

Annual Savings Report – School Performance Contracting Program

State of Ohio Standard Forms and Documents

Project Name New Richmond EVSD Date January 18, 2016

Project Number 1319

Project Summary	
School District Name	New Richmond EVD
State Project Number (SN)	1319
Total Project Cost (\$)	\$1,686,036
Length of Contract Term (years)	3
Projected Avg. Annual Savings (\$)	\$110,395
Construction Started / Completed	July 2013 – July 2014
Reporting Year (1, 2, or 3)	1
ESCO Name	Energy Optimizers USA
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ESCO Phone Number	(937) 877-1919
ESCO Contact Person	Karen Claude
ESCO E-mail Address	Kclaude@energyoptusa.com

At a minimum, the following items must be included in the annual report in order to support the summary table above. Additional information may be included and the items below are in no particular order within your report.

Please check that the following are included in the report.

- ✓ Baseline utility tables (gas, electric, water/sewage, etc.) including rates
- ✓ Actual monthly utility data for the current year
- ✓ List of Adjustments from baseline to current year and the supporting documentation
- ✓ Adjusted utility tables for the current reporting year
- ✓ Conclusion as to whether the project has its savings projection
- ✓ Conclusion as to whether the project has met its guarantee (for projects approved after September 2013)
- ✓ In case of shortfall, what measures are proposed to remedy the shortfall (if applicable)

Prepared By



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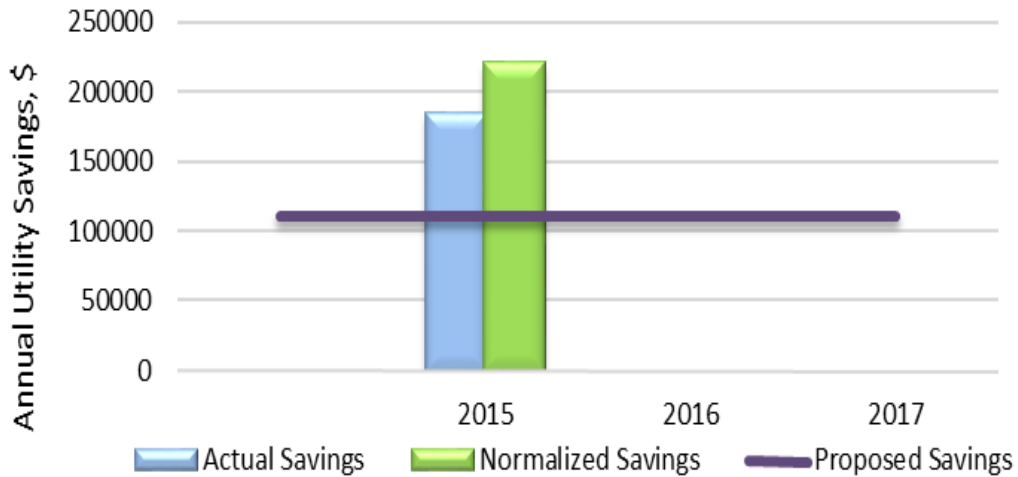
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1 Annual Savings Summary

Below is a quick overview of the School Performance Contracting Program completed at New Richmond Schools.

Electricity	Baseline	Proposed	Actual	Normalized
Annual Usage, kWh	6,850,510	5,844,817	4,224,847	4,451,080
Annual Cost, \$	\$629,268	\$536,888	\$443,136	\$408,863
CDD	1,383		1,102	
Fuel				
Annual Usage, MMBtu	9,183	6,415	8,705	8,418
Annual Cost, \$	\$59,774	\$41,759	\$76,448	\$54,798
HDD	4,506		4,668	
Total Annual Utility Cost	\$689,042	\$578,647	\$519,584	\$463,661
Savings		\$110,395	\$169,458	\$225,381

New Richmond Schools



2 Introduction

The Reconciliation Report is meant to highlight the energy savings due to the School Performance Contracting Program for New Richmond Schools. The implementation of the energy savings measures was completed in July 2014. This report details energy savings only; operations and maintenance savings have not been tabulated.

2.1 Energy Savings Summary

It was anticipated that the School Performance Contracting Program would save the district \$110,395 in energy per year. In the one year of post-project energy data considered, it has been calculated that the district saved \$219,726 in energy!

Reconciliation Report – Energy Savings Summary

	Proposed Savings	Actual Savings		Normalized Savings	
Electrical	\$92,380	\$186,131	101%	\$ 220,405	139%
Natural Gas	\$18,015	-\$3,417	-119%	\$ (679)	-104%
Totals	\$110,395	\$182,714	66%	\$ 219,726	99%

***Percentages are in comparison with proposed savings*

Note: The table above only includes Energy Savings; it does not include Operations and Maintenance Savings.

3 Post-Project Adjustments

3.1 Post-Project Energy Usage Adjustments

The project at New Richmond Schools did not require any post project adjustments to the energy consumption.

4 Savings Calculations

We at Energy Optimizers, USA find that the most accurate and reliable way of calculating the savings is Option C which is to compare energy usage data from after the project to data from before the project. Energy data from the time period after the project has been completed, or the “post-project period” is measured against the energy data from before the project started, the baseline or benchmark time period. These two time periods are:

Benchmark Time Period: March 2011 – February 2012
Post-Project Time Period: January 2015 – December 2015

4.1 Normalized Savings

4.1.1 Need for Normalization

Due to fluctuations in weather and prices in energy, the amount of money spent on energy can change drastically from year-to-year. In order to compare “apples to apples,” normalizing the data for the same weather and energy cost baseline is necessary. For example, if the price of electricity increases from \$0.10/unit to \$0.12/unit from one year to the next, and the owner uses 10% less energy, the overall cost will still increase because of the increased cost per unit.

