



## Public Utilities Commission

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

**Case No.: 14-0162-EL-EEC**

Mercantile Customer: Bay Village City School

Electric Utility: The Cleveland Electric Illuminating Company

Program Title or Description: Bay Village High School Univent & Pump Upgrade

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. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option 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 for a period of up to 12 months will also qualify for the 60-day automatic approval. However, all applications requesting an exemption from the EEDR rider for longer than 12 months must provide additional information, as described within the Historical Mercantile Annual Report Template, that demonstrates additional energy savings and the continuance of the Customer's energy efficiency program. This information must be provided to the Commission at least 61 days prior to the termination of the initial 12 month exemption period to prevent interruptions in the exemption period.

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 altered or 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 [ee-pdr@puc.state.oh.us](mailto:ee-pdr@puc.state.oh.us).

## Section 1: Mercantile Customer Information

Name: Bay Village City Schools

Principal address: 337 Dover Center Road

Address of facility for which this energy efficiency program applies: Bay Village High School,  
29230 Wolf Rd, Bay Village, OH 44140

Name and telephone number for responses to questions: Daryl Stumph 440-617-7304

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

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

- ☐ Individually, without electric utility participation.
- ☒ Jointly with the electric utility.

B) The electric utility is: The Cleveland Electric Illuminating Company

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.)
- ☐ 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 failed equipment which has no useful life remaining. 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:

- 1) 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: 38,430 kWh

- 2) If you checked the box indicating that the customer installed new equipment to replace failed equipment which had no useful life remaining, then calculate the annual savings [(kWh used by new standard equipment) - (kWh used by the optional 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**

- 3) 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 standard new equipment) - (kWh used by optional 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.

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

## Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ☒ This project does not include peak demand reduction savings.
- ☐ 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?

\_\_\_\_\_

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

\_\_\_\_\_ kW

## **Section 5: Request for Cash Rebate Reasonable Arrangement, Exemption from Rider, or Commitment Payment**

Under this section, check all boxes that apply and fill in all corresponding blanks.

A) The customer is applying for:

☒ A cash rebate reasonable arrangement.

☐ An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

☐ Commitment payment

B) The value of the option that the customer is seeking is:

A cash rebate reasonable arrangement.

☒ A cash rebate of \$2,306. (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.)

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.)

☐ 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 12 month period, the customer will need to complete, and file within this application, the Historical Mercantile Annual Report

Template to verify the projects energy savings are persistent.

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

### 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.





**Public Utilities  
Commission**

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

Case No.: 14-0162 -EL-EEC

State of Ohio:

Daryl Stumph, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Bay Village City 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, I believe that the information is true, accurate and complete.

Daryl Stumph ASSISTANT SUPERINTENDENT  
Signature of Affiant & Title

Sworn and subscribed before me this 14<sup>th</sup> day of October, 2014 Month/Year

Beth E. Conroy  
Signature of official administering oath

\_\_\_\_\_  
Print Name and Title

My commission expires on June 11, 2016

**BETH E. CONROY**  
NOTARY PUBLIC • STATE OF OHIO  
Recorded in Cuyahoga County  
My commission expires June 11, 2016

Customer Legal Entity Name: Bay Village Local Schools  
Site Address: Bay Village High School  
Principal Address: 29230 Wolf Road

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	What date would you have replaced your 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	Uni Vent and Pump Replacement	Relplaced existing system with 3Armstrong vertical dualarm design envelope IVS pumps compleie with. 208I3/60. Dualarm pump design with 2 integralpumps in a single casing, factory wired for dusty standby operation. Faciory wired integrated variable speed drive. Design Envelope demand based controloffor energy efficient pump operation. Models. P-H1.2 4302 Casing size 3x3x8, 5 HP. 1800 RPM motor P-H3.4 4302 Casing size 4x4x6. 3 HP, 3600 RPM motorP-H5 6 4302 Casing size 4x4x6. 5 HP. 3600 RPM motor Stainless steel pump shaft. suction guides Qty (1) SG-33 (3" x 3") Qty (2) SG-44 (4" x 4") Armstrong VFD. NEMA 12 VFD enclosure. BMS communications. integral disconnect swicch, 5% DC link reactor & starwp.	See FE custom calculator and attached Trane Engineering calculation	1 to 2 years	N/A

