



13-0096
Case No.: ~~12-3230~~-EL-EEC

Mercantile Customer University of Toledo

Electric Utility: The Toledo Edison Company

Program Title or Maintenance VFD and Motor Upgrades
Description:

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: University of Toledo

Principal address: 2801 W. Bancroft Toledo, OH 43606

Address of facility for which this energy efficiency program applies: See Exhibit 1

Name and telephone number for responses to questions: Dan Dumond 614-949-5203

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

- ☐ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (Please attach documentation.)
- ☒ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

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

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

B) The electric utility is: The Toledo 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):

See Exhibit 1.

☐ 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: 494227 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: 88128 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?

8/13/2012

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

91 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 \$27794. (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.



Public Utilities
Commission

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

Case No.: ¹³~~12~~- 009~~6~~ -EL-EEC

State of Ohio

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

1 I am the duly authorized representative of

University of Toledo

[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.

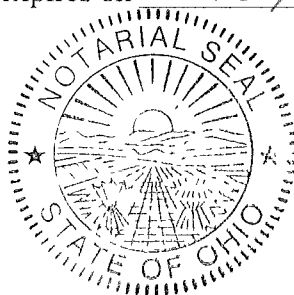
M. Green, Director Energy Mngt
Signature of Affiant & Title

Sworn and subscribed before me this 20th day of Dec., 2012 Month/Year

Diana S. Raider
Signature of official administering oath

Diana S. Raider
Print Name and Title

My commission expires on 12/16/13



DIANA SUE RAIDER
Notary Public, State of Ohio
Wood County
My Commission Expires Dec. 16, 2013

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	Addition of VFDs and replacement of motors	This project includes the addition of VFD controls to several pump and fan motors	Data was gathered from attachments A and C, and entered into attachment C to determine savings and the VFD and Motor rebate calculator to determine the rebate.	N/A	The less efficient alternative would be to leave the systems uncontrolled using non premium motors.
2	Lighting Retrofit	This project includes the replacement of existing lighting fixtures with more efficient (RW T8 and LED) fixtures.	Using the lighting invoices seen in Attachment F, data was gathered and entered into the Lighting Project Cash Rebate Form to determine the savings shown in this project tab. Attachment G is an organized summary of the type, quantity, and pricing data from the lighting invoices. Attachment C includes the manufacturer cut sheets and specifications of the installed lights.	Within the next year. This has been determined because these systems have an average lifespan of 40,000 hours. They have been in place for ten years.	N/A

Exhibit 2

Customer Legal Entity Name: University of Toledo

Site Address: University of Toledo Maintenance Department

Principal Address: 2801 W. Bancroft St.

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (C) <i>Note 1</i>
2010	75,334,512	75,334,512	75,334,512
2009	84,645,244	84,645,244	84,645,244
Average	79,989,878	79,989,878	79,989,878

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ <i>Note 2</i>
1	Addition of VFDs and replacement of motos	05/29/2012	\$30,000	\$15,000	88,128	88,128	-	\$8,838	\$6,629
2	Lighting Retrofit	08/13/2012	\$232,841	\$116,421	494,227	494,227	91	\$28,220	\$21,165
					-	-	-		
					-	-	-		
					-	-	-		
					-	-	-		
					-	-	-		
	Total		\$262,841		582,355	582,355	91	\$37,058	\$27,794

Docket No. 13-0096

Site: 2801 W. Bancroft 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.

**Commitment
Payment
\$**

\$0

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	88	\$ 308	\$ 27,168	\$ 2,025	\$6,629	\$881	\$ 9,535	2.8
2	494	\$ 308	\$ 152,360	\$ 2,025	\$21,165	\$4,942	\$ 28,132	5.42
Total	582	\$ 308	179,528	4,050	\$27,794	\$5,824	37,667	4.8

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)

University of Toledo ~ University of Toledo Maintenance Department
Docket No. 13-0096

Site: 2801 W. Bancroft St.

Lighting Inventory Form

Applicant Name:	University of Toledo
Facility Name:	Maintenance Dept.
Date:	10/30/2012

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

For existing or proposed control, choose OCC for Occupancy Sensor, DAYLTO 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.