Normalization is accomplished by adjusting the savings figures by a ratio of the benchmark heating or cooling demand and the post-project heating or cooling demand. Also, the benchmark energy cost rate is multiplied by the energy saved. These two steps remove the variables of weather and energy cost from the savings figures so that they are comparable to the anticipated savings. In turn, this allows us to determine the accurate amount of energy that was saved due to the School Performance Contracting Program.

4.1.2 Usage Dependency

The first step is separating each respective energy usage by two or three categories, namely Weather-dependent, Occupancy-dependent, and/or Independent use. These dependency percentages were determined using “Energy Explorer,” regression model software developed by Dr. Kelly Kissock at the University of Dayton. The percentages will allow the energy usage that is dependent on the weather to be normalized with respect to changes in weather from year to year. It was assumed that the occupancy levels of the district’s facilities did not fluctuate significantly in the two time periods, so there was no normalization needed for building usage and occupancy. The independent portion is separated so it is not normalized for weather or occupancy. These percentages determined using “Energy Explorer” for the district are displayed in the table below.

Energy Usage Dependence Percentages

District	Elec			Nat Gas		
	Ind %	Wea %	Occ %	Ind %	Wea %	Occ %
New Richmond EVSD	95.0%	5.0%	0.0%	21.0%	79.0%	0.0%

4.1.3 Weather Differences

To adjust for differences in weather, it is necessary to determine the annual heating and cooling demand. Energy Optimizers, USA chooses to use heating degree days (HDD) and cooling degree days (CDD) for this measurement, as degree days are a great representation of the typical heating/cooling requirements for a building.

For example, the process of calculating the annual heating degree days is:

When the average outdoor air temperature (T_{oa}) is less than the balance point temperature (T_{bal} - the outdoor air temperature at which heating/cooling is initiated), calculate the difference between the balance point temperature and average outdoor air temperature.

Sum that difference up for all days in the given year.

This equates to the heating degree days per year, and gives us an estimate of the annual heating energy use for a given location and balance temperature. The calculation for heating degree days is represented in the equation below; the process is nearly identical for cooling degree days.

$$\text{Heating Degree Days} = \sum_{i=1}^{365} (T_{bal} - T_{oa,i})$$

The heating and cooling degree days for the both time periods are displayed in the table below.

Weather Data	Benchmark	Post-Project	% Change Compared to Benchmark
Cooling Degree Days (CDD)	1,383	1,102	-20.3%
Heating Degree Days (HDD)	4,506	4,668	3.6%

Using the heating and cooling degree days for each time period, as well as the Baseline Energy Signature breakdown from the initial analysis of the district's energy use, we were able to determine how much of the total energy was used for heating or cooling the facility. The percentage breakdown allows us to adjust the weather dependent portion of the usage with the ratio of heating/cooling degree days of the two time periods, which enables us to calculate the normalized post-project savings. This, in turn, will allow us to see how well the project has performed in comparison to the anticipated savings.

4.1.4 Electricity

Now that the heating and cooling degree days have been determined, it is possible to normalize the energy savings to determine just how much energy and money the School Performance Contracting Program saved the district. To adjust for the electricity cost per unit change from the benchmark to the post-project time frame, we will multiple the weather normalized savings by the benchmark electricity cost per unit. The calculations and results are displayed below.

Weather Normalized Electricity Usage Calculations

Electricity Usage Data	Benchmark	Post-Project	% Change Compared to Benchmark
Independent kWh Usage (79%)	5,411,903	3,337,629	-38.33%
Weather-Dependent kWh Usage (21%)	1,438,607	887,218	-38.33%
Electrical kWh/CDD	1,040	805	-22.60%
Weather Normalized kWh	6,850,510	4,451,080	-35.03%
Total Electrical kWh/CDD	4,953	4,039	-18.46%

Electricity Savings Comparison

Electrical Savings	kWh Saved	\$ per unit	\$ Saved
Anticipated Savings	1,005,693	\$ 0.0919	\$ 92,380
Utility Bill Comparison Savings	2,625,663		\$ 186,131
Normalized (Weather and Price) Savings	2,399,430	\$ 0.0919	\$ 220,405

4.1.5 Natural Gas

The same process that was completed to ascertain the normalized electricity savings has been executed for the natural gas side of the savings venture. The calculations and savings associated are shown below.

Weather Normalized Natural Gas Usage Calculations

Heating Fuel Usage Data	Benchmark	Post-Project	% Change Compared to Benchmark
Independent MMBtu Usage (5%)	459	435	-5.2%
Weather-Dependent MMBtu Usage (95%)	8,724	8,270	-5.2%
Heating Fuel MMBtu/HDD	1.94	1.77	-8.5%
Weather Normalized MMBtu	9,183	8,418	-8.3%
Total Heating Fuel MMBtu/HDD	2.038	1.803	-11.5%

Natural Gas Savings Comparison

Heating Fuel Savings	MMBtu Saved	\$ per unit	Total \$ Saved
Anticipated Savings	2,350	\$ 7.67	\$ 18,015
Utility Bill Comparison Savings	(145)		\$ (3,417)
Normalized (Weather and Price) Savings	(89)	\$ 7.67	\$ (679)

4.1.6 Savings Summary

Total Summarized Savings

Proposed Savings		Actual Savings		Normalized Savings	
Electrical	\$92,380	\$186,131	101%	\$ 220,405	139%
Natural Gas	\$18,015	-\$3,417	-119%	\$ (679)	-104%
Totals	\$110,395	\$182,714	66%	\$ 219,726	99%

***Percentages are in comparison with proposed savings*

5 Proposed Measures for Shortfall in Savings

This project does not include any shortfalls.