Docket No. 14-0162  
Site: 29230 Wolf Road

Exhibit 2

Customer Legal Entity Name: Bay Village Local Schools  
 Site Address: Bay Village High School  
 Principal Address: 29230 Wolf Road

Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) <i>Note 1</i>
0	0	0

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ <i>Note 2</i>
1	Uni Vent and Pump Replacement	07/01/2013	\$413,653	\$206,827	38,430	38,430	-	\$3,074	\$2,306
					-	-	-		
					-	-	-		
					-	-	-		
					-	-	-		
					-	-	-		
Total			\$413,653		38,430	38,430	0	\$3,074	\$2,306

Docket No. 14-0162  
 Site: 29230 Wolf Road

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) The eligible rebate amount is based upon 75% of the rebates offered by the FirstEnergy Commercial and Industrial Energy Efficiency programs or 75% of \$0.08/kWh for custom programs for all energy savings eligible for a cash rebate as defined in the PUCO order in Case NO.10-834-EL-EEC dated 9/15/2010, not to exceed the lesser of 50% of the project cost or \$250,000 per project. The rebate also cannot exceed \$500,000 per customer per year, per utility service territory.

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	38	\$ 308	\$ 11,847	\$ 4,050	\$2,306	\$384	\$ 6,740	1.8
<b>Total</b>	<b>38</b>	<b>\$ 308</b>	<b>11,847</b>	<b>4,050</b>	<b>\$2,306</b>	<b>\$384</b>	<b>6,740</b>	<b>1.8</b>

#### 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)

**Bay Village Local Schools ~ Bay Village High School**  
**Docket No. 14-0162**

**Site:** 29230 Wolf Road

Ohio Edison • The Illuminating Company • Toledo Edison

## Mercantile Customer Program - Custom Project Rebate Calculator

<b>Project Name and Number:</b>	Air Handlers Upgrade
<b>Site Name:</b>	Bay Village High School
<b>Completed by (Name):</b>	Michele DiFrancesco
<b>Date completed:</b>	8/27/2014

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
Uni Vent and Pump Replacement	38,430	3074.40
<b>Total Project Energy Savings kWh</b>	<b>38,430</b>	
<b>Total Custom Prescriptive Rebate Amount \$</b>		<b>\$ 3,074.40</b>

Notes about this rebate calculation:	

**BAY VILLAGE SCHOOLS - HEATING PLANT UPGRADES**  
**ENERGY SAVINGS**

MODELING SOFTWARE: HAP4.61

UNIT TAG	MODEL #	PREVIOUSLY MODELED KWH USAGE (PER YEAR)	NEWLY MODELED KWH USAGE (PER YEAR)	TOTAL SAVINGS (KWH PER YEAR)
UV-H2	VUVE750	1361	687	674
UV-H4	VUVE750	1361	687	674
UV-H5	VUVE750	1361	687	674
UV-H6	VUVE750	1361	687	674
UV-H7	VUVE750	1361	687	674
UV-H8	VUVE750	1361	687	674
UV-H9	VUVE750	1361	687	674
UV-H10	VUVE750	1361	687	674
UV-H11	VUVE750	1361	687	674
UV-H12	VUVE750	1361	687	674
UV-H13	VUVE750	1361	687	674
UV-H14	VUVE750	1361	687	674
UV-H15	VUVE750	1361	687	674
UV-H16	VUVE750	1361	687	674
UV-H17	VUVE750	1361	687	674
UV-H18	VUVE750	1361	687	674
UV-H19	VUVE750	1361	687	674
UV-H20	VUVE750	1361	687	674
UV-H21	VUVE750	1361	687	674
UV-H22	VUVE1000	1546	790	756
UV-H23	VUVE750	1361	687	674
UV-H24	VUVE1000	1546	790	756
UV-H25	HUVC1502	1978	824	1154
UV-H26	HUVC1502	1978	824	1154
UV-H27	VUVE750	1361	687	674
UV-H28	VUVE750	1361	687	674
UV-H29	VUVE750	1361	687	674
UV-H30	VUVE750	1361	687	674
UV-H31	VUVE750	1361	687	674
UV-H32	VUVE750	1361	687	674
UV-H33	VUVE750	1361	687	674
UV-H34	VUVE750	1361	687	674
UV-H35	VUVE750	1361	687	674
UV-H36	VUVE750	1361	687	674
UV-H37	VUVE750	1361	687	674
UV-H38	VUVE750	1361	687	674
UV-H39	VUVE750	1361	687	674
UV-H40	VUVE750	1361	687	674
UV-H41	VUVE750	1361	687	674
UV-H42	VUVE750	1361	687	674
UV-H43	VUVE750	1361	687	674
UV-H44	VUVE750	1361	687	674
UV-H45	VUVE750	1361	687	674
UV-H46	VUVE750	1361	687	674
RTU-H1	YHC102	3677	2394	1283
AHU-H1	BHC090	12442	8295	4147

