



Public Utilities Commission

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

Case No.: 14-1016-EL-EEC

Mercantile Customer: Akron Board of Education

Electric Utility: Ohio Edison Company

**Program Title or
Description:** New Construction Hatton CLC

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

Completed applications requesting the cash rebate reasonable arrangement option in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider for a period of up to 12 months will also qualify for the 60-day automatic approval. However, all applications requesting an exemption from the EEDR rider for longer than 12 months must provide additional information, as described within the Historical Mercantile Annual Report Template, that demonstrates additional energy savings and the continuance of the Customer's energy efficiency program. This information must be provided to the Commission at least 61 days prior to the termination of the initial 12 month exemption period to prevent interruptions in the exemption period.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible.

Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of altered or incomplete applications may result in a suspension of the automatic approval process or denial of the application.

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

Section 1: Mercantile Customer Information

Name: Akron Board of Education

Principal address: 70 E Broadway, Akron, Ohio 44308

Address of facility for which this energy efficiency program applies: 1933 Baker Ave, Akron, Oh 44312

Name and telephone number for responses to questions: Rob Boxler 330-761-2977

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 failed equipment which has no useful life remaining. The customer installed new equipment on the following date(s): ____.
- ☒ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s):

06/18/2013.
- ☐ 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: ____ kWh

- 2) If you checked the box indicating that the customer installed new equipment to replace failed equipment which had no useful life remaining, then calculate the annual savings [(kWh used by new standard equipment) - (kWh used by the optional higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: ____ kWh

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

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

Annual savings: 547,557 kWh

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

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

Annual savings: _____ kWh

Section 4: Demand Reduction/Demand Response Programs

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

- ☒ This project does not include peak demand reduction savings.
- ☐ Coincident peak-demand savings from the customer's energy efficiency program.
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction (check the one that applies):
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

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

_____ kW

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

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

A) The customer is applying for:

☒ A cash rebate reasonable arrangement.

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

☐ Commitment payment

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

A cash rebate reasonable arrangement.

☒ A cash rebate of \$32,663. (Rebate shall not exceed 50% project cost. Attach documentation showing the methodology used to determine the cash rebate value and calculations showing how this payment amount was determined.)

An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for _____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 12 month period, the customer will need to complete, and file within this application, the Historical Mercantile Annual Report

Template to verify the projects energy savings are persistent.

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

Section 6: Cost Effectiveness

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

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

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

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

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

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

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

Our avoided supply costs were **See Exhibit 3**

The utility's program costs were **See Exhibit 3**

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

Section 7: Additional Information

Please attach the following supporting documentation to this application:

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



Public Utilities Commission

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

Case No.: 14-1016-EL-EEC

State of Ohio :

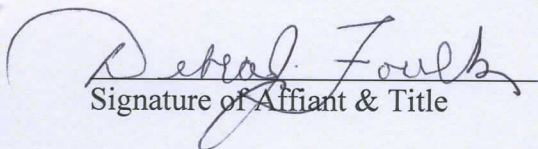
Debra Foulk, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Akron Board of Education

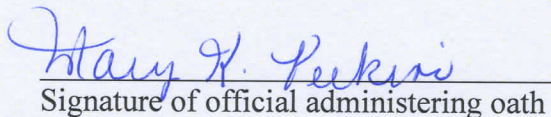
[insert customer or EDU company name and any applicable name(s) doing business as]

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.


Signature of Affiant & Title

Debra Foulk
Executive Director
Business Affairs

Sworn and subscribed before me this 5th day of June, 2014 Month/Year


Signature of official administering oath

Mary K. Perkins, Notary Public
Print Name and Title

My commission expires on June 29, 2018

MARY K. PERKINS
Notary Public, State of Ohio
My Commission Expires 06-29-18



Exhibit 1

Customer Legal Entity Name: Akron Public Schools

Site Address: Hatton CLC

Principal Address: 1933 Baker Avenue

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	Hatton CLC New Construction Lighting	Newly constructed LEEDS Certified Learning Center	See Lighting Calculator	N/A	N/A
2	Hatton New Construction Electrical	Newly constructed LEEDS Certified Learning Facility	See LEEDS calculated savings doc for BMS and all electrical with the exception of lighting	N/A	N/A

Docket No. 14-1016

Site: 1933 Baker Avenue

Exhibit 2

Customer Legal Entity Name: Akron Public Schools
Site Address: Hatton CLC
Principal Address: 1933 Baker Avenue

		Unadjusted Usage, kwh (A)		Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) <i>Note 1</i>					
Average		0		0	0					
Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ <i>Note 2</i>	Commitment Payment \$
1	Hatton CLC New Construction Lighting	06/18/2013	\$200,000	\$100,000	67,398	67,398	-	\$5,138	\$3,854	
2	Hatton New Construction Electrical	06/18/2013	\$1,000,000	\$500,000	480,159	480,159	-	\$38,413	\$28,810	
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
Total			\$1,200,000		547,557	547,557	0	\$43,551	\$32,663	\$0

