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***Local Government Energy Program
Final Energy Audit Report***

For

***Evesham Firehouse
Kettle Run Fire Station
498 Hopewell Road
Marlton, NJ 08053***

Project Number: LGEA36



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INTRODUCTION

On January 7, 2010 Steven Winter Associates, Inc. (SWA) and PMK Group (BSG-PMK) performed an energy audit and assessment of the Evesham Kettle Run Fire Station 225 located in Evesham, NJ. Current conditions and energy-related information were collected in order to analyze and facilitate the implementation of energy conservation measures for the building.

The Kettle Run Fire Station consists of one, 8,080 sq.ft. one building. The Kettle Run Fire Station 225 building was built in 1994 and opened in December 1995 and is located at 498 Hopewell Road in the southern end of Evesham Township.

The building is occupied 24 hours a day, seven days a week. During the night hours, several volunteers occupy this building. These hours and occupancy rates are maintained year round. There are approximately 15 volunteer fire and emergency medical personnel assigned to this station.

Energy data and building information collected in the field were analyzed to determine the baseline energy performance of each building. Using spreadsheet-based calculation methods, SWA/BSG-PMK estimated the energy and cost savings associated with the installation of each of the recommended energy conservation measures. The findings for the building are summarized in this report.

The goal of this energy audit is to provide sufficient information to make decisions regarding the implementation of the most appropriate and most cost effective energy conservation measures for the building.

Launched in 2008, the LGEA Program provides subsidized energy audits for municipal and local government-owned facilities, including offices, courtrooms, town halls, police and fire stations, sanitation buildings, transportation structures, schools and community centers. The Program will subsidize 75% of the cost of the audit. If the net cost of the installed measures recommended by the audit, after applying eligible NJ SmartStart Buildings incentives, exceeds the remaining cost of the audit, then that additional 25% will also be paid by the program. The Board of Public Utilities (BPU's) Office of Clean Energy has assigned TRC Energy Services to administer the Program.

EXECUTIVE SUMMARY

This document contains the energy audit report for the Kettle Run Fire Station 225 located at 498 Hopewell Road in Evesham, NJ, 08053.

Based on the field visit performed by Steven Winter Associates (SWA) and BSG-PMK staff on January 7, 2010 and the results of a comprehensive energy analysis, this report describes the site's current conditions and recommendations for improvements. Suggestions for measures related to energy conservation and improved comfort are provided in the scope of work. Energy and resource savings are estimated for each measure that results in a reduction of heating, cooling, and electric usage.

Current conditions

In the most recent full year of data collected, November 2008 through September 2009, the Facility consumed a total of 55,280 kWh of electricity for a total cost of \$9,524 and 6,740 therms of natural gas, for a total cost of \$9,505.

The building consumed 1,358 MMBtus of energy at a total cost of \$19,029 with electricity and natural gas combined.

SWA/BSG-PMK has entered energy information about the Kettle Run Fire Station 225 building in the U.S. Environmental Protection Agency's (EPA) *Energy Star Portfolio Manager* Energy benchmarking system. The building performance rating was not able to be determined because the building use is classified as Other in the Portfolio Manager system for which there isn't yet a rating. Buildings achieving an Energy Star rating of 75 are eligible to apply for the Energy Star award and receive the Energy Star plaque to convey superior performance. These ratings also greatly help when applying for Leadership in Energy and Environmental Design (LEED) building certification through the United States Green Building Council (USGBC).

Based on the assessment of the Kettle Run Fire Station 225, SWA/BSG-PMK has separated the recommendations into three categories (See Section 4 for more details). These are summarized as follows:

Category I Recommendations: Capital Improvements

Based on the results of SWA/BSG-PMK's survey, the water heater at this Station has passed its useful life and it is recommended that it be replaced with new, higher efficient unit.

Category II Recommendations: Repair & Maintenance

Based on the results of the SWA/BSG-PMK's survey, the building was found to be well maintained and there are no Repair and Maintenance recommendations.

Category III Recommendations: Energy Conservation Measures

At this time, SWA/BSG-PMK recommends a total of **3** Energy Conservation Measures (ECMs) for the Kettle Run Fire Station 225 as summarized in the following tables. The total investment cost for these ECMs, with incentives, is **\$12,472**. SWA/BSG-PMK estimates a first year savings of **\$2,427** with an aggregated simple payback of **5.1 years**. SWA/BSG-PMK estimates that implementing all recommended ECMs will reduce the carbon footprint of the facility by **19,880 lbs of CO₂**.

There are various incentives that the Evesham Kettle Run Fire Station 225 could apply for that could also help lower the cost of installing the ECMs. SWA/BSG-PMK recommends that Evesham apply for the NJ SmartStart and Direct Install programs through the New Jersey Office of Clean Energy. These incentives can help provide technical assistance for the building in the implementation phase of any energy conservation project.

ECM SUMMARY TABLES

ROI: Return on Investment (%)

Assumptions:

Discount rate: 3.2% per DOE FEMP guidelines Electricity rate: \$0.17 \$/kWh
 Energy price escalation rate: 0% per DOE FEMP guidelines Gas rate: \$1.88 \$/therm

Avg. Annual Demand: 0.00521 Area of Building (SF) 8,080

Table 1 - Highly Recommended 0-5 Year Payback ECMs																			
ECM #	ECM description	Source	Est. Installed Cost, \$	Est. Incentives, \$	Net Est. ECM Cost with Incentives, \$	kWh, 1st Yr Savings	kW Demand Reduction/Mo	Therms, 1st Yr Savings	kBtu/sq ft, 1st Yr Savings	Est. Operating Cost, 1st Yr Savings, \$	Total 1st Yr Savings, \$	Life of Measure, Yrs	Est. Lifetime Energy Cost Savings, \$	Simple Payback, Yrs	Lifetime Return on Investment, %	Annual Return on Investment, %	Internal Rate of Return, %	Net Present Value, \$	CO ₂ Reduced, lbs/yr
1	Lighting Upgrades	Empirical Data	\$622	\$150	\$472	1,476	0.64	0	0.62	\$0	\$251	15	\$2,954	1.88	526%	35%	53%	\$2,524	2,023
2	High-Efficiency Modulating Furnaces	Similar Projects	\$30,000	\$24,000	\$6,000	0	0.00	952	11.78	\$0	\$1,790	18	\$24,202	3.35	303%	17%	29%	\$15,364	11,137
TOTAL			\$30,622	\$24,150	\$6,472	1,476	0.64	952	12.40	\$0.00	\$2,041	-	\$27,156	3.17	-	-	-	\$17,889	13,160

Table 2 - Recommended 5-10 Year Payback ECMs																			
ECM #	ECM description	Source	Est. Installed Cost, \$	Est. Incentives, \$	Net Est. ECM Cost with Incentives, \$	kWh, 1st Yr Savings	kW Demand Reduction/Mo	Therms, 1st Yr Savings	kBtu/sq ft, 1st Yr Savings	Est. Operating Cost, 1st Yr Savings, \$	Total 1st Yr Savings, \$	Life of Measure, Yrs	Est. Lifetime Energy Cost Savings, \$	Simple Payback, Yrs	Lifetime Return on Investment, %	Annual Return on Investment, %	Internal Rate of Return, %	Net Present Value, \$	CO ₂ Reduced, lbs/yr
3	Upgrade Condensing Units	Similar Projects	\$30,000	\$24,000	\$6,000	4,905	2.13	0	2.07	\$0	\$834	15	\$9,812	7.20	64%	4%	11%	\$3,955	6,720
TOTAL			\$30,000	\$24,000	\$6,000	4,905	2.13	0	2.07	\$0.00	\$834	-	\$9,812	7.20	-	-	-	\$3,955	6,720