## Monthly Energy Use by Component - Existing Unit Vent

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:14AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	142	129	134	116	126	49	51	126	118	124	119	125
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	174	138	88	31	0	0	0	0	6	28	84	145
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - Existing Unit Vent

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:14AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	142	174	0	0	0	0	0
Feb	129	138	0	0	0	0	0
Mar	134	88	0	0	0	0	0
Apr	116	31	0	0	0	0	0
May	126	0	0	0	0	0	0
Jun	49	0	0	0	0	0	0
Jul	51	0	0	0	0	0	0
Aug	126	0	0	0	0	0	0
Sep	118	6	0	0	0	0	0
Oct	124	28	0	0	0	0	0
Nov	119	84	0	0	0	0	0
Dec	125	145	0	0	0	0	0
<b>Totals</b>	1,361	694	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0



## Monthly Energy Use by Component - New Unit Vent

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:15AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	72	65	68	59	64	25	26	64	60	63	60	63
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	177	141	91	33	0	0	0	0	7	30	87	147
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - New Unit Vent

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:15AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	72	177	0	0	0	0	0
Feb	65	141	0	0	0	0	0
Mar	68	91	0	0	0	0	0
Apr	59	33	0	0	0	0	0
May	64	0	0	0	0	0	0
Jun	25	0	0	0	0	0	0
Jul	26	0	0	0	0	0	0
Aug	64	0	0	0	0	0	0
Sep	60	7	0	0	0	0	0
Oct	63	30	0	0	0	0	0
Nov	60	87	0	0	0	0	0
Dec	63	147	0	0	0	0	0
<b>Totals</b>	687	713	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0

## Monthly Energy Use by Component - Existing Unit Vent 1000

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:19AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	162	147	153	132	144	56	58	144	134	141	135	142
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	173	138	88	30	0	0	0	0	6	28	84	144
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - Existing Unit Vent 1000

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:19AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	162	173	0	0	0	0	0
Feb	147	138	0	0	0	0	0
Mar	153	88	0	0	0	0	0
Apr	132	30	0	0	0	0	0
May	144	0	0	0	0	0	0
Jun	56	0	0	0	0	0	0
Jul	58	0	0	0	0	0	0
Aug	144	0	0	0	0	0	0
Sep	134	6	0	0	0	0	0
Oct	141	28	0	0	0	0	0
Nov	135	84	0	0	0	0	0
Dec	142	144	0	0	0	0	0
<b>Totals</b>	1,546	689	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0

## Monthly Energy Use by Component - New Unit Vent 1000

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:18AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	83	75	78	67	73	29	30	73	69	72	69	72
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	176	141	91	33	0	0	0	0	7	30	86	147
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - New Unit Vent 1000

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:18AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	83	176	0	0	0	0	0
Feb	75	141	0	0	0	0	0
Mar	78	91	0	0	0	0	0
Apr	67	33	0	0	0	0	0
May	73	0	0	0	0	0	0
Jun	29	0	0	0	0	0	0
Jul	30	0	0	0	0	0	0
Aug	73	0	0	0	0	0	0
Sep	69	7	0	0	0	0	0
Oct	72	30	0	0	0	0	0
Nov	69	86	0	0	0	0	0
Dec	72	147	0	0	0	0	0
<b>Totals</b>	790	710	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0