Docket No. 14-1016
Site: 1933 Baker Avenue

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	67	\$ 308	\$ 20,777	\$ 2,025	\$3,854	\$674	\$ 6,552	3.2
2	480	\$ 308	\$ 148,023	\$ 2,025	\$28,810	\$4,802	\$ 35,636	4.15
Total	548	\$ 308	168,801	4,050	\$32,663	\$5,476	42,189	4.0

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)

Akron Public Schools – Hatton CLC
Docket No. 14-1016

Site: 1933 Baker Avenue

	Baseline	kW	Proposed	kW		Baseline	kW	Proposed	kW		Baseline	kW	Proposed	kW	
Buchtel High School	139,197	246	52,441	151	Hatton CLC	671,370	701	78,847	80	Seiberling CLC	577,206	643	70,263	66	
	336,259	84	56,362	27		35,671	89	17,515	98		30,611	112	18,495	96	
	60,755	54	28,153	35		97,800	33	138,511	23		86,228	33	124,333	20	
	332,938	113	717,687	210		71,685	32	89,808	42		69,499	31	93,753	44	
	245,948	115	245,948	115		83,950	25	71,685	32		64,620	29	69,499	31	
	20,148	5	0	0		11,158	6	83,950	25		20,358	13	64,620	29	
	17,112	12	17,112	12		5,606	2	11,158	6		6,338	3	20,358	13	
	54,853	12	54,853	12		57,144	28	5,606	2		89,790	17	6,338	3	
	136,539	22	136,539	22		7,200	18	57,144	28		88,705	20	89,790	17	
	40,599	54	40,599	54		134,106	33	7,200	18				88,705	20	
149,405	68	149,405	68			134,106	33								
				Difference					Difference					Difference	
	1,533,753	785	1,446,658	555	87,095	1,175,689	967	695,530	386	480,159	1,033,355	900	646,154	337	387,201

Ohio Edison • The Illuminating Company • Toledo Edison

Mercantile Customer Program - Custom Project Rebate Calculator

Project Name and Number:	LEEDS BMS AHU Electrical
Site Name:	Hatton CLC
Completed by (Name):	Michele DiFrancesco
Date completed:	5/23/2014

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
See LEEDS Summary Doc	480,159	38412.72
Total Project Energy Savings kWh	480,159	
Total Custom Prescriptive Rebate Amount \$	\$	38,412.72

Notes about this rebate calculation:	
LEEDS Certification Calculations	

Project Estimated Annual Savings Summary

Lighting

Estimated Annual kWh Savings	67,398
Total Change in Connected Load	14.18

Annual Estimated Cost Savings	\$6,739.80
Annual Operating Hours	3,871

Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$3,097.10
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$240.45
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/occupancy sensor and \$25/daylight sensor (includes all Lighting Controls, both interior and exterior)	\$1,800.00

Total Calculated Incentive	\$5,137.55
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Total Fixture Quantity excluding retrofit CFLs and LED Exit Signs	915
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	72
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)	11.78
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COMcheck Software Version 3.9.2

Mechanical Compliance Certificate

90.1 (2007) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title :

Construction Site:

1933 Baker Avenue
Akron, OH 44312

Owner/Agent:

Akron Public Schools
Akron, Ohio

Designer/Contractor:

Gpd Group
520 S. Main St.
Akron, OH 44311

Section 2: General Information

Building Location (for weather data):

Akron, Ohio

Climate Zone:

5a

Section 3: Mechanical Systems List

Quantity System Type & Description

- | | |
|---|--|
| 4 | HVAC System 1 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 9 kBtu/h,
Proposed Efficiency = 3.40 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 10 kBtu/h,
Proposed Efficiency = 16.70 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified |
| 7 | HVAC System 2 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 11 kBtu/h,
Proposed Efficiency = 3.80 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 14 kBtu/h,
Proposed Efficiency = 18.00 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified |
| 1 | HVAC System 3 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 15 kBtu/h,
Proposed Efficiency = 3.80 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 21 kBtu/h,
Proposed Efficiency = 20.30 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified |
| 3 | HVAC System 4 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 20 kBtu/h,
Proposed Efficiency = 3.80 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 29 kBtu/h,
Proposed Efficiency = 21.10 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified |
| 2 | HVAC System 5 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 27 kBtu/h,
Proposed Efficiency = 4.20 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 40 kBtu/h,
Proposed Efficiency = 20.10 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified |
| 6 | HVAC System 6 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 37 kBtu/h,
Proposed Efficiency = 4.10 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 50 kBtu/h, |

Proposed Efficiency = 18.00 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified

- 8 HVAC System 7 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 46 kBtu/h,
Proposed Efficiency = 3.90 COP, Required Efficiency = 3.10 COP
Cooling Mode: Capacity = 68 kBtu/h,
Proposed Efficiency = 18.00 EER, Required Efficiency = 13.40 EER
Fan System: Unspecified
- 2 HVAC System 8 (Single Zone) : Ground Source Heat Pump
Heating Mode: Capacity = 109 kBtu/h,
No minimum efficiency requirement applies
Cooling Mode: Capacity = 185 kBtu/h, , No Economizer , Economizer exception: Humidity Requirements
No minimum efficiency requirement applies
Fan System: Unspecified
- 2 Water Heater 1:
Gas Storage Water Heater, Capacity: 100 gallons, Input Rating: 199 Btu/h w/ Circulation Pump
Proposed Efficiency: 98.00 % Et, Required Efficiency: 80.00 % Et

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2007) Standard requirements in COMcheck Version 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title

Signature

Date

Section 6: Post Construction Compliance Statement

- ☐ HVAC record drawings of the actual installation and performance data for each equipment provided to the owner within 90 days after system acceptance.
- ☐ HVAC O&M documents for all mechanical equipment and system provided to the owner within 90 days after system acceptance.
- ☐ Written HVAC balancing report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name

Signature

Date



LEED 2009 for Schools New Construction and Major Renovations

EA PREREQUISITE 2: MINIMUM ENERGY PERFORMANCE

Project # 1000006418 Akron PSD Hatton Kto5 CLC OSFC

All fields and uploads are required unless otherwise noted.

THRESHOLD ATTEMPTED

Points Attempted: 0

ALL OPTIONS

TARGET FINDER

The following fields are required, but the values have no bearing on EA Prerequisite 2 compliance. Use the Target Energy Performance Results calculator on the [ENERGY STAR website](#) to generate the values. If using prescriptive compliance paths (Options 2 or 3), leave the Design energy consumption and cost values blank in the Target Finder website, and set the Design values equal to the Target values in this form.

	Design		Target	
Energy performance rating (1-100):	88		83	
CO ₂ -eq emissions:	623	metric tons/year	684	metric tons/year
CO ₂ -eq emissions reduction:	36	%	30	%

Upload EAp2-1. Provide the Target Finder Energy Performance Results (a screen capture or other documentation containing the same information) for the project building. (Optional)

Upload Files: 1

☐ The building is not able to get a Target Finder score because the tool does not support the primary building type of the project building and/or the project is not located in the United States. (Optional)

PREREQUISITE COMPLIANCE

Total gross square footage: 68,610 sf

The content highlighted in yellow above is linked to Pif1, Plf3, Eap1, EAc1, EAc2, EAc6, MRc1.1 & MRc1.2.

Select a compliance path:

- ☒ **Option 1. Whole Building Energy Simulation.** The project team will document improvement in the proposed building performance rating for ANSI/ASHRAE/IESNA Standard 90.1-2007 or California Title 24-2005 Part 6. Non-US projects may use a USGBC approved equivalent standard.
Note: Refer to "Credit Resources" for a list of USGBC approved equivalent standards.
- ☐ **Option 2. Prescriptive Compliance Path: ASHRAE Advanced Energy Design Guide.** The project team will document compliance with the ASHRAE Advanced Energy Design Guide.
- ☐ **Option 3. Prescriptive Compliance Path: Advanced Buildings Core Performance Guide.** The project team will document compliance with the Advanced Buildings™ Core Performance™ Guide.

The content highlighted in yellow above is linked to EAc1, EAc2 & EAc6.

OPTION 1. WHOLE BUILDING ENERGY SIMULATION

Complete the following sections:

Section 1.1A - General Information

Section 1.1B - Mandatory Requirements

Section 1.2 - Space Summary

Section 1.3 - Advisory Messages

Section 1.4 - Comparison of Proposed Design Versus Baseline Design Energy Model Inputs

Section 1.5 - Energy Type Summary

Section 1.6 - Performance Rating Method Compliance Report

Section 1.7 - Exceptional Calculation Measure Summary

Section 1.8 - On-Site Renewable Energy

Section 1.9A - Total Building Performance Summary

Section 1.9B - Reports & Metrics

SECTION 1.1A - GENERAL INFORMATION

☒ **Compliant energy simulation software:** The energy simulation software used for this project has all capabilities described in EITHER section "G2 Simulation General Requirements" in Appendix G of ASHRAE 90.1-2007 OR the analogous section of the alternative qualifying energy code used.

☒ **Compliant energy modeling methodology:** Energy simulation runs for both the baseline and proposed building use the assumptions and modeling methodology described in EITHER ASHRAE 90.1-2007 Appendix G OR the analogous section of the alternative qualifying energy code used.