6 Appendices

6.1 District Reconciliation Analysis

New Richmond Exempted Village Schools



District Summary

Reconciliation Report: HVAC, Weather and Price Normalized

Benchmark Energy Use Time Period: March 2011 - February 2012

Post-Project Energy Use Time Period: January 2015 - December 2015

Energy Usage Comparison

Electricity Usage Data	Benchmark	Post-Project	% Change Compared to Benchmark
Non-Weather Normalized Data			
Annual kWh Usage	6,850,510	4,224,847	-38.33%
Annual kWh Cost	\$ 629,268	\$ 443,136	\$ (186,131)
Average Cost per kWh	\$ 0.0919	\$ 0.1049	14.19%
Electrical kBtu/SqFt	54.79	33.79	-38.33%
Weather Data			
Cooling Degree Days (CDD)	1,383	1,102	-20.32%
Weather Normalized Data			
Independent kWh Usage (79%)	5,411,903	3,337,629	-38.33%
Weather-Dependent kWh Usage (21%)	1,438,607	887,218	-38.33%
Electrical kWh/CDD	1,040	805	-22.60%
Weather Normalized kWh	6,850,510	4,451,080	-35.03%
Total Electrical kWh/CDD	4,953	4,039	-18.46%

Heating Fuel Usage Data	Benchmark	Post-Project	% Change Compared to Benchmark
Non-Weather Normalized Data			
Annual MMBtu Usage	1,568	1,713	9.25%
Annual MMBtu Cost	\$ 12,022	\$ 15,439	\$ 3,417
Average Cost per MMBtu	\$ 7.67	\$ 9.01	17.55%
Heating Fuel kBtu/SqFt	3.68	4.02	9.25%
Weather Data			
Heating Degree Days (HDD)	4,506	4,668	3.60%
Weather Normalized Data			
Independent MMBtu Usage (5%)	78	86	9.2%
Weather-Dependent MMBtu Usage (95%)	1,490	1,628	9.2%
Heating Fuel MMBtu/HDD	0.33	0.35	5.5%
Weather Normalized MMBtu	1,568	1,657	5.6%
Total Heating Fuel MMBtu/HDD	0.348	0.355	2.0%

Savings

Electrical Savings	kWh Saved	\$ per unit	\$ Saved
Anticipated Savings	1,005,693	\$ 0.0919	\$ 92,380
Utility Bill Comparison Savings	2,625,663		\$ 186,131
Normalized (Weather and Price) Savings	2,399,430	\$ 0.0919	\$ 220,405

Heating Fuel Savings	MMBtu Saved	\$ per unit	Total \$ Saved
Anticipated Savings	2,350	\$ 7.67	\$ 18,015
Utility Bill Comparison Savings	(145)		\$ (3,417)
Normalized (Weather and Price) Savings	(89)	\$ 7.67	\$ (679)

TOTAL SAVINGS:

Anticipated Savings

\$110,395

Bill Comparison Savings

\$182,714

Normalized Savings

\$219,726

Note: Savings figures on this page do not include Operations & Maintenance Savings.

6.2 District Utility Analysis

New Richmond Exempted Village Schools



District Summary

Post Project Period January 2015 - December 2015

FACILITY LOCATION NAME	FACILITY SIZE (S.F.)	ANNUAL ELECTRIC		COST/ KWH	KWH/ SF	KBTU/ SF	ANNUAL FUEL (Total)		COST/ MMBTU	KBTU/ SF	TOTAL	TOTAL	TOTAL
		KWH	COST				MMBTU	COST (Total)			ANNUAL COST	KBTU/SF	\$/SF
1 New Richmond High School	110,000	1,100,993	\$ 116,926	\$ 0.106	10.01	34.16	3,620	\$ 34,556	\$ 9.55	32.91	\$ 151,482	67.07	\$ 1.38
2 New Richmond Middle School	66,000	983,294	\$ 83,378	\$ 0.085	14.90	50.85	<i>Facility is all electric</i>				\$ 83,378	50.85	\$ 1.26
3 New Richmond Elementary School	73,600	496,559	\$ 58,347	\$ 0.118	6.75	23.03	3,373	\$ 26,452	\$ 7.84	45.82	\$ 84,799	68.85	\$ 1.15
4 Monroe Elementary School	83,000	1,018,080	\$ 105,705	\$ 0.104	12.27	41.86	<i>Facility is all electric</i>				\$ 105,705	41.86	\$ 1.27
5 Locust Corner Elementary	86,000	573,442	\$ 72,960	\$ 0.127	6.67	22.76	1,713	\$ 15,439	\$ 9.01	19.92	\$ 88,399	42.68	\$ 1.03
6 Bus Garage	8,100	52,480	\$ 5,821	\$ 0.111	6.48	22.11	<i>Facility is all electric</i>				\$ 5,821	22.11	\$ 0.72
District Totals	426,700	4,224,847	\$ 443,136	\$ 0.105	9.90	33.79	8,705	\$ 76,448	\$ 8.78	20.40	\$ 519,584	54.19	\$ 1.22