## Monthly Energy Use by Component - Existing Unit Vent Art

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:15AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	191	180	197	175	191	75	77	191	179	187	171	164
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	151	127	94	44	0	0	0	0	12	35	76	122
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - Existing Unit Vent Art

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:15AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	191	151	0	0	0	0	0
Feb	180	127	0	0	0	0	0
Mar	197	94	0	0	0	0	0
Apr	175	44	0	0	0	0	0
May	191	0	0	0	0	0	0
Jun	75	0	0	0	0	0	0
Jul	77	0	0	0	0	0	0
Aug	191	0	0	0	0	0	0
Sep	179	12	0	0	0	0	0
Oct	187	35	0	0	0	0	0
Nov	171	76	0	0	0	0	0
Dec	164	122	0	0	0	0	0
<b>Totals</b>	1,978	661	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0



## Monthly Energy Use by Component - New Unit Vent Art

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	80	75	82	73	80	31	32	80	75	78	71	68
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	155	132	99	48	0	0	0	0	14	39	81	126
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - New Unit Vent Art

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	80	155	0	0	0	0	0
Feb	75	132	0	0	0	0	0
Mar	82	99	0	0	0	0	0
Apr	73	48	0	0	0	0	0
May	80	0	0	0	0	0	0
Jun	31	0	0	0	0	0	0
Jul	32	0	0	0	0	0	0
Aug	80	0	0	0	0	0	0
Sep	75	14	0	0	0	0	0
Oct	78	39	0	0	0	0	0
Nov	71	81	0	0	0	0	0
Dec	68	126	0	0	0	0	0
<b>Totals</b>	824	694	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	0	0	0	0	0	0
Feb	0	0	0	0	0	0
Mar	0	0	0	0	0	0
Apr	0	0	0	0	0	0
May	0	0	0	0	0	0
Jun	0	0	0	0	0	0
Jul	0	0	0	0	0	0
Aug	0	0	0	0	0	0
Sep	0	0	0	0	0	0
Oct	0	0	0	0	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	0	0
<b>Totals</b>	0	0	0	0	0	0

## Monthly Energy Use by Component - Existing AHU-H1

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

### 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	1311	1195	1235	1059	1149	447	462	1148	1074	1131	1087	1143
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	592	492	346	127	34	1	0	3	19	110	291	478
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	106	104	118	105	118	114	110	118	109	114	105	88
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - Existing AHU-H1

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	1,311	592	0	0	0	0	0
Feb	1,195	492	0	0	0	0	0
Mar	1,235	346	0	0	0	0	0
Apr	1,059	127	0	0	0	0	0
May	1,149	34	0	0	0	0	0
Jun	447	1	0	0	0	0	0
Jul	462	0	0	0	0	0	0
Aug	1,148	3	0	0	0	0	0
Sep	1,074	19	0	0	0	0	0
Oct	1,131	110	0	0	0	0	0
Nov	1,087	291	0	0	0	0	0
Dec	1,143	478	0	0	0	0	0
<b>Totals</b>	12,442	2,492	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	106	0	0	0	0	0
Feb	104	0	0	0	0	0
Mar	118	0	0	0	0	0
Apr	105	0	0	0	0	0
May	118	0	0	0	0	0
Jun	114	0	0	0	0	0
Jul	110	0	0	0	0	0
Aug	118	0	0	0	0	0
Sep	109	0	0	0	0	0
Oct	114	0	0	0	0	0
Nov	105	0	0	0	0	0
Dec	88	0	0	0	0	0
<b>Totals</b>	1,310	0	0	0	0	0

# Monthly Energy Use by Component - New AHU-H1

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

## 1. Monthly Energy Use by System Component

Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Air System Fans (kWh)	874	797	823	706	766	298	308	766	716	754	725	762
<i>Cooling</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote CW (na)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Heating</i>												
Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas (Therm)	611	509	363	141	43	2	0	6	26	124	306	494
Fuel Oil (na)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0
Pumps (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Heat Rej. Fans (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Lighting (kWh)	106	104	118	105	118	114	110	118	109	114	105	88
Electric Eqpt. (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
Misc. Electric (kWh)	0	0	0	0	0	0	0	0	0	0	0	0
<i>Misc. Fuel</i>												
Natural Gas (Therm)	0	0	0	0	0	0	0	0	0	0	0	0
Propane (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote HW (na)	0	0	0	0	0	0	0	0	0	0	0	0
Remote Steam (na)	0	0	0	0	0	0	0	0	0	0	0	0