Simulation program:

HAP

Principal heating source:

Electricity

Energy code used:

ASHRAE 90.1-2007

List the ASHRAE addenda used in the modeling assumptions, if any. (Optional)

Zip/Postal Code:

44312

The content highlighted in yellow above is linked to SSc1 & SSc2.

Weather file:

TM2 - AKRON OHIO

Climate zone:

5A

List the climatic data from ASHRAE Standard 90.1-2007 Table D-1. Specify if another source is referenced for HDD & CDD data.

Heating Degree Days:

6,160

Cooling Degree Days:

2,779

HDD and CDD data source, if other than ASHRAE: (Optional)

0

New construction gross square footage:

68,610

Existing, renovated gross square footage:

0

Existing, unrenovated gross square footage:

0

Total gross square footage:

68,610

New construction percent:

100

%

Existing renovation percent:

0

%

Existing unrenovated percent:

0

%

The content highlighted in yellow above is linked to Plf2 & MRc2.

Gross square footage used in the energy model, if different than gross square footage above: (Optional)

60,142

SECTION 1.1B - MANDATORY REQUIREMENTS

- ☒ For all elements included in the Architect's scope of work for the project building, the project building design complies with all ASHRAE Standard 90.1-2007 mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) or USGBC approved equivalent standard mandatory provisions, and the information provided regarding the proposed case energy model in Section 1.4 is consistent with the building design.
- ☒ For all elements included in the Mechanical Engineer's scope of work for the project building, the project building design complies with all ASHRAE Standard 90.1-2007 mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) or USGBC approved equivalent standard mandatory provisions, and the information provided regarding the proposed case energy model in Section 1.4 is consistent with the building design.
- ☒ For all elements included in the Electrical Engineer's scope of work for the project building, the project building design complies with all ASHRAE Standard 90.1-2007 mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) or USGBC approved equivalent standard mandatory provisions, and the information provided regarding the proposed case energy model in Section 1.4 is consistent with the building design.

Provide the following [Interactive Compliance Forms](#):

Upload EAp2-2. Building Envelope Compliance Documentation (Optional)

Upload

Files: 0

Upload EAp2-3. HVAC Compliance Documentation (Optional)

Upload

Files: 0

Upload EAp2-4. Lighting Compliance Documentation (Optional)

Upload

Files: 0

Upload EAp2-5. Service Water Heating Compliance (Optional)

Upload

Files: 0

SECTION 1.2 - SPACE SUMMARY

Table EAp2-1. Space Usage Type

Space Name / Description	Space Usage Type	Space Area (sf)	Regularly Occupied Area (sf)	Unconditioned Area (sf)	Typical Hours/ Week in Operation		
Classrooms	Classrooms	33,537	33,537	0	45	+	-
Mechanical/Electrical	Mech/Elec Rooms	1,870	0	0	0	+	-
Corridors	Corridors	11,570	11,570	0	45	+	-
Dining/Kitchen/Stage	Dining/Kitchen/Stage	5,560	5,560	0	45	+	-
Gymnasium	Gymnasium	3,540	3,540	0	45	+	-
Office	Office	1,985	1,985	0	45	+	-
Server Room	Server/Electrical Room	300	0	0	0	+	-
Restrooms	Restrooms	1,780	1,780	0	45	+	-
Totals		60,142	57,972	0			
Percentage of total (%)			96.39	0			

SECTION 1.3 - ADVISORY MESSAGES

Table EAp2-2. Advisory Messages

Complete the table below based on information from the energy simulation output files.

	Baseline Design (0° Rotation)	Proposed Design
Number of hours heating loads not met ¹	207	5
Number of hours cooling loads not met ¹	35	28
Total	242	33
Difference ² (Proposed minus baseline)		-209
Number of warning messages	0	0
Number of error messages	0	0
Number of defaults overridden	0	0
Unmet load hours compliance	Y	

Notes:

1 Baseline design and proposed design unmet load hours each may not exceed 300

2 Unmet load hours for the proposed design may not exceed the baseline design by more than 50 hours.

SECTION 1.4 - COMPARISON OF PROPOSED DESIGN VERSUS BASELINE DESIGN ENERGY MODEL INPUTS

Download, complete, and upload "EAp2 Section 1.4 table.xls" (found under "Credit Resources") to document the baseline and proposed design energy model inputs for the project. Documentation should be sufficient to justify the energy and cost savings numbers reported in the Performance Rating Table.

Upload EAp2-7. Provide the completed EAp2 Section 1.4 Tables available under "Credit Resources."

