# Ohio Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 14-0362-EL-EEC

Mercantile Customer:	Revere Local Schools
Electric Utility:	Ohio Edison Company
Program Title or Description:	Lighting and VFD Retrofits

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. <u>10-834-EL-POR</u>

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at <u>ee-pdr@puc.state.oh.us</u>.

## Section 1: Mercantile Customer Information

Name: Revere Local Schools

Principal address:3496 Everett Road, Richfield Ohio, 44333

Address of facility for which this energy efficiency program applies:1246 N. Cleveland-Massillon Rd.; 3420 Everett Rd; 3195 Spring Valley Road; 3080 Revere Rd

Name and telephone number for responses to questions: David Forrest; 330.666.4155

Electricity use by the customer (check the box(es) that apply):

The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)



The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

## Section 2: Application Information

The customer is filing this application (choose which applies): A)

Individually, without electric utility participation.

- $\mathbb{N}$ Jointly with the electric utility.
- The electric utility is: Ohio Edison Company B)
- C) The customer is offering to commit (check any that apply):
  - Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
  - Capacity savings from the customer's demand response/demand . reduction program. (Complete Sections 4, 5, 6, and 7.)
  - $\mathbb{N}$ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

### **Section 3: Energy Efficiency Programs**

- A) The customer's energy efficiency program involves (check those that apply):
  - Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). If Checked, Please see Exhibit 1 and Exhibit 2
  - Installation of new equipment to replace equipment that needed to be replaced The customer installed new equipment on the following date(s):
  - Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):
  - Behavioral or operational improvement.
- B) Energy savings achieved/to be achieved by the energy efficiency program:
  - If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) – (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

### Annual savings: <u>924,328</u> kWh

2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: \_\_\_\_\_ kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment. Please see Exhibit 1 if applicable

 If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) – (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

### Annual savings: \_\_\_\_\_ kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment. **Please see Exhibit 1 if applicable** 

4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

### Section 4: Demand Reduction/Demand Response Programs

- A) The customer's program involves (check the one that applies):
  - Coincident peak-demand savings from the customer's energy efficiency program.

Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)

- Potential peak-demand reduction (check the one that applies):
  - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
  - The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.
- B) On what date did the customer initiate its demand reduction program?

### 7/31/2012

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

### <u>111</u> kW

### Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

- A) The customer is applying for:
  - Option 1: A cash rebate reasonable arrangement.

OR

Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

Commitment payment

- B) The value of the option that the customer is seeking is:
  - Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):
    - A cash rebate of \$\_\_\_\_\_. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)
  - Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.
    - An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for \_\_\_\_\_ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

### OR

A commitment payment valued at no more than \$\_\_\_\_\_. (Attach documentation and calculations showing how this payment amount was determined.)

⊠ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

### Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- Total Resource Cost (TRC) Test. The calculated TRC value is: \_\_\_\_(Continue to Subsection 1, then skip Subsection 2)
- Utility Cost Test (UCT). The calculated UCT value is: **See Exhibit 3** (Skip to Subsection 2.)

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were \_\_\_\_\_.

Our program costs were \_\_\_\_\_.

The incremental measure costs were \_\_\_\_\_.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were See Exhibit 3

The utility's program costs were See Exhibit 3

The utility's incentive costs/rebate costs were See Exhibit 3

## Section 7: Additional Information

Please attach the following supporting documentation to this application:

- Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.
- A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:
  - 1) any confidentiality requirements associated with the agreement;
  - 2) a description of any consequences of noncompliance with the terms of the commitment;
  - 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
  - 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
  - 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.
- A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.

# Ohio Public Utilities Commission

Application to Commit Energy Efficiency/Peak Demand Reduction Programs (Mercantile Customers Only)

Case No.: 14-0362-EL-EEC

State of Ohio :

David Forrest, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Revere Local Schools

[insert customer or EDU company name and any applicable name(s) doing business as]

2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, the believe that the information is true, accurate and complete.

TO/TREASURER

Signature of Affiant & Title

Sworn and subscribed before me this <u>27</u> day of <u>February</u>, <u>1014</u> Month/Year

Signature of official administering oath

C. SANDRA WIERZBICKI, Notary Public Residence - Summit County State WIER Junisalettion, Otho Itle My Commission Expires August 31, 2014

My commission expires on <u>August 31 2014</u>

#### Site Address: Bath

Principal Address: 1246 N. Cleveland-Massillon Rd.

#### What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Lighting Retrofit and Controls	Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy sensors and daylight sensors for additional contol.	Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number of fixtures x watts per fixture x Operating hours). Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Electrical Energy Cost = (kWh x \$kWh); Existing KWh - Retrofit KWh = Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions.	Would be replaced as fixtures failed.	N/A
2	Pump VFD Installation	Install 7.5 HP VFDs for HW pumps.	Motor System inventory was performed with pre & post ECM consumption calculated and demand utilized . Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KWx A Motor Speed ^3x Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations attached with operational factors and commonly accepted usage assumptions.	NA	N/A
3	Building Automation	Bath Elementary: (1) CH&V Unit (21) CH&V Zone Dampers (1) Heating Hot Water System (2) Single-Zone Air-Handling Units (6) UV Day/Night Zones (3) Split AC Units (5) Unit Heaters / Cabinet Unit Heaters (13) Exhaust Fans (1) Gymnasium Lighting Control Panel (1) Outdoor Lighting Control Panel (1) Gas & Electric Meters Monitoring	The school was controlled by an outdated pneumatic control system. The upgrades in the school included a building automation upgrade. The temperature control and equipment schedules for all of the high school HVAC incuded in the narrative above will be tracked by the new building automation system. The equipment in the building will run reduced hours based on the schedule. In addition, temperature control is implemented. The savings was calculated in a building simulation model performed in Market Manager software. The results of the model are based on 10 year normalized weather data and 8760 hours simulation.	NA	N/A

Rev (4.1.2013)

#### Site: Bath

#### Principal Address: 1246 N. Cleveland-Massillon Rd.

	Principal Address:	1246 N. Cleveland-Massi	llon Rd.				
		Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1		
	2012	258,080	258,080	272,737			
	2011	310,400		310,400			
	2010	313,080		313,080			
	Average	293,853	293,853	298,739			
Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Lighting Retrofit and Controls	07/31/2012	\$63,692	34,833	34,833	13	
2	Pump VFD Installation	07/31/2013	\$4,465	9,223	9,223	-	
3	Building Automation	07/31/2013	\$214,582	55,805	55,805		
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	99,861	99,861	13	\$0

		Savings as percent of	33.4% Note 2
Docket No.	14-0362	usage	33.470 11010 2
		= Total (D) divided by	
Site:	1246 N. Cleveland-Massillon Rd.	Average (C)	

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	ty Avoided Cost \$/MWh (B)	Ut	ility Avoided Cost \$ (C)	ι	Jtility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	То	otal Utility Cost \$ (G)	UCT (H)
1	35	\$ 308	\$	10,738	\$	1,350	\$0	\$348	\$	1,698	6.3
2	9	\$ 308	\$	2,843	\$	1,350	\$0	\$92	\$	1,442	1.97
3	56	\$ 308	\$	17,204	\$	1,350	\$0	\$558	\$	1,908	9.02
Total	100	\$ 308		30,785		4,050	\$0	\$999		5,049	6.1

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### Revere Local Schools ~ Bath

Docket No. 14-0362

Site: 1246 N. Cleveland-Massillon Rd.

				1	Energy Use Comparison									
Scenario <b>Existing</b> Electric (kWh)	Jan 36,000.00	Feb 34,880.00	Mar 30,720.00	Apr 22,720.00	May 27,680.00	Jun 18,060.00	Jul 18,720.00	Aug 12,480.00	Sep 27,680.00	Oct 29,920.00	Nov 29,280.00	Dec 25,600.00	Annual 313,740.00	Savings
Demand (kW) Natural Gas (MCF)	82.00 768.00	85.00 865.00	80.00 326.00	77.00 239.00	75.00	42.00 0.00	40.00 11.00	75.00 12.00	78.00 17.00	75.00 304.00	77.00 370.00	77.00 847.00	85.00 3,866.00	
Demand (kBtuh)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
New Controls Electric (kWh) Demand (kW)	31,611.00 83.50	30,204.80 86.60	26,228.80 81.50	18,411.60 78.50	21,653.10 75.20	11,682.00 42.10	12,329.80 40.10	8,301.30 75.20	21,614.50 78.10	29,047.70 75.70	24,668.20 78.50	22,182.40 78.40	257,935.20 86.60	55,805 kWh
Natural Gas (MCF) Demand (kBtuh)	596.40 0.00	652.60 0.00	232.80 0.00	150.60 0.00	59.80 0.00	0.00 0.00	11.00 0.00	12.00 0.00	17.00 0.00	396.20 0.00	247.90 0.00	654.30 0.00	3,030.60 0.00	835.4 MCF
New Plant Electric (kWh) Demand (kW)	30,810.70 84.00	29,186.00 86.90	25,313.50 81.00	18,042.80 76.40	21,653.10 75.20	11,682.00 42.10	12,329.80 40.10	8,301.30 75.20	21,614.50 78.10	28,491.00 75.40	23,987.00 77.50	21,828.30 78.90	253,240.00 86.90	4,695 kWh
Natural Gas (MCF) Demand (kBtuh)	546.20 0.00	574.10 0.00	237.90 0.00	127.00 0.00	59.80 0.00	0.00 0.00	11.00 0.00	12.00 0.00	17.00 0.00	321.30 0.00	215.10 0.00	576.00 0.00	2,697.40 0.00	333.2 MCF

#### Lighting Inventory Form

Applicant Name: Revere Schools Facility Name: Ban Elementary Date: 91/02/13		ed control, choose OCC	oom or area C for Occupany Sensor, DAYLTG for p and exit signs in Column M, and the qu				noted Lighting form											
PROJECT BASIC INFORMATION Line Building Address Poor Area Description Interfer or Exercise Pattere Pattere	Pro Pasture Pro Pasture Cod Ory Pro Pasture Cod	INSTALLATION Pre Watts / Pre	s kW / Existing Existing pace Control Quantity WW) drop down Quantity When applicable	Post Fixture Oty	POST-INSTALLA Post Watts/ F	TION Post kW / Proposed Space Control (kW) Please error DATE OCC - NONE	Proposed Interior Sensor in Cor Quantity L When applicable (KW) e CFLs	r Change Exterior nnected Change in coad Connected excluding Load (kW) s or Exit igns or Exit Signs	Change in Ap Connected Coin Load F (kW) I S CFL or LED exit sign	plicant Coincider cidence Factor actor CF) timate	ce Interactive Factor (demand)	Interactive Pre Control Factor (energy)	nergy Calculati s Post Controls Factor	Interior Exit Demand Dem Savings Savi (kW) (ki xxcluding exclu CFLs or CFL Exit Signs Exit S	rior Demand and Savings ngs (kW) V) CFLs or ding LED Exit s or Signs igns	Applicant I Equivalent I Full Load Hours (EFLH) Estimate	Prescribed Ar Equivalent F Full Load Hours C	nnual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.         400 Morth Street         2         Office         Interior         Office         Interior         Office         Sead         4,0         Control         Fill	Cooled Space 162 F41ILL	31 5	125 OCC 5	162 F41SSILL	26	4.21 NONE	C	3.81	0.17 8	57%	34%	12% 30%		0.62	0.19		2,080	1,887
2 N. Cleveland Massallon R4 School Interior Education - Primary School     3 N. Cleveland Massallon R4 School Interior Education - Primary School     4 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School     5 N. Cleveland Massallon R4 School Interior Education - Primary School	Cooled Space         20         F41ILL           Cooled Space         490         F42II           Cooled Space         4         F42II           Cooled Space         3         11001	31 0 59 21 59 0 100 0	0.62 NONE 8.91 NONE 1.24 NONE 1.30 NONE	20 F41SSILL 490 F42SSILL 4 F42SSILL 3 Cut Sheet 1	26 48 48 5	0.52 OCC 23.52 NONE 0.19 OCC 0.02 NONE	5	0.10 5.39 0.04 0.29 1.16		57% 57% 57%	34% 34% 34%	12% 12% 12% 12%	30%	0.08 4.12 0.03 0.22			2,080 2,080 2,080 2,080	233 12,557 103 664
7 BN. Cleveland-Massillon Rd. School Interior Education - Primary School     8 SN. Cleveland-Massillon Rd. School Interior Education - Primary School     9 SN. Cleveland-Massillon Rd. School Interior Education - Primary School	Cooled Space         8         11501           Cooled Space         10         11501           Cooled Space         6         11501           Cooled Space         2         2001           Cooled Space         1         12001           Cooled Space         1         12001	150 1 150 1 150 0 200 0 200 0	20 NONE 50 NONE 90 NONE 140 NONE 20 NONE	8 Cut Sheet 1 10 F41SSILL 6 F42SSILL 2 Cut Sheet 1 1 F41SSILL		0.04 NONE 0.26 NONE 0.29 NONE 0.01 NONE 0.03 NONE		1.24 0.61 0.39		57%	34% 34% 34% 34% 34%	12%		0.89 0.96 0.47 0.30 0.13			2,080 2,080 2,080 2,080 2,080 2,080	1,426
School Exterior Duskto-Dawn Lighting     N. Cleveland-Massilion Rd. School Exterior Duskto-Dawn Lighting     N. Cleveland-Massilion Rd. School Exterior Duskto-Dawn Lighting     School Exterior Duskto-Dawn Lighting     School Exterior Duskto-Dawn Lighting	Uncooled space 3 MH25U1     Uncooled space 4 MH4001     Uncooled space 5 HP54001     Cooled Space 3 I100/1	458 1	NONE           89         NONE           .83         NONE           .33         NONE           .30         NONE	1 F41SSILL 3 Cut Sheet 3 4 Cut Sheet 2 3 Cut Sheet 5 2 Cut Sheet 5	80	0.03 NONE 0.18 NONE 0.32 NONE NONE 0.04 NONE	0	0.71 1.51									3,833 3,833 2,833	
Ist. Deviced Matchen R.         Entrol         Instance         Exaction. Primy School           15.         R. Deviced Matchen R.         Extension. Primy School         Instance         Extension. Primy School           17.         R. Deviced Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen R.         Extension. Primy School         Extension. Primy School         Instance           19.         Research Matchen Research	Coolid Space 2 I2001 Coolid Space 1 I2001 Unccolid space 3 HPS701	200 0 200 0 95 0		2 F41SSILL 1 F44SSILL 3 Cut Sheet 6	26 96 60	0.04 NONE 0.05 NONE 0.10 NONE 0.18 NONE NONE NONE		0.26 0.35 0.10 0.11		57%	34% 34% 34%	12%		0.20 0.27 0.08			2,080 2,080 2,080 2,080 3,833	242
20			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
25			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE												
29			NONE			NONE NONE NONE NONE NONE												
34			NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
b         b           35         -           38         -           39         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         - <tr td=""></tr>			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
43			NONE NONE NONE NONE			NONE NONE NONE												
47			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
61            62            63            64            65			NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
19         Image: Second s			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
0         0           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -			NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
66 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
70 71 71 72 73 73 74 75 75 75 75 75 75 75 75 75 75 75 75 75			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE												
75 76 77 78 78 79 79 79 70 70 70 70 70 70 70 70 70 70 70 70 70			NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
Display         Display           80         0           82         0           83         0			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
11         Image: Constraint of the second seco			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
89 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			NONE NONE NONE			NONE NONE NONE NONE												
63 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
97 98 99 99 90 100 101 101 101			NONE NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
107			NONE			NONE NONE NONE NONE NONE NONE												
107 109 109 109 109 111 112 112 112 112 112 112 112 112 11			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
113			NONE NONE NONE NONE NONE			NONE NONE NONE NONE												
110            107            108            109            109            100            120			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
121			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												
122         Image: Constraint of the second sec			NONE NONE NONE NONE			NONE NONE NONE												
130			NONE NONE NONE			NONE NONE NONE												
131         Image: Constraint of the second sec			NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE												