Benchmark Period March 2011 - February 2012

FACILITY LOCATION NAME	FACILITY SIZE (S.F.)	ANNUAL ELECTRIC		COST/ KWH	KWH/ SF	KBTU/ SF	ANNUAL FUEL (Total)		COST/ MMBTU	KBTU/ SF	TOTAL	TOTAL	TOTAL
		KWH	COST				MMBTU	COST (Total)			ANNUAL COST	KBTU/SF	\$/SF
1 New Richmond High School	110,000	2,204,369	\$ 189,595	\$ 0.086	20.04	68.40	4,889	\$ 30,527	\$ 6.24	44.45	\$ 220,122	112.84	\$ 2.00
2 New Richmond Middle School	66,000	1,350,003	\$ 118,691	\$ 0.088	20.45	69.81	<i>Facility is all electric</i>				\$ 118,691	69.81	\$ 1.80
3 New Richmond Elementary School	73,600	689,037	\$ 83,414	\$ 0.121	9.36	31.95	2,726	\$ 17,225	\$ 6.32	37.03	\$ 100,639	68.99	\$ 1.37
4 Monroe Elementary School	83,000	1,609,106	\$ 133,847	\$ 0.083	19.39	66.17	<i>Facility is all electric</i>				\$ 133,847	66.17	\$ 1.61
5 Locust Corner Elementary	86,000	921,195	\$ 85,930	\$ 0.093	10.71	36.56	1,568	\$ 12,022	\$ 7.67	18.24	\$ 97,952	54.79	\$ 1.14
6 Bus Garage	8,100	76,800	\$ 17,791	\$ 0.232	9.48	32.36	<i>Facility is all electric</i>				\$ 17,791	32.36	\$ 2.20
District Totals	426,700	6,850,510	\$ 629,268	\$ 0.092	16.05	54.79	9,183	\$ 59,774	\$ 6.51	21.52	\$ 689,042	76.32	\$ 1.61

Weather Normalized Utility Summary

Weather Normalized Totals Year 1	426,700	4,466,376	\$ 468,470	\$ 0.105	10.47	35.72	9,357	\$ 82,173	\$ 8.78	21.93	\$ 550,643	57.65	\$ 1.29
Weather Normalized Totals Year 2	426,700	6,870,274	\$ 631,083	\$ 0.092	16.10	54.95	10,199	\$ 66,389	\$ 6.51	23.90	\$ 697,472	78.85	\$ 1.63

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Total
2014-2015 - Heating Degree Days	712	271	55	21	0	1	23	251	468	619	1,085	1,162	4,668
2011-2012 - Heating Degree Days	633	275	169	19	1	18	108	370	489	776	894	754	4,506
2014-2015 - Cooling Degree Days	0	2	139	248	298	224	175	13	3	0	0	0	1,102
2011-2012 - Cooling Degree Days	12	41	122	247	474	332	111	36	8	0	0	0	1,383
5 Year Average - Heating Degree Days	596	328	139	21	14	17	86	335	597	926	1,068	921	5,048
5 Year Average - Cooling Degree Days	15	51	126	278	341	348	186	50	7	0	0	0	1,402

6.3 New Richmond High School Utility Analysis

Name:	New Richmond High School	Elec Utility:	Duke Energy	Fuel Utility:	Duke Gas
Location:	1131 Bethel Rd New Richmond, OH	Acct. No.:	Assorted, see details	Acct. No.:	1820 2054 01 30 10
Facility Size:	110,000	Rate:			
		AGS Rate:			

New Richmond High School

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	01/15/15	107,650	\$11,281	\$ 0.105	398.0	01/15/15	813.6	\$6,318	\$ 7.77	\$17,599	\$ 0.16
	02/13/15	96,583	\$9,825	\$ 0.102	412.8	02/15/15	700.7	\$5,543	\$ 7.91	\$15,367	\$ 0.14
	03/16/15	101,306	\$10,182	\$ 0.101	412.8	03/15/15	517.6	\$5,505	\$ 10.63	\$15,686	\$ 0.14
	04/15/15	85,453	\$9,098	\$ 0.106	411.5	04/15/15	645.9	\$4,943	\$ 7.65	\$14,040	\$ 0.13
	05/14/15	92,698	\$9,640	\$ 0.104	436.6	05/15/15	164.5	\$1,914	\$ 11.63	\$11,554	\$ 0.11
	06/15/15	81,011	\$9,529	\$ 0.118	423.0	06/15/15	33.3	\$976	\$ 29.34	\$10,505	\$ 0.10
	07/15/15	81,147	\$9,297	\$ 0.115	419.8	07/15/15	21.8	\$897	\$ 41.18	\$10,193	\$ 0.09
	08/13/15	86,954	\$9,944	\$ 0.114	449.2	08/15/15	38.4	\$1,016	\$ 26.44	\$10,960	\$ 0.10
	09/11/15	111,552	\$11,691	\$ 0.105	493.6	09/14/15	75.4	\$1,253	\$ 16.63	\$12,944	\$ 0.12
	10/13/15	89,854	\$9,045	\$ 0.101	413.5	10/14/15	108.7	\$1,468	\$ 13.51	\$10,514	\$ 0.10
	11/11/15	77,546	\$8,375	\$ 0.108	402.0	11/11/15	164.6	\$1,812	\$ 11.01	\$10,187	\$ 0.09
	12/14/15	89,240	\$9,020	\$ 0.101	387.9	12/14/15	335.1	\$2,912	\$ 8.69	\$11,932	\$ 0.11
	Totals	1,100,993	\$116,926	\$ 0.106	5,061.1		3,619.6	\$34,556	\$ 9.55	\$151,482	\$ 1.38