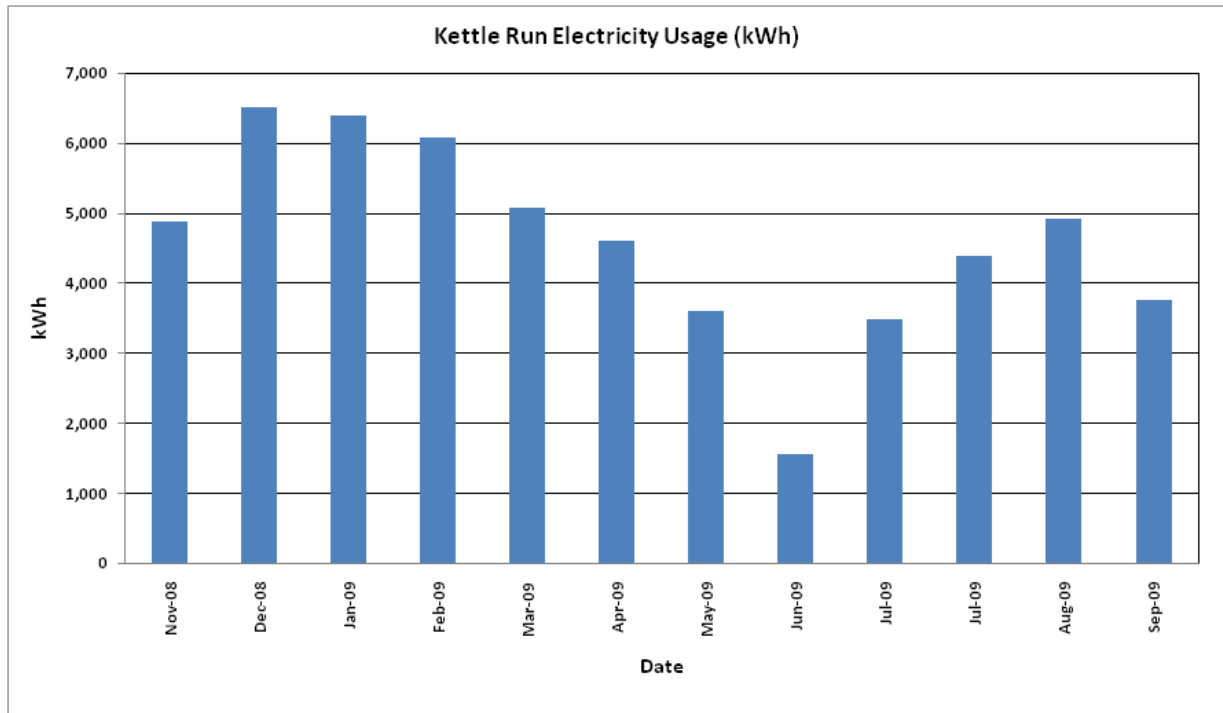
1. HISTORIC ENERGY CONSUMPTION

1.1. Energy usage and cost analysis

SWA/BSG-PMK analyzed utility bills that were received from the utility companies supplying the Evesham firehouse with electric and natural gas from November, 2007 to October, 2009.

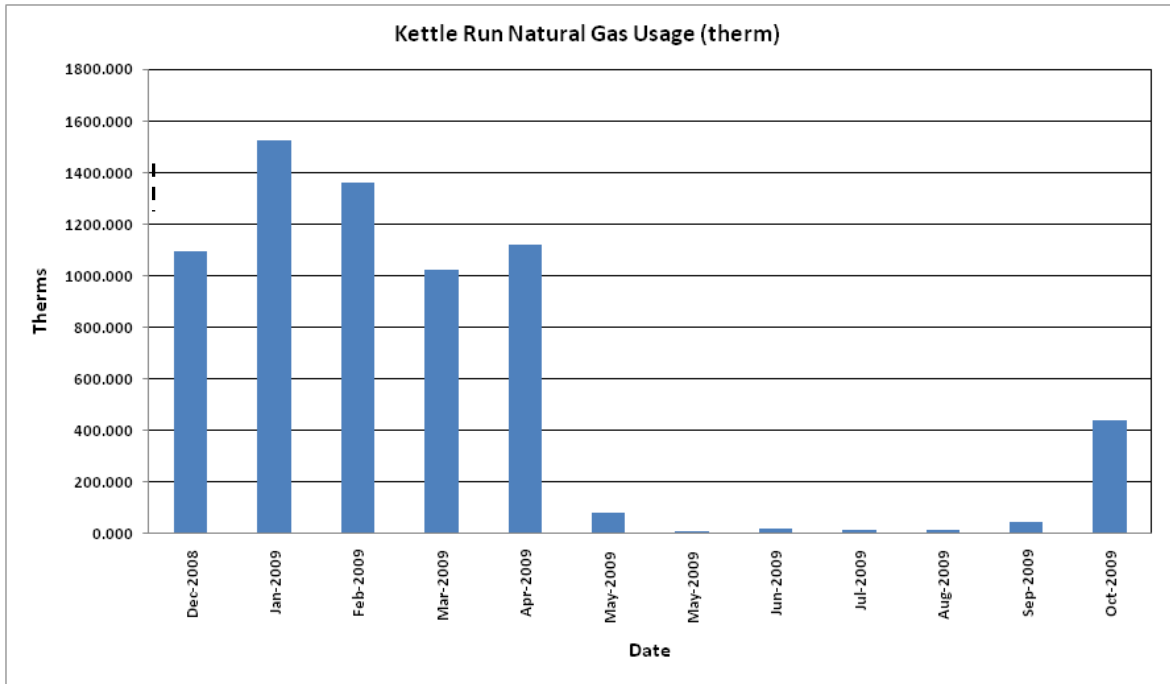
Electricity – The Kettle Run Fire Station is currently served by one electric meter. The Kettle Run Station currently purchases electricity from Atlantic City Electric at **an average rate of \$0.17/kWh** based on 12 months of utility bills from October 2008 to September 2009. The Kettle Run Fire Station building consumed **approximately 55,280 kWh or \$9,524 worth of electricity** in the previous year. The average monthly demand was 24.2 kW.

The following chart shows electricity usage for Kettle Run based on utility bills from October 2008 through September 2009:



Natural Gas –The Kettle Run Fire Station building is currently served by one meter for natural gas. The Kettle Run Fire Station currently receives natural gas from South Jersey Gas at **an average aggregated rate of \$1.41/therm** based on 12 months of utility bills for November 2008 to October 2009. Kettle Run Fire Station consumed **approximately 6,740 therms or \$9,505 worth of natural gas** in the previous year.

The following chart shows the natural gas usage for Kettle Run based on utility bills from November of 2008 to October of 2009:



The natural gas usage mimics seasonal needs for heating the buildings showing that natural gas is used only for heating.

1.2. Utility rate

The Kettle Run Fire Station currently receives electricity from Atlantic City Electric at a general service market rate for electricity use (kWh) with (kW) demand charge. The Kettle Run Fire Station currently pays an average rate of approximately \$0.17/kWh based on the most recent 12 months of utility bills from October 2008 through September 2009.

The Kettle Run Fire Station currently receives natural gas supply and delivery from South Jersey Gas at a general service market rate for natural gas (therms). There is one gas meter that provides natural gas service to the Kettle Run Fire Station building currently. The average aggregated rate (supply and transport) for the meter is approximately \$1.41/therm based on 12 months of utility bills from November 2008 to October 2009.

1.3. Energy benchmarking

SWA/BSG-PMK has entered energy information about the Evesham firehouses buildings in the U.S. Environmental Protection Agency's (EPA) *Energy Star Portfolio Manager* Energy benchmarking system. The username is *eveshamfire-rescue* and the password is *eveshamfire*. The building performance rating was not able to be determined because the building type is not eligible. Only certain space types that contribute to more than 50% of the U.S. commercial floor space are eligible.

The Site Energy Use Intensity is 168 kBtu/gpd/yr compared to the national average of Fire Station/Police Station consuming 78 kBtu/gpd/yr. The determined average takes into account all like facilities including volunteer stations with minimal use. Implementing this report's highly recommended Energy Conservation Measures (ECMs) will reduce the use by approximately 14.5 kBtu/sqft./yr.

http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

Username: eveshamfire-rescue

Password: eveshamfire



STATEMENT OF ENERGY PERFORMANCE

Kettle Run Fire Station

Building ID: 2223266
 For 12-month Period Ending: November 30, 2009¹
 Date SEP becomes ineligible: N/A

Date SEP Generated: March 05, 2010

Facility
 Kettle Run Fire Station
 498 Hopewell Rd
 Marlton, NJ 08053

Facility Owner
 Evesham Township Fire District No. 1
 984 Tuckerton Rd
 Evesham, NJ 08053

Primary Contact for this Facility
 Paul E. Thomas, Jr.
 984 Tuckerton Rd
 Evesham, NJ 08053

Year Built: 1994
Gross Floor Area (ft²): 8,080

Energy Performance Rating² (1-100) N/A

Site Energy Use Summary³

Electricity - Grid Purchase(kBtu)	183,607
Natural Gas (kBtu) ⁴	1,174,802
Total Energy (kBtu)	1,358,409

Energy Intensity⁵

Site (kBtu/ft ² /yr)	168
Source (kBtu/ft ² /yr)	228

Emissions (based on site energy use)

Greenhouse Gas Emissions (MtCO ₂ e/year)	90
-----------------------------------------------------	----

Electric Distribution Utility

Pepco - Atlantic City Electric Co

National Average Comparison

National Average Site EUI	78
National Average Source EUI	157
% Difference from National Average Source EUI	45%
Building Type	Fire Station/Police Station

Stamp of Certifying Professional
Based on the conditions observed at the time of my visit to this building, I certify that the information contained within this statement is accurate.