		PROJECT BASIC INFORMATION Interior or Exterior Predominant Space Type		PRE-INST	TALLATION				POST-INSTALLATIO	N							Energy Calcul	ations			
Line Building Address Floor Item	or Area Description	Interior or Exterior Predominant Space Type Fixture	Area Cooling	Pre Fixture Pre Fixture Code F Qty	Pre Watts / Pre kW / Fixture Space (W) (kW)	Existing Existing Control Sensor drop down Quantity	Post Fixture	Post Fixture Code	Post Watts/ Post Fixture Sp (W) (K	kW / Proposed ace Control W) Please enter DAYLTG, OCC o NONE.	Proposed Int Sensor in	erior Change Exterior Connected Change in	Change in Connected (	Applicant Coincidence Factor (CF) Estimate	Coincidence Interactive Factor Factor (demand)	Interactive Factor (energy)	Pre Controls Post Factor Controls Factor	Interior Exterio Demand Deman	or Demand nd Savings	Applicant Pres Equivalent Equi	scribed Annual Inte uivalent Fixture kV
					(W) (kW)	drop down Quantity When applicat	Fixture Qty		(W) (k	W) Please enter DAYLTG, OCC o	Sensor in Quantity When applicable	Connected Load W) excluding CFLs or Exit Signs Change in Connected Load (kW) excluding CFLs or Exit Signs	Connected ( Load (kW) CFL or LED exit sign	Factor	(demand)	(energy)	Factor	Demand Deman Savings Saving (kW) (kW) excluding excludin CFLs or CFLs o Exit Signs Exit Sign	nd Savings gs (kW) CFLs or	Full Load Full	Hours Fixture kW Fours (excludin CFLs or E Signs)
							1 1			NONE.	(iii)	CFLs or Exit excluding CFLs	CFL or LED	Estimate				excluding excludin	ing LED Exit or Signs	Hours Ho (EFLH) Estimate	CFLs or F
												Signs or Exit Signs	exit sign					CFLs or CFLs o Exit Signs Exit Sig	or Signs	Estimate	Signs)
																		Ent orginal Exit org	PLD -	( )	
139						NONE	+			NONE											
140						NONE NONE NONE NONE NONE				NONE NONE NONE NONE											
141 142						NONE	++			NONE											
143						NONE				NONE	_										
144 145						NONE	++			NONE											
146						NONE				NONE											
14/						NONE	++			NONE											
149						NONE NONE NONE				NONE NONE NONE											
150						NONE	+ +			NONE											
152						NONE NONE NONE				NONE NONE NONE									-		
154						NONE	-			NONE											
155						NONE	+			NONE											
157						NONE	-			NONE											
158						NONE	+			NONE											
160						NONE	-			NONE											
161						NONE	++			NONE											
163						NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE										i – – – – – – – – – – – – – – – – – – –	
164			1			NONE	+			NONE	+ +										
166						NONE	1 1			NONE											
167			1			NONE	+				+ +										
169						NONE NONE NONE				NONE											
170	+	t	1			NONE	+			NONE	+ +										
172						NONE				NONE											
1/3 174	+	t	1			NONE	+			NONE											
175																					
1/6			1			NONE	$\pm$			NONE											
178						NONE				NONE											
180			1			NONE NONE NONE NONE NONE NONE	$\pm$			NONE NONE NONE											
181						NONE				NONE	_										
182						NONE	++			NONE NONE NONE NONE NONE											
184						NONE				NONE											
185						NONE				NONE											
187						NONE NONE NONE NONE NONE				NONE NONE NONE											
189						NONE				NONE											
190						NONE	++			NONE									_		
191						NONE	-			NONE											
193						NONE NONE NONE				NONE NONE NONE									-		
195						NONE	-			NONE											
196						NONE				NONE									-		
198						NONE	-			NONE											
199						NONE	++			NONE											
201						NONE NONE NONE				NONE											
202						NONE	++			NONE											
204						NONE NONE NONE NONE NONE NONE				NONE											
205						NONE	++			NONE									-		
207						NONE															
209						NUME				NONE											
210	+		+			NUNE				NONE NONE NONE NONE NONE NONE NONE NONE											
212						NONE NONE	=			NONE											
213						NONE				NONE NONE NONE											
316						NONE	╞			NONE NONE NONE											
A14						NONE NONE NONE NONE				NONE NONE NONE NONE NONE											
216						NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE											
216 217 218						NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE											
216 217 218 219 220						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216 217 218 219 220 221						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216 217 218 218 219 220 220 221 221 222 223 223						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216         217           217         218           218         219           220         221           221         221           222         223           223         224						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216 217 218 219 220 221 222 223 223 224 225 226 226		Image:				NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
226           216           217           218           220           221           222           223           224           225           226           228           228           228           228           228           229						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
226         216           217         218           218         212           219         222           221         222           222         222           223         223           224         223           225         226           226         227           228         222           228         222           229         224						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216           217           218           219           220           221           222           223           224           225           226           227           228           229           220           221           223           224           225           226           228           229           220           220				-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
146         -           217         -           218         -           219         -           200         -           201         -           202         -           203         -           204         -           205         -           206         -           207         -           208         -           209         -           201         -           202         -           203         -           203         -						NONE NONE NONE NONE NONE NONE NONE NONE				NONE NONE NONE NONE NONE NONE NONE NONE											
216						NORE         NORE				NONE NONE NONE NONE NONE NONE NONE NONE											
146           247           248           249           249           220           221           222           223           224           225           226           227           228           229           220           221           222           223           224           225           226           227           228           229           230           241           232           233           243           244           245           245						NOSE         NOSE				NONE NONE NONE NONE NONE NONE NONE NONE											
114           117           118           119           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111           111						NOSE         NOSE				NONE NONE NONE NONE NONE NONE NONE NONE											
111         111           117         111           118         111           119         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111		Image: Section of the sectio				NOSE         NOSE				NONE NONE NONE NONE NONE NONE NONE NONE											
114         114           217         111           218         111           219         111           210         111           211         111           212         111           213         111           214         111           215         111           216         111           217         111           218         111           219         111           211         111           212         111           213         111           214         111           215         111           216         111           217         111           218         111           219         111				-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		NOSE         NOSE				NONE NONE NONE NONE NONE NONE NONE NONE											
111         111           117         111           118         111           119         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           128         111           129         111						NOSE         NOSE				NONE NONE NONE NONE NONE NONE NONE NONE											
111         111           117         111           118         111           119         111           119         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111         111           111				-         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -		NOSE         NOSE				NOR           NOR											
111         111           117         111           118         111           119         111           120         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           121         111           122         111           123         111           124         111           125         111           126         111           127         111           128         111           129         111           120         111           121         111           122         111           133         111           134         111		Image: Constraint of the sector of		-         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		NOSE         NOSE				NOR           NOR											
$\begin{array}{c c c c c c c c c c c c c c c c c c c $						NOSE         NOSE				NOR           NOR											
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Image: Constraint of the section of the sec		-         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -		ACCE         ACCE           ACCE         ACCE				NOR           NOR											
114         114           117         114           118         114           119         114           119         114           119         114           119         114           119         114           111         114           112         114           112         114           112         114           112         114           113         114           114         114           115         114           116         114           117         114           118         114           119         114           110         114           111         114           112         114           113         114           114         114           115         114           116         114           117         114           118         114           119         114           110         114           111         114           112         114           113						ACCE         ACCE           ACCE         ACCE				NOR           NOR									Image: Section of the sectio		
na     na       na	Image: section of the sectio	Image: Construction of the sector o		-         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -		NOSE         NOSE				NOR           NOR		902 2.22			-           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -           -						

Project Estimate Savings Sum	
Estimated Annual kWh Savings	34,833
Total Change in Connected Load	13.24
Annual Estimated Cost Savings	\$3,483.30
Annual Operating Hours	2,492
Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$1,271.75
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$445.00
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard- wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$0.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/sensor (includes all Lighting Controls, both interior and exterior)	\$0.00
Total Calculated Incentive	\$1,716.75
Total Fixture Quantity excluding retrofit	700
CFLs and LED Exit Sign Total Lamp Quantity for retrofit Screw-In	722
CFLs Total Lamp Quantity for retrofit Hard-Wired	0
CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimat equivalent full-load hours (EFLH) for facilit		, , , , , , , , , , , , , , , , , , , ,
Demand Savings (For Internal Use Only)	8.34	

Revere HW Pump VFD Calculation

	HWP	Base Projec	ted without	VFD				
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	КМН
	100% 0%	2,520 0	100% 100%	15 0	1 0	93%	12.0 0.0	30,321 0
TOTAL	100%	2,520						30,321
	НWP	with VFD						
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	15%	378	50%	15	1	93%	1.5	569
	20%	504	60%	15	1	93%	2.6	1,310
	30%	756	70%	15	1	93%	4.1	3,120
	20%	504	80%	15	1	93%	6.2	3,105
	10%	252	90%	15	1	93%	8.8	2,210
	5%	126	100%	15	1	93%	12.4	1,562
TOTAL	100%	2,520						11,875
								18,446 KWH SAVEL 61% % Saved

#### Site Address: Hillcrest

#### Principal Address: 3080 Revere Rd

What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new Project Narrative description of your program including, but not limited to, Description of methodologies, protocols and practices Also, please explain briefly how you equipment that you rejected in favor of Project Name make, model, and year of any installed and replaced equipment: used in measuring and verifying project results determined this future replacement date. the more efficient new equipment. No. Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal of fixtures x watts per fixture x Operating hours). halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Lighting Retrofit and Controls Would be replaced as fixtures failed. N/A 1 LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = sensors and daylight sensors for additonal contol. Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions. Motor System inventory was performed with pre & post ECM consumptio calculated and demand utilized . Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KW x Motor Speed ^3x 2 Pump VFD Installation Install 15 HP VFDs for HW pumps. Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - N/A N/A Retrofit KWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations attached with operational factors and commonly accepted usage assumptions. Provide and install new Automated Logic WebCTRL components for systems outlined The school was controlled by an outdated pneumatic control system. The below. upgrades in the school included a building automation upgrade. The Hillcrest Elementary: (1) Heating Hot Water System (3) VVT Air-Handling Units (27) VVT Terminals (2) VVT emperature control and equipment schedules for all of the high school HVAC incuded in the narrative above will be tracked by the new building Rooftop Units (3) Single-Zone Air-Handling Units Building Automation automation system. The equipment in the building will run reduced hours N/A 3 N/A (1) Kitchen Make-up Air Unit (6) Unit Ventilators (19) Fan-Coil Units (6) UV Day/Night based on the schedule. In addtion, temperature control is implemented. Zones (3) Unit Heaters / Cabinet Unit Heaters The savings was calculated in a building simulation model performed in (14) Exhaust Fans Market Manager software. The results of the model are based on 10 year (1) Gymnasium Lighting Control Panel normalized weather data and 8760 hours simulation. 1) Outdoor Lighting Control Panel

Rev (4.1.2013)

#### Site: Hillcrest

#### Principal Address: 3080 Revere Rd

		Fincipal Address. 5000 Revere Ru					
		Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	kwh (C)	Note 1		
	2012	432,64		470,463			
	2011	593,76		593,760			
	2010	579,04		579,040			
	Average	535,14	7 535,147	547,754	-		
Project Number	r Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitmen Payment \$
1	Lighting Retrofit and Controls	07/31/2012	\$228,516	89,891	89,891	28	
2	Pump VFD Installation	07/31/2013	\$4,465	18,446	18,446	-	
3	Building Automation	07/31/2013	\$383,011	160,393	160,393	-	
				-	-	-	
				-			
				-	-	-	
				-	-	-	
			Total	268,730	268,730	28	\$0
Jocket No	14 0362		Savings as percent of	49.1%	Note 2		

