Ohio | Public Utilities Commission

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

Case No.: 13-1235-EL-EEC

Mercantile Customer: City of Kent

Electric Utility: Ohio Edison Company

Program Title or Description: Lighting Retrofits and VFD

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 (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 ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name:City of Kent

Principal address:930 Overhalt Road, Kent Ohio 44240

Address of facility for which this energy efficiency program applies:320 S. Depeyster St, 5860 Hodgeman, 418 North Mantua, 641 Middlebury, 930 Overholt, 319 South Water

Name and telephone number for responses to questions:Hallie Pirro, (330) 678-8105

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: Ohio Edison 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 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:

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: 1,285,053 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**

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 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?

2/23/2012

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

158 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 $54,957. (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.)

OR

☐ 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.: 13-1235-EL-EEC

State of Ohio :

Hallie Pirro, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

   City of Kent
   [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.

Hallie Pirro ENG. AIDE I
Signature of Affiant & Title

Sworn and subscribed before me this 26th day of June, 2013 Month/Year

Sheri L. Chestnutwood
Signature of official administering oath

Sheri L. Chestnutwood
Print Name and Title

SHERI L. CHESTNUTWOOD
Notary Public - State of Ohio
My Commission Expires March 27, 2018

My commission expires

Attachment A Site Summary

(City of Kent)_Ohio Edison_Energy Efficiency Mercantile Application Summary

(City of Kent)(Kent Ohio)

Site Name	Address	City	State	Zip	Utility	Total Project Costs	Saved kWh	Saved kw	Eligible Rebate Amount
Depeyster 1	320 S. Depeyster St	Kent	Ohio	44240	OE	$21,061	90,165	9	$3,381
Hodgeman	5860 Hodgeman	Kent	Ohio	44240	OE	$16,793	115,762	12	$4,341
Mantua	418 North Mantua	Kent	Ohio	44240	OE	$5,898	23,076	3	$866
Middlebury	641 Middlebury	Kent	Ohio	44240	OE	$185,951	655,334	77	$37,830
Overhalt	930 Overhalt	Kent	Ohio	44240	OE	$40,144	71,285	23	$2,673
Water	319 South Water	Kent	Ohio	44240	OE	$11,731	329,431	34	$5,866
						$281,578	1,285,053	158	$54,957

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Depeyster 1
Principal Address: 320 S. Depeyster St

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	Installation/Replacement of Lighting	LIGHTING RETROFIT T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. Total of 227 fixtures originally. 1 ,2 3, and 4 lamp fixtures retrofit lamp for lamp. 6 Lamp fixtures retrofit with 2-3 lamp fixtures.	Ongoing quarterly energy audit reports will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. 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 City of Kent_Depeyster 1_Lighting Rebate Calculator for details.	Equipment would have been budgeted and replaced on an as needed basis.	N/A

Docket No. 13-1235
Site: 320 S. Depeyster St

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Depeyster 1
Principal Address: 320 S. Depeyster St

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	395,080	395,080	472,188
2011	301,920	301,920	301,920
2010	275,560	275,560	275,560
Average	**324,187**	**324,187**	**349,889**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$21,061	$10,531	90,165	90,165	9	$4,508	$3,381	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$21,061**		**90,165**	**90,165**	**9**	**$4,508**	**$3,381**	**$0**

Docket No. 13-1235
Site: 320 S. Depeyster St

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	90	$ 308	$ 27,796	$ 4,050	$3,381	$902	$ 8,333	**3.3**
Total	**90**	**$ 308**	**27,796**	**4,050**	**$3,381**	**$902**	**8,333**	**3.3**

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)

City of Kent ~ Depeyster 1
Docket No. 13-1235

Site: 320 S. Depeyster St

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 320 S Depeyster St

Date: 3/26/2012

Instructions: Please use one line for each foture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION					POST-INSTALLATION												Energy Calculations								
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	3,435	
e.g	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	4,156	
1	320 S Depeyster St	1	Fire Staion	Interior	Other - Please estimate CF and EFLH	Cooled Space	14	F41lll	31	0.43	NONE		14	Cut Sheet 1	22	0.31	NONE		0.13			90%	90%	34%	12%			0.15			8,760	8,760	1,236
2	320 S Depeyster St	1	Fire Staion	Interior	Other - Please estimate CF and EFLH	Cooled Space	14	F42LL	59	0.83	NONE		14	Cut Sheet 2	39	0.55	NONE		0.28			90%	90%	34%	12%			0.34			8,760	8,760	2,747
3	320 S Depeyster St	1	Fire Staion	Interior	Other - Please estimate CF and EFLH	Cooled Space	82	F43lll	89	7.30	NONE		82	Cut Sheet 3	59	4.84	NONE		2.46			90%	90%	34%	12%			2.97			8,760	8,760	24,136
4	320 S Depeyster St	1	Fire Staion	Interior	Other - Please estimate CF and EFLH	Cooled Space	15	F44LL	112	1.68	NONE		15	Cut Sheet 4	78	1.17	NONE		0.51			90%	90%	34%	12%			0.62			8,760	8,760	5,004
5	320 S Depeyster St	1	Fire Staion	Interior	Other - Please estimate CF and EFLH	Cooled Space	102	F46lll	175	17.85	NONE		204	Cut Sheet 3	59	12.04	NONE		5.81			90%	90%	34%	12%			7.01			8,760	8,760	57,042
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
139											NONE						NONE																
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141											NONE						NONE																
142											NONE						NONE																
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Totals							227			28.09			329			18.90			9.19									11.08					90,165

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	90,165
Total Change in Connected Load	9.19

Annual Estimated Cost Savings	$9,016.50
Annual Operating Hours	8,760

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$4,508.25
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
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	$4,508.25

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	329
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 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)	11.08

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Hodgeman
Principal Address: 5860 Hodgeman

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	Installation/Replacement of Lighting	T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. T12 Linear Fluorescent Retrofit -Retrofit T12 fluorescent lamps with electromagnetic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. New Fixtures (High-Bay retrofits)- install a one-for-one replacement of the existing 400-watt metal halide fixtures with a 4 lamp high bay T5HO fixture.	Ongoing energy audits will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. 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 City of Kent_Hodgeman_Lighting Rebate Calculator for details.	N/A	N/A

Docket No. 13-1235
Site: 5860 Hodgeman

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Hodgeman
Principal Address: 5860 Hodgeman

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	1,440,190	1,440,190	1,539,189
2011	1,325,385	1,325,385	1,325,385
2010	1,372,544	1,372,544	1,372,544
Average	**1,379,373**	**1,379,373**	**1,412,373**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$16,793	$8,397	115,762	115,762	12	$5,788	$4,341	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$16,793**		**115,762**	**115,762**	**12**	**$5,788**	**$4,341**	**$0**

Docket No. 13-1235
Site: 5860 Hodgeman

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	116	$ 308	$ 35,687	$ 4,050	$4,341	$1,158	$ 9,549	**3.7**
Total	**116**	**$ 308**	**35,687**	**4,050**	**$4,341**	**$1,158**	**9,549**	**3.7**

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)