Meets Industry Standards⁶ for Indoor Environmental Conditions:

Ventilation for Acceptable Indoor Air Quality	N/A
Acceptable Thermal Environmental Conditions	N/A
Adequate Illumination	N/A

Certifying Professional
 N/A

Notes:

1. Application for the ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of the ENERGY STAR is not final until approval is received from EPA.
2. The EPA Energy Performance Rating is based on total source energy. A rating of 75 is the minimum to be eligible for the ENERGY STAR.
3. Values represent energy consumption, annualized to a 12-month period.
4. Natural Gas values in units of volume (e.g. cubic feet) are converted to kBtu with adjustments made for elevation based on Facility zip code.
5. Values represent energy intensity, annualized to a 12-month period.
6. Based on Meeting ASHRAE Standard 62 for ventilation for acceptable indoor air quality, ASHRAE Standard 55 for thermal comfort, and IESNA Lighting Handbook for lighting quality.

The government estimates the average time needed to fill out this form is 6 hours (includes the time for entering energy data, PE facility inspection, and notarizing the SEP) and welcomes suggestions for reducing this level of effort. Send comments (referencing OMB control number) to the Director, Collection Strategies Division, U.S., EPA (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.

EPA Form 5900-16

2. FACILITY AND SYSTEMS DESCRIPTION

2.1. Building Characteristics

The Kettle Run Fire Station consists of one, 8,080sq. ft. one building. The Kettle Run Fire Station building was built in 1994 and opened in December 1995 and is located at 498 Hopewell Road in the southern end of Evesham Township.

2.2. Building occupancy profiles

The building is occupied 24 hours a day, seven days a week. During the night hours, several volunteers occupy these buildings. These hours and occupancy rates are maintained year round. There are approximately 15 volunteer fire and emergency medical personnel assigned to this station.

2.3. Building envelope

2.3.1. Exterior walls

The walls are constructed with structural studs and insulated with R-19 batt insulation. The exterior is finished with sheathing and vinyl siding. The engine garage is constructed of concrete masonry block (CMU) which is in good condition.



2.3.2. Roof

The peaked roof is an asphalt 15# Shingled roof with ½” sheathing. The roof is found to be in good condition with no signs of improper drainage or water damage.

2.3.3. Base

The base of the building consists of a reinforced poured concrete slab with no penetrations or basement. The base was found to be in good condition.

2.3.4. Windows

The windows are double pane thermal windows with approximately 5/8” of space between the panes. None of the windows appear to be damaged or in need of replacing.

2.3.5. Exterior doors

The front doors of the building are thermal, double pane glass set in an aluminum frame. The door is medium style with weather stripping. There are four 12' overhead, bay doors for the fire engines that were found to be in good condition with weather stripping that did not appear to be in need of replacement.



2.3.6. Building air tightness

The building's air tightness is in good condition. There are no areas other than the first set of front doors that require weather stripping repairs. There were no visual signs of infiltration.

2.4. HVAC systems

2.4.1. Heating

The heating is provided by three Central Environmental Systems gas fired forced air furnace with an input of 125,000 BTU/H and output of 117,000 BTU/H serving the offices, lobby, rec room and second floor. The garage is heated by six radiant heaters, which are controlled to turn off when the garage doors are open.

Category III Recommendation – ECM #2: Replace the current furnaces with high-efficiency modulating furnaces.



2.4.2. Cooling

The building is cooled by three York air conditioner condenser units (shown in picture right) located in the back of the building that feeds a DX coil installed above the forced air furnace.

Category III Recommendation – ECM #3: Upgrade the current condensing units with high-efficiency equivalents.

2.4.3. Ventilation

The building is ventilated by opening the windows and garage doors. There is also an exhaust fan for the gym, kitchen, bathrooms, and the truck exhaust thru the floor in the garage. All these exhaust fans merge to one chase that is exhausted through a main upblast exhaust fan on the roof. The radiant heaters also have exhaust vents.

2.4.4. Domestic Hot Water

The building's domestic hot water is supplied by a gas fired 50 gallon Rheem Glas Fury Energy Miser water heater unit. (pictured here)

Category I Recommendation – Capital Improvement: Replace the current gas-fired water heater, which has passed its useful life, with an equivalent gas unit. Due to the low savings when converting from one gas water heater to another, this measure could not be recommended as an ECM.



2.5. Electrical systems

2.5.1. Lighting

A complete inventory of all interior, exterior, and exit sign light fixtures were examined and documented in Appendix A of this report including an estimated total lighting power consumption. Our initial findings indicate that performing a detailed lighting upgrade per the recommendations in Appendix A will result in an annual savings of \$251 based on the current \$0.17/kWh and the current occupancy schedule. Implementation of this ECM will cost approximately \$622. Currently the Board of Public Utilities (BPU) would offer an estimated rebate of \$150, yielding a net cost of \$472 for this project. With a yearly savings of \$251 the payback on this ECM would be approximately 2 years.

Category III Recommendation - ECM #1: Recommend upgrading all T-12 lighting fixtures with magnetic ballasts to T-8 fixtures with electronic ballasts, as well as various other lighting upgrades outlined in Appendix A

2.5.2. Appliances and Process

Appliances, such as refrigerators, that are over 10 years of age should be replaced with newer efficient models with the Energy Star label. For example, Energy Star refrigerators use as little as 315 kWh / yr. When compared to the average electrical consumption of older equipment, Energy Star equipment results in a large savings. Building management should select Energy Star label appliances and equipment when replacing: refrigerators, printers, computers, copy machines, etc. More information can be found in the “Products” section of the Energy Star website at: <http://www.energystar.gov>. The building is currently equipped with energy vending miser devices for conserving energy usage by Drinks and Snacks vending machines. When equipped with the vending miser devices, vending machines use less energy and are comparable in daily energy performance to new ENERGY STAR qualified machines.

The building has a full kitchen including; 1 stove, 1 microwaves, 1 dishwasher, 1 refrigerators.

The building has total of 6 computers, one copy machine, and exercise room with treadmills, and various weight equipment and an air compressor.

2.5.3. Elevators

There are no elevators at the Kettle Run fire house.

3. EQUIPMENT LIST

Building System	Description	Locations	Model#	Fuel	Space Served	Estimtaed. Remaining Useful Life %
Heating	Forced-air furnace, 125/117 MBH input/output	Attic	York M# PHDD20N44501B, S# EFCP029586	Natural Gas	Entire Building	11%
Heating	Forced-air furnace, 125/117 MBH input/output	Attic	York M# PHDD20N44501B, S# EFCPD2959D	Natural Gas	Entire Building	11%
Heating	Forced-air furnace, 125/117 MBH input/output	Attic	York M# PHDD20N44501B, S# EFCP029591	Natural Gas	Entire Building	11%
Cooling	5-ton condensing unit, feeds cooling coil in furnace	Outside	York M# H1DA060525A, S# EH6M435109	Electricity	Entire Building	0%
Cooling	5-ton condensing unit, feeds cooling coil in furnace	Outside	York M# H1DA060525A, S# EKCM511161	Electricity	Entire Building	0%
Cooling	5-ton condensing unit, feeds cooling coil in furnace	Outside	York M# H1DA060525A, S# EKCM511111	Electricity	Entire Building	0%
Domestic Hot Water	Water heater, 50 gallons, 60 MBH	Basement	Rheem M# 21V50-6, S# RN 0894D04890	Natural Gas	Sinks, showers	0%

Note: The remaining useful life of a system (in %) is the relationship between the system manufactured and / or installed date and the standard life expectancy of similar equipment based on ASHRAE (2003), ASHRAE Handbook: HVAC Applications, Chapter 36.

4. ENERGY CONSERVATION MEASURES

Based on the assessment of this building, SWA/BSG-PMK have separated the investment opportunities into three categories of recommendations:

1. Capital Improvements – Upgrades not directly associated with energy savings
2. Operations and Maintenance – Low Cost/No Cost Measures
3. Energy Conservation Measures – Higher cost upgrades with associated energy savings

Category I Recommendations: Capital Improvements

Based on the results of SWA/BSG-PMK’s survey, the water heater at this Station has passed its useful life and it is recommended that it be replaced with new, higher efficient unit.

Category II Recommendations: Repair & Maintenance

Based on the results of the SWA/BSG-PMK’s survey, the building was found to be well maintained and there are no Repair and Maintenance recommendations.

Category III Recommendations: Energy Conservation Measures

Summary Table

ECM#	Description
1	Lighting System Upgrade
2	High Efficiency Modulating Furnaces
3	Upgrade Condensing Units

ECM #1: Lighting Upgrades & Occupancy Sensors

Description:

Lighting at the Kettle Run Fire Station primarily consists of energy efficient fixtures with T8 lamps and electronic ballasts. SWA/BSG-PMK recommends replacing the few incandescent lamps with longer lasting, more efficient compact fluorescent lamps. The fixtures with T12 fluorescent lamps and magnetic ballast should be retrofitted with T8 lamps and electronic ballasts. Lighting replacements have short paybacks because of the low cost of the project combined with the high daily use of the lights.