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh	ty Avoided Cost \$/MWh	Ut	tility Avoided Cost \$	ι	Jtility Cost \$	Cash Rebate \$	Administrator Variable Fee	То	tal Utility Cost \$ (C)	UCT
	(A)	(B)		(C)		(D)	(E)	(F)		(G)	(H)
1	90	\$ 308	\$	27,712	\$	1,350	\$0	\$899	\$	2,249	12.3
2	18	\$ 308	\$	5,687	\$	1,350	\$0	\$184	\$	1,534	3.71
3	160	\$ 308	\$	49,446	\$	1,350	\$0	\$1,604	\$	2,954	16.74
Total	269	\$ 308		82,844		4,050	\$0	\$2,687		6,737	12.3

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ Hillcrest**

Docket No. 14-0362

Site: 3080 Revere Rd

#### CCG Energy Solutions

#### Energy Use Comparison

Scenario Existing Electric (kWh) Demand (kW) Natural Gas (MCF) Demand (kBtuh)	Jan 51,200.00 138.00 1,415.00 0.00	Feb 66,240.00 149.00 1,011.00 0.00	Mar 54,880.00 147.00 862.00 0.00	Apr 50,400.00 140.00 282.00 0.00	May 42,560.00 140.00 130.00 0.00	Jun 40,480.00 133.00 0.00 0.00	Jul 35,680.00 133.00 3.00 0.00	Aug 37,600.00 130.00 2.00 0.00	Sep 50,400.00 137.00 178.00 0.00	Oct 48,480.00 134.00 289.00 0.00	Nov 55,520.00 134.00 417.00 0.00	Dec 49,920.00 138.00 692.00 0.00	Annual 583,360.10 149.00 5,281.00 0.00	Savings
Lighting Electric (kWh) Demand (kW)	40,295.40 104.80	51,803.30 113.10	42,722.00 111.60	39,897.80 110.10	33,310.90 108.20	39,311.50 130.00	34,854.60 131.60	36,900.60 128.70	39,150.20 106.90	38,250.00 103.30	43,249.60 101.70	39,509.80 104.80	479,255.60 131.60	104,105 kWh
New Control Electric (kWh) Demand (kW)	34,076.80 104.80	44,058.50 113.10	34,777.10 111.60	28,404.90 110.40	21,740.70 108.60	10,953.00 54.40	10,014.10 55.50	10,209.90 53.20	27,206.30 107.30	29,373.20 105.40	34,844.90 101.70	33,203.10 104.80	318,862.50 113.10	160,393 kWh
Natural Gas (MCF) Demand (kBtuh)	1,328.50 0.00	914.90 0.00	698.50 0.00	249.80 0.00	31.60 0.00	0.00 0.00	3.00 0.00	2.00 0.00	190.30 0.00	282.80 0.00	315.80 0.00	652.50 0.00	4,669.70 0.00	611 MCF
New Plant Electric (kWh) Demand (kW)	31,246.60 134.40	41,180.80 139.50	33,192.50 140.00	27,468.30 133.70	21,620.90 129.50	10,953.50 104.80	10,014.20 105.40	10,209.90 101.60	27,156.90 126.30	27,777.30 124.30	33,252.70 124.90	30,397.30 133.90	304,470.90 140.00	14,392 kWh
Natural Gas (MCF) Demand (kBtuh)	1,047.20 0.00	713.20 0.00	535.00 0.00	152.40 0.00	17.70 0.00	0.00 0.00	3.00 0.00	2.00 0.00	125.70 0.00	149.40 0.00	245.50 0.00	511.40 0.00	3,502.50 0.00	1,167 MCF 303
Windows 5 Electric (kWh) Demand (kW)	31,246.40 134.40	41,180.80 139.50	33,192.50 140.00	27,468.30 133.70	21,619.90 129.50	10,952.50 104.80	10,013.20 105.40	10,207.90 101.60	27,155.90 126.30	27,777.30 124.30	33,252.70 124.90	30,397.30 133.90	304,464.70 140.00	6 kWh
Natural Gas (MCF) Demand (kBtuh)	1,044.20 0.00	713.20 0.00	535.00 0.00	152.40 0.00	17.70 0.00	0.00 0.00	3.00 0.00	2.00 0.00	125.70 0.00	149.40 0.00	243.50 0.00	510.40 0.00	3,496.50 0.00	6 MCF

Hillcrest Elementary School

#### Lighting Inventory Form

Applicant Name: Facility Name: Date:	Revere Schools Hildrest Elementary 9/102013		ontrol, choose OCC	room or area CC for Occupany Sensor, DAYLTG for photosens s and exit signs in Column M, and the quantities o				fard Lighting form										
Line Building Address Piloor Area Description	PROJECT BASE INFORMATION Interior of Exercise Fractione Productment Space Type Area Cooling	PRE-NAT Pre Fisture Code Pr City	ALLATION Pre Watts / Pre	re kW/ Existing Existing Post Space Control Sensor Fixtur (KW) dras draw Quantity Oliy When systeate		POST-INSTALLATION Post Watts/ Post k' Fixture Spac (W) (kW)	W/ Proposed	Proposed Sensor Quantity When applicable (kW) exclus CFLs or E Signs	nge Exterior C Connected Ing Load (WW) excluding CFLs C or Exit Signs	Change in Applicant connected Coincidence Load Factor (kW) (CF) FL or LED Estimate exit sign	Coincidence Factor	Interactive Intera Factor Fai (demand) (end	Ene active Pre Controls ctor Factor ergy)	ay Calculations Post Interi Controls Dema Factor Savin (kW exclus CFLs Exit Si	ina excludina	Demand Applic Savings Equiva (W) Full Lc CFLs or Hou LED Exit (EFL Signs Estim	nt Prescribed ent Equivalent ad Full Load s Hours H) ate	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g. 400 North Street 2 Office e.g. Example 1 Restaurant 1 3080 Revere Rd School	Interior Education - Primary School Cooled Space			0.34         NONE         3           0.25         OCC         5         5           0.53         NONE         9         43.78         NONE         742	F41SSILL	26 0.23	NONE	0.30		0.17 84% 88%	57%	34% 12	2%	0.23		0.19 2,80 8,76	2,080	692
2         3060 Revere Rd         School           3         3060 Revere Rd         School           4         3060 Revere Rd         School           5         3060 Revere Rd         School           6         3060 Revere Rd         School	Interior Education Primary School Cooled Space Interior Education Primary School Cooled Space	35 F42II 35 F42II 6 I75/1	59 2 59 2 75 0	2.07 NONE 76 2.07 NONE 35 0.45 NONE 6	F41SSILL F42SSILL Cut Sheet 1	26 1.98 48 1.68 5 0.03	2 NONE NONE OCC NONE NONE	8.16 0.09 0.39 0.42 0.13			57% 57%	34% 12	2%	6.2 0.0 30% 0.2 0.3 0.1			2,080 2,080 2,080	978
6         3080 Revers Rd         School           7         3080 Revers Rd         School           8         3080 Revers Rd         School           9         3080 Revers Rd         School           10         3080 Revers Rd         School           11         3080 Revers Rd         School	Interior Education Primary School Cooled Space Interior Education Primary School Cooled Space Exterior Duakto-Dawn Lighting Uncooled space Exterior Duakto-Dawn Lighting Uncooled space	12 F43LL 10 I150'1 12 mb200'1 12 mb250'1 11 MH400'1 5 MH400'1	150 1 232 2 295 3 458 5	1.07         NONE         12           1.50         NONE         10           2.78         NONE         12           3.54         NONE         12           5.04         NONE         11           2.29         NONE         5		48 0.48 48 0.58 75 0.90 101 1.11	NONE NONE DAYLTG NONE NONE	1.02 2.21	2.64 3.93 1.28		57% 57%	34% 12 34% 12 34% 12	2%	0.11 0.71 50% 1.68			2,080 2,080 3,833 3,833	2,376 5,144
11         3080 Nevere Rd         School           12         3080 Revere Rd         School           13         3080 Revere Rd         School           14         School         16           16         17         17	Exterior Dusk-to-Dawn Lighting Uhocolid space Interior Education - Primary School Cooled Space Exterior Dusk-to-Dawn Lighting Uncooled space	5 MH4001 24 MH4001 10 MH2501	458 2 458 10 295 2	2.29 NONE 5 10.99 NONE 24 2.95 NONE 10 NONE 10 NONE NONE	Cut Sheet 5 F48ILL Cut Sheet 7	202 1.01 224 5.38 60 0.60	NONE NONE DAYLTG NONE NONE NONE NONE	5.62	2.35		57%	34% 12	2%	50% 4.2			3,833 2,080 3,833	13,083
16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19				NONE NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE											
21 22 23 24				NONE NONE NONE			NONE NONE NONE											
22         23           23         24           25         30           27         24           28         29           29         30				NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE											
30 31 32 33 34 34				NONE NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
35 36 37 38				NONE NONE NONE			NONE NONE NONE											
b         b           37         -           38         -           39         -           40         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -           42         -           43         -           44         -           45         -           46         -           47         -           48         -           49         -           40         -           41         -				NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
44 45 46 47 47 49				NONE NONE NONE NONE NONE			NONE NONE NONE NONE											
40 49 50 51 52				NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE											
51 52 53 53 54 55 55 56 55 57 57 57 57 57 57 57 57 57 57 57 57				NONE NONE NONE NONE NONE			NONE											
56         57           58         59           60         61				NONE NONE NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE NONE											
60				NONE NONE NONE NONE			NONE NONE NONE											
67 68 69 70 71				NONE NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
72 73 74 75 76				NONE NONE NONE			NONE NONE NONE											
76            77				NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
81 82 83 84 85 85 85 85 85 85 85 85 85 85 85 85 85				NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
86 87 88 89 90				NONE			NONE											
91 92 93 94 95							NONE											
96 97 98 99				NONE NONE NONE			NONE NONE NONE NONE											
101 102 103 104				NONE NONE NONE			NONE NONE NONE NONE											
105 106 107 108				NONE NONE NONE NONE NONE			NONE NONE NONE											
110 111 111 112 113 114				NONE NONE NONE NONE			NONE NONE NONE NONE											
				NONE NONE NONE			NONE NONE											
119 120 121 121 122 123				NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE											
124 125 126 127 127				NONE NONE NONE NONE			NONE NONE NONE NONE											
129 130 131 131 132 132 132 133 133 133 133 133				NONE NONE NONE NONE NONE			NONE											
133				NONE NONE NONE NONE NONE			NONE											
1         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -	Image: state	I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I           I         I	A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A           A	WORL         WORL           WORL         WORL	Image: state		100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100         100           100					Image: Section of the sectio						

		PROJECT BASIC INFORMATION Interior or Exterior Predominant Space Type		PRE-P	NSTALLATION				POST-INSTAL	LATION							Energy Calcu	lations				
Line Building Address Floor Item	Area Description	Interior of Exterior Predominant Space Type Fixture	Area Cooling	Pre Fixture Pre Fixture Code Qty	Pre Watts / Pre kW / Fixture Space (W) (kW)	Existing Existing Control Sensor drop down Quantity	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Pr Space C (kW) Pk	roposed F Control ease enter LTG, OCC or NONE.	Proposed Interior Change Exterior Sensor in Connected Change i	Change in Connected	Applicant Coincidence Factor (CF) Estimate	Coincidence Interactive Factor Factor (demand)	Interactive Factor (energy)	Pre Controls Post Factor Controls Factor	Interior Exte Demand Dema	nor Demand and Savings	Applicant Equivalent	Prescribed Equivalent	Annual Interior Fixture kWh
					(W) (kW)	drop down Quantity	Qty		(W)	(kW) Pla	LTG, OCC or	Quantity hese spiticable (kW) excluding Load (KW) CFLs or Exit Signs or Exit Sig	Connected d Load (kW) FLs CFL or LED rs exit sign	Factor	(demand)	(energy)	Factor	Demand Dema Savings Savin (kW) (kV excluding exclu CFLs or CFL1 Exit Signs Exit S	and Savings ngs (kW) /) CFLs or	Full Load Hours (EFLH) Estimate	Full Load Hours	Fixture kWh Saved (excluding CFLs or Exit Signs)
											NONE.	CFLs or Exit excluding C	FLs CFL or LED	Estimate				excluding exclu	ding LED Exit	(EFLH)	nours	CFLs or Exit
												Signs or Exit Sig	ns exit sign					CFLs or CFLs Exit Signs Exit S	or Signs	Estimate		Signs)
																		EAR SIGNS EAR S	ŵ.e			(
139						NONE					NONE											
140						NONE NONE NONE NONE NONE					NONE NONE NONE NONE NONE											
141 142						NONE					NONE											
143						NONE					NONE											
144 145						NONE					NONE											
146						NONE					NONE											
147 148						NONE					NONE											
149						NONE NONE NONE	_				NONE NONE NONE		_									
151						NONE					NONE											(
152							-				NONE								_			
154						NONE					NONE											
155						NONE NONE NONE NONE	_				NONE		_									(
157						NONE					NONE NONE NONE NONE NONE											
158						NONE	-				NONE								_			
160						NONE					NONE											
161						NONE	-				NONE								_			
163						NONE NONE NONE NONE NONE					NONE NONE NONE											
164		l	-	<u> </u>		NONE	-				NONE										_	
166						NONE NONE					NONE											
167		l	-	<u> </u>		NONE	-				NONE										_	
169						NONE NONE NONE					NONE NONE NONE											
170				<u> </u>		NONE	-				NONE											
172						NONE NONE NONE NONE					NONE											_
173						NONE	-				NONE NONE NONE		_									
0a     0a       0a											NONE											
1/6 177			t			NONE NONE NONE					NONE											
178						NONE					NONE											
180	1		1	<u> </u>		NONE NONE NONE					NONE NONE NONE					1						
181						NONE					NONE											
182						NONE	-				NONE											
184						NONE					NONE											
185						NONE					NONE											
187						NONE NONE					NONE											
188						NONE					NONE NONE NONE											—
190						NONE					NONE											
191 192						NONE NONE NONE NONE NONE NONE					NONE NONE NONE NONE NONE											—
193							_				NONE		_							_		
195						NONE					NONE											
196						NONE	_				NONE		_							_		
197						NONE NONE NONE NONE NONE					NONE NONE NONE											—
199						NONE	_				NONE		_									=
200						NONE					NONE											
202						NONE NONE NONE	-				NONE NONE NONE								_			
204						NONE					NONE											
205						NONE	_				NONE		_									<u> </u>
207						NONE					NONE NONE NONE											
208							-				NONE		_									
210						NONE NONE NONE NONE NONE					NONE											
211 212			1	+ +		NONE	-	<u> </u>			NONE NONE NONE					-						
213						NONE					NONE											
214 215			1			NONE NONE NONE					NONE NONE NONE											
216						NONE					NONE											
218			t			NONE					NONE											
219						NONE					NONE											
220				+ +		NONE	-				NONE											
222						NONE NONE					NONE NONE											
223						NONE NONE NONE					NONE NONE NONE											
225	-					NONE					NONE			-							_	
227						NONE NONE NONE NONE NONE NONE NONE NONE					NONE NONE NONE NONE NONE NONE NONE NONE											
228						NONE					NONE											
230						NONE					NONE											
231	-			<u> </u>		NONE					NONE									<u> </u>		
233						NONE					NONE											
234 235		l	-	<u> </u>		NONE NONE NONE	-				NONE NONE NONE										_	
236						NONE					NONE											
237 238		l	-	<u> </u>		NONE	-				NONE		-									
239						NONE NONE					NONE											
240	-			<u> </u>		NONE					NONE									<u> </u>		
242						NONE					NONE NONE NONE											
243 244		l	-	<u> </u>			-				NONE										_	
245						NONE NONE NONE NONE NONE					NONE											
193				<u> </u>		NONE	-				NONE NONE NONE											
248						NONE					NONE											
249 250		l	-	<u> </u>		NONE	-				NONE		-									
Totals				923	79.05		964			50.53		18.33 10.20						14.00		1		42,699