Line Item		Building Address	Floor	PROJECT BASIC INFORMATION				PRE-INSTALLATION				POST-INSTALLATION				ENERGY CALCULATIONS										Peak Power Use (kW)									
				Area Description	Interior or Exterior Fixture	Predominant Space Type	Area or Usage	Pre Fixture Qty	Pre Fixture Code	Pre Fixture Fixture (W)	Pre Fixture Fixture (VA)	Existing Controls and dim	Existing Sensor Quantity	Post Fixture Qty	Post Fixture Code	Post Fixture Fixture (W)	Post Fixture Fixture (VA)	Proposed Control (Sensor, Dimmer, etc.)	Proposed Sensor Quantity	Fixture Change (in Comparison to Existing) CFLs or LED Signage	Estimated Change in Load (W) (using CFLs or LED Signage)	Change in Connected Load (W) (using CFLs or LED Signage)	Applicable Coefficients, Factor (CFL or LED Signage)	Correction Factor	Ballast Factor (demand)		Ballast Factor (energy)	Control Factor	Foot Controls Factor	Interior Demand Savings (W) (excluding CFLs or LED Signage)	Interior Demand Savings (W) (including CFLs or LED Signage)	Applicable Coefficients, Factor (CFL or LED Signage)	Pre-Installed Full Load Hours	Annual Interior Fixture kWh Saved (including CFLs or LED Signage)	Annual Exterior Fixture kWh Saved (including CFLs or LED Signage)
0.0	400 North Street	2	Office	Interior	Office - Small	Cooled Space	3	F44E1	112	0.34	NONE	3	CF7501-BX	66	0.17	CCC	3		0.18	0.17	64%	84%	34%	12%		30%			0.19	2.69	3.436			194	1
0.1	400 North Street	2	Classroom	Interior	Classroom - Full Room	Uncooled Space	4	F44E1B	281	0.25	NONE	4	F44E1B	281	0.22	CCC/LED	4		0.18		64%	84%	34%	12%	30%	62%			0.11	4.20	4.158	281	281	281	1
1	2801 W. Bancroft St.	1	University	Interior	Education - University	Cooled Space	101	F44E1B	112	0.34	NONE	101	CF7501-BX	66	0.17	CCC	101		11.76		64%	84%	34%	12%					12.11	6.13	6.013	48,017			4
2	2801 W. Bancroft St.	1	University	Interior	Education - University	Cooled Space	419	F44E1B	112	0.34	NONE	419	F44E1B	66	0.17	CCC	419		38.95	7.53	100%	84%	34%	12%					33.06	5.013	5.013	276,301			
3	2801 W. Bancroft St.	1	University	Interior	Education - University	Cooled Space	101	F44E1B	112	0.34	NONE	101	F44E1B	66	0.17	CCC	101		11.76		64%	84%	34%	12%					12.11	6.13	6.013	48,017			
4	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	9	M4501	72	0.65	NONE	9	Cut Sheet 2	29	0.26	NONE	9		0.40		100%	84%							0.26	5.013	5.013			1,584	
5	2801 W. Bancroft St.	1	University	Interior	Education - University	Cooled Space	101	E450	10	1.01	100%	101	E450	6	0.01	NONE	101		0.40	1.60	100%	100%	34%	12%					0.40	9.703	9.703			6,867	
6	2801 W. Bancroft St.	1	University	Interior	Education - University	Cooled Space	101	E450	10	1.01	100%	101	E450	6	0.01	NONE	101		0.40	1.60	100%	100%	34%	12%					0.40	9.703	9.703			6,867	
7	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	10	M4501	72	0.65	NONE	10	Cut Sheet 3	26	0.26	NONE	10		0.36		100%	84%							0.36	5.013	5.013			13,628	
8	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	19	M4501	72	0.65	NONE	19	Cut Sheet 4	35	0.35	NONE	19		0.36		100%	84%							0.36	5.013	5.013			3,348	
9	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	19	M4501	72	0.65	NONE	19	Cut Sheet 5	35	0.35	NONE	19		0.36		100%	84%							0.36	5.013	5.013			3,348	
10	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	41	N41001	138	0.83	NONE	41	Cut Sheet 6	6	0.06	NONE	41		0.40	1.60	100%	84%							0.40	5.013	5.013			37,635	
11	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	41	N41001	138	0.83	NONE	41	Cut Sheet 7	71	0.71	NONE	41		0.40	1.60	100%	84%							0.40	5.013	5.013			13,467	
12	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	41	N41001	138	0.83	NONE	41	Cut Sheet 8	114	0.88	NONE	41		0.40	1.60	100%	84%							0.40	5.013	5.013			16,088	
13	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	41	N41001	138	0.83	NONE	41	Cut Sheet 9	167	0.95	NONE	41		0.40	1.60	100%	84%							0.40	5.013	5.013			20,594	
14	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	41	N41001	138	0.83	NONE	41	Cut Sheet 10	220	0.97	NONE	41		0.40	1.60	100%	84%							0.40	5.013	5.013			24,880	
15	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	80	N41001	138	11.04	NONE	80	Cut Sheet 11	71	0.88	NONE	80		0.40	1.60	100%	84%							0.40	5.013	5.013			29,884	
16	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	15	N41001	138	4.55	NONE	15	Cut Sheet 12	95	0.97	NONE	15		0.40	1.60	100%	84%							0.40	5.013	5.013			7,235	
17	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	5	N41001	138	0.83	NONE	5	Cut Sheet 13	48	0.34	NONE	5		0.40	1.60	100%	84%							0.40	5.013	5.013			2,236	
18	2801 W. Bancroft St.	1	University	Exterior	Education - University	Uncooled Space	5	N41001	138	0.83	NONE	5	Cut Sheet 14	91	0.98	NONE	5		0.40	1.60	100%	84%							0.40	5.013	5.013			1,981	
19											NONE					NONE																			
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[illegible]