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/01/11	155,427	\$13,315	\$ 0.086	443.3	03/01/11	723.0	\$4,503	\$ 6.23	\$17,818	\$ 0.16
	04/01/11	132,975	\$11,749	\$ 0.088	526.1	04/01/11	570.0	\$3,798	\$ 6.66	\$15,547	\$ 0.14
	05/01/11	146,274	\$12,640	\$ 0.086	608.7	05/01/11	203.3	\$1,382	\$ 6.80	\$14,022	\$ 0.13
	06/01/11	221,764	\$18,872	\$ 0.085	754.0	06/01/11	197.2	\$1,330	\$ 6.75	\$20,202	\$ 0.18
	07/01/11	190,374	\$16,156	\$ 0.085	563.2	07/01/11	0.0	\$0	#DIV/0!	\$16,156	\$ 0.15
	08/01/11	204,722	\$17,120	\$ 0.084	533.8	08/01/11	4.1	\$28	\$ 6.79	\$17,148	\$ 0.16
	09/01/11	240,083	\$19,757	\$ 0.082	694.6	09/01/11	160.2	\$1,008	\$ 6.29	\$20,765	\$ 0.19
	10/01/11	234,100	\$19,461	\$ 0.083	611.2	10/01/11	177.7	\$1,101	\$ 6.19	\$20,562	\$ 0.19
	11/01/11	207,121	\$17,495	\$ 0.084	612.2	11/01/11	362.5	\$2,163	\$ 5.97	\$19,658	\$ 0.18
	12/01/11	157,070	\$13,297	\$ 0.085	496.4	12/01/11	629.6	\$3,658	\$ 5.81	\$16,955	\$ 0.15
	01/01/12	162,256	\$14,560	\$ 0.090	456.8	01/01/12	850.4	\$4,709	\$ 5.54	\$19,269	\$ 0.18
	02/01/12	152,203	\$15,172	\$ 0.100	533.6	02/01/12	1,011.0	\$6,848	\$ 6.77	\$22,020	\$ 0.20
	Totals	2,204,369	\$189,595	\$ 0.086	6,833.7		4,889.0	\$ 30,527	\$ 6.24	\$220,122	\$ 2.00

6.4 New Richmond Middle School Utility Analysis

Name:	New Richmond Middle School	Elec Utility:	Duke Energy	Fuel Utility:	Facility is all electric
Location:	1135 Bethel-New Richmond New Richmond, OH	Acct. No:	1370 2083 01 4	Acct. No:	
Facility Size	66,000	Rate:			
		AGS Rate			

New Richmond Middle School

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	01/15/15	152,021	\$12,930	\$ 0.085	456.7	01/15/15			#DIV/0!	\$12,930	\$ 0.20
	02/13/15	108,625	\$8,856	\$ 0.082	476.4	02/15/15			#DIV/0!	\$8,856	\$ 0.13
	03/16/15	145,330	\$11,639	\$ 0.080	476.0	03/15/15			#DIV/0!	\$11,639	\$ 0.18
	04/15/15	71,438	\$5,740	\$ 0.080	360.8	04/15/15			#DIV/0!	\$5,740	\$ 0.09
	05/14/15	65,382	\$5,332	\$ 0.082	320.0	05/15/15			#DIV/0!	\$5,332	\$ 0.08
	06/15/15	58,380	\$5,754	\$ 0.099	242.8	06/15/15			#DIV/0!	\$5,754	\$ 0.09
	07/15/15	53,415	\$5,402	\$ 0.101	235.1	07/15/15			#DIV/0!	\$5,402	\$ 0.08
	08/13/15	58,704	\$5,539	\$ 0.094	243.5	08/15/15			#DIV/0!	\$5,539	\$ 0.08
	09/14/15	75,747	\$6,487	\$ 0.086	264.4	09/14/15			#DIV/0!	\$6,487	\$ 0.10
	10/13/15	60,084	\$4,838	\$ 0.081	252.8	10/14/15			#DIV/0!	\$4,838	\$ 0.07
	11/11/15	56,189	\$4,553	\$ 0.081	345.6	11/11/15			#DIV/0!	\$4,553	\$ 0.07
	12/14/15	77,979	\$6,308	\$ 0.081	458.4	12/14/15			#DIV/0!	\$6,308	\$ 0.10
	Totals	983,294	\$83,378	\$ 0.085	4,132.5		0.0	\$0	#DIV/0!	\$83,378	\$ 1.26

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/01/11	110,111	\$9,841	\$ 0.089	373.1	03/12/13			#DIV/0!	\$9,841	\$ 0.15
	04/01/11	86,212	\$7,815	\$ 0.091	382.4	04/11/13			#DIV/0!	\$7,815	\$ 0.12
	05/01/11	101,295	\$8,918	\$ 0.088	311.8	05/10/13			#DIV/0!	\$8,918	\$ 0.14
	06/01/11	98,828	\$8,633	\$ 0.087	268.1	06/11/13			#DIV/0!	\$8,633	\$ 0.13
	07/01/11	89,444	\$7,959	\$ 0.089	249.2	07/11/13			#DIV/0!	\$7,959	\$ 0.12
	08/01/11	106,958	\$9,400	\$ 0.088	280.2	08/09/13			#DIV/0!	\$9,400	\$ 0.14
	09/01/11	120,201	\$10,272	\$ 0.085	277.1	09/10/13			#DIV/0!	\$10,272	\$ 0.16
	10/01/11	108,042	\$9,467	\$ 0.088	345.7	10/09/13			#DIV/0!	\$9,467	\$ 0.14
	11/01/11	104,025	\$9,053	\$ 0.087	340.1	11/07/13			#DIV/0!	\$9,053	\$ 0.14
	12/01/11	126,464	\$10,938	\$ 0.086	386.6	12/10/13			#DIV/0!	\$10,938	\$ 0.17
	01/01/12	156,172	\$13,693	\$ 0.088	421.7	01/13/14			#DIV/0!	\$13,693	\$ 0.21
	02/01/12	142,251	\$12,705	\$ 0.089	433.9	02/11/14			#DIV/0!	\$12,705	\$ 0.19
	Totals	1,350,003	\$118,691	\$ 0.088	4,069.9		0.0	\$ -	#DIV/0!	\$118,691	\$ 1.80

6.5 New Richmond Elementary School Utility Analysis

Name: New Richmond Elementary School
 Location: 1141 Bethel Rd
 New Richmond, OH
 Facility Size 73,600