Project Estimate Savings Sum	
Estimated Annual kWh Savings	89,891
Total Change in Connected Load	28.53
Annual Estimated Cost Savings	\$8,989.10
Annual Operating Hours	2,619
Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$2,134.95
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$1,954.25
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard- wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$0.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/sensor (includes all Lighting Controls, both interior and exterior)	\$0.00
Total Calculated Incentive	\$4,089.20
Total Fixture Quantity excluding retrofit	
CFLs and LED Exit Sign	964
Total Lamp Quantity for retrofit Screw-In CFLs	0
Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimat equivalent full-load hours (EFLH) for facilit		. ,
		1
Demand Savings (For Internal Use Only)	14.00	

Revere HW Pump VFD Calculation

	HWP	Base Projec	ted without	VFD				
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	КМН
	100% 0%	2,520 0	100% 100%	15 0	1 0	93%	12.0 0.0	30,321 0
TOTAL	100%	2,520						30,321
	НWP	with VFD						
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	15%	378	50%	15	1	93%	1.5	569
	20%	504	60%	15	1	93%	2.6	1,310
	30%	756	70%	15	1	93%	4.1	3,120
	20%	504	80%	15	1	93%	6.2	3,105
	10%	252	90%	15	1	93%	8.8	2,210
	5%	126	100%	15	1	93%	12.4	1,562
TOTAL	100%	2,520						11,875
								18,446 KWH SAVEL 61% % Saved

#### Site Address: HS

#### Principal Address: 3420 Everett Rd

What date would you have replaced your

equipment if you had not replaced it early? Please describe the less efficient new Project Narrative description of your program including, but not limited to, Description of methodologies, protocols and practices Also, please explain briefly how you equipment that you rejected in favor of Project Name make, model, and year of any installed and replaced equipment: used in measuring and verifying project results determined this future replacement date. the more efficient new equipment. No. Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal of fixtures x watts per fixture x Operating hours). halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Lighting Retrofit and Controls Would be replaced as fixtures failed. N/A 1 LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - Retrofit KWh = sensors and daylight sensors for additonal contol. Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions. Motor System inventory was performed with pre & post ECM consumptio calculated and demand utilized . Specified equipment selection of the motors and motor controls. Electrical Usage (kWh) = Motor KWx Operating hours. New kWh Usage= Motor KW x Motor Speed ^3x 2 Pump VFD Installation Install 15 HP VFDs for HW pumps. Operating hours. Electrical Energy Cost = (kWh x \$/kwh) ; Existing KWh - N/A N/A Retrofit KWh = Savings. See attached summary spreadsheet for details. Measurement and Verification is based on IPMVP Option A. Calculations attached with operational factors and commonly accepted usage assumptions. below. The main high school was controlled by an outdated pneumatic control system. The upgrades in the High School included a building automation High School: upgrade. The temperature control and equipment schedules for all of the (1) Heating Hot Water System, (8) Science Wing Air-Handling Units, (16) Single-Zone high school HVAC incuded in the narrative above will be tracked by the Air-Handling Units new building automation system. The equipment in the building will run Building Automation 3 N/A N/A (3) Gymnasium Air-Handling Units, (3) VAV Air-Handling Units, (7) VAV Terminals, (19) educed hours based on the schedule. In addtion, temperature control is FPVAV Terminals, (4) Science Lab Supply Fan Terminals, (1) Fan-Coil Unit, (4) Science mplemented. The savings was calculated in a building simulation model Addition Unit Ventilators, (6) UV Day/Night Zone, (18) Split AC Units, (25) Unit Heaters / performed in Market Manager software. The results of the model are Cabinet Unit Heaters,(24) Exhaust Fans,(1) Gymnasium Lighting Control Panel,(1) based on 10 year normalized weather data and 8760 hours simulation. Outdoor Lighting Control Panel,(1) Gas & Electric Meters Monitoring

Rev (4.1.2013)

#### Site: HS

#### Principal Address: 3420 Everett Rd

		Principal Address: 3420 Everett Rd					
		Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C)	Note 1		
	2012	1,012,400		1,076,362			
	2011 2010	1,391,24( 1,431,60(		1,391,240 1,431,600			
	Average	1,278,413		1,299,734			
Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Lighting Retrofit and Controls	07/31/2012	\$228,516	152,013	152,013	40	
2	Pump VFD Installation	07/31/2013	\$1,365	18,446	18,446	-	
3	Building Automation	07/31/2013	\$383,011	191,691	191,691	-	
				-	-	-	
				-	-	-	
				-	-	-	
				-	-	-	
			Total	362,150	362,150	40	\$0
)ocket No.	14-0362		Savings as percent of usage	27.9%	Note 2		

3420 Everett Rd Site:

14-0362

**Customer Eligible Exemption Period:** 138 Month(s) Note 3

= Total (D) divided by Average (C)

#### Notes

Docket No.

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

#### UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh	y Avoided Cost MWh	Ut	ility Avoided Cost \$	ι	Jtility Cost \$	Cash Rebate \$	Administrator Variable Fee \$	То	tal Utility Cost \$	UCT
	(A)	(B)		(C)		(D)	(E)	(F)		(G)	(H)
1	152	\$ 308	\$	46,863	\$	1,350	\$0	\$1,520	\$	2,870	16.3
2	18	\$ 308	\$	5,687	\$	1,350	\$0	\$184	\$	1,534	3.71
3	192	\$ 308	\$	59,095	\$	1,350	\$0	\$1,917	\$	3,267	18.09
Total	362	\$ 308		111,644		4,050	\$0	\$3,622		7,672	14.6

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ HS**

Docket No. 14-0362

Site: 3420 Everett Rd

#### Energy Use Comparison Feb Mar Jul Sep Oct Nov Scenario Jan Apr May Jun Aug Dec Annual Savings Existing Electric (kWh) Demand (kW) 130,294.00 142,682.00 127,054.00 126,056.00 219.70 212.70 213.10 242.50 133,124.00 118,119.00 107,540.00 117,129.00 141,712.00 133,732.00 149,938.00 115,777.00 229.40 232.40 228.60 254.60 239.60 225.70 234.60 212.90 1,543,157.20 254.60 Natural Gas (MCF) 2,152.00 1,035.00 53.00 14.00 4.00 1,433.00 5,636.00 573.00 63.00 10.00 10.00 120.00 169.00 Demand (kBtuh) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 New Controls Electric (kWh) Demand (kW) 106,439.80 133,063.80 110,549.10 103,876.40 230.90 251.30 224.00 257.30 112,198.60 110,751.40 98,278.50 113,517.20 115,420.40 110,976.20 142,428.80 93,965.90 251.90 309.60 325.40 339.00 256.60 234.40 280.10 221.90 1,351,465.90 339.00 191,691 kWh Natural Gas (MCF) Demand (kBtuh) 6.40 0.00 4,612.20 1,785.50 841.60 457.40 54.50 43.80 6.50 2.40 4 00 92.40 138.60 1,179.10 1.024 MCF 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1,785.50 841.60 457.40 54.50 43.80 6.40 6.50 2.40 4.00 92.40 138.60 1,179.10 New Windows Electric (kWh) 106,439.80 133,063.80 110,549.10 103,876.40 112,198.60 110,751.40 98,278.50 113,517.20 115,420.40 110,976.20 142,428.80 93,965.90 1,351,465.90 0.00 kWh 339.00 Demand (kW) 230.90 251.30 224.00 257.30 251.90 309.60 325.40 339.00 256.60 234.40 280.10 221.90 Natural Gas (MCF) 1,752.90 0.00 820.40 440.10 0.00 54.50 43.80 6.40 0.00 6.50 2.40 0.00 4 00 92.40 0.00 122.10 1,140.00 4,485.50 0.00 127 MCF 0.00 Demand (kBtuh) 0.00 0.00 0.00 0.00 0.00 0.00