## Monthly Energy Use by Energy Type - New AHU-H1

ADA Bay School - High School Energy Model  
TES Engineering

11/10/2014  
10:16AM

### 1. HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)	Remote CW (na)
Jan	874	611	0	0	0	0	0
Feb	797	509	0	0	0	0	0
Mar	823	363	0	0	0	0	0
Apr	706	141	0	0	0	0	0
May	766	43	0	0	0	0	0
Jun	298	2	0	0	0	0	0
Jul	308	0	0	0	0	0	0
Aug	766	6	0	0	0	0	0
Sep	716	26	0	0	0	0	0
Oct	754	124	0	0	0	0	0
Nov	725	306	0	0	0	0	0
Dec	762	494	0	0	0	0	0
<b>Totals</b>	8,295	2,624	0	0	0	0	0

### 2. Non-HVAC Energy Use

Month	Electric (kWh)	Natural Gas (Therm)	Fuel Oil (na)	Propane (na)	Remote HW (na)	Remote Steam (na)
Jan	106	0	0	0	0	0
Feb	104	0	0	0	0	0
Mar	118	0	0	0	0	0
Apr	105	0	0	0	0	0
May	118	0	0	0	0	0
Jun	114	0	0	0	0	0
Jul	110	0	0	0	0	0
Aug	118	0	0	0	0	0
Sep	109	0	0	0	0	0
Oct	114	0	0	0	0	0
Nov	105	0	0	0	0	0
Dec	88	0	0	0	0	0
<b>Totals</b>	1,310	0	0	0	0	0

## Monthly Simulation Results for RTU-H1 New

Project Name: ADA Bay School - High School Energy Model  
Prepared by: TES Engineering

11/10/2014  
10:30AM

**Air System Simulation Results (Table 1) :**

Month	Central Cooling Coil Load (kBTU)	Central Cooling Eqpt Load (kBTU)	Central Unit Clg Input (kWh)	Central Heating Coil Load (kBTU)	Central Heating Eqpt Load (kBTU)	Central Heating Coil Input (kBTU)	Central Heating Misc. Electric (kWh)
January	0	0	0	4644	4607	5420	0
February	0	0	0	2327	2327	2738	0
March	188	188	9	909	909	1069	0
April	1073	1073	48	66	66	78	0
May	5811	5811	265	2	2	2	0
June	9650	9650	427	0	0	0	0
July	12408	12408	551	0	0	0	0
August	13549	13549	607	0	0	0	0
September	6960	6960	320	0	0	0	0
October	3458	3458	156	48	48	56	0
November	243	243	11	1066	1064	1252	0
December	0	0	0	4322	4316	5078	0
<b>Total</b>	<b>53339</b>	<b>53339</b>	<b>2394</b>	<b>13384</b>	<b>13339</b>	<b>15693</b>	<b>0</b>

**Air System Simulation Results (Table 2) :**

Month	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1135	393	693
February	1100	387	681
March	1245	441	778
April	1131	392	691
May	1244	441	778
June	526	423	746
July	561	410	723
August	1245	441	778
September	1166	408	719
October	1212	425	749
November	1072	390	687
December	950	329	580
<b>Total</b>	<b>12587</b>	<b>4882</b>	<b>8602</b>

## Monthly Simulation Results for RTU-H1 Existing

Project Name: ADA Bay School - High School Energy Model  
Prepared by: TES Engineering