Upload

Files: 1

SECTION 1.5 - ENERGY TYPE SUMMARY

List the energy types used by the project (i.e. electricity, natural gas, purchased chilled water or steam, etc.) and provide the the virtual energy rate from the baseline and proposed design energy model results or from manual calculations. *If revising the values in Table EAp2-3, reselect energy type in all affected rows in Table EAp2-4 and Table EAp2-5 to ensure that the revised values from Table EAp2-3 are propagated and that Table EAp2-4 and Table EAp2-5 calculations are refreshed.*

Table EAp2-3. Energy Type Summary

Energy Type	Utility Company Name	Utility Rate and Description of Rate Structure ¹	Baseline Virtual Rate ² (\$ per unit energy)	Proposed Virtual Rate ² (\$ per unit energy)	Units of Energy	Units of Demand
Electricity	Ohio Edison	DOE EIA Rates	0.0903	0.0903	kWh	kW
Natural Gas	Dominion East Ohio	DOE EIA Rates	0.686	0.686	therms	MBH

+

-

Notes:

- 1 Per ASHRAE 90.1-2007 G2.4, project teams are allowed to use the state average energy prices published by DOE's EIA for commercial building customers, available on EIA's website (www.eia.gov). If project uses backup energy for on-site renewable energy, please specify the rate of backup source energy.
- 2 Rate is defined as the total annual charge divided by the metered energy from the plant for each resource.

If the proposed and baseline rates vary significantly, describe the building input parameters (e.g. demand reduction measures) leading to the variation in energy rates, and provide detailed information regarding the utility rate structure including all demand and energy charges, and the seasonal and time-of-use structure of the utility tariff. (Required when proposed & baseline Rates vary by more than 10%.)

Upload EAp2-8. Provide any documentation to support the proposed/baseline rate variance narrative. (Optional)

Upload

Files: 0

SECTION 1.6 - PERFORMANCE RATING METHOD COMPLIANCE REPORT

Table EAp2-4. Baseline Performance - Performance Rating Method Compliance

In the table below, list each energy end use for the project (including all end uses reflected in the baseline and proposed designs). Then check whether the end-use is a process load, select the energy type, and list the energy consumption and peak demand for each end-use for all four baseline design orientations.

End Use	Process	Baseline Design Energy Type	Units of Annual Energy & Peak Demand	Baseline (0° rotation)	Baseline (90° rotation)	Baseline (180° rotation)	Baseline (270° rotation)	Baseline Building Results
Interior Lighting	☐	Electricity	Energy Use kWh	150,375	150,178	150,178	150,178	150,227.25
			Demand kW	66.1	66	66	66	66.03
Exterior Lighting	☐		Energy Use					
			Demand					
Space Heating	☐	Electricity	Energy Use kWh	669,972	669,538	670,730	675,238	671,369.5
			Demand kW	700.9	700.9	702	700.8	701.15
Space Cooling	☐	Electricity	Energy Use kWh	35,860	36,208	35,046	35,569	35,670.75
			Demand kW	89.7	88.6	89.9	87.9	89.03
Pumps	☐		Energy Use					
			Demand					
Heat Rejection	☐		Energy Use					
			Demand					

Fans-Interior	☐	Electricity	Energy Use	kWh	97,800	93,768	96,737	92,817	95,280.5
			Demand	kW	32.7	33.9	33.1	32	32.92
Fans - Parking Garage	☒		Energy Use						
			Demand						
Service Water Heating	☐	Natural Gas	Energy Use	therms	8,934	8,934	8,934	8,934	8,934
			Demand	MBH	392.6	392.6	392.6	392.6	392.6
Receptacle Equipment	☒	Electricity	Energy Use	kWh	71,685	71,685	71,685	71,685	71,685
			Demand	kW	31.5	31.5	31.5	31.5	31.5
Interior Lighting - Process	☒		Energy Use						
			Demand						
Refrigeration Equipment	☒	Electricity	Energy Use	kWh	83,950	83,950	83,950	83,950	83,950
			Demand	kW	25	25	25	25	25
Cooking	☒		Energy Use						
			Demand						
Industrial Process	☒		Energy Use						
			Demand						
Elevators and Escalators	☒	Electricity	Energy Use	kWh	11,158	11,158	11,158	11,158	11,158
			Demand	kW	5.7	5.7	5.7	5.7	5.7
Exhaust Fans	☐	Electricity	Energy Use	kWh	5,606	5,606	5,606	5,606	5,606
			Demand	kW	2.2	2.2	2.2	2.2	2.2
TV's/Projectors/ Copier	☒	Electricity	Energy Use	kWh	57,144	57,144	57,144	57,144	57,144
			Demand	kW	28.4	28.4	28.4	28.4	28.4
Kiln	☒	Electricity	Energy Use	kWh	7,200	7,200	7,200	7,200	7,200
			Demand	kW	18	18	18	18	18
Server Equipment	☒	Electricity	Energy Use	kWh	134,106	134,106	134,106	134,106	134,106
			Demand	kW	32.9	32.9	32.9	32.9	32.9
Exterior Lighting (tradeable)	☐	Electricity	Energy Use	kWh	47,304	47,304	47,304	47,304	47,304
			Demand	kW	10.8	10.8	10.8	10.8	10.8
Exterior Lighting (non-tradeable)	☐	Electricity	Energy Use	kWh	6,132	6,132	6,132	6,132	6,132
			Demand	kW	1.4	1.4	1.4	1.4	1.4
Total Energy Use (MMBtu/yr)					5,596.13	5,581.41	5,591.64	5,595.43	5,591.15
Annual Process Energy (MMBtu/yr)					1,246.21				
Process Energy Modeling Compliance ¹					Y				