Elec Utility: Duke Energy
 Acct. No: 8520219201 & 7410208401
 Rate:
 AGS Rate

Fuel Utility: Tiger Gas
 Acct. No: 4070-2032-01

New Richmond Elementary School

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	01/15/15	50,954	\$6,330	\$ 0.124	178.9	01/15/15	812.4	\$5,610	\$ 6.91	\$11,940	\$ 0.16
	02/13/15	46,439	\$5,050	\$ 0.109	179.7	02/15/15	651.3	\$4,557	\$ 7.00	\$9,607	\$ 0.13
	03/16/15	49,493	\$5,036	\$ 0.102	179.7	03/15/15	380.0	\$3,243	\$ 8.53	\$8,279	\$ 0.11
	04/15/15	38,902	\$4,912	\$ 0.126	254.1	04/15/15	181.7	\$1,551	\$ 8.53	\$6,463	\$ 0.09
	05/14/15	38,896	\$4,571	\$ 0.118	251.4	05/15/15	175.6	\$1,499	\$ 8.53	\$6,070	\$ 0.08
	06/15/15	34,159	\$4,110	\$ 0.120	252.5	06/15/15	193.9	\$1,655	\$ 8.53	\$5,765	\$ 0.08
	07/15/15	32,640	\$3,804	\$ 0.117	153.3	07/15/15	181.6	\$1,550	\$ 8.53	\$5,353	\$ 0.07
	08/13/15	34,345	\$4,131	\$ 0.120	242.9	08/15/15	175.6	\$1,499	\$ 8.53	\$5,630	\$ 0.08
	09/14/15	49,129	\$5,902	\$ 0.120	283.0	09/14/15	108.7	\$1,024	\$ 9.42	\$6,925	\$ 0.09
	10/14/15	42,190	\$5,389	\$ 0.128	264.7	10/13/15	111.2	\$1,034	\$ 9.30	\$6,423	\$ 0.09
	11/11/15	36,791	\$4,949	\$ 0.135	255.1	11/11/15	160.4	\$1,355	\$ 8.45	\$6,305	\$ 0.09
	12/14/15	42,620	\$4,162	\$ 0.098	163.9	12/14/15	240.2	\$1,876	\$ 7.81	\$6,039	\$ 0.08
	Totals	496,559	\$58,347	\$ 0.118	2,659.3		3,372.6	\$26,452	\$ 7.84	\$84,799	\$ 1.15

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	03/01/11	58,059	\$7,315	\$ 0.126	165.3	03/01/11	369.7	\$2,347	\$ 6.35	\$9,661	\$ 0.13
	04/01/11	50,704	\$6,877	\$ 0.136	274.4	04/01/11	221.8	\$1,504	\$ 6.78	\$8,382	\$ 0.11
	05/01/11	53,450	\$6,561	\$ 0.123	211.0	05/01/11	79.1	\$547	\$ 6.92	\$7,108	\$ 0.10
	06/01/11	57,307	\$6,381	\$ 0.111	311.1	06/01/11	29.8	\$204	\$ 6.87	\$6,586	\$ 0.09
	07/01/11	46,238	\$5,104	\$ 0.110	148.6	07/01/11	17.5	\$120	\$ 6.90	\$5,224	\$ 0.07
	08/01/11	57,937	\$5,863	\$ 0.101	258.2	08/01/11	17.5	\$121	\$ 6.91	\$5,984	\$ 0.08
	09/01/11	68,900	\$7,866	\$ 0.114	323.0	09/01/11	20.5	\$132	\$ 6.41	\$7,997	\$ 0.11
	10/01/11	60,172	\$7,527	\$ 0.125	276.5	10/01/11	38.0	\$240	\$ 6.31	\$7,767	\$ 0.11
	11/01/11	54,021	\$7,085	\$ 0.131	253.4	11/01/11	165.3	\$1,006	\$ 6.08	\$8,091	\$ 0.11
	12/01/11	60,950	\$7,350	\$ 0.121	169.2	12/01/11	395.4	\$2,344	\$ 5.93	\$9,694	\$ 0.13
	01/01/12	61,764	\$7,668	\$ 0.124	151.3	01/01/12	617.2	\$3,491	\$ 5.66	\$11,160	\$ 0.15
	02/01/12	59,536	\$7,817	\$ 0.131	163.9	02/01/12	753.8	\$5,168	\$ 6.86	\$12,985	\$ 0.18
	Totals	689,037	\$83,414	\$ 0.121	2,705.9		2,725.7	\$ 17,225	\$ 6.32	\$100,639	\$ 1.37

6.6 Monroe Elementary School Utility Analysis

Name:	Monroe Elementary School	Elec Utility:	Duke Energy	Fuel Utility:	Building Is Electric Only
Location:	2117 Laurel-Lindale Rd New Richmond, OH	Acct. No:	10502041 01	Acct. No:	
Facility Size	83,000	Rate:			
		AGS Rate			

Monroe Elementary School

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	01/15/15	184,399	\$15,288	\$ 0.083	819.6	01/15/15			#DIV/0!	\$15,288	\$ 0.18
	02/13/15	157,134	\$13,330	\$ 0.085	1,005.6	02/15/15			#DIV/0!	\$13,330	\$ 0.16
	03/16/15	209,136	\$17,720	\$ 0.085	1,310.4	03/15/15			#DIV/0!	\$17,720	\$ 0.21
	04/16/15	72,159	\$6,128	\$ 0.085	1,268.4	04/15/15			#DIV/0!	\$6,128	\$ 0.07
	05/16/15	48,846	\$4,180	\$ 0.086	1,254.0	05/15/15			#DIV/0!	\$4,180	\$ 0.05
	06/15/15	36,992	\$6,720	\$ 0.182	958.8	06/15/15			#DIV/0!	\$6,720	\$ 0.08
	07/15/15	37,996	\$6,425	\$ 0.169	223.2	07/15/15			#DIV/0!	\$6,425	\$ 0.08
	08/13/15	42,161	\$9,245	\$ 0.219	200.0	08/15/15			#DIV/0!	\$9,245	\$ 0.11
	09/14/15	57,750	\$12,615	\$ 0.218	291.6	09/14/15			#DIV/0!	\$12,615	\$ 0.15
	10/13/15	47,934	\$3,948	\$ 0.082	268.8	10/14/15			#DIV/0!	\$3,948	\$ 0.05
	11/11/15	46,345	\$3,823	\$ 0.082	1,264.8	11/11/15			#DIV/0!	\$3,823	\$ 0.05
	12/14/15	77,228	\$6,281	\$ 0.081	1,257.6	12/14/15			#DIV/0!	\$6,281	\$ 0.08
	Totals	1,018,080	\$105,705	\$ 0.104	10,122.8		0.0	\$0	#DIV/0!	\$105,705	\$ 1.27