#### Lighting Inventory Form

Applicant Name:         Revere Schools           Facility Name:         Revere MS           Date:         3/10/2013	In		C for Occupany Ser	iensor, DAYLTG for photosensor, or NONE for none. Co Column M, and the quantities of sensors in Column R, v			Standard Lightin	ıg form.							
Une Building Address Proof Area Description Peaker Proof Example Internet Factors	SRAATCH Predominant Space Type Area Cooling P	PRE-INSTALLATION re Fixture Pre Fixture Code Pre Watts./ Pr Oty Fixture 1 (W)	e kW / Existing pace Contro kW) drop dow	ing Existing Post rol Sensor Fixture Code Quantity Wan upplicable Qty	POST-INSTALLATIO Post Watis/ Post Fixture Spa (W) (kV	N KW / Proposed Control Pisasa enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change Exterior In Connected Change in Load Connected (WW) excluding Load (WW) CFLs or Exit Signs or Exit Signs	Change in Ap Connected Coin Load F, (KW) i CFL or LED Es exit sign	olicant ( cidence actor CF) imate	Coincidence Interactive Interactive Pre C Factor Factor Factor Fac (demand) (energy)	Energy Calculations trols Post Interior or Controls Demand Factor (kW) excluding CFLs or Exit Signs	Exterior Demand Demand Savings I Savings (WV) (KW) CFLs or excluding LED Exit CFLs or Signs Exit Signs	Applicant Pr Equivalent Er Full Load F Hours (EFLH) Estimate	rescribed Annual Interior iquivalent Fixture kWh Full Load Saved Hours (excluding CFLs or Exit Signs)
e.g. 400 North Street 2 Office Interior e.g. Example 1 Restaurant Exterior	Ottice - Small Cooled Space Restaurant - Fast Food Uncooled space	3 F44ILL 112 5 Example Cut Sheet 1 50				17 OCC 13 DAYLTG		0.13					0.19		
3         3420 Event Rd         School         Interior         Oth           4         3420 Event Rd         School         Interior         Oth           5         3420 Event Rd         School         Interior         Oth           6         3420 Event Rd         School         Interior         Oth           6         3420 Event Rd         School         Interior         Oth	her - Please estimate CF and EFLH Cooled Space her - Please estimate CF and EFLH Cooled Space her - Please estimate CF and EFLH Cooled Space her - Please estimate CF and EFLH Cooled Space	1 160/1 60 77 F44ILL 112 5 MH50/1 72 24 MH250/1 295	7.63 NONE 1.21 NONE 0.06 NONE 3.62 NONE 0.36 NONE 7.08 NONE 0.45 NONE	IE 1 Cut Sheet 1 IE 77 F44SSILL IE 5 F42SSILL IE 24 F43II	5 0.0 96 7.3 48 0.2 89 2.1	NONE           66         NONE           01         NONE           39         NONE           24         DAYLTG           14         DAYLTG           38         DAYLTG		1.23 9.55 0.06 1.23 0.12 4.94 0.06		0% 0% 0% 0%	90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12%	1.48 11.51 0.07 1.49 50% 0.14 50% 5.96 50% 0.08		2,500 2,500 2,500	2,500 3,450 2,500 336 2,500 13,843
8         3420 EventR Rd         School         Interior         Oth           9         3420 EventR Rd         School         Interior         Oth           10         3420 EventR Rd         School         Interior         Oth           11         3420 EventR Rd         School         Interior         Oth           12         3420 EventR Rd         School         Interior         Oth	her - Plasse estimate CF and EFLH Cooled Space her - Plasse estimate CF and EFLH Cooled Space	23         MH400'1         458         1           9         F41IL         31         1           75         F42II         59         3           3         F43II         89         25           26         CED26H         23         1	0.53 NONE 0.28 NONE 4.43 NONE 0.27 NONE	HE         48         F48LL           HE         9         F41SSILL           HE         75         F42SSILL           HE         3         F43SSILL           HE         3         F43SSILL	96 0.3 224 100 26 0.2 48 3.6 72 0.2 18 0.6 20 0.1	NONE           23         OCC           30         OCC           32         OCC           35         NONE           18         NONE		0.06 -0.22 0.05 0.83 0.05 0.54	0.22	0% 0% 0% 0% 0% 0%	90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12%	0.08 -0.28 30% 0.05 30% 0.99 30% 0.65		2,500 2,500 2,500 2,500 2,500	2,500 -610 2,500 126 2,500 2,310 2,500 143 2,500 1,512
16         34/20 Eventer Rd         School         Intenior         Other           17         34/20 Eventer Rd         School         Intenior         Other           18         34/20 Eventer Rd         School         Intenior         Other           19         34/20 Eventer Rd         School         Intenior         Other           19         34/20 Eventer Rd         School         Intenior         Other	ther - Please estimate CF and EFLH Cooled Space ther - Please estimate CF and EFLH Cooled Space ther - Please estimate CF and EFLH Cooled Space	636 F42II 59 3 9 160/1 60 9 165/1 65 10 F43ILL 89	1.13         NONE           0.41         NONE           1.96         NONE           1.97         NONE           7.52         NONE           0.54         NONE           0.59         NONE           0.59         NONE	IE 636 F42SSILL IE 9 Cut Sheet 1 IE 9 Cut Sheet 9 IE 9 Cut Sheet 9		NONE           13         NONE           53         OCC           05         DAYLTG           16         NONE           NONE         NONE		0.84 7.00 0.50 0.42		0% 0% 0% 0% 0%	90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12%	1.01 30% 8.44 50% 0.60 0.51		2,500 2,500 2,500 2,500	2,500 2,500 2,500 2,500 2,500 19,589 2,500 1,386 2,500 1,184 2,500
20         34.20 Eventm R0         School         Intendor         OP           21         34.20 Eventm R0         School         Intendor         OP           22         34.20 Eventm R1         School         Intendor         OP           23         34.20 Eventm R1         School         Intendor         OP           24         34.20 Eventm R1         School         Intenfor         OP           24         34.20 Eventm R1         School         Extentor         24           25         34.20 Eventm R1         School         Extentor         25	http://kaase.estimato/chaofk/H/LCooledSpace http://kaase.estimato/chaofk/H/LCooledSpace http://kaase.estimato/chaofk/H/LCooledSpace http://kaase.estimato/chaofk/H/LCooledSpace Duskto-Dawn Lighting_UkrocoledSpace Duskto-Dawn Lighting_UkrocoledSpace	8 1100/1 100 1 F44IL 112 4 160/1 60 20 MH400/1 458 10 MH400/1 296	0.80         NONE           0.11         NONE           0.24         NONE           0.16         NONE           2.95         NONE           0.04         NONE           2.09         NONE	IE 8 Cut Sheet 1 IE 1 F44SSILL IE 2 F42SSILL IE 20 F48SILL IE 10 Cut Sheet 2	224 4.4 101 1.0 5 0.0	NONE           NONE           NONE           NONE           NONE           NONE           NONE           NONE           NONE		0.76 0.02 0.14 4.68 1.94 0.04	9	0%	90% 34% 12% 90% 34% 12% 90% 34% 12% 90% 34% 12%	0.92 0.02 0.17 5.64		2,500 2,500 2,500 2,500	2,500 2,128 2,500 45 2,500 403
26         3420 Event Rd         School         Extendor           29         3420 Event Rd         School         Extendor           30         3420 Event Rd         School         Extendor           31         3420 Event Rd         School         Extendor           32         3420 Event Rd         School         Extendor           32         3420 Event Rd         School         Extendor	Dask-to-Dawn Lighting         Lincodel space           Dask-to-Dawn Lighting         Lincodel space	7         Mh150/1         190           6         Mh250/1         295           9         Mh70/1         95           1         Mh400/1         458           3         HPS150/1         188	1.33 NONE 1.77 NONE 0.86 NONE 0.46 NONE 0.56 NONE 0.59 NONE	E         7         Cut Sheet 8           EE         6         Cut Sheet 11           EE         9         Cut Sheet 12           EE         1         Cut Sheet 11           EE         2         Cut Sheet 13           EE         3         Cut Sheet 8           FE         2         Cut Sheet 8	90 0.5 50 0.4 90 0.0 77 0.2	54         NONE           54         NONE           45         NONE           29         NONE           23         NONE           18         NONE		1.43 0.79 1.23 0.41 0.37 0.33 0.41							3.833 3.833 3.833 3.833 3.833 3.833 3.833 3.833 3.833
3			NONE NONE NONE NONE NONE NONE NONE	E E E		NONE NONE NONE NONE NONE NONE		Image: Sector					Image: Section of the sectio		
41 42 43 44			NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE NONE									
6         -           6         -           7         -           8         -           9         -           9         -           9         -			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE NONE		Image: Constraint of the second sec					Image: Section of the sectio		
33			NONE NONE NONE NONE NONE NONE	12		NONE NONE NONE NONE NONE NONE NONE									
59         60           60         61           61         61           63         61           64         65			NONE NONE NONE NONE NONE	16		NONE NONE NONE NONE NONE NONE NONE									
66            67            68            69            71            72			NONE NONE NONE NONE NONE	E		NONE NONE NONE NONE NONE NONE NONE		Image: Constraint of the second sec					Image: Second		
72			NONE NONE NONE NONE			NONE NONE NONE NONE NONE									
73			NONE NONE NONE NONE NONE	IE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		NONE NONE NONE NONE NONE NONE NONE		Image: Sector					Image: Section of the sectio		
86			NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE									
82			NONE NONE NONE NONE NONE NONE			NONE NONE NONE NONE NONE NONE NONE									
99         00           001         01           003         01           004         04			NONE NONE NONE NONE NONE	15		NONE NONE NONE NONE NONE NONE NONE									
105 107 108 109 109 109 109 10 10 10 10 11 1 1 1 1			NONE NONE NONE NONE NONE	82 85 86 86 86 86 86		NONE NONE NONE NONE NONE									
112			NONE NONE NONE NONE NONE NONE	λΕ ΔΕ ΔΕ		NONE NONE NONE NONE NONE NONE NONE									
111         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -			NONE NONE NONE NONE	12		NONE NONE NONE NONE NONE NONE NONE									
94         94           96         96           97         96           97         96           97         96           98         96           99         96           90         96           91         96           92         96           93         96           94         96           95         96			NONE NONE NONE NONE NONE NONE NONE	E		NONE NONE NONE NONE NONE NONE NONE									
102         -           103         -           104         -           105         -           106         -           107         -           108         -			NONE NONE NONE NONE NONE NONE NONE	12		NONE NONE NONE NONE NONE NONE NONE NONE									

			PROJECT BASIC INFORMAT	TION			PRE-IN	STALLATION						POST-INSTAL	LATION								Energy C	Calculation	ns				
	Line Building Address	Floor Area Description Inte	terior or Exterior Pre Fixture	edominant Space Type	Area Cooling	Pre Fixture Otv	Pre Fixture Code	Pre Watts / Eixture	Pre kW / Snace	Existing	Existing	Post Fixture	Post Fixture Code	Post Watts/ Eixture	Post kW / Snace	Proposed F Control	Proposed Interior Ch Sensor in Conner	ange Exter	ior Change in Connected	Applicant	Coincidence Interact Factor Factor	ive Interactive r Eactor	Pre Controls Po Factor Cont	ist ir trois De	nterior Exterior	Demand Savings	Applicant Pre Equivalent Equ	iscribed An	inual Interior
	num		E DALOR O					(W)	(kW)	drop down	Quantity	Qty		(W)	(kW)	Please enter	Quantity Load	Conne	cted Load	Factor	(demai	id) (energy)	Fac	tor Sa	avings Savings	(kW)	Full Load Fu	II Load	Saved
											When applicable					NONE. WY	hen applicable (kW) exclu	ding Load (	kW) (kW)	(CF)					(kW) (kW)	CFLs or	Hours F	iours (	excluding
																	Signs	or Exit	Signs exit sign	esomate				C	FLs or CFLs or	Signs	Estimate	/ /	Signs)
																								Exi	it Signs Exit Signs			/ /	
	139									NONE						NONE				-				-				-	
	141									NONE						NONE													
	142									NONE						NONE		_				_							<u> </u>
	143									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N        N         N         N         N	145									NONE						NONE													
	140									NONE						NONE													
	148									NONE						NONE													
	150									NONE						NONE													
	151									NONE						NONE												_	
	152									NONE						NONE													<u> </u>
	154									NONE						NONE													
	155									NONE						NONE													<u> </u>
	157									NONE						NONE													
	158									NONE						NONE				-				-				-	<u> </u>
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N        N         N         N         N	160									NONE						NONE													
	161									NONE						NONE													
	163									NONE						NONE													
	164			-			-			NONE					_	NONE								T					
	166									NONE		+ +				NONE													
	167									NONE						NONE													
	168									NONE						NONE			_										
	170									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N        N        N        N        N      <	171					$- \neg$				NONE		+ - T				NONE													
	173									NONE						NONE													
	174			-			-			NONE					_	NONE								T					
	176									NONE						NONE													
	177			-			-			NONE					_	NONE								T					
	179									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	180									NONE						NONE													
	181									NONE						NONE				-				-				-	
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	183									NONE						NONE													
0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	184									NONE						NONE		_				_							
N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N     N <td>186</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td>	186									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	187									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N        N         N         N         N	189									NONE						NONE													_
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	190									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	191									NONE						NONE													
·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·         ·	193									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	194									NONE						NONE				-		-		-				-	<u> </u>
	196									NONE						NONE													
N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N         N	197									NONE						NONE								_					<u> </u>
	199									NONE						NONE													
	200									NONE						NONE		_											
	201 202									NONE						NONE													
	203									NONE						NONE		_				_							
	205									NONE						NONE													
	206									NONE						NONE													
	208									NONE						NONE													
	209			-			-			NONE					_	NONE								T					
0       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	210									NONE		+ +				NONE													
	212								_	NONE						NONE													
1     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     - <td>213</td> <td></td> <td></td> <td></td> <td></td> <td>1 1</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td>+ +</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td>	213					1 1				NONE		+ +				NONE													
	215								_	NONE						NONE													
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	216									NONE						NONE			-										
0       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	218									NONE						NONE													
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	219 220									NONE						NONE			_										
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	221									NONE						NONE													
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	222					$- \neg$				NONE		+ - T				NONE													
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	224									NONE						NONE													
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	225					$- \neg$			T	NONE		<b> </b> − T				NONE													
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	227									NONE						NONE													
0       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	228					$- \neg$				NONE		+ - T				NONE													
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	230									NONE						NONE													
M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M       M	231			-			-			NONE					_	NONE								T					
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	232									NONE		+ +				NONE													
a       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b	234				-				_	NONE	-	1		_		NONE										_			
21       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	230									NONE		+ +				NONE													
a       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b       b	237								_	NONE						NONE													
No       No <th< td=""><td>238</td><td></td><td></td><td></td><td></td><td>   </td><td></td><td></td><td></td><td>NONE</td><td></td><td>   </td><td></td><td></td><td></td><td>NONE</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	238									NONE						NONE			_										
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>	240									NONE						NONE													
A       A       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B	241					$- \neg$				NONE		+ - T				NONE													
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	243									NONE						NONE													
Control       Contro       Control       Control	244			-			-			NONE					_	NONE								T					_
All       A	240 246									NONE		+ +				NONE													
as       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	247									NONE						NONE													
20     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     - </td <td>248</td> <td></td> <td></td> <td></td> <td></td> <td>   </td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td>+ +</td> <td></td> <td></td> <td></td> <td>NONE</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	248									NONE		+ +				NONE			-			-							
2,196 155,33 2,142 113,13 32,79 6,54 0,23 39,54 0,27 91,1	250									NONE						NONE													
	I OTAIS					2,198	l	L	155.93			2,162			113.13		32.79	6.94	0.23	-					39.54	0.27		<u> </u>	91,801

Project Estimate	d Annual
Savings Sum	
Estimated Annual kWh Savings	152,013
Total Change in Connected Load	39.96
Annual Estimated Cost Savings	\$15,201.30
Annual Operating Hours	2,875
Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$4,590.05
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$1,330.45
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard- wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$135.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/sensor (includes all Lighting Controls, both interior and exterior)	\$0.00
Total Calculated Incentive	\$6,055.50
Total Fixture Quantity excluding retrofit	2153
CFLs and LED Exit Sign Total Lamp Quantity for retrofit Screw-In	0
CFLs Total Lamp Quantity for retrofit Hard-Wired	9
CFLs Total Fixture Quantity for retrofit LED Exit	0
Signs Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimated your coincidence factor (CF) and applicant equivalent full-load hours (EFLH) for facility type "Other" indicated on the Lighting Form tab					
Demand Savings (For Internal Use Only)	39.81				

Revere HW Pump VFD Calculation

	HWP	Base Projec	ted without	ed without VFD				
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	КМН
	100% 0%	2,520 0	100% 100%	15 0	1 0	93%	12.0 0.0	30,321 0
TOTAL	100%	2,520						30,321
	НWP	with VFD						
	RUN TIME	HOURS	SPEED	Total HP	MOTORS	Motor Eff	KW	KWH
	15%	378	50%	15	1	93%	1.5	569
	20%	504	60%	15	1	93%	2.6	1,310
	30%	756	70%	15	1	93%	4.1	3,120
	20%	504	80%	15	1	93%	6.2	3,105
	10%	252	90%	15	1	93%	8.8	2,210
	5%	126	100%	15	1	93%	12.4	1,562
TOTAL	100%	2,520						11,875
								18,446 KWH SAVEL 61% % Saved

#### Customer Legal Entity Name: Revere Local Schools

#### Site Address: MS

Principal Address: 3195 Spring Valley Road

What date would you have replaced your equipment if you had not replaced it early? Please describe the less efficient new