☐ + ☐ -

☐ + ☐ -

☐ + ☐ -

☐ + ☐ -

☐ + ☐ -

☐ + ☐ -

Notes:
1 Determined using Section 1.9 cost calculations after Section 1.9A is complete. Annual process energy costs must be at least 25% of the total energy costs for the proposed design and must be the same in the baseline and proposed cases. To claim process cost savings, use an exceptional calculation in Section 1.7.

Table EAp2-5. Performance Rating - Performance Rating Method Compliance

Complete the table below. List the proposed design energy consumption and peak demand for each end use.

End Use	Process	Baseline			Proposed			% Savings
		Units of Annual Energy & Peak Demand		Building Results	Design Energy Type	Units of Annual Energy & Peak Demand		Building Results
Interior Lighting		Energy Use	kWh	150227.25	Electricity	Energy Use	kWh	118,363
		Demand	kW	66.03		Demand	kW	52
Exterior Lighting		Energy Use				Energy Use		
		Demand				Demand		
Space Heating		Energy Use	kWh	671369.5	Electricity	Energy Use	kWh	78,847
		Demand	kW	701.15		Demand	kW	80
Space Cooling		Energy Use	kWh	35670.75	Electricity	Energy Use	kWh	17,515
		Demand	kW	89.03		Demand	kW	97.5
Pumps		Energy Use			Electricity	Energy Use	kWh	138,511
		Demand				Demand	kW	23.2
Heat Rejection		Energy Use				Energy Use		
		Demand				Demand		
Fans-Interior		Energy Use	kWh	95280.5	Electricity	Energy Use	kWh	89,808
		Demand	kW	32.92		Demand	kW	41.5
Fans - Parking Garage	X	Energy Use				Energy Use		
		Demand				Demand		
Service Water Heating		Energy Use	therms	8934	Natural Gas	Energy Use	therms	7,517
		Demand	MBH	392.6		Demand	MBH	330.3
Receptacle Equipment	X	Energy Use	kWh	71685	Electricity	Energy Use	kWh	71,685
		Demand	kW	31.5		Demand	kW	31.5
Interior Lighting - Process	X	Energy Use				Energy Use		
		Demand				Demand		
Refrigeration Equipment	X	Energy Use	kWh	83950	Electricity	Energy Use	kWh	83,950
		Demand	kW	25		Demand	kW	25
Cooking	X	Energy Use				Energy Use		
		Demand				Demand		
Industrial Process	X	Energy Use				Energy Use		
		Demand				Demand		
Elevators and Escalators	X	Energy Use	kWh	11158	Electricity	Energy Use	kWh	11,158
		Demand	kW	5.7		Demand	kW	5.7

		Baseline			Proposed				
End Use	Process	Units of Annual Energy & Peak Demand		Building Results	Design Energy Type	Units of Annual Energy & Peak Demand		Building Results	% Savings
Exhaust Fans		Energy Use	kWh	5606	Electricity	Energy Use	kWh	5,606	0
		Demand	kW	2.2		Demand	kW	2.2	
TV's/Projecters/Copier	✕	Energy Use	kWh	57144	Electricity	Energy Use	kWh	57,144	0
		Demand	kW	28.4		Demand	kW	28.4	
Kiln	✕	Energy Use	kWh	7200	Electricity	Energy Use	kWh	7,200	0
		Demand	kW	18		Demand	kW	18	
Server Equipment	✕	Energy Use	kWh	134106	Electricity	Energy Use	kWh	134,106	0
		Demand	kW	32.9		Demand	kW	32.9	
Exterior Lighting (tradeable)		Energy Use	kWh	47304	Electricity	Energy Use	kWh	28,032	40.74
		Demand	kW	10.8		Demand	kW	6.4	
Exterior Lighting (non-tradeable)		Energy Use	kWh	6132	Electricity	Energy Use	kWh	6,570	-7.14
		Demand	kW	1.4		Demand	kW	1.5	
Total Energy Use (MMBtu/yr)				5,591.15				3646.76	
Process Energy (MMBtu/yr)				1,246.21				1246.21	