City of Kent ~ Hodgeman
Docket No. 13-1235

Site: 5860 Hodgeman

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 5860 Hodgeman Ln

Date: 3/26/2012

Instructions: Please use one line for each foture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION					POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*	
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*	
1	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	2	HPS400/1	465	0.93	NONE		2	MHPS/SCWA/320/1	368	0.74	NONE		0.19			90%	90%	34%	12%			0.23			8,760	8,760	1,903
2	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	16	MH400/1	458	7.33	NONE		16	F44GHL	234	3.74	NONE		3.58			90%	90%	34%	12%			4.32			8,760	8,760	35,163
3	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	81	F42EE	72	5.83	NONE		81	Cut Sheet 2	39	3.16	NONE		2.67			90%	90%	34%	12%			3.22			8,760	8,760	26,225
4	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	4	F42ll	59	0.24	NONE		4	Cut Sheet 2	39	0.16	NONE		0.08			90%	90%	34%	12%			0.10			8,760	8,760	785
5	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	4	F43ll	89	0.36	NONE		4	Cut Sheet 3	59	0.24	NONE		0.12			90%	90%	34%	12%			0.14			8,760	8,760	1,177
6	5860 Hodgeman Ln	1	Water Treatment	Interior	Other - Please estimate CF and EFLH	Cooled Space	78	F44ee	144	11.23	NONE		78	Cut Sheet 4	78	6.08	NONE		5.15			90%	90%	34%	12%			6.21			8,760	8,760	50,508
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION							Energy Calculations														
Line Item	Building Address	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 W/when applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DATA,TG, OCC or NONE.	Proposed Sensor Quantity W/when applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
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Totals							185			25.91			185			14.12			11.80									14.23					115,762

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	115,762
Total Change in Connected Load	11.80

Annual Estimated Cost Savings	$11,576.20
Annual Operating Hours	8,760

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$5,788.10
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
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	$5,788.10

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	185
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 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)	14.23

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Mantua

Principal Address: 418 N. Mantua St

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	Installation/Replacement of Lighting	T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. T12 Linear Fluorescent Retrofit -Retrofit T12 fluorescent lamps with electromagnetic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts.	Ongoing energy audits will be provided by the project contractor to the City and the reports will continue to track energy usage and savings at each facility. 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.	N/A	N/A

Docket No. 13-1235

Site: 418 N. Mantua St

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Mantua
Principal Address: 418 N. Mantua St

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	45,314	45,314	65,048
2011	39,285	39,285	39,285
2010	43,310	43,310	43,310
Average	**42,636**	**42,636**	**49,214**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$5,898	$2,949	23,076	23,076	3	$1,154	$866	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$5,898**		**23,076**	**23,076**	**3**	**$1,154**	**$866**	**$0**

Docket No. 13-1235
Site: 418 N. Mantua St

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	23	$ 308	$ 7,114	$ 4,050	$866	$231	$ 5,146	**1.4**
Total	**23**	**$ 308**	**7,114**	**4,050**	**$866**	**$231**	**5,146**	**1.4**

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)

City of Kent ~ Mantua
Docket No. 13-1235

Site: 418 N. Mantua St

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 418 N Mantua St Fire #2

Date: 3/26/2012

Instructions: Please use one line for each fixture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION					POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	3,435	
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	4,156	
1	418 N Mantua St Fire #2	1	Fire	Interior	Other - Please estimate CF and EFLH	Cooled Space	1	F41EE	43	0.04	NONE		1	Cut Sheet 1	22	0.02	NONE		0.02			90%	90%	34%	12%			0.03			8,760	8,760	206
2	418 N Mantua St Fire #2	1	Fire	Interior	Other - Please estimate CF and EFLH	Cooled Space	6	F42EE	72	0.43	NONE		6	Cut Sheet 2	39	0.23	NONE		0.20			90%	90%	34%	12%			0.24			8,760	8,760	1,943
3	418 N Mantua St Fire #2	1	Fire	Interior	Other - Please estimate CF and EFLH	Cooled Space	7	F82EE	123	0.86	NONE		7	Cut Sheet 4	78	0.55	NONE		0.32			90%	90%	34%	12%			0.38			8,760	8,760	3,091
4	418 N Mantua St Fire #2	1	Fire	Interior	Other - Please estimate CF and EFLH	Cooled Space	12	F44EE	144	1.73	NONE		12	Cut Sheet 4	78	0.94	NONE		0.79			90%	90%	34%	12%			0.96			8,760	8,760	7,770
5	418 N Mantua St Fire #2	1	Fire	Interior	Other - Please estimate CF and EFLH	Cooled Space	18	F46I8	175	3.15	NONE		36	Cut sheet 3	59	2.12	NONE		1.03			90%	90%	34%	12%			1.24			8,760	8,760	10,066
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION							POST-INSTALLATION					Energy Calculations													
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DATA TO, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
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Totals							44			6.21			62			3.86			2.35								2.84					23,076

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	23,076
Total Change in Connected Load	2.35

Annual Estimated Cost Savings	$2,307.60
Annual Operating Hours	8,760

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$1,153.80
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
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	$1,153.80

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	62
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 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)	2.84

Install Night Setback	Electricity		Savings
Buildings	kWh		Electric (kWh)

Assumes industry standard of 1 Degree of Setback = 1% Savings
Heating setback from 72-67 Delta T = 5
Cooling setback from 74-79 Delta T = 5

930 Overholt	66520	5.0%	3,326
319 Water	401200	1.0%	4,012
5860 Hodgeman	1386341	0.5%	6,932
651 Middlebury	2718426	0.3%	6,796
497 Middlebury	17390	2.0%	348
Fire One	302742	1.5%	4,541
418 Mantua	43310	4.0%	1,732
580 Plum	54173	1.0%	542
930 Overholt	14331	5.0%	717
Summitt	117480	1.0%	1,175