Project No.	Project Name	Narrative description of your program including, but not limited to, make, model, and year of any installed and replaced equipment:	Description of methodologies, protocols and practices used in measuring and verifying project results	equipment if you had not replaced it early? Also, please explain briefly how you determined this future replacement date.	Please describe the less efficient new equipment that you rejected in favor of the more efficient new equipment.
1	Lighting Retrofit and Controls	Lighting retrofit including upgrades to F28T8 lamps with electronic ballast. Interior metal halide fixtures replaced with new high bay fluorescent. Exterior fixtures upgraded to LED. Incandescent lamps replaced with fluorecent and compact fluorescent. Occupancy sensors and daylight sensors for additional contol.	Lighting inventory was performed with pre & post ECM fixture consumption and demand utilized in school. Specified retrofits and replacements of the existing fixtures. Electrical Usage (kWh) = (Number of fixtures x watts per fixture x Operating hours). Electrical Demand (kWd) = (Number of fixtures x watts per fixture) ; Electrical Energy Cost = (kWh x \$kwh); Existing KWh - Retrofit KWh = Savings. See attached documentation for details. Measurement and Verification is based on IPMVP Option A. Calculations based on physical assessment of operational factors and commonly accepted usage assumptions.	Would be replaced as fixtures failed.	N/A
2	Building Automation	Provide and install new Automated Logic WebCTRL components for systems outlined below. Middle School: (1) Heating Hot Water System (6) Science Wing Air-Handling Units (13) Single-Zone Air- Handling Units (3) Single-Zone Rooftop Units (6) UV Day/Night Zones (6) Split AC Units (12) Unit Heaters / Cabinet Unit Heaters (14) Exhaust Fans (1) Gymnasium Lighting Control Panel (1) Outdoor Lighting Control Panel (1) Gas & Electric Meters Monitoring	The school was controlled by an outdated pneumatic control system. The upgrades in the school included a building automation upgrade. The temperature control and equipment schedules for all of the school HVAC incuded in the narrative above will be tracked by the new building automation system. The equipment in the building will run reduced hours based on the schedule. In addition, temperature control is implemented. The savings was calculated in a building simulation model performed in Market Manager software. The results of the model are based on 10 year normalized weather data and 8760 hours simulation.	NA	N/A

Rev (4.1.2013)

#### Customer Legal Entity Name: Revere Local Schools

#### Site: MS

#### Principal Address: 3195 Spring Valley Road

		Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Efficiency Addbacks,	Note 1		
	2012 2011 2010	653,760 765,120 656,960	765,120	765,120			
	Average	691,947	691,947	706,355			
Project Number	Project Name	In-Service Date	Project Cost \$	KWh Saved/Year Counting towards Utility compliance	KWh Saved/Year (D) eligible for incentive	Utility Peak Demand Reduction Contribution, KW	Commitment Payment \$
1	Lighting Retrofit and Controls	07/31/2012	\$164,364	102,732	102,732	30	
2	Building Automation	07/31/2013	\$385,820	90,855	90,855	-	
				-	-		
				-	-	-	
				-	-	-	
				-	-	-	
				-	-		
			Total	193,587	193,587	30	\$0

		Savings as percent of	27.4% Note 2
Docket No.	14-0362	usage	
		= Total (D) divided by	
Site:	3195 Spring Valley Road	Average (C)	

Customer Eligible Exemption Period: 138 Month(s) Note 3

#### Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

(2) Savings as a percent of usage is equal to the of total project savings (D) divided by the 3 year average Weather Adjusted Usage with Energy Efficiency Addbacks (C).

(3) Customer exemption determined by savings percentage in relation to energy efficiency schedule as set forth in O.R.C. 4928.66(A)(1)(a).

(4) The exemption period reflects the maximum potential exemption period. NOTE: The FirstEnergy Utilities cannot guarantee the length of the exemption period that will ultimately be approved by the Commission.

#### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)		ty Avoided Cost \$/MWh (B)	Ut	ility Avoided Cost \$ (C)	ι	Jtility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Тс	otal Utility Cost \$ (G)	UCT (H)
1	103	\$	308	\$	31,670	\$	2,025	\$0	\$1,027	\$	3,052	10.4
2	91	\$	308	\$	28,009	\$	2,025	\$0	\$909	\$	2,934	9.55
<b>T</b> !	104	•	200		50 ( 70		1.050		¢4.027		5.00/	10.0
Total	194	\$	308		59,679		4,050	\$0	\$1,936		5,986	10.0

#### Notes

- (A) From Exhibit 2, = kWh saved / 1000
- (B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

- (D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.
- (E) This is the amount of the cash rebate paid to the customer for this project.
- (F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) =(C) / (G)

#### **Revere Local Schools ~ MS**

Docket No. 14-0362

Site: 3195 Spring Valley Road

					Energy Use Comparison									
Scenario Existing	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Savings
Electric (kWh) Demand (kW)	130,294.00 219.70	142,682.00 212.70	127,054.00 213.10	126,056.00 242.50	133,124.00 229.40	118,119.00 232.40	107,540.00 228.60	117,129.00 254.60	141,712.00 239.60	133,732.00 225.70	149,938.00 234.60	115,777.00 212.90	1,543,157.20 254.60	
Natural Gas (MCF) Demand (kBtuh)	2,152.00 0.00	1,035.00 0.00	573.00 0.00	63.00 0.00	53.00 0.00	14.00 0.00	10.00 0.00	4.00 0.00	10.00 0.00	120.00 0.00	169.00 0.00	1,433.00 0.00	5,636.00 0.00	
New Controls Electric (kWh) Demand (kW)	106,439.80 230.90	133,063.80 251.30	110,549.10 224.00	103,876.40 257.30	112,198.60 251.90	110,751.40 309.60	98,278.50 325.40	113,517.20 339.00	115,420.40 256.60	110,976.20 234.40	142,428.80 280.10	93,965.90 221.90	1,351,465.90 339.00	191,691 kWh
Natural Gas (MCF)	1,785.50	841.60	457.40	54.50	43.80	6.40	6.50	2.40	4.00	92.40	138.60	1,179.10	4,612.20	1,024 MCF
Demand (kBtuh)	0.00	0.00 841.60	0.00 457.40	0.00 54.50	0.00 43.80	0.00 6.40	0.00 6.50	0.00	0.00	0.00 92.40	0.00	0.00	0.00	
New Windows Electric (kWh) Demand (kW)	106,439.80 230.90	133,063.80 251.30	110,549.10 224.00	103,876.40 257.30	112,198.60 251.90	110,751.40 309.60	98,278.50 325.40	113,517.20 339.00	115,420.40 256.60	110,976.20 234.40	142,428.80 280.10	93,965.90 221.90	1,351,465.90 339.00	0.00 kWh
Natural Gas (MCF) Demand (kBtuh)	1,752.90 0.00	820.40 0.00	440.10 0.00	54.50 0.00	43.80 0.00	6.40 0.00	6.50 0.00	2.40 0.00	4.00 0.00	92.40 0.00	122.10 0.00	1,140.00 0.00	4,485.50 0.00	127 MCF
CCG Energy Solutions													Revere Middle School	
					Energy Use Comparison									
Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Savings
Existing Electric (kWh) Demand (kW)	72,640.00 180.00	79,440.00 182.00	70,320.00 184.00	61,680.00 186.00	61,840.00 184.00	45,520.00 120.00	34,320.00 94.00	50,800.00 183.00	63,360.00 200.00	70,640.00 192.00	78,000.00 181.00	71,680.00 192.00	760,240.20 200.00	
Natural Gas (MCF) Demand (kBtuh)	1,180.00 0.00	1,052.00 0.00	772.00 0.00	533.00 0.00	259.00 0.00	40.00 0.00	29.00 0.00	26.00 0.00	48.00 0.00	422.00 0.00	575.00 0.00	840.00 0.00	5,776.00 0.00	
New Control Electric (kWh) Demand (kW)	63,645.70 180.00	69,836.40 182.00	61,910.40 184.00	53,018.80 186.00	56,838.10 184.00	37,669.20 98.70	28,069.00 74.70	45,776.80 161.60	58,648.40 200.20	62,924.00 195.10	68,579.30 181.00	62,469.50 192.10	669,385.60 200.20	90,855 kWh
Natural Gas (MCF) Demand (kBtuh)	785.10 0.00	685.70 0.00	513.80 0.00	332.20 0.00	259.00 0.00	40.00 0.00	29.00 0.00	26.00 0.00	48.00 0.00	329.80 0.00	384.70 0.00	539.50 0.00	3,972.90 0.00	1,803.1 MCF
CCG Energy Solutions													Hillcrest Elementary School	
					Energy Use Comparison									
Scenario Existing	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Savings
Electric (kWh) Demand (kW)	51,200.00 138.00	66,240.00 149.00	54,880.00 147.00	50,400.00 140.00	42,560.00 140.00	40,480.00 133.00	35,680.00 133.00	37,600.00 130.00	50,400.00 137.00	48,480.00 134.00	55,520.00 134.00	49,920.00 138.00	583,360.10 149.00	
Natural Gas (MCF) Demand (kBtuh)	1,415.00 0.00	1,011.00 0.00	862.00 0.00	282.00 0.00	130.00 0.00	0.00 0.00	3.00 0.00	2.00 0.00	178.00 0.00	289.00 0.00	417.00 0.00	692.00 0.00	5,281.00 0.00	
Lighting Electric (kWh) Demand (kW)	40,295.40 104.80	51,803.30 113.10	42,722.00 111.60	39,897.80 110.10	33,310.90 108.20	39,311.50 130.00	34,854.60 131.60	36,900.60 128.70	39,150.20 106.90	38,250.00 103.30	43,249.60 101.70	39,509.80 104.80	479,255.60 131.60	104,105 kWh
New Control Electric (kWh)	34,076.80	44,058.50	34,777.10	28.404.90	21,740.70	10,953.00	10,014.10	10,209.90	27.206.30	29.373.20	34.844.90	33.203.10	318,862.50	160,393 kWh
Demand (kW)	104.80	113.10	111.60	110.40	108.60	54.40	55.50	53.20	107.30	105.40	101.70	104.80	113.10	
Natural Gas (MCF) Demand (kBtuh)	1,328.50 0.00	914.90 0.00	698.50 0.00	249.80 0.00	31.60 0.00	0.00 0.00	3.00 0.00	2.00 0.00	190.30 0.00	282.80 0.00	315.80 0.00	652.50 0.00	4,669.70 0.00	611 MCF
New Plant Electric (kWh) Demand (kW)	31,246.60 134.40	41,180.80 139.50	33,192.50 140.00	27,468.30 133.70	21,620.90 129.50	10,953.50 104.80	10,014.20 105.40	10,209.90 101.60	27,156.90 126.30	27,777.30 124.30	33,252.70 124.90	30,397.30 133.90	304,470.90 140.00	14,392 kWh
	1,047.20 0.00	713.20 0.00	535.00 0.00	152.40 0.00	17.70 0.00	0.00 0.00	3.00 0.00	2.00 0.00	125.70 0.00	149.40 0.00	245.50 0.00	511.40 0.00	3,502.50 0.00	1,167 MCF 303
Natural Gas (MCF) Demand (kBtuh)	0.00													
	31,246.40 134.40	41,180.80 139.50	33,192.50 140.00	27,468.30 133.70	21,619.90 129.50	10,952.50 104.80	10,013.20 105.40	10,207.90 101.60	27,155.90 126.30	27,777.30 124.30	33,252.70 124.90	30,397.30 133.90	304,464.70 140.00	6 kWh
Demand (kBtuh) Windows 5 Electric (kWh)	31,246.40			,			- /							6 kWh
Demand (kBtuh) Windows 5 Electric (kWh) Demand (kW) Natural Gas (MCF)	31,246.40 134.40 1,044.20	139.50 713.20	140.00 535.00	133.70 152.40	129.50	104.80 0.00	105.40 3.00	101.60 2.00	126.30 125.70	124.30 149.40	124.90 243.50	133.90 510.40	140.00 3,496.50	

Scenario **Existing** Electric (kWh) Demand (kW) Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Annual Savings 36,000.00 34,880.00 30,720.00 22,720.00 82.00 85.00 80.00 77.00 
 27,680.00
 18,060.00
 18,720.00
 12,480.00
 27,680.00
 29,292.00
 29,280.00
 25,000.00

 75.00
 42.00
 40.00
 75.00
 76.00
 75.00
 77.00
 77.00
 313,740.00 85.00

Natural Gas (MCF)	768.00	865.00	326.00	239.00	107.00	0.00	11.00	12.00	17.00	304.00	370.00	847.00	3,866.00	
Demand (kBtuh)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
New Controls Electric (kWh) Demand (kW)	31,611.00 83.50	30,204.80 86.60	26,228.80 81.50	18,411.60 78.50	21,653.10 75.20	11,682.00 42.10	12,329.80 40.10	8,301.30 75.20	21,614.50 78.10	29,047.70 75.70	24,668.20 78.50	22,182.40 78.40	257,935.20 86.60	55,805 kWh
Natural Gas (MCF)	596.40	652.60	232.80	150.60	59.80	0.00	11.00	12.00	17.00	396.20	247.90	654.30	3,030.60	835.4 MCF
Demand (kBtuh)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
New Plant Electric (kWh) Demand (kW)	30,810.70 84.00	29,186.00 86.90	25,313.50 81.00	18,042.80 76.40	21,653.10 75.20	11,682.00 42.10	12,329.80 40.10	8,301.30 75.20	21,614.50 78.10	28,491.00 75.40	23,987.00 77.50	21,828.30 78.90	253,240.00 86.90	4,695 kWh
Natural Gas (MCF)	546.20	574.10	237.90	127.00	59.80	0.00	11.00	12.00	17.00	321.30	215.10	576.00	2,697.40	333.2 MCF
Demand (kBtuh)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