Table EAp2-6. Section 1.6 Energy Use Summary

Energy Type	Units	Baseline		Proposed Energy Use
		Process Subtotal	Total Energy Use	
Electricity	kWh	365,243	1,376,833	848,495
Natural Gas	therms	0	8,934	7,517
		0	0	0
Totals	MMBtu	1,246.21	5,591.15	3,646.76

Table EAp2-7. Section 1.6 Energy Cost Summary (Automatic)

Energy Type	Units	Baseline		Proposed Energy Cost
		Process Subtotal	Total Energy Cost	
Electricity		32,981.44	124,328.02	76,619.1
Natural Gas		0	6,128.72	5,156.66
	\$	0	0	0
Total	\$	32,981.44	130,456.74	81,775.76

Select one of the following:

- ☒ **Section 1.6 Automatic Cost Calculation:** Total building energy costs will be based on the "virtual" energy rate defined in Section 1.5.
- ☐ **Section 1.6 Manual Cost Input:** The project team will analyze the total building energy costs based on local utility rate structures. Costs will be input separately from the energy model.

Note: Energy cost savings are summarized in Section 1.9A Total Building Performance Summary.

SECTION 1.7 - EXCEPTIONAL CALCULATION MEASURE SUMMARY

Select one of the following:

- ☒ The energy analysis includes exceptional calculation method(s) (ASHRAE 90.1-2007, G2.5).
- ☐ The energy analysis does not include exceptional calculation methods.

For each exceptional calculation method employed, document the predicted energy savings by energy type. If an end-use has an energy loss rather than an energy savings, enter it as a negative number.

Table EAp2-10. Exceptional Calculations

End Use	Exceptional Calculation Method Description	Energy Type(s)	Unit	Annual Energy Savings	+	-
Interior Lighting	Occupancy Sensors	Electricity	kWh	6,600		
Electricity			kWh	6,600		
Natural Gas				0		
				0		
Total			MMBtu	22.52		

Upload EAp2-10. Provide a narrative explaining the exceptional calculation method(s) performed, and theoretical or empirical information supporting the accuracy of the method(s). Reference any applicable Credit Interpretation Rulings.

Upload

Files: 1

Table EAp2-11. Section 1.7 Energy Cost Savings Summary (Automatic)

Energy Type	Units	Proposed Energy Savings
Electricity		595.98
Natural Gas		0
	\$	0
Total	\$	595.98

Select one of the following:

- ☒ **Automatic Cost Calculation:** Exceptional calculation measure cost savings will be based on the "virtual" energy rate defined in Section 1.5.
- ☐ **Manual Cost Input:** The project team will analyze exceptional calculation measure costs for each exceptional calculation measure based on local utility rate structures. Costs will be input separately from the energy model.

Note: The same method has to be used for all the measures in this section. Energy cost savings are summarized in Section 1.9A Total Building Performance Summary. Calculated cost savings will be automatically subtracted from the proposed design energy model results when determining the Proposed Building Performance Rating.

SECTION 1.8 - ON-SITE RENEWABLE ENERGY

Select one of the following

- ☐ The project uses on-site renewable energy produced on-site.
- ☒ The project does not use on-site renewable energy.

SECTION 1.9A - TOTAL BUILDING PERFORMANCE SUMMARY

Table EAp2-15. Total Building Energy Use Performance

Energy Type	Units	Baseline		Proposed			Total Energy Use
		Process Subtotal	Section 1.6 Total Energy Use	Section 1.6 Energy Use	Section 1.7 Energy Savings	Section 1.8 Renewable Energy Savings	
Electricity	kWh	365,243	1,376,833	848,495	6,600	0	841,895
Natural Gas	therms	0	8,934	7,517	0	0	7,517
		0	0	0	0	0	0
Totals	MMBtu	1,246.21	5,591.15	3,646.76	22.52	0	3,624.24
Energy use savings (%)							35.18

Table EAp2-16. Total Building Energy Cost Performance

The values below are automatically calculated using the virtual energy rate from Section 1.5 unless the project team has opted to manually input costs in Section 1.6, 1.7, and/or 1.8. To modify these values and/or to see automatically calculated results for reference see Sections 1.6, 1.7 or 1.8.

Energy Type	Units	Baseline		Proposed			Total Energy Cost
		Process Subtotal	Section 1.6 Total Energy Cost	Section 1.6 Energy Cost	Section 1.7 Energy Savings	Section 1.8 Renewable Energy Savings	
Electricity	\$	32,981.44	124,328.02	76,619.1	595.98	0	76,023.12
Natural Gas	\$	0	6,128.72	5,156.66	0	0	5,156.66
	\$	0	0	0	0	0	0
Totals	\$	32,981.44	130,456.74	81,775.76	595.98	0	81,179.78

Baseline process energy costs as percent of total energy costs (%)	25.28
Energy cost savings (%)	37.77
EA Credit 1 points documented	13

The content highlighted in yellow above is linked to EAc1.