Recommended lighting upgrades are detailed in Appendix A.

Installation cost:

Summary	Lighting (Only)	Sensors (Only)	Complete Lighting Upgrade
Cost	\$622.00	\$0.00	\$622.00
Rebate	\$150.00	\$0.00	\$150.00
Net Cost	\$472.00	\$0.00	\$472.00
Savings (kWh)	1,476	0	1,476
Savings (\$)	\$251.00	\$0.00	\$251.00
Payback	1.9		1.9

Source of cost estimate: Empirical Data

Economics (without incentives):

ECM #	ECM description	Source	Est. Installed Cost, \$	Est. Incentives, \$	Net Est. ECM Cost with Incentives, \$	kWh, 1st Yr Savings	kW, Demand Reduction/Mo	Therma, 1st Yr Savings	kBtu/sq ft, 1st Yr Savings	Est. Operating Cost, 1st Yr Savings, \$	Total 1st Yr Savings, \$	Life of Measure, Yrs	Est. Lifetime Energy Cost Savings, \$	Simple Payback, Yrs	Lifetime Return on Investment, %	Annual Return on Investment, %	Internal Rate of Return, %	Net Present Value, \$	CO ₂ Reduced, lbs/yr
1	Lighting Upgrades	Empirical Data	\$622	\$150	\$472	1,476	0.64	0	0.62	\$0	\$251	15	\$2,954	1.88	526%	35%	53%	\$2,524	2,023

Assumptions:

The electric cost used in this ECM was \$0.17/kWh, which was the facilities’ average rate for the 12-month period ranging from 2008 through 2009. The replacements for each lighting fixture, the costs to replace or retrofit each one, and the rebates and wattages for each fixture are located in Appendix A.

Rebates/financial incentives:

The New Jersey SmartStart offers rebates for upgrading lighting fixtures and installing lighting controls. The total rebate this ECM qualifies for is \$150.

ECM#2: High-Efficiency Modulating Furnaces

Description:

Kettle Run Fire Station is heated by three 125-MBH, gas-fired furnaces, located in the attic. They are nearing the end of their 18-year useful life, and should be replaced. Although these models had efficiencies of 94% at the time of their purchase, higher-efficiency modulating furnaces are now available, which are up to 98% efficient. The current unit, due to their age and condition, were assumed to be 85% of their original efficiency, or 80%.

Installation cost:

Estimated installed cost: \$10,000 for each furnace, \$30,000 total
 Source of cost estimate: Similar Projects

Economics:

ECM #	ECM description	Source	Est. Installed Cost, \$	Est. Incentives, \$	Net Est. ECM Cost with Incentives, \$	kWh, 1st Yr Savings	kWh Demand Reduction/Mo	Therms 1st Yr Savings	kBtu/sq ft, 1st Yr Savings	Est. Operating Cost, 1st Yr Savings, \$	Total 1st Yr Savings, \$	Life of Measure, Yrs	Est. Lifetime Energy Cost Savings, \$	Simple Payback, Yrs	Lifetime Return on Investment, %	Annual Return on Investment, %	Internal Rate of Return, %	Net Present Value, \$	CO2 Reduced, lbs/yr
2	High-Efficiency Modulating Furnaces	Similar Projects	\$30,000	\$24,000	\$6,000	0	0.00	952	11.78	\$0	\$1,790	18	\$24,202	3.35	303%	17%	29%	\$15,364	11,137

Assumptions:

The cost per therm of natural gas that was used, taken from twelve months of Kettle Run Fire House’s energy bills, was \$1.88. Also taken from the energy bills was the annual heating consumption for the three furnaces, the only gas-consuming units in the building, 5,059 therms. The saving was calculated using the following series of equations:

Current gas input: 5,059 therms

Current/proposed gas output: 5,059 therms*80%=4,025 therms

Proposed gas input: (4,025 therms)/98%=4,107 therms

Savings: 5,059 therms-4,107 therms=952 therms

Rebates/financial incentives:

This ECM is calculated based on a projected eligibility for New Jersey’s Direct Install Rebate, which pays up to 80% of the total installation cost for the furnaces, or \$24,000 for this measure.

ECM#3: Upgrade Condensing Units

Description:

Cooling is provided to Kettle Run Fire House by three 5-ton York condensing units, which feed cooling coils in the furnaces that were recommended for replacement in ECM #2. The condensing units have passed their 15-year useful life, and should be replaced. Units are now available with Seasonal Energy Efficiency Ratios (SEERs) as high as 21. The SEER for the current units could not be found, but 5-ton condensing units manufactured in the mid-1990's would have SEERs of 12; due to the age and condition of the units, their SEER was assumed to be 80% of the original value, or 10.

Installation cost:

Estimated installed cost: \$10,000 each, \$30,000 total

Source of estimate: Similar Projects

Economics:

ECM #	ECM description	Source	Est. Installed Cost, \$	Est. Incentives, \$	Net Est. ECM Cost with Incentives, \$	kWh, 1st Yr Savings	kWh Demand Reduction/Mo	Therms, 1st Yr Savings	kBtu/sq ft, 1st Yr Savings	Est. Operating Cost, 1st Yr Savings, \$	Total 1st Yr Savings, \$	Life of Measure, Yrs	Est. Lifetime Energy Cost Savings, \$	Simple Payback, Yrs	Lifetime Return on Investment, %	Annual Return on Investment, %	Internal Rate of Return, %	Net Present Value, \$	CO ₂ Reduced, lbs/yr
3	Upgrade Condensing Units	Similar Projects	\$30,000	\$24,000	\$6,000	4,905	2.13	0	2.07	\$0	\$834	15	\$9,812	7.20	64%	4%	11%	\$3,955	6,720

Assumptions:

Using the facility's electricity bills from October, 2008 through November, 2009, it was determined that the cost of electricity is currently \$0.17/kWh. This ECM was calculated using 65 Deg. F as a change-over temperature from heating to cooling. The American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) estimates on average per year, 1,104 cooling degree-days for a region that only exceeds a dry-bulb temperature of 92°F for 0.4% of the year. Due to the fact that Kettle Run Fire House only operates 55 hours, or 33%, of the work week, only 33% of the 1,104 cooling degree days were used for these calculations. The desired indoor temperature during the cooling season was assumed to be 74°F.

The following equation, the degree-day equation for cooling systems, was used to calculate the electric consumptions of the current and proposed air-conditioners:

$$(\text{Capacity} * \text{Degree Days} * 24 \text{ Hours/Day}) / [1,000 * \text{SEER} * (\text{Temp}_{0.4\%} - \text{Temp}_{\text{indoor}})] = \text{Electric Consumption (in kWh)}$$

Rebates/financial incentives:

This ECM is calculated based on a projected eligibility for New Jersey's Direct Install Rebate, which pays up to 80% of the total installation cost, or \$24,000 for this measure.

5. RENEWABLE AND DISTRIBUTED ENERGY MEASURES

5.1. Existing systems

There are currently no existing renewable energy systems.

5.2. Solar Photovoltaic

Photovoltaic (PV) technology was considered for installation on the roof of the Kettle Run Fire Station. Based on the amount of roof area available it was determined that PV installations are not cost effective for this project. The facility does not have enough roof space within 6' (OSHA setback) of all edges that faces south and has no shading.

5.3. Solar Thermal Collectors

Solar thermal collectors are not recommended due to the low amount of domestic hot water use throughout the building.

5.4. Combined Heat and Power

Combined Heat Power is not applicable to this project because of the HVAC system type and limited domestic hot water usage.

5.5. Geothermal

Geothermal is not applicable to this project. A geothermal system would require the existing HVAC systems to be removed and replaced with a heat pump system. Large underground vertical or horizontal loop systems would need to be installed on the site in some cases beneath the existing concrete aprons and asphalt. The replacement of the existing and in some cases recently replaced air conditioning and heat unitary equipment would make this type of ECM not cost effective.