Install Computer Room A/C and turn off Main A/C
No Cooling needed overnight

Firestation 1	302742	3.0%	9,082

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Middlebury

Principal Address: 641 Middlebury

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	Installation/Replacement of Lighting	LIGHTING RETROFIT T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. T12 Linear Fluorescent Retrofit -Retrofit T12 fluorescent lamps with electromagnetic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts.	Ongoing energy audits will be provided by the project contractor to the City. These audits will continue to track energy usage and savings at each facility. 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 City of Kent_Hodgeman_Lighting Rebate Calculator	Equipment would have been budgeted and replaced on an as needed basis.	N/A
2	Mechanical Upgrades: Installation of VFD's/Blower Motors	MECHANICAL UPGRADES- WATER RECLAMATION FACILITY DAF BUILDING (Blower) Existing Conditions The Kent Water Reclamation Facility aeration tanks are served by six blowers. There are three 150 hp positive displacement blowers that are original to the facility and are no longer in use. The three remaining blowers are 350 hp centrifugal blowers that are sized to deliver approximately 8100 cfm at 7.5 psig with air conditions of 100 degrees F and 95% relative humidity. Only one blower operates at a time and is throttled to deliver 3000 cfm at 7.5 psig. The blowers are operating just above the surge point on the performance curves and cannot be throttled down further. During normal operation the dissolved oxygen in the aeration tanks is typically at 4.5 ppm and according the Mr. Brown at the Water Reclamation Facility the ideal conditions are 2 ppm. A dissolved oxygen levels above 2 ppm does not improve the process and only wastes energy. Solution The objective of this project is to install a properly sized centrifugal blower to meet the current needs of the facility. A new 150 hp blower was installed and replaced one of the original positive displacement blower. This blower will be sized to deliver 3000 scfm at 7.5 psig and can be throttled down to 2000 scfm utilizing the existing SCADA system controls to throttle the blower's inlet valve. The existing SCADA system is programmed to throttle the inlet valves automatically when the dissolved oxygen is above set point.	Ongoing energy audits will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. Pre and post motor mearurements were taken to estabich baseline. The new 150 HP blower operates year round at an average of 120 HP. The old blower operated at 210 average HP. Net savings of 90 HP x.746x 8760.	N/A	N/A
3	Automation/Retro-Commissioning	AUTOMATION UPGRADES The Brewer-Garrett Company analyzed several methods for automating The City of Kent buildings. Interconnecting all of the buildings offers some advantages but the initial cost is prohibitive. A stronger solution includes local building automation upgrades, integrated with a semiannual review of set points that would coincide with the ongoing energy audit, which maintains the guarantee. The Lab at the Water Reclamation Facility will be set back for occupied/unoccupied schedule. The Brewer-Garrett Company will install an automation panel to control all HVAC units at the Lab from a central location within the building.	Ongoing energy audits will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. Automation savings calculated by using following assupmptions: Assumes industry standard of 1 Degree of Setback = 1% Savings, Heating setback from 72-67 Delta T = 5, Cooling setback from 74-79 Delta T = 5.	N/A	N/A

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Middlebury
Principal Address: 641 Middlebury

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	2,510,372	2,510,372	3,070,808
2011	2,634,508	2,634,508	2,634,508
2010	1,372,544	1,372,544	1,372,544
Average	**2,172,475**	**2,172,475**	**2,359,287**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$13,936	$6,968	60,392	60,392	9	$2,844	$2,133	
2	Mechanical Upgrades: Installation of VFD's/Blower Motors	02/23/2012	$162,470	$81,235	588,146	588,146	67	$47,052	$35,289	
3	Automation/Retro-Commissioning	02/23/2012	$9,545	$4,773	6,796	6,796	-	$544	$408	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$185,951**		**655,334**	**655,334**	**77**	**$50,440**	**$37,830**	**$0**

Docket No. 13-1235
Site: 641 Middlebury

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	60	$ 308	$ 18,618	$ 1,350	$2,133	$604	$ 4,087	**4.6**
2	588	$ 308	$ 181,314	$ 1,350	$35,289	$5,881	$ 42,520	**4.26**
3	7	$ 308	$ 2,095	$ 1,350	$408	$68	$ 1,826	**1.15**
Total	**655**	**$ 308**	**202,026**	**4,050**	**$37,830**	**$6,553**	**48,433**	**4.2**

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)

City of Kent ~ Middlebury
Docket No. 13-1235

Site: 641 Middlebury

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 641 Middlebury

Date: 3/26/2012

Instructions: Please use one line for each fixture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION					POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*	
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*	
1	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	6	I1D0/1	100	0.60	NONE		6	CF23/1-L	25	0.15	NONE				0.45	90%	90%	34%	12%					0.54	5,840	5,840	
2	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	2	F41EE	43	0.09	NONE		2	Cut Sheet 1	22	0.04	NONE		0.04			90%	90%	34%	12%			0.05			5,840	5,840	275
3	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	171	F42EE	72	12.31	NONE		171	Cut Sheet 2	39	6.67	NONE		5.64			90%	90%	34%	12%			6.81			5,840	5,840	36,910
4	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	14	FU2EE	72	1.01	NONE		14	Cut Sheet 5	46	0.64	NONE		0.36			90%	90%	34%	12%			0.44			5,840	5,840	2,381
5	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	1	F42I8	59	0.06	NONE		1	Cut Sheet 2	39	0.04	NONE		0.02			90%	90%	34%	12%			0.02			5,840	5,840	131
6	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	4	EI20/2	40	0.16	NONE		4	ELED2/1	2	0.01	NONE				0.15	90%	100%	34%	12%					0.20	8,760	8,760	
7	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	32	F44EE	144	4.61	NONE		32	Cut Sheet 4	78	2.50	NONE		2.11			90%	90%	34%	12%			2.55			5,840	5,840	13,814
8	641 Middlebury	1	Water Reclamation	Interior	Other - Please estimate CF and EFLH	Cooled Space	11	F44ILL	112	1.23	NONE		11	Cut Sheet 4	78	0.86	NONE		0.37			90%	90%	34%	12%			0.45			5,840	5,840	2,446
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
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Totals							241			20.07			241			10.91			8.56		0.60							10.32		0.75			55,957

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	60,392
Total Change in Connected Load	9.16

Annual Estimated Cost Savings	$6,039.20
Annual Operating Hours	6,205

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$2,797.85
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
Total retrofit CFL Incentive @ $1/screw-in CFL lamp; $15/hard-wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	$6.00
Total retrofit LED Exit Incentive @ $10/exit sign	$40.00
Total Lighting Controls Incentive @ $25/sensor (includes all Lighting Controls, both interior and exterior)	$0.00

Total Calculated Incentive	$2,843.85

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	231
Total Lamp Quantity for retrofit Screw-In CFLs	6
Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	4
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)	11.07

Current vs. New Blower and O2 sensor Energy Estimate

	HP	Operating HP	Operating Hrs.	kW/HP	kWh
Current	350	210			
New	150	120			
Net HP Savings		90	8760	0.746	588146.4

AERZEN USA CORPORATION
108 Independence Way
Coatesville, PA 19320
www.aerzenusa.com

AERZEN
SINCE 1864

Certification of Compliance with American Recovery and Reinvestment Act of 2009

The American Recovery and Reinvestment Act of 2009 (Pub. L. No. 111-5) Section 1605 contains the following requirements:

> "None of the funds appropriated or otherwise made available by the Recovery Act may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless (1) the public building or public work is located in the United States; and (2) All of the iron, steel, and manufactured goods used in the project are produced or manufactured in the United States. (i) Production in the United States of the iron and steel used in the project requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives. These requirements do not apply to iron or steel used as components or subcomponents of manufactured goods used in the project. (ii) There is no requirement with regard to the origin of the components or subcomponents in manufactured goods used in the project, as long as the manufacturing occurs in the United States."

Aerzen Turbo products are manufactured in the USA from components or subcomponents primarily made in the USA and Korea. Aerzen is a US company located in southeastern Pennsylvania since 1983 with approximately 50 employees. The value we provide includes highly skilled processes such as design engineering, drafting, shop labor, assembly, quality assurance, testing, and field service and operator training.

The EPA test questions to determine whether manufactured goods comply with the ARRA requirements have been answered and attached hereto. Based on this, the undersigned hereby certifies that this equipment complies with all applicable provisions of the American Recovery and Reinvestment Act of 2009 and that the bid price supplied to all bidding contractors was based on full compliance with the Act.

Signature: _____ Company: Aerzen USA Corp.

Name: Pierre Noack Address: Coatesville, PA

Title: President Phone: (484) 288-6302

Questions for Determining Whether Substantial Transformation Has Occurred in the U.S.