# Lighting Form

#### Lighting Inventory Form

Applicant Name: Facilty Name: Date:	Revere Schools Revere MS 9/10/2013		F	lease use one line for ea or existing or proposed o he total of Column S, the	control, choose	OCC for Occupany Se						ve on the NonStandard Li	ghting form.												
Line Building Address Floor	PROJECT BANC INFORM	MATION Predominant Space Type	Area Cooling Pre Fixture Oty	PRE-INS Pre Fixture Code	TALLATION Pre Watts / Fixture (W)	Pre kW / Existi Space Contr (kW) drop do	ng Existing ol Sensor F Quantity When applicable	Post F Fixture Qty	Post Fixture Code	POST-INSTAL Post Watts/ Fixture (W)	LATION Post KW / Space (kW)	Proposed Control Senso Please arter VUTG, OCC or NOME.	d Interior Char in Connecti Load (kW) excludi CFLs or Ex Signs	d Exterior d Change in Connected Load (kW) excluding CFLs or Exit Signs	Change in Connected Load (kW) CFL or LED exit sign	Applicant Coincidence Factor (CF) Estimate	Coincidence Factor	Interactive Factor (demand)	Interactive Factor (energy)	Energy Calo Pre Controls Post Factor Control Factor	Interior Extr Demand Dem Savings Sav (kW) (k excluding excl CFLs or CFL Exit Signs Exit	s or Signs	Applicant I Equivalent I Full Load Hours (EFLH) Estimate	Prescribed An Equivalent F Full Load Hours C	nual Interiol Ixture KWh Saved (excluding FLs or Exit Signs)
e.g. 400 North Street 2 e.g. Example 1 1 3195 Spring Valley Road		Office - Smail Restaurant - Fast Food ducation - Secondary School	Cooled Space 3 Uncooled space 5 . Cooled Space 18	F44ILL Example Cut Sheet 1 CFQ26/1-L						56 25		OCC 3 DAYLTG 5		0.13	0.17	84% 88%	84% 88% 57%				0.	0.19	2,808 8,760	3,435 4,156 2,080	
2 3195 Spring Valley Road 3 3195 Spring Valley Road 4 3195 Spring Valley Road 5 3195 Spring Valley Road 6 3195 Spring Valley Road	School Interior Ed School Interior Ed School Interior Ed School Interior Ed School Interior Ed School Interior Ed	ducation - Secondary School ducation - Secondary School ducation - Secondary School ducation - Secondary School ducation - Secondary School	Cooled Space 52 Cooled Space 5 Cooled Space 10 Cooled Space 4 Cooled Space 679	F42II F31ee CFQ26/2-L F42II	59 38 50 59	0.49 NON 1.61 NON 0.30 NON 0.38 NON 0.20 NON 40.06 NON	E	10 2 673	F41SSILL F31ILL F42SSILL F42SSILL	26 26 48 48	0.26 0.10 32.30	NONE NONE NONE NONE	0.26 0.12 0.10 7.76				57% 57% 57% 57% 57%	34% 34% 34% 34% 34%	12% 12% 12% 12% 12%		0.20 0.09 0.08 5.92			2,080 2,080 2,080 2,080 2,080 2,080	280 242 18,071
7 8195 Spring Valley Road 8 8195 Spring Valley Road 9 8195 Spring Valley Road 10 8195 Spring Valley Road 11 8195 Spring Valley Road 12 8195 Spring Valley Road 13 8195 Spring Valley Road 14 8195 Spring Valley Road 15 8195 Spring Valley Road 15 8195 Spring Valley Road 16 8195 Spring Valley Road	School         Exterior           School         Interior         Ed           School         Exterior         School         Exterior           School         Exterior         School         Exterior	ducation - Secondary School Dusk-to-Dawn Lighting ducation - Secondary School Dusk-to-Dawn Lighting Dusk-to-Dawn Lighting Dusk-to-Dawn Lighting	Cooled Space 11 Uncooled space 1 Cooled Space 26 Uncooled space 10 Uncooled space 5 Uncooled space 4	1100/1 MH150/1 MH200/1	100 100 190 232	0.79 NON 0.10 NON 2.60 NON 1.90 NON 1.16 NON 1.18 NON	E		Cut Sheet 6 Cut Sheet 9 CF23/1-L Cut Sheet 9 Cut Sheet 8 Cut Sheet 10	50 25 50	0.14 0.05 0.65 0.50 0.38 0.36	NONE NONE NONE	0.65	0.05	1.95		57%				0.50	1.49		2,080 3,833 2,080 3,833 3,833 3,833 3,833	1,512
13         3195         Spring Valley Road           14         3195         Spring Valley Road           15         3195         Spring Valley Road           16         3195         Spring Valley Road           17         3195         Spring Valley Road	School Exterior School Interior Ed School Interior Ed	Justi-to-Jawn Lighting ducation - Secondary School ducation - Secondary School ducation - Secondary School ducation - Secondary School	Uncooled space 10 Cooled Space 40 Cooled Space 412 Cooled Space 412 Cooled Space 21	HPS250/1 MH400/1 F42II F42II	295 458 59	2.95 NON 18.32 NON NON 24.31 NON 1.24 NON		10	Cut Sheet 11 F48il F42SSII F42ssII F42ssII F42ssII	101 224 48	1.01 8.96 0.43 19.78 1.01	NONE DAYLTG NONE	9.36 4.53 0.23	1.94			57% 57% 57% 57%	34% 34% 34%	12% 12% 12%	50%	7.15 3.46 0.18			3,833 2,080 2,080 2,080 2,080 2,080	21,805
18 19 20 21	School Intenor Ed	ducation - Secondary School	Cooled Space 21	F42II	59	NON NON NON	E	21	F4255II	48		NONE NONE NONE	0.23				5/%	34%	12%	50%	0.18			2,080	538
22 23 24 24 24 24 24 24 25 25 24 25 25 25 25 25 25 25 25 25 25 25 25 25						NON NON NON NON						NONE NONE NONE NONE													
20 27 28 29 30						NON NON NON NON NON						NONE NONE NONE NONE NONE													
31 32 33 34 35 36						NON NON NON NON NON						NONE NONE NONE													
36 37 38 39 40						NON NON NON NON	E					NONE NONE NONE NONE NONE													
41 42 43 44						NON NON NON	E E E E E E E E E E E E E E E E E E E					NONE NONE NONE													
41         42           43         44           46         46           47         46           49         49           51         51           52         53						NONI NONI NONI NONI NONI	E					NONE NONE NONE NONE													
50 51 52 53 54						NON NON NON NON NON						NONE NONE NONE NONE NONE													
54 55 56 57 58 58						NON NON NON NON	E E					NONE NONE NONE NONE													
58 59 60 61 62 63						NON NON NON NON NON NON	F					NONE NONE NONE NONE NONE													
64 65 66 67 68						NON NON	E E					NONE NONE NONE													
0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0						NON NON NON	E					NONE NONE NONE NONE													
74 75 76 77						NON NON NON NON	E E					NONE NONE NONE NONE NONE													
79 80 81 82						NON NON NON	E					NONE NONE NONE													
83         44           64         94           65         97           66         96           67         96           97         96           90         97           91         96           92         96           93         96           94         96           97         97           98         97           98         97						NON NON NON NON	F					NONE NONE NONE NONE NONE													
88 89 90 91 92						NON NON NON NON NON NON						NONE NONE NONE NONE NONE NONE													
93 94 95 96						NON						NONE NONE NONE NONE													
97 98 99 100 101 102 103						NON NON NON NON NON	E E					NONE NONE NONE NONE NONE NONE													
102 103 104 105 106 107						NON NON NON NON NON						NONE NONE NONE NONE NONE													
108 109 110						NON NON NON NON	E E					NONE NONE NONE NONE NONE													
112 113 114						NON NON NON	E					NONE NONE NONE													
115           116           117           118           119           120           121           122           123						NON NON NON NON	E E					NONE NONE NONE NONE													
121 122 123 124 125						NON NON NON NON NON						NONE NONE NONE NONE NONE NONE													
126 127 128 129 120						NON NON NON NON NON NON						NONE NONE NONE NONE NONE NONE													
124						NON NON NON NON NON NON						NONE NONE NONE NONE NONE NONE NONE													
135 136 137 138						NON NON NON						NONE NONE NONE NONE													

# Lighting Form

Line Building Address	Floor Area Description	PROJECT	BASIC INFORMATION			PRE-IN	STALLATION						POST-INSTAL	LATION									Ener	rgy Calcula	tions				
Line Building Address Item	Floor Area Description	Interior or Exterior Fixture	Predominant Space Type	Area Cooling	Pre Fixture Qty	Pre Fixture Code	Pre Watts / Fixture (W)	Pre kW / Space (kW)	Existing Control drop down	Existing Sensor Quantity	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post KW / Space (KW)	Proposed Control	Proposed Into Sensor in Quantity	erior Change Connected	Exterior Ch Change in Co	ange in Appli nnected Coincid	ant Coincia ance Fact	or Factor (deman	ve Interactiv Factor d) (energy)	Pre Controls Factor	Post Controls Factor	Interior Exter Demand Dema Savings Savin (kW) (kW excluding exclud CFLs or CFLs Exit Signs Exit Si	nd Savings	Applicant P Equivalent E	rescribed A iquivalent	Fixture kWh
							(W)	(kW)		Quantity When applicable	Qty			(kW)	Control Please enter AYLTG, OCC or NONE.	Quantity When applicable (k)	Connected Load W) excluding FLs or Exit Signs	Connected Load (kW)	Innected Coincid Load Fact (kW) (CF Lor LED Estim	¢	(deman	d) (energy)		Factor	Savings Savin (kW) (kW excluding exclud CFLs or CFLs Exit Signs Exit Si	igs (kW) () CFLs or ding LED Exit	Full Load B	Full Load	Fixture kWh Saved (excluding CFLs or Exit Signs)
															NONE.	C	FLs or Exit	excluding CFLs CF	or LED Estim	ite					excluding exclusion	ding LED Exit	Hours (EFLH)		CFLs or Exit
																	Signs	or Exit Signs e	cit sign						CFLs or CFLs Exit Signs Exit Si	or Signs	Estimate		Signs)
																										× .			
139									NONE NONE NONE NONE						NONE NONE NONE NONE														
140									NONE						NONE														
142					_				NONE	_	_				NONE					_		_							
143									NONE						NONE														
145									NONE NONE NONE NONE						NONE NONE NONE							-				_			
140									NONE						NONE														
148									NONE						NONE						-					-			<u> </u>
150									NONE NONE NONE						NONE														
151									NONE						NONE NONE NONE														
153					_				NONE	_	_				NONE					_									
155									NONE NONE NONE NONE NONE NONE						NONE NONE NONE NONE NONE NONE														
156									NONE						NONE							_							<u> </u>
158									NONE						NONE														
159									NONE						NONE						-					-			<u> </u>
161									NONE NONE NONE		_				NONE NONE														
163		L							NONE						NONE														
164		+			-				NONE NONE NONE	1	1				NONE NONE NONE														
166		1							NONE						NONE														
167	<u> </u>	+							NONE	+	+				NONE														
169		1							NONE		1				NONE														
170	<u> </u>	+							NONE	+	+				NONE														
172		1							NONE		1				NONE NONE NONE NONE NONE														
1/3 174	+ +	1	1		+				NONE	1	+				NONE											-			
175	F - F				-				NONE NONE NONE NONE NONE NONE NONE NONE						NONE														
100           101           102           103           104           105           104           105           106           107           108           109           100           101           102           103           104           105           106           107           108           109           101           102           103           104           105           106           107           108           109           101           102           103           104           105           105           106           107           108           109           101           102           103           104           105           106           107           108           109           101		1							NONE						NONE NONE NONE NONE														
178	+	+							NONE	-	1				NONE														
180									NONE						NONE														
181		+							NONE	+	+				NONE														
183									NONE						NONE														
184									NONE NONE NONE						NONE NONE NONE							_							
186									NONE						NONE														
187									NONE						NONE							_							
189									NONE						NONE														
190									NONE						NONE														
192					_				NONE NONE NONE NONE NONE NONE	_	_				NONE NONE NONE					_		_							
193									NONE						NONE														
195									NONE						NONE NONE NONE							_							<u> </u>
197									NONE						NONE														
198									NONE						NONE						-					-			<u> </u>
200									NONE NONE NONE						NONE NONE NONE														
201 202									NONE						NONE NONE														
203									NONE						NONE							_				_			
205									NONE NONE NONE						NONE NONE NONE														
206									NONE						NONE						-					-			<u> </u>
208									NONE NONE NONE NONE NONE NONE NONE NONE		_				NONE NONE														
209		L							NONE						NONE														
211		+							NONE	1	1				NONE														
213		1							NONE						NONE NONE NONE NONE NONE NONE														
214	+ +	1	1						NONE	+	1				NONE												⊢ – – –		
216									NONE	1					NONE														
21/ 218	+ +	1	1		+				NONE		+				NONE														
219									NONE						NONE														
220		L							NONE						NONE														
222		+			-				NONE NONE NONE NONE NONE NONE NONE NONE	1	1				NONE NONE NONE														
224		1							NONE						NONE NONE														
225	<u> </u>	+			+	I			NONE	+	+	L			NONE														
227									NONE		_				NONE					_									
229		L							NONE						NONE														
230		+			-				NONE	1	1				NONE														
232		1							NONE						NONE														
233 234		+							NONE	+	+				NONE NONE NONE NONE NONE NONE NONE NONE														
235		1							NONE		1				NONE														
236	<u>+ +</u>	+	1		+			-	NONE	+	+				NONE											_			
238									NONE						NONE														
239 240	+ +	1	1		+				NONE	1	+				NONE														
241									NONE						NONE														
243		L							NONE						NONE NONE NONE														
244		1							NONE NONE NONE NONE NONE NONE NONE	1	1				NONE NONE NONE NONE NONE														
246		1							NONE						NONE														
247 248		+							NONE	+	+				NONE														
249									NONE						NONE														
Totals	I I	1	1	1	1,308			97.58	NONÉ	J	1,286			67.28	NUNE		23.01	5.00	1.95						17.58	1.49			53,611
					_	-			-			•															-	_	

Project Estimate Savings Sum	
Estimated Annual kWh Savings	102,732
Total Change in Connected Load	29.96
Annual Estimated Cost Savings	\$10,273.20
Annual Operating Hours	2,596
Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$2,680.55
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$957.30
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard- wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$26.00
Total retrofit LED Exit Incentive @ \$10/exit sign	\$0.00
Total Lighting Controls Incentive @ \$25/sensor (includes all Lighting Controls, both interior and exterior)	\$0.00
Total Calculated Incentive	\$3,663.85
Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	1260
Total Lamp Quantity for retrofit Screw-In CFLs	26
Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	0
Total Quantity for Daylight Sensors	0

Please briefly describe how you estimate equivalent full-load hours (EFLH) for facility	5	· / · · ·
Demand Savings (For Internal Use Only)	19.07	

# <u>Mercantile Customer Project Commitment Agreement</u> <u>Exemption Option</u>

THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT ("Agreement") is made and entered into by and between Ohio Edison Company, its successors and assigns (hereinafter called the "Company") and Revere Local Schools, its permitted successors and assigns (hereinafter called the "Customer") (collectively the "Parties" or individually the "Party") and is effective on the date last executed by the Parties as indicated below.