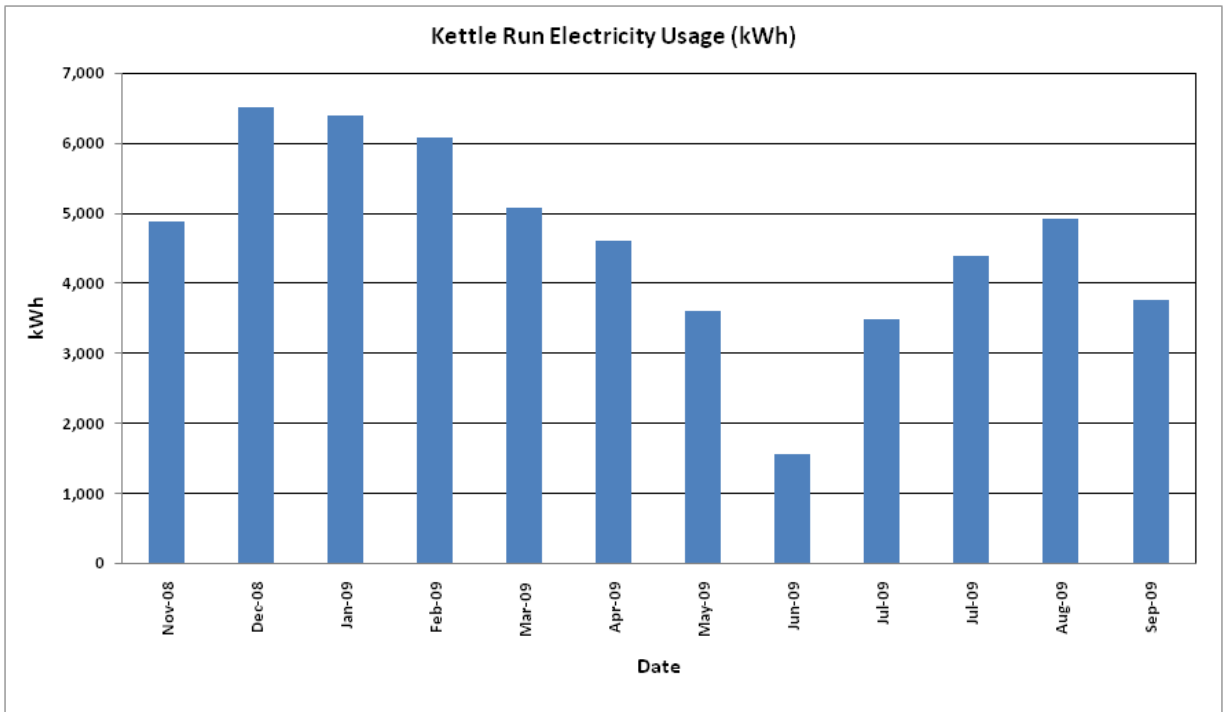
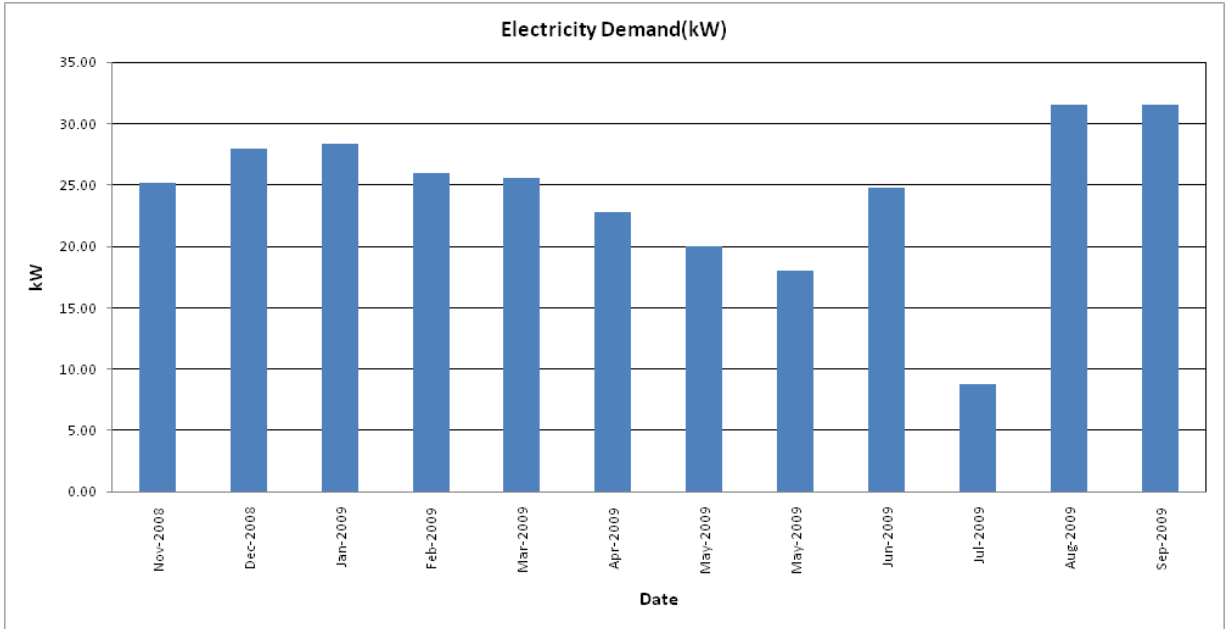
5.6. Wind

Wind turbine technologies of all shapes and sizes were considered for installation. Wind power production is not appropriate for this location because required land is not available for the wind turbine. The available wind energy resource is very low. A small residential model turbine or a vertical wind turbine could be installed on the roof of the building, but vertical wind turbines are not eligible for Renewable Energy Credits or REIP rebates, grants or incentives, and a small residential model would produce a negligible amount of power over a year and there would be a negative return on investment. Wind power is not recommended for this location along with the consideration of the buildings location in proximity to the surrounding neighborhood.

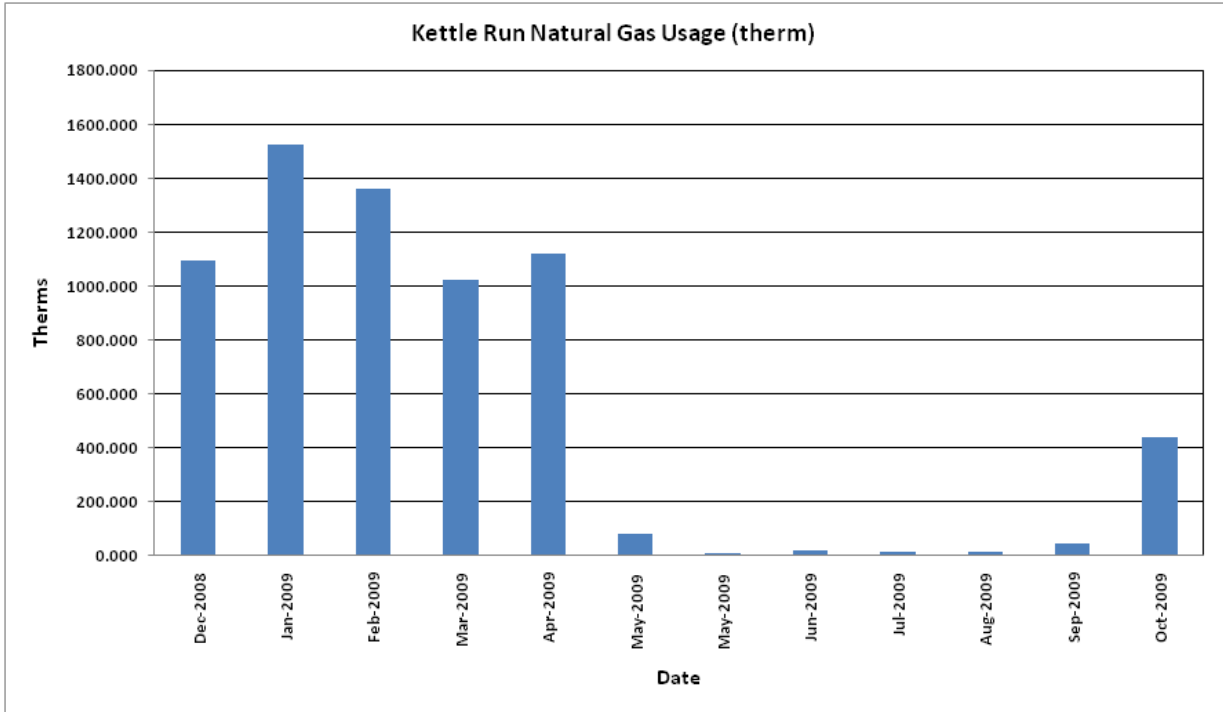
6. ENERGY PURCHASING AND PROCUREMENT STRATEGIES

6.1. Energy Purchasing

The average electrical peak demand for the previous year was 24.2 kW and the maximum peak demand was 31.6 kW. The electric and gas load profiles for this project are presented in the following charts. The first chart shows electric demand (in kW) for the previous 12 months and the other two charts show electric and gas usage (in kWh and therms), respectively.