Questions	Yes	No
Were all of the components of the manufactured good manufactured in the United States, and were all of the components assembled into the final product in the U.S.? (If the answer is yes, then this is clearly manufactured in the U.S., and the inquiry is complete)		☑
No: Not all the components were manufactured in the USA; however, the costs of materials originating from the USA is significant.		☑
Was there a change in character or use of the good or the components in America? (These questions are asked about the finished good as a whole, not about each individual component)		
a. Was there a change in the physical and/or chemical properties or characteristics designed to alter the functionality of the good? **Yes:** The turbo blowers (TB series) supplied by Aerzen USA are high-speed, totally oil-free, air-cooled and direct-driven machines. The "Core Unit" consists essentially of a high-frequency permanent magnet motor and a stainless steel turbo impeller mounted on a shaft resting in air foil aerodynamic bearings. The impeller is surrounded by its scroll housing and is preceded by inlet flow measuring nozzle. Currently, a Core Unit of this type and with technology can be only obtained from Korea. In addition, the high-frequency inverter that matches this specific permanent magnet motor design as well as two circuit boards are also designed and produced in Korea. The Core Unit, however, cannot at all function without other critical components that are, to the largest extent, manufactured in the USA: instrumentation and controls (including programming), electrical supply, harmonic filters, aerodynamic surge protection, discharge diffuser, as well as inlet filtration, cabling and wiring, acoustic treatment, flexible piping connection. Moreover, the assembly, setting, and the final programming and testing of the turbo blower	☑	

package will be entirely performed in the USA. Therefore, it is our interpretation that the answer to this question is "yes."		
b. Did the manufacturing or processing operation result in a change of a product(s) with one use into a product with a different use? **No:** The Core Units imported by Aerzen USA are high-speed, totally oil-free, air-cooled and direct-driven turbo blowers. The final product is still a turbo blower, although the imported portion of the goods, the Core Units, can only be used as a spare machine in an older, already operating package. It is however not possible to use the machine without the added components, most of which are made in the USA.		☑
c. Did the manufacturing or processing operation result in the narrowing of the range of possible uses of a multiuse product? **Yes:** The imported components consist of the Core Unit, the blow-off valve, the matching frequency inverter and two circuit boards. Individually and especially as a combination, these components and their integration are highly proprietary: the impeller integrated to a high-speed / high-frequency permanent magnet motor on air bearings and a high-frequency frequency inverter. The Core Unit can be used for a very broad range of air flows and operating pressures, and can be used for vacuum operation and for other gases. The range of operation is narrowed to air compression, positive pressure, a job-specific pressure/speed and power range, and job-specific controls without which the machine cannot operate and would be highly unsafe, unreliable and inefficient. The control unit is programmed specifically for the requirements of the specific job; an aerodynamic surge protection valve and safety parameters are set to operate efficiently and safely within the parameters of a specific customer order and a specific application.	☑	
Was(/were) the process(es) performed in the U.S. (including but not limited to assembly) complex and meaningful?		

a. Did the process(es) take a substantial amount of time? **Yes:** From the date of the order for typical a municipal wastewater treatment project (3 average size machines), it takes about 166 hours of manual labor and start-up in addition to about 160 hours of engineering, project management, etc, as outlined below. 1. Project management ..... 74 hrs 2. Engineering: sizing calculations, selections, drawings ..... 60 hrs 3. Purchasing and expediting ..... 24 hrs 4. Submittals and manuals ..... 24 hrs 5. Electrical wiring, programming and setting of controls ..... 40 hrs 6. Assembly ..... 40 hrs 7. Mechanical & electrical test of entire assembly ..... 36 hrs 8. Quality Assurance (ISO 9001 certified) ..... 2 hrs 9. Painting (when required) ..... 4 hrs 10. Preparation for shipment ..... 6 hrs 11. Start-up assistance and operators training ..... 40 hrs	☑	
b. Was(/were) the process(es) costly? **Yes:** After an initial development period that will take much resources (design work, sourcing, developing work with local manufacturers and quality assurance), ultimately, the value added by the processes and support functions will amount to about 20 to 25% of the total costs	☑	
c. Did the process(es) require particular high level skills? **Yes:** High skill levels are absolutely required for most of engineering, controls, electrical wiring, quality assurance, testing and programming, start-up assistance and operators training	☑	
d. Did the process(es) require a number of different operations? **Yes:** Summarized: 1. Project management 2. Engineering: sizing calculations, selection, drawings, 3. Submittals and manuals (if not included in the above) 4. Assembly 5. Electrical wiring 6. Quality Assurance	☑	

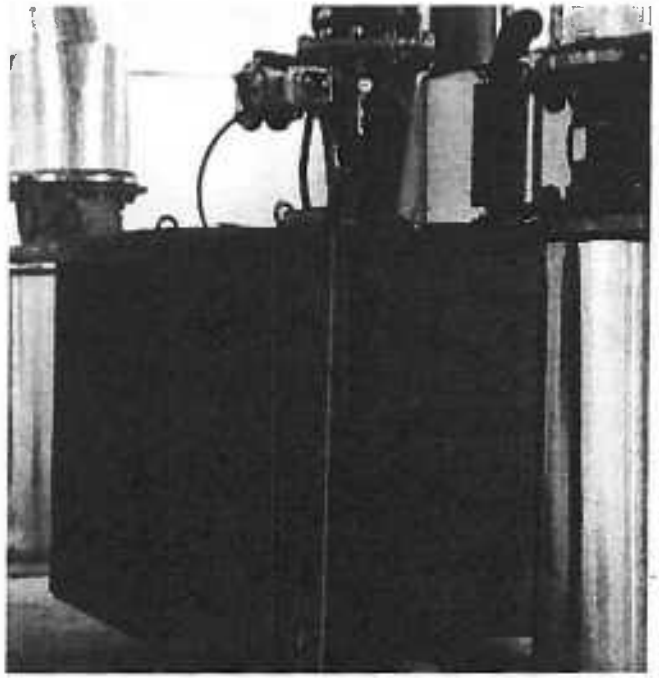
7. Testing, programming, setting controls 8. Painting 9. Testing, programming and setting of controls 10. Preparation for shipment 11. Start-up assistance and operators training		
e. Was substantial value added in the process(es)? **Yes:** The value added by the processes and support functions amount to about 20-25 % of the total costs. Adding to this the portion of goods made in the USA, we conclude that about 50 % of the sales price is for U.S. manufactured parts and U.S. payrolls.	☑	

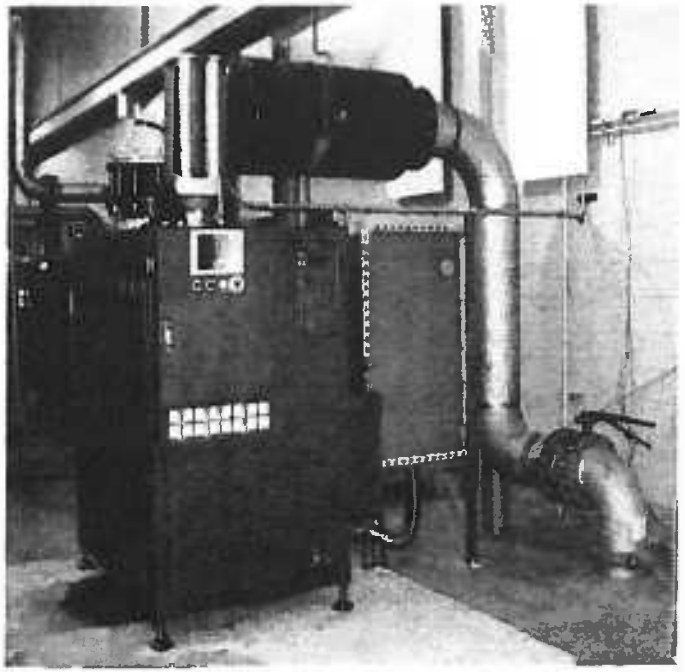
EPA Q&A-2
Nk_2011/03/30

Aerzen High-Speed Turbo Blower Package

Converting a bare Core Unit and a few proprietary components
(made by KTurbo for Aerzen in Korea)....