# **WITNESSETH**

WHEREAS, the Company is an electric distribution utility and electric light company, as both of these terms are defined in R.C. § 4928.01(A); and

**WHEREAS**, Customer is a mercantile customer, as that term is defined in R.C. § 4928.01(A)(19), doing business within the Company's certified service territory; and

**WHEREAS,** R.C. § 4928.66 (the "Statute") requires the Company to meet certain annual energy efficiency and peak demand reduction ("EE&PDR") benchmarks; and

WHEREAS, when complying with certain EE&PDR benchmarks the Company may include the effects of mercantile customer-sited EE&PDR projects; and

WHEREAS, Customer has certain customer-sited demand reduction, demand response, or energy efficiency project(s) as set forth in attached Exhibit 1 (the "Customer Energy Project(s)") that it desires to commit to the Company for integration into the Company's Energy Efficiency & Peak Demand Reduction Program Portfolio Plan ("Company Plan") that the Company will implement in order to comply with the Statute; and

WHEREAS, the Customer, pursuant to and consistent with the Statute, desires to pursue exemption from paying charges included in the Company's then current cost recovery mechanism (hereinafter, "Rider DSE") as approved by the Public Utilities Commission of Ohio ("Commission") for recovery of the DSE2 costs associated with the Company Plan; and is committing the Customer Energy Project(s) as a result of such exemption.

**WHEREAS**, Customer's decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of an exemption; and

**WHEREAS**, in consideration of, and upon receipt of, said exemption, Customer has consented to committing the Customer Energy Project(s) to the Company and complying with all other terms and conditions set forth herein, including without limitation, the submission of an annual report on the energy savings and/or peak-demand reductions achieved by the Customer Energy Project(s).

**NOW THEREFORE**, in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, do hereby agree as follows:

1. **Customer Energy Projects**. Customer hereby commits to the Company and Company accepts for integration into the Company Plan the Customer Energy Project(s) set forth on attached Exhibit 1. Said commitment shall be for the life of the Customer Energy Project(s). Company will incorporate said project(s) into the Company Plan to the extent that such projects qualify. In so committing, and as evidenced by the affidavit attached hereto as Exhibit A, Customer

acknowledges that the information provided to the Company about the Customer Energy Project(s) is true and accurate to the best of its knowledge.

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements.
- b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively as applicable, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's other requirements or obligations, including without limitation any reporting requirements, as set forth herein.
- c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
- d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of a joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
- e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
- 2. Joint Application to the Commission. The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" in which they will seek the Commission's approval of (i) this Agreement: (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's exemption from paying the DSE2 charge of the Company's Rider DSE.

The Joint Application shall include all information as set forth in the Commission's standard form which, includes without limitation:

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
- ii. A copy of this Agreement; and

iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.

3. **Customer Exemption and Annual Report**. Upon Commission approval of the request for exemption, the Company will exempt Customer from paying any Rider DSE charges consistent with any Commission directives as set forth in the Commission's Finding and Order approving the Joint Application. Such exempt status shall apply to those accounts identified by Customer that pertain to those Customer sites with one or more Customer Energy Project(s) approved for integration into the Company Plan by the Commission in the Joint Application.

- a. For purposes of this Agreement, a "site" shall be a single location with one or more facilities. As examples only, a site includes an industrial plant, a hospital complex or a university located on one or more parcels of land, provided that said parcels are contiguous.
- b. For purposes of this Agreement, an "account" shall be as defined by the Company through its normal business practices. Any account identified by Customer shall be eligible for exemption, provided that said account pertains to a specific site with at least one Customer Energy Project that qualifies Customer for exemption from paying Rider DSE charges.
- c. Any new accounts created at a site on which there is already an approved Customer Energy Project shall, at the option of the Customer, be included within the exemption granted under said project, and shall be included for purposes of calculating future eligibility for exemption under the project. Any such election shall become effective in the first billing cycle after March 15<sup>th</sup> following identification of said account in the annual report required under Section 3(d)(iii) below.
- d. Customer acknowledges and agrees that if it desires to pursue such exempt status, as evidenced in the Joint Application, Customer is obligated to provide to the Company an annual report on the energy savings and peak-demand reductions achieved by the Customer Energy Project(s) on a calendar year basis. Company shall provide Customer with such information as it may require, that is in Company's possession, for the purposes of preparing such report. Company shall provide a template for Customer to use in preparing the annual report and shall make available a designated Company representative to answer questions.
  - i. Said report shall be submitted annually on or before January 31 of each year after Commission approval of the Joint Application.
  - ii. Said report shall provide all information required under the Rules, and where the requirements of the Rules conflict with a requirement under this Agreement or the Joint Application, the requirements of the Rules shall control.
  - iii. Said report shall, at a minimum, include the following information for each Customer Energy Project that has been approved by the Commission:
    - 1. A demonstration that the energy savings and peak-demand reductions associated with the Customer Energy Project(s) meet the total resource cost test or that the Company's avoided cost exceeds the cost to the Company for the Customer's program;
    - 2. A statement distinguishing programs implemented before and after January 1 of the current year;

- 3. A quantification of the energy savings or peak-demand reductions for programs initiated prior to 2009 in the baseline period;
- 4. A recognition that the Company's baselines have been increased by the amount of mercantile customer energy savings and demand reductions;
- 5. A listing and description of the Customer Energy Projects that have been implemented, which provides the detail required by the Rules;
- 6. An accounting of expenditures made by the mercantile customer for each program and its component energy savings and peak-demand reduction attributes; and
- 7. A timeline showing when each Customer Energy Project went into effect and when the energy savings and peak-demand reductions occurred.
- 8. Any other information reasonably necessary for the Company to (i) verify Customer's continued eligibility for exemption from paying Rider charges; and (ii) report in the Company's annual status report to the Commission the EE&PDR results related to each Customer Energy Project.
- e. Customer's exemption shall automatically terminate:
  - i. At the end of the exemption period as determined by the Commission
  - ii. Upon order of the Commission or pursuant to any Commission rule;
  - iii. If Customer fails to comply with the terms and conditions set forth in the Company's then current Rider DSE, or its equivalent, as amended from time to time by the Commission, within a reasonable period of time after receipt of written notice of such non-compliance;
  - iv. If it is discovered that Customer knowingly falsified any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated; or
  - v. If Customer fails to submit the annual report required in (d) above. In such an instance, Company reserves the right to recover any exempted rider charges from the date of approval of the Joint Application through the date said exemption is terminated. It is expressly agreed that this provision shall not apply should said report contain errors, provided that the submission of said report is made in good faith. It is further agreed that the Company will provide written notice of the date on which said report is due at least thirty (30) days prior thereto.
- f. Company reserves the right to recover from Customer any Rider DSE charges incurred by Customer after the date Customer's exemption terminates.
- 3. Termination of Agreement. This Agreement shall automatically terminate:
  - a. If the Commission fails to approve this Agreement through the Joint Application;

- b. Upon order of the Commission; or
- c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's exemption, provided that Customer provides the Company with written notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

Customer acknowledges that if a Customer Project is withdrawn pursuant to Paragraph 1(b) of this Agreement, the exemption or a portion of such exemption may be affected. Should Customer elect to withdraw a project pursuant to Paragraph 1(b), Customer shall provide Company with reasonable assistance in preparing any documentation that may be required by the Commission and, upon reasonable request, shall provide documentation supporting the necessity to withdraw such project.

- 4. **Confidentiality**. Each Party shall hold in confidence and not release or disclose to any person any document or information furnished by the other Party in connection with this Agreement that is designated as confidential and proprietary ("Confidential Information"), unless: (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; or (iii) such document or information was available to the receiving Party on a non-confidential basis at the time of disclosure.
  - a. Notwithstanding the above, a Party may disclose to its employees, directors, attorneys, consultants and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, directors, attorneys, consultants and agents have been advised of the confidential nature of this information and through such disclosure are deemed to be bound by the terms set forth herein.
  - b. A Party receiving such Confidential Information shall protect it with the same standard of care as its own confidential or proprietary information.
  - c. A Party receiving notice or otherwise concluding that Confidential Information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall endeavor to: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such Confidential Information, including without limitation, the filing of such information under a valid protective order.
  - d. By executing this Agreement, Customer hereby acknowledges and agrees that Company may disclose to the Commission or its Staff any and all Customer information, including Confidential Information, related to a Customer Energy Project, provided that Company uses reasonable efforts to seek confidential treatment of the same.
- 5. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the application of the exemption.
- 6. Notices. Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement must be in writing and must be delivered or sent by overnight express mail, courier service, electronic mail or facsimile transmission addressed as follows:

### If to the Company:

---

FirstEnergy Service Company 76 South Main Street Akron, OH 44308 Attn: Victoria Nofziger Telephone: 330-384-4684 Fax: 330-761-4281 Email: vmnofziger@firstenergycorp.com

### If to the Customer:

Revere Local Schools 3496 Everett Road Richfield, Ohio 44333 Attn:David Forrest Telephone:330-666-4155 Fax: Email:DForrest@RevereSchools.org

or to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the business day will be deemed received on the next business day; provided that notice by facsimile transmission will be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

- 7. Authority to Act. The Parties represent and warrant that they are represented by counsel in connection with this Agreement, have been fully advised in connection with the execution thereof, have taken all legal and corporate steps necessary to enter into this Agreement, and that the undersigned has the authority to enter into this Agreement, to bind the Parties to all provisions herein and to take the actions required to be performed in fulfillment of the undertakings contained herein.
- 8. Non-Waiver. The delay or failure of either party to assert or enforce in any instance strict performance of any of the terms of this Agreement or to exercise any rights hereunder conferred, shall not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights at any later time or on any future occasion.
- 9. Entire Agreement. This Agreement, along with related exhibits, and the Company's Rider DSE, or its equivalent, as amended from time to time by the Commission, contains the Parties' entire understanding with respect to the matters addressed herein and there are no verbal or collateral representations, undertakings, or agreements not expressly set forth herein. No change in, addition to, or waiver of the terms of this Agreement shall be binding upon any of the Parties unless the same is set forth in writing and signed by an authorized representative of each of the Parties. In the event of any conflict between Rider DSE or its equivalent and this document, the latter shall prevail.
- 10. Assignment. Customer may not assign any of its rights or obligations under this Agreement without obtaining the prior written consent of the Company, which consent will not be unreasonably withheld. No assignment of this Agreement will relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained.
- 11. Severability. If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remaining portions of this Agreement, and the Parties further agree to substitute for the invalid portion a valid provision that most closely approximates the economic effect and intent of the invalid provision.

- 12. Governing Law. This Agreement shall be governed by the laws and regulations of the State of Ohio, without regard to its conflict of law provisions.
- 13. Execution and Counterparts. This Agreement may be executed in multiple counterparts, which taken together shall constitute an original without the necessity of all parties signing the same page or the same documents, and may be executed by signatures to electronically or telephonically transmitted counterparts in lieu of original printed or photocopied documents. Signatures transmitted by facsimile shall be considered original signatures.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be executed by their duly authorized officers or representatives as of the day and year set forth below.

**Ohio Edison Company** (Company) By: Title: VP of Energy Efficiency 5 C. Date: **Revere Local Schools** (Customer) By: Title: Date:

### Affidavit of Revere Local Schools – Exhibit A

## STATE OF OHIO

SS:

)

)

# COUNTY OF Summit

I, David Forrest, being first duly sworn in accordance with law, deposes and states as follows:

- 1. I am the CFO/Treasurer of Revere Local Schools ("Customer") As part of my duties, I oversee energy related matters for the Customer.
- The Customer has agreed to commit certain energy efficiency projects to Ohio Edison Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
- 3. In exchange for making such a commitment, the Company has agreed to provide Customer with a Rider Exemption ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.
- All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.

Sworn to before me and subscribed in my presence this 27 day of  $f = \frac{1}{20} \frac{20}{20}$ .

C. SANDRA WIERZBICKİ, Notary Public Residence - Summit County State Wide Jurisdiction, Ohio My Commission Expires August 31, 2014

# This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/27/2014 5:07:16 PM

in

Case No(s). 14-0362-EL-EEC

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of Ohio Edison Company and Revere Local Schools electronically filed by Ms. Jennifer M. Sybyl on behalf of Ohio Edison Company and Revere Local Schools