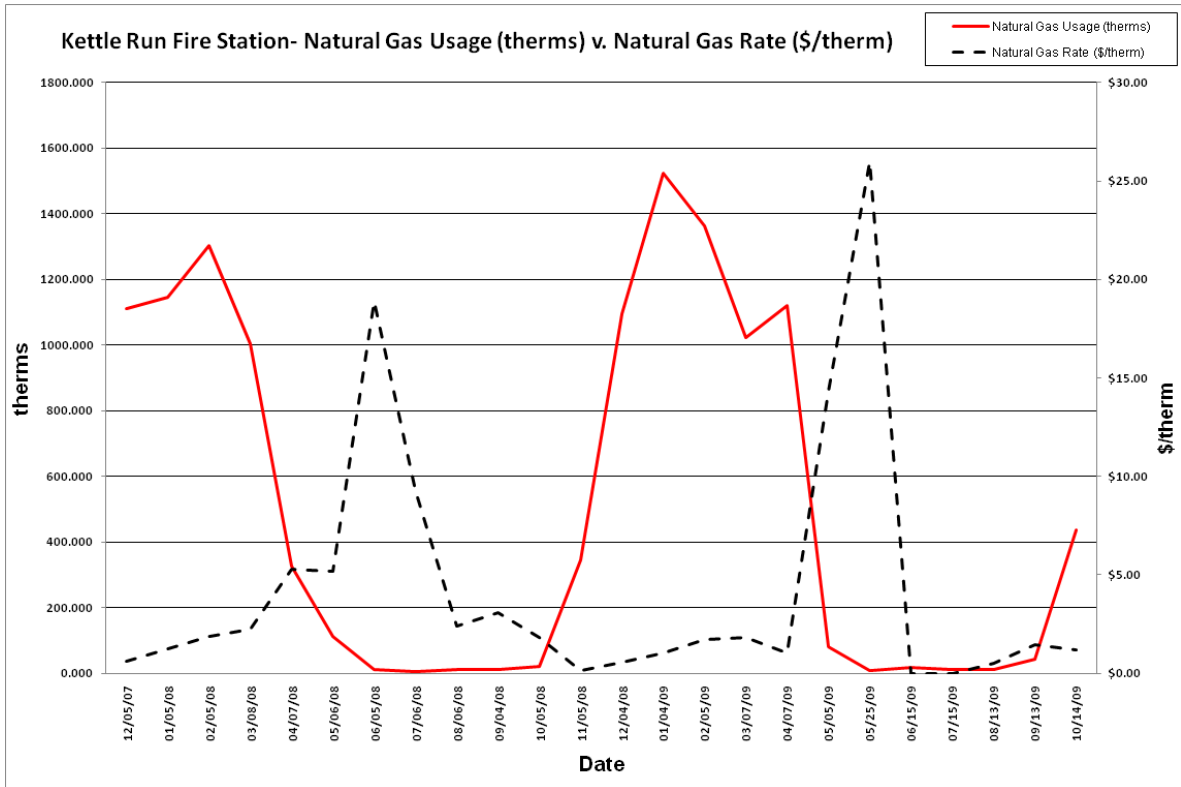
The electrical demand peaks (except for a few fluctuations) follow the electrical consumption peaks.



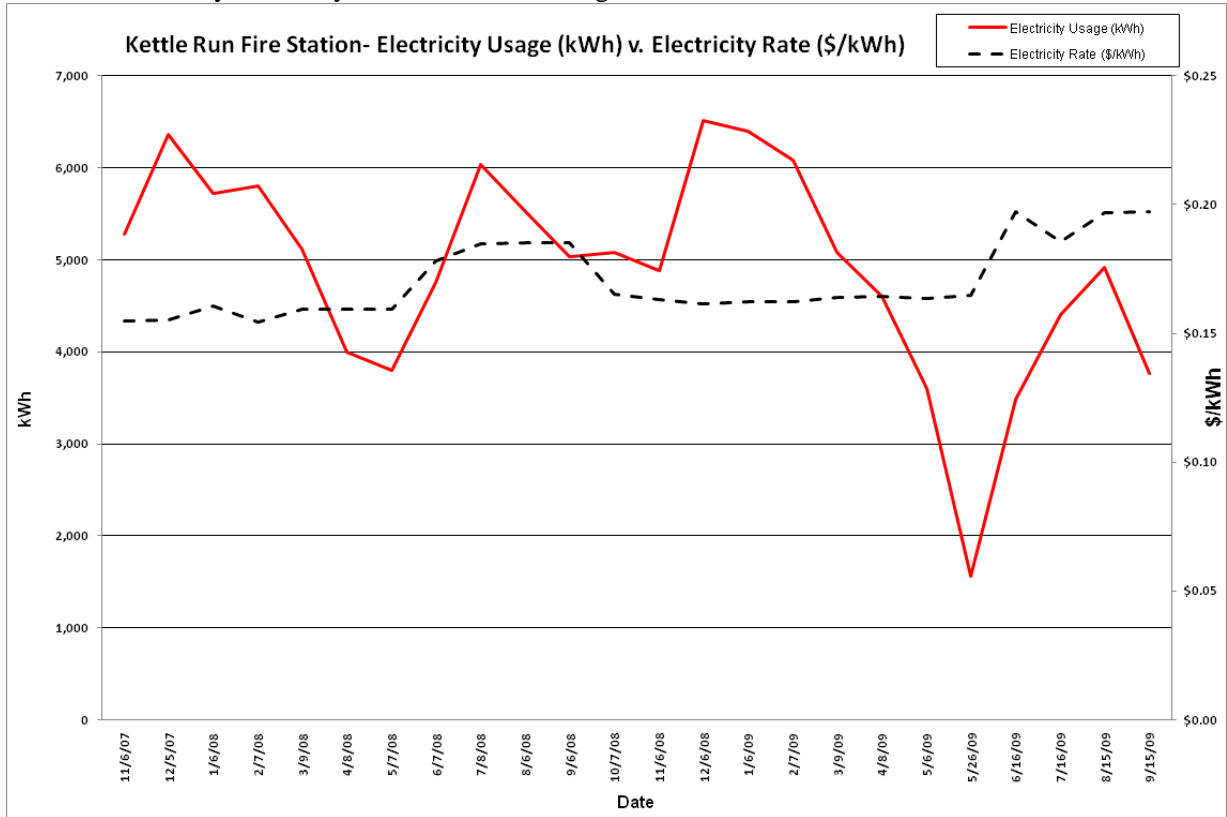
The natural gas annual load profile for the building shows that the highest amount of consumption occurs in the winter months. It can be inferred that natural gas consumption is correlated with heating the building.

6.2. Tariff analysis

Currently, natural gas is provided via one gas meter with supply and distribution service from South Jersey Gas. The general service rate for natural gas charges a market-rate price based on use and Kettle Run Fire Station billing data does not breakdown demand costs for all periods. Demand prices are reflected in the utility bills and can be verified by observing the price fluctuations throughout the year. Typically, the natural gas prices increase during the heating months when natural gas consumption increases. During the summer months when natural gas usage is minimal there is a resulting flat meter charge as indicated in the graph.



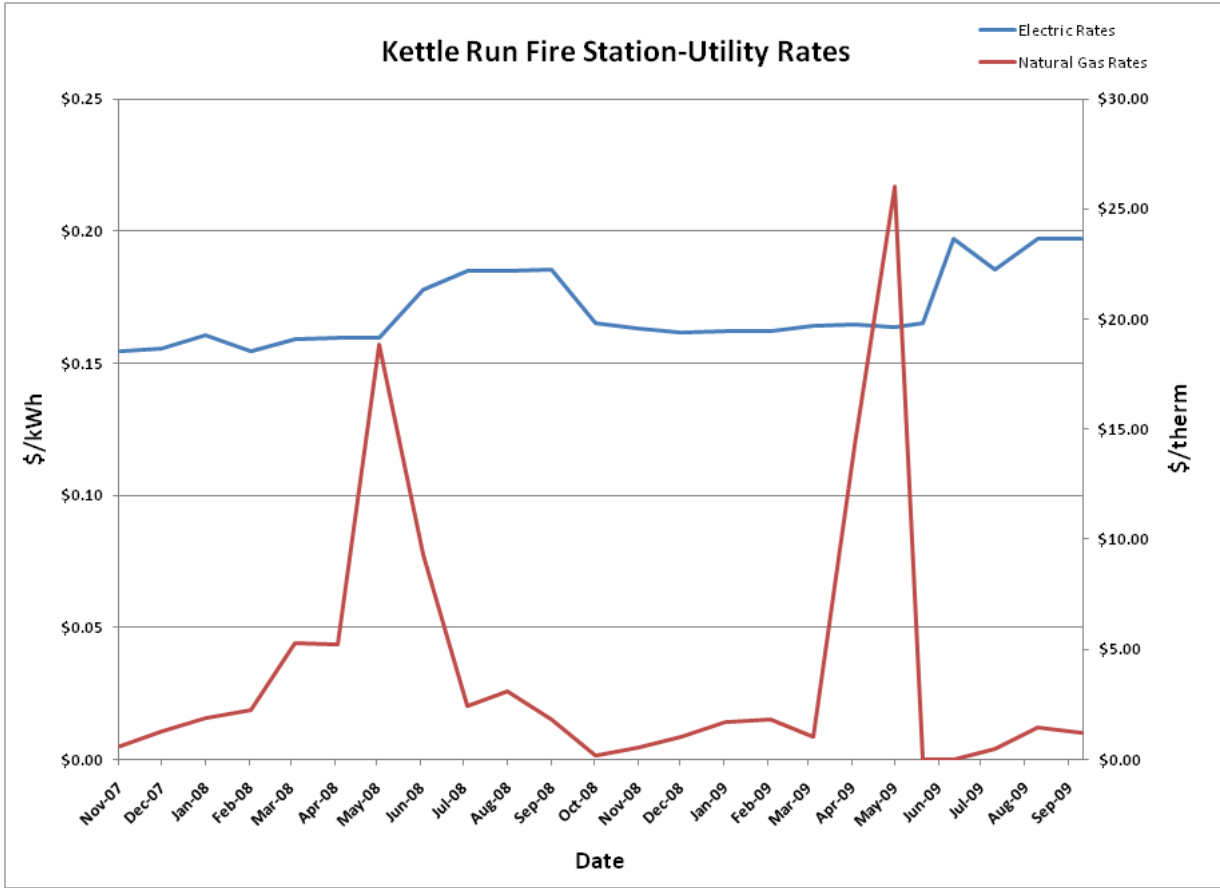
The Kettle Run Fire Station is direct-metered (via one main meter) and currently purchases electricity from Atlantic City Electric at a general service rate. The general service rate for electric charges are market-rate based on use and the Kettle Run Fire Station billing data does show a breakdown of demand costs. Demand prices are reflected in the utility bills and can be verified by observing the price fluctuations throughout the year. Typically, the electricity prices increase during the cooling months when electricity is used by the HVAC condensing units and air handlers.