....into a fully functional, safe, US-made package / system





Proprietary components made by KTurbo for Aerzen and imported from Korea:

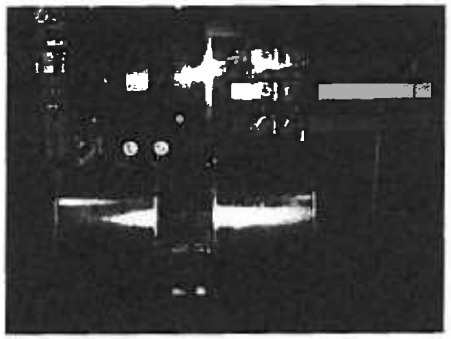
1

Core unit: impeller with scroll housing, permanent magnet motor with integral cooling fan, aerodynamic bearings, inlet flow-measurement nozzle

2

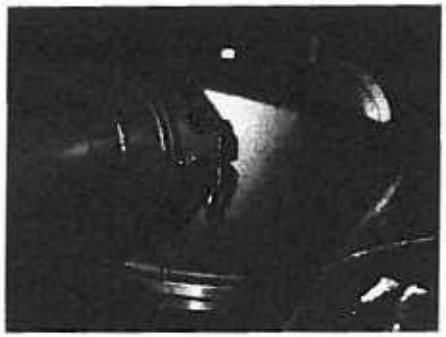
CPU circuit board

3



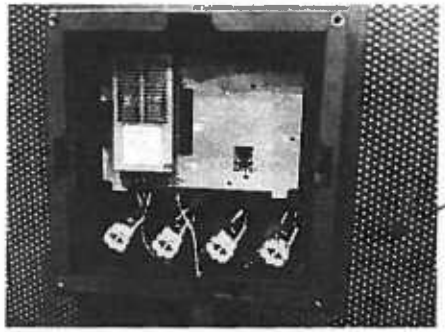
Proprietary high-frequency inverter

4

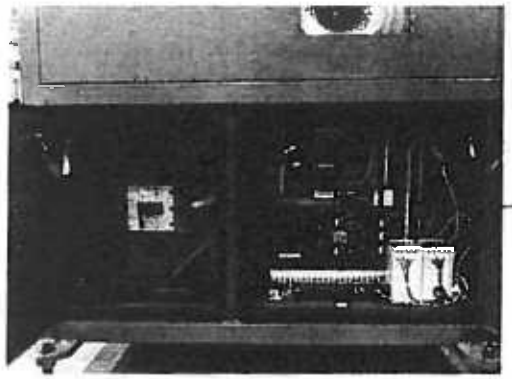


Proprietary blow-off valve

Aerzen High-Speed Turbo Blower: components made in USA



HMI and control panel



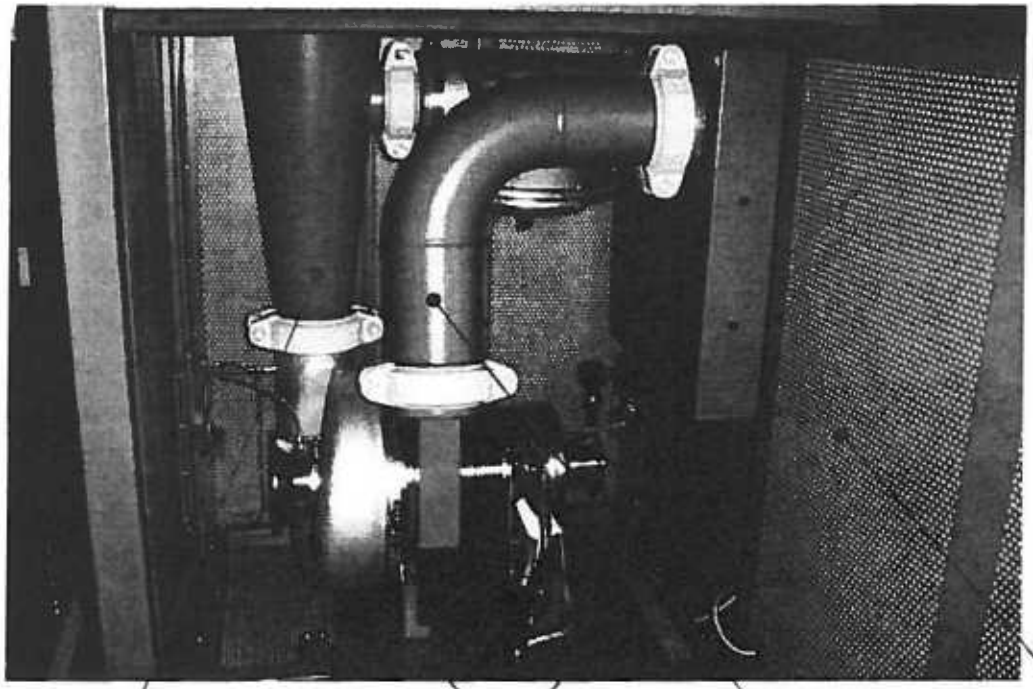
Power system: VFD, cooling, breaker, DC choke