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
	03/01/11	151,351	\$12,359	\$ 0.082	911.5	04/01/12			#DIV/0!	\$12,359	\$ 0.15
	04/01/11	123,466	\$10,182	\$ 0.082	858.0	05/01/12			#DIV/0!	\$10,182	\$ 0.12
	05/01/11	101,563	\$8,386	\$ 0.083	877.2	06/01/12			#DIV/0!	\$8,386	\$ 0.10
	06/01/11	100,810	\$8,735	\$ 0.087	388.8	07/01/12			#DIV/0!	\$8,735	\$ 0.11
	07/01/11	108,488	\$8,904	\$ 0.082	194.4	08/01/12			#DIV/0!	\$8,904	\$ 0.11
	08/01/11	99,995	\$8,335	\$ 0.083	193.2	09/01/12			#DIV/0!	\$8,335	\$ 0.10
	09/01/11	112,076	\$9,145	\$ 0.082	284.4	10/01/12			#DIV/0!	\$9,145	\$ 0.11
	10/01/11	94,237	\$7,720	\$ 0.082	709.2	11/01/12			#DIV/0!	\$7,720	\$ 0.09
	11/01/11	123,439	\$10,095	\$ 0.082	1,104.0	12/01/12			#DIV/0!	\$10,095	\$ 0.12
	12/01/11	173,454	\$14,162	\$ 0.082	906.0	01/01/13			#DIV/0!	\$14,162	\$ 0.17
	01/01/12	217,749	\$18,215	\$ 0.084	930.0	02/01/13			#DIV/0!	\$18,215	\$ 0.22
	02/01/12	202,478	\$17,608	\$ 0.087	998.4	03/01/13			#DIV/0!	\$17,608	\$ 0.21
	Totals	1,609,106	\$133,847	\$ 0.083	8,355.1		0.0	\$ -	#DIV/0!	\$133,847	\$ 1.61

6.7 Locust Corner Elementary School Utility Analysis

Name: Locust Corner Elementary
 Location: 3431 Locust Corner Rd
 New Richmond, OH
 Facility Size 86,000

Elec Utility: Duke Energy
 Acct. No: 70602109 01 0
 Rate:
 AGS Rate 1st Energy
 85% Ratchet

Fuel Utility: Duke
 Acct. No: 1800 2096 01 0
 IGS

Locust Corner Elementary

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	01/14/15	47,690	\$6,519	\$ 0.137	150.0	01/15/15	423.2	\$3,036	\$ 7.17	\$9,555	\$ 0.11
	02/12/15	42,182	\$5,872	\$ 0.139	144.7	02/15/15	379.0	\$2,776	\$ 7.33	\$8,649	\$ 0.10
	03/13/15	43,402	\$5,927	\$ 0.137	147.8	03/15/15	521.0	\$4,358	\$ 8.36	\$10,285	\$ 0.12
	04/14/15	39,320	\$5,692	\$ 0.145	214.8	04/15/15	134.9	\$1,182	\$ 8.76	\$6,874	\$ 0.08
	05/13/15	48,414	\$6,649	\$ 0.137	300.0	05/15/15	48.0	\$618	\$ 12.88	\$7,266	\$ 0.08
	06/12/15	44,676	\$5,811	\$ 0.130	206.4	06/15/15	14.9	\$399	\$ 26.78	\$6,210	\$ 0.07
	07/14/15	48,350	\$5,822	\$ 0.120	198.0	07/15/15	7.0	\$346	\$ 49.61	\$6,168	\$ 0.07
	08/12/15	49,852	\$5,794	\$ 0.116	240.0	08/15/15	7.4	\$350	\$ 47.27	\$6,143	\$ 0.07
	09/11/15	62,747	\$7,087	\$ 0.113	320.4	09/12/15	9.6	\$364	\$ 38.10	\$7,451	\$ 0.09
	10/12/15	59,037	\$6,450	\$ 0.109	276.0	10/12/15	8.4	\$356	\$ 42.26	\$6,806	\$ 0.08
	11/10/15	43,761	\$5,663	\$ 0.129	238.8	11/10/15	38.7	\$556	\$ 14.36	\$6,218	\$ 0.07
	12/11/15	44,011	\$5,675	\$ 0.129	200.4	12/11/15	121.2	\$1,099	\$ 9.07	\$6,774	\$ 0.08
	Totals	573,442	\$72,960	\$ 0.127	2,637.3		1,713.2	\$15,439	\$ 9.01	\$88,399	\$ 1.03