Project Estimated Annual Savings Summary

Estimated Annual kWh Savings	494,227
Total Change in Connected Load	91.01

Annual Estimated Cost Savings	\$49,422.70
Annual Operating Hours	5,427

Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$15,628.90
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$8,590.90
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	\$4,000.00
Total Lighting Controls Incentive @ \$25/sensor (includes all Lighting Controls, both interior and exterior)	\$0.00

Total Calculated Incentive	\$28,219.80
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Total Fixture Quantity excluding retrofit CFLs and LED Exit Sign	1626
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	400
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)

71.06



Ohio Edison • The Illuminating Company • Toledo Edison

Project Name:	
Site Name:	
Completed by (Name):	
Date completed:	

Motor Rebate Calculation Form

Motor ID, Location, and Operation Data				Old Motor Nameplate Data								New Motor Nameplate Data								Total Motor Incentive ¹ \$	
Unique Motor ID(s)	Number of Identical Units	Motor Location	Annual Hours of Op ²	Loading (Constant, or if variable, indicate control type)	Load Factor (LF) ³	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)	Loading (Constant, or if variable, indicate control type)	Load Factor (LF) ³	Enclosure type: TEFC or ODP	Mfr.	Model Number	Motor HP	Nominal Efficiency	Speed (RPM)		
Incentive (through 10/11/2011)																					\$0

Motor IDs may be specified by HVAC application type and number. Application types eligible for this incentive include:

- Chilled Water Pump (CHWP),
- Heating Hot Water Pump (HHWP),
- HVAC Fans (HVACF),
- Cooling Tower Fan (CTF), and
- Condensing Water Pump (CWP).

If the HVAC application is not listed above, please describe the application on a separate sheet and include it with your application package.

(1) Motor incentives are listed in Table 2 - Incentive levels per motor located on Motor Incentive Table tab

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.