11/10/2014  
10:30AM

**Air System Simulation Results (Table 1) :**

Month	Central Cooling Coil Load (kBTU)	Central Cooling Eqpt Load (kBTU)	Central Unit Clg Input (kWh)	Central Heating Coil Load (kBTU)	Central Heating Eqpt Load (kBTU)	Central Heating Coil Input (kBTU)	Central Heating Misc. Electric (kWh)
January	0	0	0	4489	4456	5242	0
February	0	0	0	2206	2206	2595	0
March	233	233	15	847	847	997	0
April	1049	1049	70	60	60	71	0
May	5957	5957	409	1	1	2	0
June	9712	9712	653	0	0	0	0
July	12577	12577	848	0	0	0	0
August	13768	13768	936	0	0	0	0
September	7037	7037	489	0	0	0	0
October	3491	3491	239	43	43	50	0
November	268	268	18	988	987	1161	0
December	0	0	0	4209	4204	4946	0
<b>Total</b>	<b>54092</b>	<b>54092</b>	<b>3677</b>	<b>12843</b>	<b>12804</b>	<b>15064</b>	<b>0</b>

**Air System Simulation Results (Table 2) :**

Month	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1198	393	693
February	1161	387	681
March	1313	441	778
April	1193	392	691
May	1312	441	778
June	555	423	746
July	591	410	723
August	1313	441	778
September	1230	408	719
October	1278	425	749
November	1131	390	687
December	1002	329	580
<b>Total</b>	<b>13279</b>	<b>4882</b>	<b>8602</b>



**wd: bay high pump savings**

[oss, Brian [kossb@regencycsi.com]

ent: Tuesday, May 27, 2014 5:46 PM

o: Stumph, Daryl

see below

begin forwarded message:

**From:** Nick Gingerich <[NGingerich@tesengineering.com](mailto:NGingerich@tesengineering.com)>

**Date:** May 27, 2014 at 5:44:04 PM EDT

**To:** "Koss, Brian" <[kossb@regencycsi.com](mailto:kossb@regencycsi.com)>

**Subject:** FW: bay high pump savings

Brian,

The approximate pump savings from the energy model in phase 1 is listed below. Let me know if you need any additional information for this.

Thanks,

**Nick Gingerich, PE, LEED-AP**

**T/E/S Engineering**

---

**From:** Joe Zaworski

**Sent:** Tuesday, May 27, 2014 5:24 PM

**To:** Nick Gingerich

**Subject:** bay high pump savings

Energy model based on general ASHRAE 90.1 Occupancy, Light/Elec and HVAC schedules for schools. Boiler do not operate May → August.

Existing condition

- Boiler Rm 1 – Loops 1,2,3
- constant flow boilers
- Pump energy based on – 285 gpm
- Total pump HP (all pumps) = 13 HP

Proposed condition

- Boiler Rm 1 – Loops 1,2,3
- (2) non-condensing boilers
- Total pump HP (all pumps) = 13 HP
- (2) variable flow boilers – Min flow 28%
- (2) variable flow pumps – Min flow 28%

Energy

- Savings = 33,000 kWh

@ \$0.07/kwh

**Annual Savings = \$2,310 per year**

**Joseph Zaworski | *Mechanical Engineer***

**TES Engineering**

**25760 First Street | Cleveland, OH 44145**

**Direct: 440-614-0344 | Office: 440-871-2410**

**jzaworski@tesengineering.com**

**www.tesengineering.com**

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**Mercantile Customer Project Commitment Agreement**  
**Cash Rebate Option**

**THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT** ("Agreement") is made and entered into by and between The Cleveland Electric Illuminating Company, its successors and assigns (hereinafter called the "Company") and Bay Village City Schools, Taxpayer ID No. 34-6000208 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 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 the Public Utilities Commission of Ohio's ("Commission") September 15, 2010 Order in Case No. 10-834-EL-EEC, desires to pursue a cash rebate of some of the costs pertaining to its Customer Energy Project(s) ("Cash Rebate") and is committing the Customer Energy Project(s) as a result of such incentive.

**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 a Cash Rebate.

**WHEREAS**, in consideration of, and upon receipt of, said cash rebate, Customer will commit the Customer Energy Project(s) to the Company and will comply with all other terms and conditions set forth herein.

**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 kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer has the ability to either:
- i. Take ownership of the Energy Efficiency resource credits resulting from their Customer Energy Project(s) and may be able to bid - or sell - the Energy Efficiency resource credits into the market operated by the grid operator, PJM Interconnection, Inc. (PJM), provided several prerequisites are met; or
  - ii. Allow the Company to take ownership of the Energy Efficiency resource credits associated with their Customer Energy Project(s). The Company 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.