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/MMBtu	Total (\$)	\$/SF
	03/01/11	61,135	\$5,756	\$ 0.094	203.8	03/01/11	258.8	\$1,934	\$ 7.47	\$7,689	\$ 0.09
	04/01/11	58,616	\$5,660	\$ 0.097	203.8	04/01/11	123.2	\$1,061	\$ 8.61	\$6,721	\$ 0.08
	05/01/11	73,789	\$6,879	\$ 0.093	351.6	05/01/11	17.5	\$242	\$ 13.87	\$7,121	\$ 0.08
	06/01/11	98,300	\$8,467	\$ 0.086	336.9	06/01/11	15.4	\$138	\$ 8.94	\$8,604	\$ 0.10
	07/01/11	72,676	\$6,540	\$ 0.090	296.7	07/01/11	12.3	\$99	\$ 8.00	\$6,638	\$ 0.08
	08/01/11	100,121	\$8,489	\$ 0.085	325.2	08/01/11	10.3	\$88	\$ 8.54	\$8,576	\$ 0.10
	09/01/11	109,648	\$9,390	\$ 0.086	384.4	09/01/11	14.4	\$108	\$ 7.53	\$9,499	\$ 0.11
	10/01/11	79,753	\$7,111	\$ 0.089	296.7	10/01/11	30.8	\$218	\$ 7.07	\$7,329	\$ 0.09
	11/01/11	68,454	\$6,355	\$ 0.093	236.5	11/01/11	135.6	\$924	\$ 6.82	\$7,279	\$ 0.08
	12/01/11	70,941	\$6,521	\$ 0.092	208.0	12/01/11	248.5	\$1,829	\$ 7.36	\$8,350	\$ 0.10
	01/01/12	61,856	\$6,571	\$ 0.106	198.5	01/01/12	263.9	\$2,242	\$ 8.49	\$8,813	\$ 0.10
	02/01/12	65,906	\$8,191	\$ 0.124	199.6	02/01/12	437.5	\$3,140	\$ 7.18	\$11,331	\$ 0.13
	Totals	921,195	\$85,930	\$ 0.093	3,241.7		1,568.2	\$ 12,022	\$ 7.67	\$97,952	\$ 1.14

6.8 Bus Garage Utility Analysis

Name: Bus Garage
 Location: 1967 Franklin Laurel Rd
 New Richmond, OH 45157
 Facility Size: 8,100

Elec Utility: Duke Energy
 Acct. No: 52202205011
 Rate: First Energy
 AGS Rate: IGS

Fuel Utility: Electric
 Acct. No:

Bus Garage

Post Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
01/16/15	4,320	\$542	\$ 0.125	17.6	01/15/15			#DIV/0!	\$542	\$ 0.07	
02/13/15	4,640	\$610	\$ 0.132	25.6	02/15/15			#DIV/0!	\$610	\$ 0.08	
03/16/15	7,200	\$639	\$ 0.089	20.8	03/15/15			#DIV/0!	\$639	\$ 0.08	
04/15/15	5,920	\$563	\$ 0.095	19.2	04/15/15			#DIV/0!	\$563	\$ 0.07	
05/15/15	4,160	\$475	\$ 0.114	17.6	05/15/15			#DIV/0!	\$475	\$ 0.06	
06/16/15	3,840	\$431	\$ 0.112	16.0	06/15/15			#DIV/0!	\$431	\$ 0.05	
07/15/15	3,360	\$394	\$ 0.117	14.4	07/15/15			#DIV/0!	\$394	\$ 0.05	
08/13/15	3,840	\$417	\$ 0.109	14.4	08/15/15			#DIV/0!	\$417	\$ 0.05	
09/16/15	4,320	\$452	\$ 0.105	16.0	09/14/15			#DIV/0!	\$452	\$ 0.06	
10/13/15	3,520	\$421	\$ 0.120	16.0	10/14/15			#DIV/0!	\$421	\$ 0.05	
11/11/15	3,200	\$407	\$ 0.127	16.0	11/11/15			#DIV/0!	\$407	\$ 0.05	
12/14/15	4,160	\$471	\$ 0.113	17.6	12/14/15			#DIV/0!	\$471	\$ 0.06	
Totals	52,480	\$5,821	\$ 0.111	211.2		0.0	\$0	#DIV/0!	\$5,821	\$ 0.72	

Benchmark Pre-Project Data	Electricity					Fuel				Summary	
	Meter Read Date	Energy (kWh)	Cost (\$)	Cost/ kWh	Demand (kW)	Meter Read Date	Fuel (MMBtu)	Cost (\$)	Cost/ MMBtu	Total (\$)	\$/SF
03/01/11	7,200	\$1,560	\$ 0.217	33.6	03/01/11			#DIV/0!	\$1,560	\$ 0.19	
04/01/11	6,000	\$1,402	\$ 0.234	33.6	04/01/11			#DIV/0!	\$1,402	\$ 0.17	
05/01/11	6,000	\$1,402	\$ 0.234	28.8	05/01/11			#DIV/0!	\$1,402	\$ 0.17	
06/01/11	6,000	\$1,589	\$ 0.265	45.6	06/01/11			#DIV/0!	\$1,589	\$ 0.20	
07/01/11	6,240	\$1,499	\$ 0.240	31.2	07/01/11			#DIV/0!	\$1,499	\$ 0.19	
08/01/11	5,520	\$1,408	\$ 0.255	28.8	08/01/11			#DIV/0!	\$1,408	\$ 0.17	
09/01/11	7,680	\$1,681	\$ 0.219	24.0	09/01/11			#DIV/0!	\$1,681	\$ 0.21	
10/01/11	6,960	\$1,565	\$ 0.225	33.6	10/01/11			#DIV/0!	\$1,565	\$ 0.19	
11/01/11	6,720	\$1,535	\$ 0.228	33.6	11/01/11			#DIV/0!	\$1,535	\$ 0.19	
12/01/11	6,720	\$1,535	\$ 0.228	31.2	12/01/11			#DIV/0!	\$1,535	\$ 0.19	
01/01/12	6,000	\$1,368	\$ 0.228	24.0	01/01/12			#DIV/0!	\$1,368	\$ 0.17	
02/01/12	5,760	\$1,247	\$ 0.216	26.4	02/01/12			#DIV/0!	\$1,247	\$ 0.15	
Totals	76,800	\$17,791	\$ 0.232	374.4		0.0	\$ -	#DIV/0!	\$17,791	\$ 2.20	