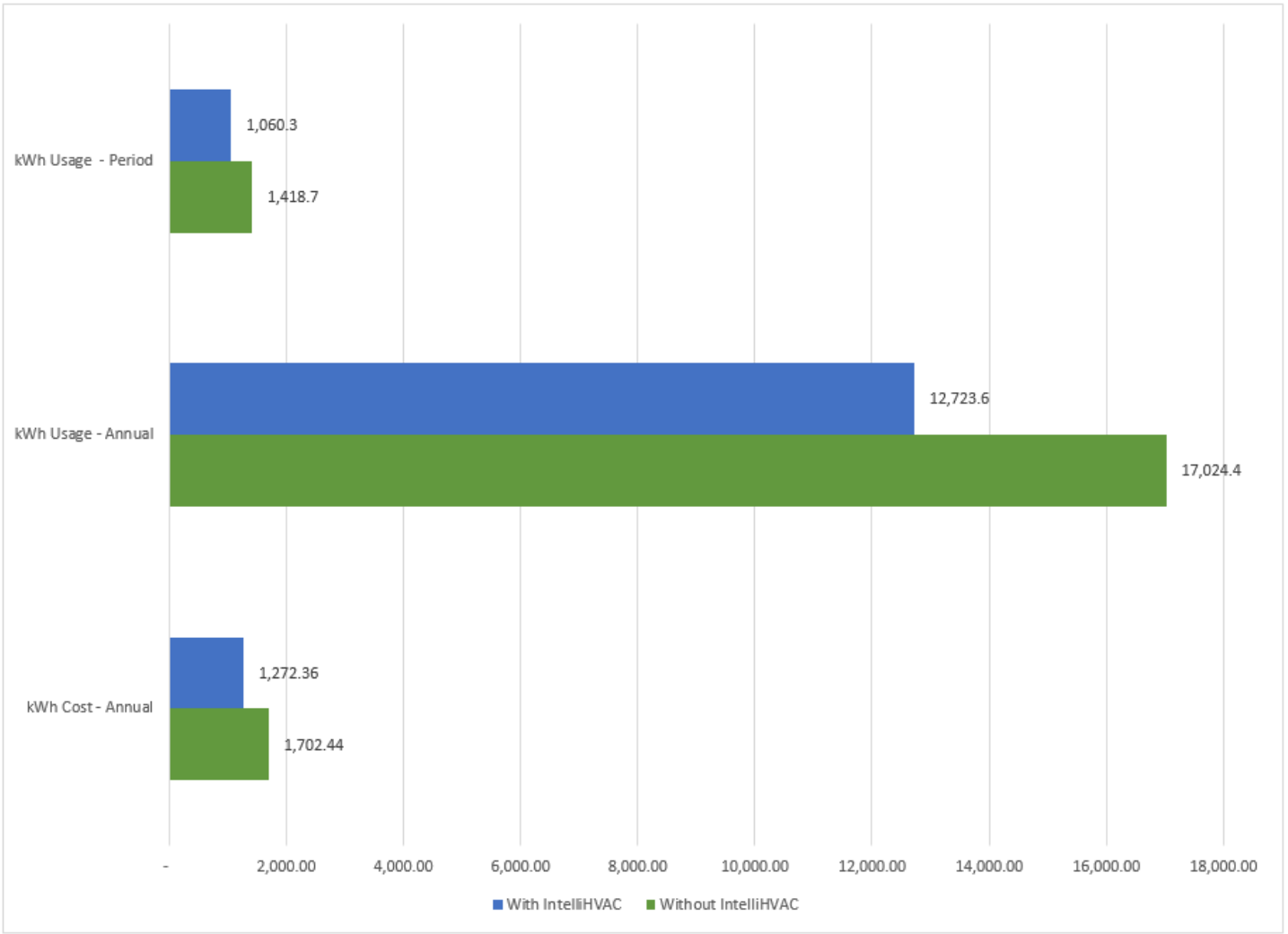
Location: **Nautilus Diner**

		Start Date	Install Date	Time	Baseline kWh Consumed	End Date	Time	Performance kWh Consumed
Area:	RTU 1	6/6/2016	6/13/2016	12:00PM	**1,418.7**	6/20/2016	12:00 PM	**1,060.3**
Meter #	15569							
				kWh/Month	6,080.14		**kWh/Month**	4,544.14
				kWh/Yr	73,975.07		**kWh/Yr**	55,287.07

RTU 1 Summary		
kWh Diff./Period		358.4
kWh Diff./Yr		18,688.00
% Change		**25%**
Savings/Yr	**$**	**1,868.80**
Normalized for Season		**1162.79**
Projected ROI/Months		**10.31**


EKM Metering v1.8.3 (licensed to: The Madison Energy Group)
File Edit Window Help
Meters
Start Reading
Show Data
Events
Name Number
15543 15543
Activity
15543 Connection to USB or RS-232....
Daily Time Chart - 15543
Edit
Days
2016
Jun
2016
Jun
250
150
50
6/6/16
6/7/16
6/8/16
6/9/16
6/10/16
6/11/16
6/12/16
6/13/16
6/14/16
6/15/16
6/16/16
6/17/16
6/18/16
6/19/16
6/20/16
kWh Usage Baseline
kWh Usage Installed
Total kWh 1418.7
Total kWh 1060.3
Comparison Time Chart - 15543
Edit
250
200
150
100
50