**Please indicate your preference as to the treatment of your Energy Efficiency resource credits:**

☐ Customer would like to retain ownership of its Energy Efficiency resource credits.

☒ Customer assigns ownership of its Energy Efficiency resource credits to Company for purposes of bidding these credits into PJM.

- 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 appropriate, "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 cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations.
- 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 the Commission's standard 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" ("Joint Application") 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 Cash Rebate.

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 Cash Rebate.** Upon Commission approval of the Joint Application, Customer shall provide Company with a W-9 tax form, which shall at a minimum include Customer's tax identification number. Within the greater of 90 days of the Commission's approval of the Joint Application or the completion of the Customer Energy Project, the Company will issue to the Customer the Cash Rebate in the amount set forth in the Commission's Finding and Order approving the Joint Application.

- a. Customer acknowledges: i) that the Company will cap the Cash Rebate at the lesser of 50% of Customer Energy Project(s) costs or \$250,000; ii) the maximum rebate that the Customer may receive per year is \$500,000 per Taxpayer Identification Number per utility service territory; and iii) if the Customer Energy Project qualifies for a rebate program approved by the Commission and offered by the Company, Customer may still elect to file such project under the Company's mercantile customer self direct program, however the Cash Rebate that will be paid shall be discounted by 25%; and

- b. Customer acknowledges that breaches of this Agreement, include, but are not limited to:

- i. Customer's failure to comply with the terms and conditions set forth in the Agreement, or its equivalent, within a reasonable period of time after receipt of written notice of such non-compliance;
- ii. Customer knowingly falsifying any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application.

- c. In the event of a breach of this Agreement by the Customer, Customer agrees and acknowledges that it will repay to the Company, within 90 days of receipt of written notice of said breach, the full amount of the Cash Rebate paid under this Agreement. This remedy is in addition to any and all other remedies available to the Company by law or equity.

4. **Termination of Agreement.** This Agreement shall automatically terminate:

- a. If the Commission fails to approve the Joint Agreement;
- 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 Cash Rebate, 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.

5. **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.
6. **Taxes.** Customer shall be responsible for all tax consequences (if any) arising from the payment of the Cash Rebate.
7. **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](mailto:vmnofziger@firstenergycorp.com)

**If to the Customer:**

Bay Village City Schools  
377 Dover Center Road  
Bay Village, OH 44140  
Attn: Daryl Stumph  
Telephone: 440-617-7304  
Fax:  
Email: [Daryl.Stumph@bayschoolsohio.org](mailto:Daryl.Stumph@bayschoolsohio.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.

8. **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.
9. **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.
10. **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.
11. **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.
12. **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.
13. **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.
14. **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.

The Cleveland Electric Illuminating Company\_

(Company)

By: John C. Parsi

Title: V.P. Of Energy Efficiency

Date: 12-3-14

Bay Village City Schools\_

(Customer)

By: Barry Stump

Title: ASSISTANT SUPERINTENDENT

Date: 12-2-2014



Affidavit of Bay Village City Schools – Exhibit A

STATE OF OHIO )

) SS:

COUNTY OF Cuyahoga )

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

1. I am the Assistant Superintendent of Operations of Bay Village City Schools ("Customer") As part of my duties, I oversee energy related matters for the Customer.
2. The Customer has agreed to commit certain energy efficiency projects to The Cleveland Electric Illuminating 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 Cash ("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.
4. 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.

Daryl Stumph

Sworn to before me and subscribed in my presence this 14th day of October, 2014

Beth E. Conroy  
Notary

**BETH E. CONROY**  
NOTARY PUBLIC • STATE OF OHIO  
Recorded in Cuyahoga County  
My commission expires June 11, 2016

June 11, 2016

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**12/16/2014 12:57:54 PM**

**in**

**Case No(s). 14-0162-EL-EEC**

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Cleveland Electric Illuminating Company and Bay Village City School electronically filed by Ms. Jennifer M. Sybyl on behalf of The Cleveland Electric Illuminating Company and Bay Village City School