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Table 1 - Minimum Motor Efficiency Requirements (NEMA Premium® Efficiencies)

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	82.50%	85.50%	77.00%	1	82.50%	85.50%	77.00%
1.5	96.50%	86.50%	84.00%	1.5	87.50%	86.50%	84.00%
2	87.50%	86.50%	85.50%	2	88.50%	86.50%	85.50%
3	88.50%	89.50%	85.50%	3	89.50%	89.50%	86.50%
5	89.50%	89.50%	86.50%	5	89.50%	89.50%	88.50%
7.5	90.20%	91.00%	88.50%	7.5	91.00%	91.70%	89.50%
10	91.70%	91.70%	89.50%	10	91.00%	91.70%	90.20%
15	91.70%	93.00%	90.20%	15	91.70%	92.40%	91.00%
20	92.40%	93.00%	91.00%	20	91.70%	93.00%	91.00%
25	93.00%	93.60%	91.70%	25	93.00%	93.60%	91.70%
30	93.60%	94.10%	91.70%	30	93.00%	93.60%	91.70%
40	94.10%	94.10%	92.40%	40	94.10%	94.10%	92.40%
50	94.10%	94.50%	93.00%	50	94.10%	94.50%	93.00%
60	94.50%	95.00%	93.60%	60	94.50%	95.00%	93.60%
75	94.50%	95.00%	93.60%	75	94.50%	95.40%	93.60%
100	95.00%	95.40%	93.60%	100	95.00%	95.40%	94.10%
125	95.00%	95.40%	94.10%	125	95.00%	95.40%	95.00%
150	95.40%	95.80%	94.10%	150	95.80%	95.80%	95.00%
200	95.40%	95.80%	95.00%	200	95.80%	96.20%	95.40%

Table 2 - Incentive Levels Per Motor through 10/11/2011

Open Drip Proof (ODP)				Totally Enclosed Fan-Cooled (TEFC)			
Size HP	# of Poles			Size HP	# of Poles		
	6	4	2		6	4	2
	Speed (RPM)				Speed (RPM)		
	1200	1800	3600		1200	1800	3600
1	\$25	\$25	\$25	1	\$25	\$25	\$25
1.5	\$30	\$30	\$30	1.5	\$30	\$30	\$30
2	\$60	\$60	\$60	2	\$60	\$60	\$60
3	\$60	\$60	\$60	3	\$60	\$60	\$60
5	\$60	\$60	\$60	5	\$60	\$60	\$60
7.5	\$80	\$80	\$80	7.5	\$80	\$80	\$80
10	\$80	\$80	\$80	10	\$80	\$80	\$80
15	\$125	\$125	\$125	15	\$125	\$125	\$125
20	\$125	\$125	\$125	20	\$125	\$125	\$125
25	\$164	\$164	\$164	25	\$164	\$164	\$164
30	\$199	\$199	\$199	30	\$199	\$199	\$199
40	\$234	\$234	\$234	40	\$234	\$234	\$234
50	\$269	\$269	\$269	50	\$269	\$269	\$269
60	\$304	\$304	\$304	60	\$304	\$304	\$304
75	\$339	\$339	\$339	75	\$339	\$339	\$339
100	\$374	\$374	\$374	100	\$374	\$374	\$374
125	\$410	\$410	\$410	125	\$410	\$410	\$410
150	\$445	\$445	\$445	150	\$445	\$445	\$445
200	\$468	\$468	\$468	200	\$468	\$468	\$468



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Project Name:	University of Toledo VFD additions
Site Name:	University of Toledo Campus
Completed by (Name):	
Date completed:	

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											Total Motor Incentive ¹ \$
Motor Application	VFD Manufacturer	VFD Model Number	Unique Motor ID(s)	Motor Location	Enclosure type: TEFC or ODP	Annual Hours of Operation ²	Load Factor (LF) ³	Motor Model Number	Motor HP	Motor Nominal Efficiency	
AHU 101	Toshiba	Q94330IER	AHU 101 Fan	AHU 101 Fan	TEFC	2790	0.8	WEG 02018EP3E256T	20	91	700
AHU Fan	Toshiba	Q94270IER	AHU Fan	AHU Fan	TEFC	2790	0.8	Baldor M1713T	25	93	875
AHU Fan	Toshiba	Q94080IER	AHU Fan	AHU Fan	TEFC	2790	0.8	Baldor EM3770T	7.5	91.7	263
AHU Fan	Toshiba	Q94220IER	AHU Fan	AHU Fan	TEFC	2790	0.8	Baldor M1712T	20	91.7	2,100
RA-1	Toshiba	Q94160IER	RA-1 Fan	RA-1 Fan	TEFC	2790	0.8	Baldor M1727T	15	91	525
P14, P15	Toshiba	Q94220IER	P14, P15	P14, P15	TEFC	5520	0.8	Baldor EM2334T	20	93	1,400
Incentive through 10/11/2011 @ \$35/hp											5,863

(1) VFD incentives (through 10/11/2011) are calculated at a flat rate of \$35 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.