EKM METERING



EKM-OmniMeter v.3
Subway RTU 1 LogFile
Total kWh Usage for Period: 2479.0

Date	Kilowatt Hour	Avg. Voltage	Avg. Amps	Avg. Watts	Avg. Cosî¸ (Power Factor)
6/6/2016	98.4	120.2	24.6	2718	LO.86
6/7/2016	184.9	121.4	24.8	2714	LO.86
6/8/2016	209.1	121.4	24.2	2732	LO.87
6/9/2016	233.3	121.8	25.6	2734	LO.87
6/10/2016	263.5	122.2	25.8	2734	LO.86
6/11/2016	207.8	122.2	26.4	2730	LO.86
6/12/2016	115.7	122.7	26.4	2732	LO.87
6/13/2016	106.0	120.8	25.2	2698	LO.87
6/14/2016	132.9	120.6	25.4	2652	LO.87
6/15/2016	158.3	121.4	24.0	2648	LO.87
6/16/2016	165.5	120.2	24.4	2688	LO.87
6/17/2016	155.2	121.4	25.0	2532	LO.87
6/18/2016	170.4	121.0	26.2	2584	LO.86
6/19/2016	120.0	121.6	25.4	2520	LO.86
6/20/2016	52.0	122.4	25.2	2658	LO.87

THE MADISON ENERGY GROUP
ENERGY EFFICIENCY SOLUTIONS

Proof of Concept Performance Summary

Program Duration - 6/13/2016 - 6/20/2016

EnerG² Summary

Annual Savings - Cooler 1 ----------	$ 497.00		
Annual Savings - Freezer 1 ----------	$ 648.00		
Average Annual Savings per Unit ------	$ 572.50		
Projected Annual Savings for ----------	800	units ·	$ 458,000.00
Projected Savings Over 10 Years ----------			$ 4,580,000.00
Return on Investment @ $599 / unit ----------	12.56	Months	

IntelliHVAC Summary

Annual Savings - RTU 1 ----------	$ 1,868.80		
Annual Savings Normalized for Season --	$ 1,162.79		
Projected Annual Savings for ----------	800	units ·	$ 930,232.00
Projected Savings Over 10 Years ----------			$ 9,302,320.00
Return on Investment @ $999 / unit ----------	10.31	Months	

Overall Summary of Performance

Annual Per Store Energy Savings -------	$ 3,470.58
Combined Monthly Energy Savings -----	$ 115,686.00
Combined Annual Energy Savings ------	$ 1,388,232.00
Combined Energy Savings Over 10 Years -	$13,882,320.00
Cumulative Return on Investment/Months	8.37

MADISON ENERGY GROUP
ENERGY EFFICIENCY SOLUTIONS

Limited Lifetime Replacement Warranty

Guarantor: The Madison Energy Group, located at 5 West Hargett St. 4th Floor Raleigh, NC 27601 will fulfill and administer the obligations of this performance guarantee.

This performance guarantee certifies that The Madison Energy Group's (manufacturer) EnerG^2 will perform satisfactorily during the guarantee period in accordance with its original energy saving standards. If the unit is defective when received or becomes defective, it will be replaced in accordance with this Limited Lifetime Warranty/Performance Guarantee. Please call The Madison Energy Group at 919-443-2404 Option 2 if this occurs.

The performance guarantee does not cover negligent, fraudulent and/or intentional damage. If the EnerG^2 unit is damaged, another EnerG^2 unit will be sent immediately as a replacement. For coverage to be valid, the client must register with The Madison Energy Group and provide proof of purchase in the form of a paid invoice from either The Madison Energy Group or one of its qualified, contracted distributors. The unit must also e installed properly along with manufacturer specifications.

This performance guarantee is effective from the date of purchase, provided that adequate proof of purchase is maintained, the product is properly registered (see below) and the product is installed properly. The Madison Energy Group must be notified immediately of any defects in the unit with all records being made available for inspection. Defects will be verified. This guarantee is exclusive and in lieu of any other performance guarantee or warranty of merchantability or fitness for a particular purpose.

In no event shall The Madison Energy Group be liable for any special, indirect, incidental or consequential damages. This guarantee, covering the replacement of the EnerG^2 unit is void is the product covered by the guarantee has been subject to: intentional damage, alteration, tampering, acts of God and other insurance perils, faulty installation or claims covered by insurance or service contract. The coverage applies only to EnerG^2 and no other product. Claims not submitted in accordance with the terms and conditions of this guarantee are void. Damage by unreasonable or unintended use, neglect, improper service or other causes not arising of defects in material or workmanship are not covered.

To Make a Claim: For service please contact The Madison Energy Group support line at 919-443-2404

To Register: In order for coverage to be valid, you must register your EnerG^2 within 30 days of purchase at www.themadisonenergygroup.com. Coverage is non-transferable.

PHONE: 919-443-2404
FAX: 919-800-3700
INFO@THEMADISONENERGYGROUP.COM

5 WEST HARGETT ST. · 4TH FLOOR
RALEIGH, NC 27601
WWW.THEMADISONENERGYGROUP.COM

MADISON ENERGY GROUP
ENERGY EFFICIENCY SOLUTIONS

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