6.3. Energy Procurement strategies

Billing analysis shows large price fluctuations of over the course of the year for the Evesham firehouses natural gas account. Changing third party suppliers could reduce the cost associated with energy procurement. Customers that have a large variation in monthly billing rates can often reduce the costs associated with energy procurement by selecting a third party energy supplier. Contact the NJ Energy Choice Program for further information on Energy Services Companies (ESCOs) that can act as third party energy suppliers. Purchasing natural gas from an ESCO can reduce natural gas rate fluctuation and ultimately reduce the annual cost of energy for the school. Appendix B contains a complete list of third party energy suppliers.

Using an average of \$0.15/kWh the Kettle Run Fire Station could save approximately \$1,232 on their electric bills. The Fire District already purchases natural gas for \$1.41/therm which is lower than the average rate of \$1.55/therm. Appendix B contains a complete list of third party energy suppliers.



The large peaks in the natural gas rates are results of low consumption of natural gas and basic costs of service that are not related to usage.

7. METHOD OF ANALYSIS

7.1. Assumptions and methods

Energy modeling method: Spreadsheet-based calculation methods
Cost estimates: RS Means 2009 (Facilities Maintenance & Repair Cost Data)
RS Means 2009 (Building Construction Cost Data)
RS Means 2009 (Mechanical Cost Data)
Note: Cost estimates also based on utility bill analysis and prior experience with similar projects.

7.2. Disclaimer

This engineering audit was prepared using the most current and accurate fuel consumption data available for the site. The estimates that it projects are intended to help guide the owner toward best energy choices. The costs and savings are subject to fluctuations in weather, variations in quality of maintenance, changes in prices of fuel, materials, and labor, and other factors. Although we cannot guarantee savings or costs, we suggest that you use this report for economic analysis of the building and as a means to estimate future cash flow.

THE RECOMMENDATIONS PRESENTED IN THIS REPORT ARE BASED ON THE RESULTS OF ANALYSIS, INSPECTION, AND PERFORMANCE TESTING OF A SAMPLE OF COMPONENTS OF THE BUILDING SITE. ALTHOUGH CODE-RELATED ISSUES MAY BE NOTED, SWA STAFF HAVE NOT COMPLETED A COMPREHENSIVE EVALUATION FOR CODE-COMPLIANCE OR HEALTH AND SAFETY ISSUES. THE OWNER(S) AND MANAGER(S) OF THE BUILDING(S) CONTAINED IN THIS REPORT ARE REMINDED THAT ANY IMPROVEMENTS SUGGESTED IN THIS SCOPE OF WORK MUST BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS THAT APPLY TO SAID WORK. PARTICULAR ATTENTION MUST BE PAID TO ANY WORK WHICH INVOLVES HEATING AND AIR MOVEMENT SYSTEMS, AND ANY WORK WHICH WILL INVOLVE THE DISTURBANCE OF PRODUCTS CONTAINING MOLD, ASBESTOS, OR LEAD.

LIGHTING ANALYSIS

Township of Evesham
Kettle Run Fire Station
498 Hopewell Road



Upgrade Code	Upgrade Description	Existing		Proposed		Lighting		
		Fixture	Watts	Fixture	Watts	Total # of Upgrades	Cost per Upgrade (\$)	SmartStart Rebate per Upgrade
1	(3) 32W T8 Lamps, Electronic Ballast / No Upgrade	3L4' T8/ELEC	89	No Upgrade	89	63	\$0.00	\$0.00
2	LED Exit Sign / No Upgrade	LED	2	No Upgrade	2	1	\$0.00	\$0.00
3	(2) 32W T8 U-Tube Lamps, Electronic Ballast / No Upgrade	2L22"	62	No Upgrade	62	17	\$0.00	\$0.00
4	44W Compact Fluorescent / No Upgrade	44W CF/SI	44	No Upgrade	44	11	\$0.00	\$0.00
5	60W Incandescent Lamp / Replace with 15W Compact Fluorescents	60W INCANDESCENT	60	15W CF/SI	15	7	\$6.00	\$0.00
6	60W Incandescent Lamp / Replace with 15W Compact Fluorescents	60W INCANDESCENT	60	15W CF/SI	15	5	\$6.00	\$0.00
7	65W Hallogen Lamps	60W HALOGEN	60	26W CF/SI	26	2	\$10.00	\$0.00
8	(2) 34W T12 Lamps, Magnetic Ballast / Retrofit with (2) 26W T8 Lamps, Electronic Ballast	2L4' EE/STD	80	2L4' T8/ELEC LO	55	1	\$60.00	\$15.00
9	250W Metal Halide Lamps	250W MH/BALLAST	266	No Upgrade	266	36	\$0.00	\$0.00
10	100W Incandescent Lamp / Replace with 26W Compact Fluorescents	100W INCANDESCENT	100	26W CF/SI	26	0	\$10.00	\$0.00
11	400W High Pressure Sodium Lamp	400W HPS/BALLAST	450	No Upgrade	450	18	\$0.00	\$0.00
12	250W Metal Halide	250W MH/BALLAST	266	No Upgrade	266	2	\$0.00	\$0.00
13	150W Incandescent lamp / Replace with 44W Compact Fluorescent	150W INCANDESCENT	150	44W CF/SI	44	2	\$10.00	\$0.00
14	(1) 8' T12 Lamp, Magnetic Ballast / Retrofit with (1) T8 Lamp, Electronic Ballast	1L8' EE/STD	83	1L8' T8/ELEC	67	9	\$50.00	\$15.00

Summary

	Lighting (Only)	Sensors (Only)	Complete Lighting Upgrade
Cost	\$622.00	\$0.00	\$622.00
Rebate	\$150.00	\$0.00	\$150.00
Net Cost	\$472.00	\$0.00	\$472.00
Savings (kWh)	1,476	0	1,476
Savings (\$)	\$251.00	\$0.00	\$251.00
Payback	1.9		1.9

Variables:

\$0.17	Avg. Electric Rate (\$/kWh)
	Avg. Demand Rate (\$/kW)
2860	Operating Hours/Year
8	Operating Hours/Work Day

Assumptions:

25%	Occupancy Sensor Savings (Avg)
40%	Occupancy Sensor Savings(>Avg)

Notes:

Seq. #	Upgrade Code	Room/Area	Hrs/Work Day	Hrs/Year	Existing			Proposed			kW Reduction	Lighting				Controls		Occupancy Sensors (ONLY)				SmartStart Rebate		Lighting & Occupancy Sensors			
					Fixture	Qty.	Watts	Foot Candles	Fixture	Qty.		Watts	Energy Savings, kWh	Cost (\$)	Savings (\$)	Payback (yrs)	Type	Qty.	Energy Savings, kWh	Cost (\$)	Savings (\$)	Payback (yrs)	Lighting	Sensors	Energy Savings, kWh	Post-Rebate Cost (\$)	Savings (\$)
Totals:					28082				27097	0.985	1476	\$622.00	\$251.00	2.5			0	\$0.00	\$0.00		\$150.00	\$0.00	1476	\$472.00	\$251.00	1.9	
1	1	Utility Room	1	357.5	3L4' T8/ELEC	3	267		No Upgrade	3	267	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
2	2	Exit Signs	24	8760	LED	1	2		No Upgrade	1	2	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
3	1	Women's Room	10	3575	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
4	3		10	3575	2L22"	1	62		No Upgrade	1	62	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
5	4		10	3575	44W CF/SI	2	88		No Upgrade	2	88	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
6	1	Men's Room	10	3575	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
7	3		10	3575	2L22"	1	62		No Upgrade	1	62	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
8	4		10	3575	44W CF/SI	2	88		No Upgrade	2	88	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
9	1	Conference Room	4	1430	3L4' T8/ELEC	4	356		No Upgrade	4	356	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
10	5		4	1430	60W INCANDESCENT	3	180		15W CF/SI	3	45	0.135	193	\$18.00	\$32.82	0.5		0	\$0.00	\$0.00		\$0.00	\$0.00	193	\$18.00	\$32.82	0.5
11	1	Office #2	8	2860	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
12	1	Office #1	8	2860	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
13	1	Office #3	8	2860	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
14	1	Duty Room	10	3575	3L4' T8/ELEC	12	1068		No Upgrade	12	1068	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
15	1	Training Room	6	2145	3L4' T8/ELEC	8	712		No Upgrade	8	712	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
16	5		6	2145	60W INCANDESCENT	4	240		15W CF/SI	4	60	0.18	366	\$24.00	\$65.64	0.4		0	\$0.00	\$0.00		\$0.00	\$0.00	366	\$24.00	\$65.64	0.4
17	6	Training Room - Storage #1	1	357.5	60W INCANDESCENT	1	60		15W CF/SI	1	15	0.045	16	\$6.00	\$2.73	2.2		0	\$0.00	\$0.00		\$0.00	\$0.00	16	\$6.00	\$2.73	2.2
18	6	Training Room - Storage #2	1	357.5	60W INCANDESCENT	1	60		15W CF/SI	1	15	0.045	16	\$6.00	\$2.73	2.2		0	\$0.00	\$0.00		\$0.00	\$0.00	16	\$6.00	\$2.73	2.2
19	7	Training Room	6	2145	60W HALOGEN	2	120		26W CF/SI	2	56	0.064	137	\$20.00	\$23.34	0.9		0	\$0.00	\$0.00		\$0.00	\$0.00	137	\$20.00	\$23.34	0.9
20	1	Exercise Room	9	3217.5	3L4' T8/ELEC	6	534		No Upgrade	6	534	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
21	1	Exercise Room (not working)	0.5	178.75	3L4' T8/ELEC	2	178		No Upgrade	2	178	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
22	3	Hallway	14	5005	2L22"	15	930		No Upgrade	15	930	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
23	8	Storage (parts)	3	1072.5	2L4' EE/STD	1	80		2L4' T8/ELEC LO	1	55	0.025	27	\$60.00	\$4.56	13.2		0	\$0.00	\$0.00		\$15.00	\$0.00	27	\$45.00	\$4.56	9.9
24	1	Shop (lower)	4	1430	3L4' T8/ELEC	6	534		No Upgrade	6	534	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
25	9	Garage	14	5005	250W MH/BALLAST	36	10296		No Upgrade	36	10296	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
26	1	Locker Room	12	4290	3L4' T8/ELEC	1	89		No Upgrade	1	89	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
27	1	Store Room	1	357.5	3L4' T8/ELEC	1	89		No Upgrade	1	89	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
28	1	Rec Room	12	4290	3L4' T8/ELEC	6	534		No Upgrade	6	534	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
29	6	Rec Room (pool table)	3	1072.5	60W INCANDESCENT	3	180		15W CF/SI	3	45	0.135	145	\$18.00	\$24.61	0.7		0	\$0.00	\$0.00		\$0.00	\$0.00	145	\$18.00	\$24.61	0.7
30	1	Dispatch Room	14	5005	3L4' T8/ELEC	3	267		No Upgrade	3	267	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
31	1		14	5005	3L4' T8/ELEC	1	89		No Upgrade	1	89	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
32	14	Upper Attic	0.5	178.75	1L8' EE/STD	9	747		1L8' T8/ELEC	9	603	0.144	26	\$450.00	\$4.38	102.8		0	\$0.00	\$0.00		\$135.00	\$0.00	26	\$315.00	\$4.38	72.0
33	11	Exterior: Pole	7	2502.5	400W HPS/BALL	10	4500		No Upgrade	10	4500	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
34	4	Exterior	7	2502.5	44W CF/SI	5	220		No Upgrade	5	220	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
35	12	Exterior: Back	7	2502.5	250W MH/BALLAST	2	572		No Upgrade	2	572	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
36	4	Main Entrance	7	2502.5	44W CF/SI	2	88		No Upgrade	2	88	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	
37	13	Over Doorway	7	2502.5	150W INCANDESCENT	2	300		44W CF/SI	2	88	0.212	531	\$20.00	\$90.19	0.2		0	\$0.00	\$0.00		\$0.00	\$0.00	531	\$20.00	\$90.19	0.2
38	11	Parking Lot: Pole Lights	7	2502.5	400W HPS/BALL	8	3600		No Upgrade	8	3600	0	0	\$0.00	\$0.00			0	\$0.00	\$0.00		\$0.00	\$0.00	0	\$0.00	\$0.00	

Appendix B: Third Party Energy Suppliers (ESCOs)

Supplier	Telephone & Web Site
<p>American Powernet Management, LP 437 North Grove St. Berlin, NJ 08009 Attn: Brian Vayda</p>	<p>877-977-2636 bvayda@americanpowernet.com www.americanpowernet.com</p>
<p>Commerce Energy, Inc. 4400 Route 9 South, Suite 100 Freehold, NJ 07728</p>	<p>(800) 556-8457 www.commerceenergy.com</p>
<p>ConEdison Solutions Cherry Tree Corporate Center 535 State Highway 38 Cherry Hill, NJ 08002</p>	<p>(888) 665-0955 www.conedsolutions.com</p>
<p>Constellation NewEnergy, Inc. 900A Lake Street, Suite 2 Ramsey, NJ 07446</p>	<p>(888) 635-0827 www.newenergy.com</p>
<p>Credit Suisse, (USA) Inc. 700 College Road East Princeton, NJ 08450</p>	<p>212-538-3124 www.creditsuisse.com</p>
<p>Direct Energy Services, LLC 120 Wood Avenue, Suite 611 Iselin, NJ 08830</p>	<p>(866) 547-2722 www.directenergy.com</p>
<p>FirstEnergy Solutions 300 Madison Avenue Morristown, NJ 07962</p>	<p>(800) 977-0500 Supply chain website www.firstenergycorp.com/supplierregistration www.fes.com</p>
<p>Glacial Energy of New Jersey, Inc. 207 LaRoche Avenue Harrington Park, NJ 07640</p>	<p>1-877-569-2841 www.glacialenergy.com</p>
<p>Hess Corporation 1 Hess Plaza Woodbridge, NJ 070956</p>	<p>(800) 437-7872 Tom Miller www.hess.com</p>
<p>Integrys Energy Services, Inc. 99 Wood Ave, South, Suite 802 Iselin, NJ 08830</p>	<p>1-877-763-9977 Dole Janssen: 920-617-6029 Charles Kuntz: 614-844-4324 www.integrysenergy.com</p>
<p>Liberty Power Delaware, LLC Park 80 West Plaza II, Suite 200 Saddle Brook, NJ 07663</p>	<p>(866)769-3799 www.libertypowercorp.com</p>
<p>Liberty Power Holdings, LLC Park 80 West Plaza II, Suite 200 Saddle Brook, NJ 07663</p>	<p>(866) 769-3799 www.libertypowercorp.com</p>

<p>Palmco Power NJ, LLC One Greentree Centre 10000 Lincoln Drive East, Suite 201 Marlton, NJ 08053</p>	<p>(877) 726-5862 www.PalmcoEnergy.com</p>
<p>Pepco Energy Services, Inc. 112 Main Street Lebanon, NJ 08833</p>	<p>(800) ENERGY-9 (363-7499) www.pepco-services.com</p>
<p>PPL Energy Plan, LLC 811 Church Road Cherry Hill, NJ 08002</p>	<p>800-281-2000 www.pplenergyplus.com</p>
<p>Sempra Energy Solutions The Mac-Cali Building 581 Main Street, 8th Floor Woodbridge, NJ 07095</p>	<p>(877) 273-6772 732-596-6400-Tony Buck www.semprasolutions.com</p>
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