3

2

Acoustic hood: frame, acoustic panels, base, cooling channels

Aerzen High-Speed Turbo Blower: components made in USA



Discharge diffuser cone

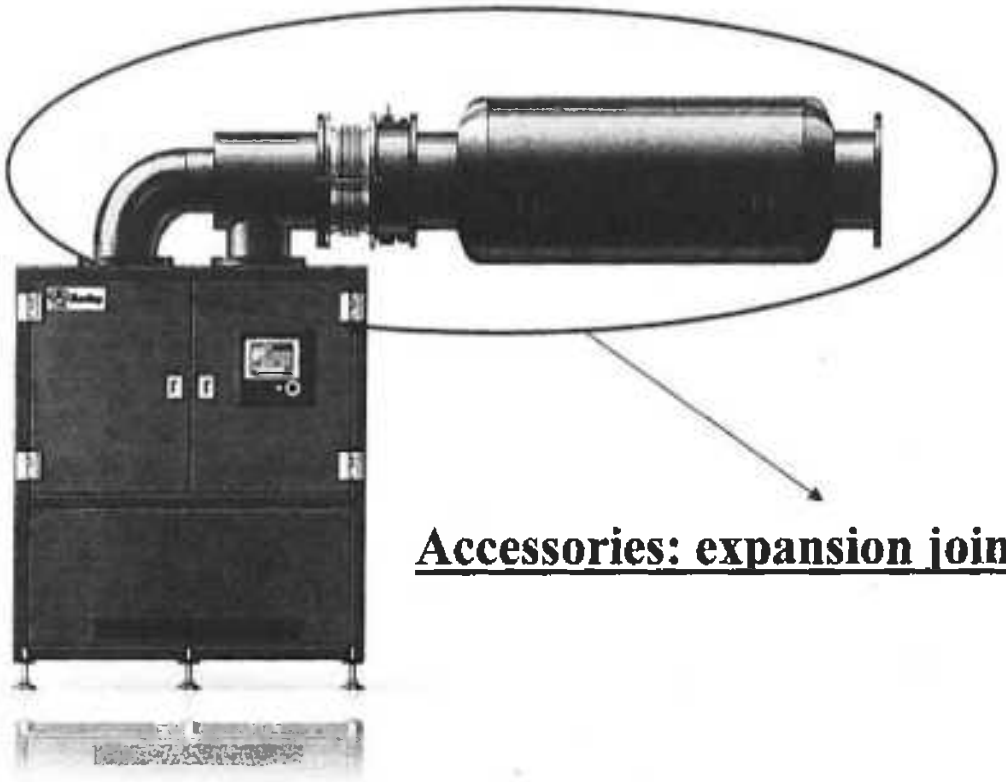
Assembly and internal wiring

Inlet piping and air fine-filtration system

Acoustic hood

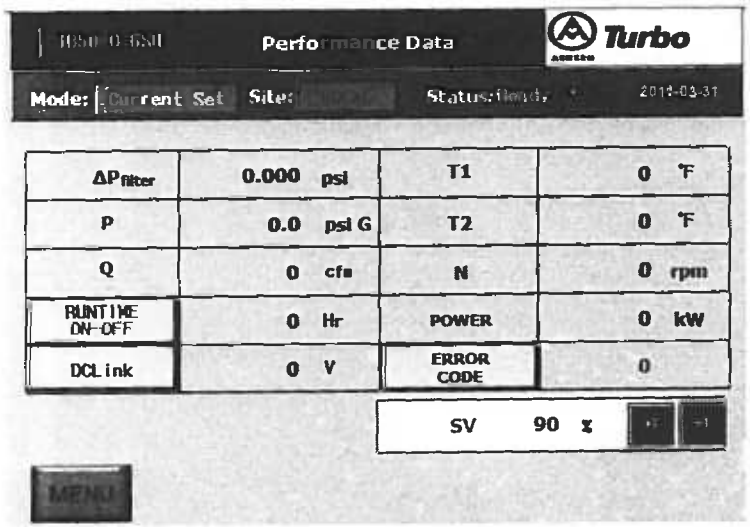
Aerzen High-Speed Turbo Blower: components made in the USA

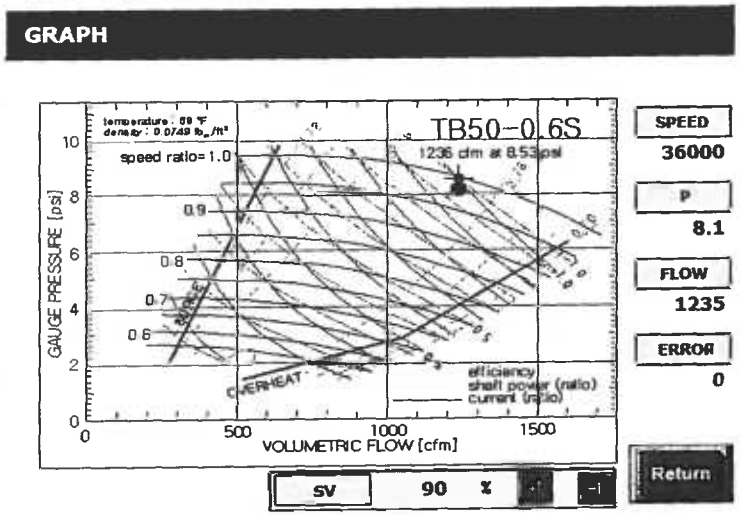
Aerzen High-Speed Turbo Blower



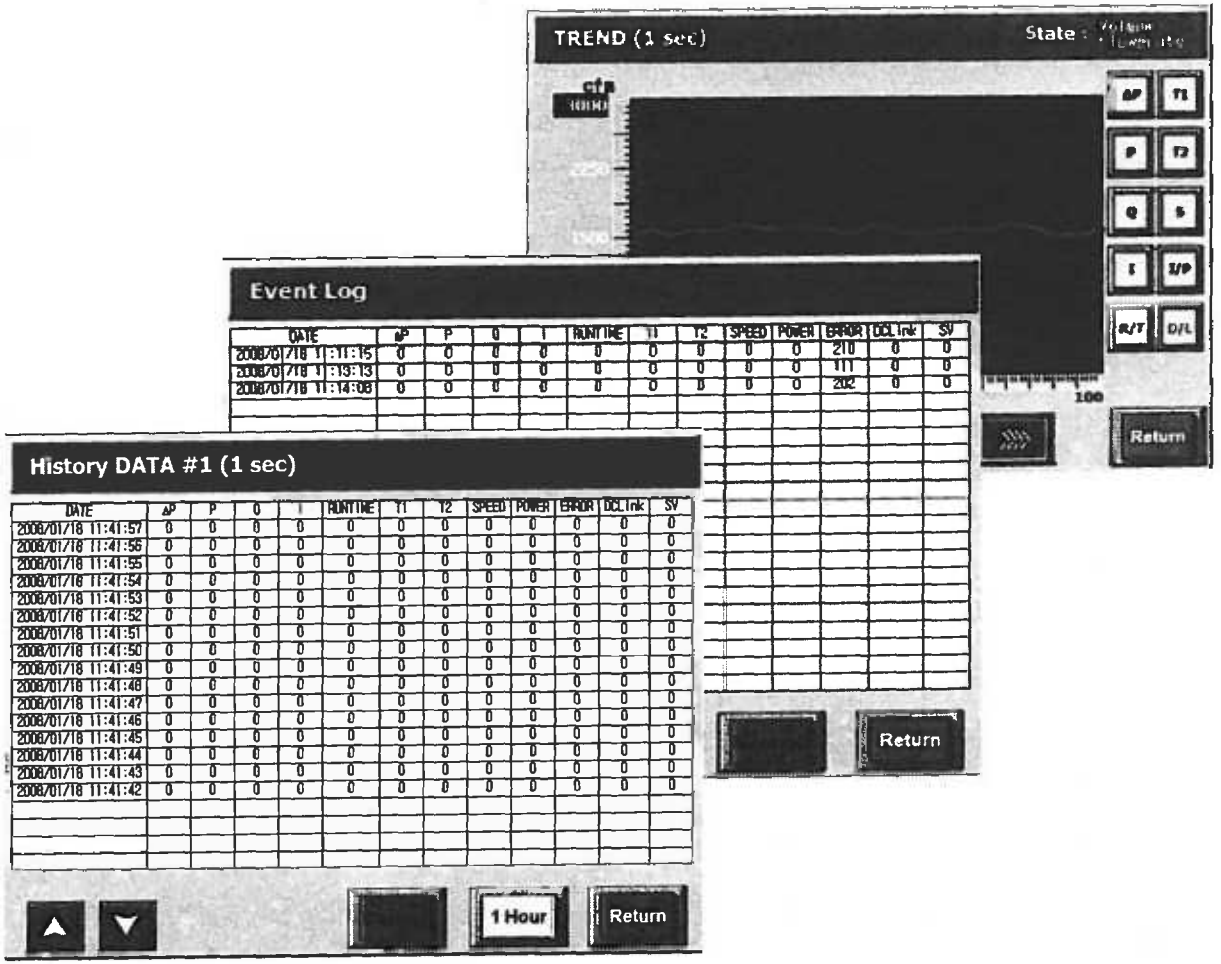
Accessories: expansion joints, check valve, discharge silencer