When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x \$35/hp = \$900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.



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Project Name:	University of Toledo VFD additions
Site Name:	University of Toledo Campus
Completed by (Name):	
Date completed:	

Variable Frequency Drive Rebate Form

VFD and Controlled Motor Nameplate DATA											Total Motor Incentive ¹ \$
Motor Application	VFD Manufacturer	VFD Model Number	Unique Motor ID(s)	Motor Location	Enclosure type: TEFC or ODP	Annual Hours of Operation ²	Load Factor (LF) ³	Motor Model Number	Motor HP	Motor Nominal Efficiency	
Pump 4	Toshiba	VT130Q9U4	Pump 4	Pump 4	TEFC	5520	0.8	Baldor M1727T	15	91	525
Pump 3	Toshiba	VFS11-4110	Pump 3	Pump 3	TEFC	5520	0.8	Baldor M1727T	15	91	525
AHU Fan	Toshiba	Q94330IE	AHU Fan	AHU Fan	TEFC	2790	0.8	Baldor CTM1764T	30	91.7	1,050
AHU Fan	Toshiba	VFAS1-418	AHU Fan	AHU Fan	TEFC	2790	0.8	Baldor M1713T	25	93	875
Incentive through 10/11/2011 @ \$35/hp											2,975

(1) VFD incentives (through 10/11/2011) are calculated at a flat rate of \$35 per horsepower controlled, up to a maximum of 500 hp controlled per VFD.

When a single VFD is used to control two motors in a lead/lag (standby, redundant) configuration, use only the horsepower rating of one motor to figure controlled horsepower. For instance, if a single VFD controls two 30hp motors with only one operating at a time, the incentive calculation should be based on 30 hp: 30hp x \$35/hp = \$900.

(2) For VAV fan motors, enter 2790 annual hours of operation. For HVAC pump motors, enter 5520 annual hours of operation. For all other motor usage, please estimate your annual hours of operation and attach an explanation of how you determined this value.

(3) For all motor and VFD applications, use the Load Factor (LF) default value of 0.80, unless data is available to support the use of a motor-specific LF other than 0.80. Please attach an explanation, including your analysis and/or data used, to support motor-specific LF value.

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 University of Toledo, Taxpayer ID No. 34-6401483 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 then 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:

The University of Toledo
2801 W Bancroft St
Toledo OH 43606
Attn: Michael Green
Telephone: 419 530.1036
Fax:
Email:

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

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

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

The Toledo Edison Company
(Company)

By: Gabe C. Dargatzis

Title: V.P. Of Energy Efficiency

Date: 1-26-13

University of Toledo
(Customer)

By: M. Green

Title: Director, Energy Mgmt

Date: 12/26/12

Affidavit of University of Toledo – Exhibit A

STATE OF OHIO)
COUNTY OF Lucas) SS:

I Michael Green, being first duly sworn in accordance with law, deposes and states as follows

- 1 I am the Director, Energy Management of University of Toledo ("Customer") As part of my duties, I oversee energy related matters for the Customer
- 2 The Customer has agreed to commit certain energy efficiency projects to The Toledo 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.

McGreen

Sworn to before me and subscribed in my presence this 20th day of Dec, 2012



DIANA SUE RAIDER
Notary Public, State of Ohio
Wood County
My Commission Expires Dec. 16, 2013

Diana S. Raider
Notary

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/12/2013 6:17:48 PM

in

Case No(s). 13-0096-EL-EEC

Summary: Application electronically filed by Ms. Lindsey E Sacher on behalf of Toledo Edison Company and University of Toledo