Local control panel and operator interface: fine-tuning and job-specific adjustments





Performance graph and view of the current operating point



Data logging, trending and event recording

Aerzen High-Speed Turbo Blower: Made in the USA

Final assembly and testing

Estimated average value of US-made components (cost basis) and : US labor for manufacturing, assembly, wiring, testing, project management, engineering and QA amount to 50 % of the unit costs

5. TECHNICAL SPECIFICATIONS

5.1 RATINGS

DESCRIPTION	SPECIFICATION
Starter type	Closed loop current control
Horsepower	HP (Please specify)
Power ratings	500% FLA for 30 sec., 125% continuous
PIV ratings	2.5 x line volts or minimum of 8000 PIV
Starting torque	0 to 100%
Ramp time	0 to 120 seconds
Maximum voltage rating	4800 VAC
Nominal ratings	2400, 3300, 4160, 4800 VAC 23 to 72 Hz
Standard insulation test	2500 VAC minimum
SCR voltage drop "L" to "T"	3.5 Volt
Overall efficiency	99.7%
SCR firing technique	Hard drive with "picket fence"
Transient protection	SI0V or Optional DV/DT
Diagnostics & LED's	Power On Micro Computer Fault SCR Condition LCD display (16 character by two lines)
Over/under voltage protection	Adjustable 10% to 30% over/under voltage
Control input	120 VAC (optional 240VAC) or Dry Contact, 2 or 3 wire

5.2 GENERAL LOGIC CONTROL CONFIGURATION

The RediStart micro is supplied standard with programming buttons and local start/stop buttons on one main keypad with the LCD display. Provisions for optional two or three wire 120 VAC or optional 240VAC remote control is provided at a terminal block on the starter.

The standard electronic control logic which is located on a single microprocessor-based PC card provides the sequential logic as well as gating signals to the power card. The power card is used to drive the SCRs. The control system is designed to implement the required sequential logic to start and stop the motor as well as operate a bypass contactor and in-line isolation contactor. The control logic is designed to perform the timing required for operation while continuously monitoring motor and starter operation for faults. If a fault is detected, the control logic provides the fault indication via a LCD display, DeviceNet, and/or via an optional RS-232/485 communication port. In the event of a fault condition, the control logic safely shuts down the starter to disable the motor. The PC cards are the same and interchangeable between all starters.

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Overhalt
Principal Address: 930 Overhalt Rd

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	Installation/Replacement of Lighting	LIGHTING RETROFIT T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. T12 Linear Fluorescent Retrofit -Retrofit T12 fluorescent lamps with electromagnetic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. New Fixtures (High-Bay retrofits) The Brewer-Garrett Company will install a straightforward one-for-one replacement of the existing 400-watt metal halide fixtures with a 4 lamp high bay T5HO fixture.	Ongoing energy audits will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. Please see attached 1st Quarter Savings Report from contractor dated July 16, 2012. 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 City of Kent_Hodgeman_Lighting Rebate Calculator	N/A	N/A

Docket No. 13-1235
Site: 930 Overhalt Rd

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Overhalt
Principal Address: 930 Overhalt Rd

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	219,184	219,184	280,146
2011	213,315	213,315	213,315
2010	205,506	205,506	205,506
Average	**212,668**	**212,668**	**232,989**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$40,144	$20,072	71,285	71,285	23	$3,564	$2,673	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$40,144**		**71,285**	**71,285**	**23**	**$3,564**	**$2,673**	**$0**

Docket No. 13-1235
Site: 930 Overhalt Rd

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	71	$ 308	$ 21,976	$ 4,050	$2,673	$713	$ 7,436	**3.0**
Total	**71**	**$ 308**	**21,976**	**4,050**	**$2,673**	**$713**	**7,436**	**3.0**

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)

City of Kent ~ Overhalt
Docket No. 13-1235

Site: 930 Overhalt Rd

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 930 Overholt

Date: 3/26/2012

Instructions: Please use one line for each fixture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION					POST-INSTALLATION						Energy Calculations													
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*	
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*	
1	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	10	F41EE	43	0.43	NONE		10	Cut Sheet 1	22	0.22	NONE		0.21			95%	95%	34%	12%			0.27			2,607	2,607	613
2	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	28	FU2ILL	59	1.65	NONE		28	Cut Sheet 5	46	1.29	NONE		0.36			95%	95%	34%	12%			0.46			2,607	2,607	1,063
3	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	152	F42EE	72	10.94	NONE		152	Cut Sheet 2	39	5.93	NONE		5.02			95%	95%	34%	12%			6.39			2,607	2,607	14,646
4	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	13	FU2EE	72	0.94	NONE		13	Cut Sheet 5	46	0.60	NONE		0.34			95%	95%	34%	12%			0.43			2,607	2,607	987
5	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	11	F42II	59	0.65	NONE		11	Cut Sheet 2	39	0.43	NONE		0.22			95%	95%	34%	12%			0.28			2,607	2,607	642
6	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	4	F82EE	123	0.49	NONE		4	Cut Sheet 4	78	0.31	NONE		0.18			95%	95%	34%	12%			0.23			2,607	2,607	526
7	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	76	F43ee	115	8.74	NONE		76	Cut Sheet 3	59	4.48	NONE		4.26			95%	95%	34%	12%			5.42			2,607	2,607	12,427
8	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	61	MH400/1	458	27.94	NONE		61	F44GHL	234	14.27	NONE		13.66			95%	95%	34%	12%			17.39			2,607	2,607	39,897
9	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	2	F44ee	144	0.29	NONE		2	Cut Sheet 4	78	0.16	NONE		0.13			95%	95%	34%	12%			0.17			2,607	2,607	385
10	930 Overholt	1		Interior	Other - Please estimate CF and EFLH	Cooled Space	1	F44ILL	112	0.11	NONE		1	Cut Sheet 4	78	0.08	NONE		0.03			95%	95%	34%	12%			0.04			2,607	2,607	99
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Lighting Form

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION					Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DATA TO, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
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Totals							358			52.18			358			27.77			24.41									31.08					71,285

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	71,285
Total Change in Connected Load	24.41

Annual Estimated Cost Savings	$7,128.50
Annual Operating Hours	2,607

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$3,564.25
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
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	$3,564.25

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	358
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 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)	31.08

Exhibit 1

Customer Legal Entity Name: City of Kent

Site Address: Water
Principal Address: 319 S. Water St

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	Installation/Replacement of Lighting	LIGHTING RETROFIT T8 Linear Fluorescent Retrofit -Retrofit 32W T8 fluorescent lamps with 1st generation electronic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. T12 Linear Fluorescent Retrofit -Retrofit T12 fluorescent lamps with electromagnetic ballasts using 25W T8 lamps with 2nd generation high efficiency electronic ballasts. Reduced number of fixtures in facility.	Ongoing energy audits will be provided by the project contractor and the City will continue to track energy usage and savings at each facility. Please see attached 1st Quarter Savings Report from contractor dated July 16, 2012. 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 City of Kent_Water_Lighting Rebate Calculator	Equipment would have been budgeted and replaced on an as needed basis.	N/A

Docket No. 13-1235
Site: 319 S. Water St

Exhibit 2

Customer Legal Entity Name: City of Kent
Site Address: Water
Principal Address: 319 S. Water St

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) *Note 1*
2012	392,280	392,280	674,007
2011	375,800	375,800	375,800
2010	401,200	401,200	401,200
Average	**389,760**	**389,760**	**483,669**

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) $ *Note 2*	Commitment Payment $
1	Installation/Replacement of Lighting	02/23/2012	$11,731	$5,866	329,431	329,431	34	$16,472	$5,866	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
		Total	**$11,731**		**329,431**	**329,431**	**34**	**$16,472**	**$5,866**	**$0**

Docket No. 13-1235
Site: 319 S. Water St

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	329	$ 308	$ 101,557	$ 4,050	$5,866	$3,294	$ 13,210	**7.7**
Total	**329**	**$ 308**	**101,557**	**4,050**	**$5,866**	**$3,294**	**13,210**	**7.7**

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)

City of Kent ~ Water
Docket No. 13-1235

Site: 319 S. Water St

Lighting Form

Lighting Inventory Form

Applicant Name: City of Kent

Facility Name: 319 S Water

Date: 3/26/2012

Instructions: Please use one line for each fixture type in a room or area

For existing or proposed control, choose OCC for Occupany Sensor, DAYLTG for photosensor, or NONE for none. Controls must save energy to qualify.

The total of Column S, the quantities of CFLs and exit signs in Column M, and the quantities of sensors in Column R, will be used to calculate your incentive on the NonStandard Lighting form.

PROJECT BASIC INFORMATION							PRE-INSTALLATION						POST-INSTALLATION						Energy Calculations														
Line Item	Building Address	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 When applicable	Post Fixture Qty	Post Fixture Code	Post Watts/ Fixture (W)	Post kW / Space (kW)	Proposed Control Please enter DAYLTG, OCC or NONE.	Proposed Sensor Quantity When applicable	Interior Change in Connected Load (kW) excluding CFLs or Exit Signs	Exterior 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)	Pre Controls Factor	Post Controls Factor	Interior Demand Savings (kW) excluding CFLs or Exit Signs	Exterior Demand Savings (kW) excluding CFLs or Exit Signs	Demand Savings (kW) CFLs or LED Exit Signs	Applicant Equivalent Full Load Hours (EFLH) Estimate	Prescribed Equivalent Full Load Hours	Annual Interior Fixture kWh Saved (excluding CFLs or Exit Signs)
e.g.	*400 North Street*	*2*	*Office*	*Interior*	*Office - Small*	*Cooled Space*	*3*	*F44ILL*	*112*	*0.34*	*NONE*		*3*	*CFT55/1-BX*	*56*	*0.17*	*OCC*	*3*			*0.17*	*84%*	*84%*	*34%*	*12%*		*30%*			*0.19*	*2,808*	*3,435*	
e.g.	*Example*	*1*	*Restaurant*	*Exterior*	*Restaurant - Fast Food*	*Uncooled space*	*5*	*Example Cut Sheet 1*	*50*	*0.25*	*OCC*	*5*	*5*	*Example Cut Sheet 2*	*25*	*0.13*	*DAYLTG*	*5*		*0.13*		*88%*	*88%*			*30%*	*50%*		*0.11*		*8,760*	*4,156*	
1	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	2	F41ee	43	0.09	NONE						NONE					90%	90%	34%	12%						8,760	8,760	
2	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	2	FU2ILL	59	0.12	NONE						NONE					90%	90%	34%	12%						8,760	8,760	
3	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	26	F42EE	72	1.87	NONE		15	Cut Sheet 2	39	0.59	NONE		1.29			90%	90%	34%	12%			1.55			8,760	8,760	12,627
4	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	22	FU2ee	72	1.58	NONE		5	Cut Sheet 5	46	0.23	NONE		1.35			90%	90%	34%	12%			1.63			8,760	8,760	13,284
5	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	1	F42lll	59	0.06	NONE						NONE					90%	90%	34%	12%						8,760	8,760	
6	319 S Water	1	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	11	F82EE	123	1.35	NONE		3	Cut Sheet 2	39	0.12	NONE		1.24			90%	90%	34%	12%			1.49			8,760	8,760	12,127
7	319 S Water	2	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	52	F44ILL	112	5.82	NONE		16	F42ILL-R	52	0.83	NONE		4.99			90%	90%	34%	12%			6.02			8,760	8,760	48,978
8	319 S Water	3	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	226	F44ee	144	32.54	NONE		120	Cut Sheet 4	78	9.36	NONE		23.18			90%	90%	34%	12%			27.96			8,760	8,760	227,463
9	319 S Water	4	Police	Interior	Other - Please estimate CF and EFLH	Cooled Space	15	F44ill	112	1.68	NONE		2	Cut Sheet 4	78	0.16	NONE		1.52			90%	90%	34%	12%			1.84			8,760	8,760	14,952
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Lighting Form

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Totals							357			45.12			161			11.28			33.58								40.49					329,431

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	329,431
Total Change in Connected Load	33.58

Annual Estimated Cost Savings	$32,943.10
Annual Operating Hours	8,760

Interior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$16,471.55
Exterior Lighting Incentive @ $0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	$0.00
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	$16,471.55

Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	161
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 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)	40.49

Mercantile Customer Project Commitment Agreement
Cash Rebate Option

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 City of Kent, Taxpayer ID No. 34-6001563 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/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 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

If to the Customer:

City of Kent
930 Overholt Road
Kent Ohio, 44240
Attn:Hallie Pirro
Telephone:(330) 678-8105
Fax:
Email:PirroH@kent-ohio.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.

Ohio Edison Company
(Company)

By: John C. Lanzi

Title: **V.P. Of Energy Efficiency**

Date: 7-1-13

City of Kent
(Customer)

By: Hallie Piso

Title: ENG. AIDE I

Date: 6/26/13

Affidavit of City of Kent – Exhibit _A_

STATE OF OHIO)
) SS:
COUNTY OF Portage)

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

1. I am the Engineering Aide I of City of Kent ("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 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 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.

Hallie Pirro

Sworn to before me and subscribed in my presence this 26th day of June, 2013

Sheri L. Chestnutwood
Notary

SHERI L. CHESTNUTWOOD
Notary Public - State of Ohio
My Commission Expires March 27, 2018

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