SECTION 1.9B - REPORTS AND METRICS

Table EAp2-17. Energy Use Intensity

	Baseline EUI	Proposed EUI
Electricity (kWh/sf)		
Interior Lighting	2.19	1.629
Space Heating	9.785	1.149
Space Cooling	0.52	0.255
Fans - Interior	1.389	1.309
Service Water Heating	0	0
Receptacle Equipment	1.045	1.045
Miscellaneous	5.139	6.884
Subtotal	20.068	12.271
Natural Gas (kBtu/sf)		
Space Heating	0	0
Service Water Heating	13.021	10.956
Miscellaneous	0	0
Subtotal	13.021	10.956
Other (kBtu/sf)		
Miscellaneous	0	-0.001
Subtotal	0	-0.001
Total Energy Use Intensity (kBtu/sf)		
Total	81.492	52.824

Table EAp2-18. End Use Energy Percentage

	Baseline Case (%)	Proposed Case (%)	End Use Energy Savings (%)
Interior Lighting	9.17	10.52	6.68
Space Heating	40.97	7.42	102.78
Space Cooling	2.18	1.65	3.15
Fans - Interior	5.82	8.46	0.95
Service Water Heating	15.98	20.74	7.2
Receptacle Equipment	4.38	6.75	0
Miscellaneous	21.52	44.46	-20.77

Select one of the following:

- ☐ The project used DOE2, eQuest or Visual DOE.
- ☐ The project used EnergyPlus.
- ☐ The project team used EnergyPro.
- ☒ The project team used HAP.
- ☐ The project team used Trace.
- ☐ The project team used other modeling software.

Upload EAp2-14. Provide the input summary, Annual Cost Summary, Unmet Load reports for all plants and systems (Building Zone Temperature Report), and Systems Energy Budget by Energy Source.

Upload

Files: 8

ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of prerequisite compliance with the submittal requirements outlined in this form.
- ☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

SUMMARY

EA Prerequisite 2: Minimum Energy Performance Compliance Documented:

Y

Check Compliance

**MECHANICAL
DESIGN NARRATIVE
AKRON PUBLIC SCHOOLS
Hatton Elementary School**

HVAC SYSTEMS

GEOTHERMAL DESIGN

The Building will be conditioned with several Water-Source Heat Pumps and Energy Recovery Units connected to a Geothermal Well Field with condenser water distribution system. The overall Geothermal Well Field's capacity shall be selected for 100% of the overall peak block. The condenser water distribution system will be a variable-primary configuration. Three (3) variable speed, base mounted, primary condenser water pumps will serve the Geothermal Well Field. The condenser water pumps will circulate water to the Energy Recovery Units and the Water-Source Heat Pump units.

The vertical well field water piping shall be run underground into a service vault with isolation valves for each of the circuits.

AIR DISTRIBUTION

All the large Energy Recovery Units and Water-Source Heat Pumps will be located on the floor in the Mechanical Equipment Rooms. The smaller Water-Source Heat Pumps will be located above the corridor ceilings. The Energy Recovery Units will precondition the outside air being supplied to the Water-Source Heat Pump.

Supply, return and exhaust air ductwork from the Energy Recover Units and Water-Source Heat Pump Units to the diffusers, grilles and Exhaust Fans shall be low-pressure construction.

The Gymnasium and the Student Dining Energy Recovery Units shall utilize Demand Control Ventilation strategies to reduce energy consumption during low occupancies.

An independent air cooled packaged air conditioning system shall be provided for the Main Cross-Connect room for all year round cooling of heat generating electronic equipment.

CONTROLS

The BAS will be based on LonWorks technology, utilizing the EIA 709.1 LonTalk protocol, LonMark devices shall be based on the LNS platform. The BAS shall be a distributed system of fully intelligent, stand-alone controllers, operating in a multi-tasking, multi-user environment on a true peer-to-peer Local Operating Network (LON). All controls shall be DDC with electric actuation and PID loop control logic.

ENERGY CONSERVATION MEASURES

Energy saving features include:

- Geothermal Well Field for providing building heating and cooling loads.
- Enthalpy heat recovery wheels on units for Gym/Cafeteria and Classroom Wings with large outside air requirements.
- Unoccupied night setback and setup mode through BAS.
- Variable speed drive on primary condenser water pumps with two-way condenser water control valves.
- Occupancy control of ventilation, supply air and space temperature set points.
 - Demand Control Ventilation (In gym and cafeteria)
 - Occupied/Unoccupied (All zones)

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 Akron Board of Education, Taxpayer ID No. 34-6000033 its permitted successors and assigns (hereinafter called the “Customer”) (collectively the “Parties” or individually the “Party”) and is effective on the date last executed by the Parties as indicated below.

WITNESSETH

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

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

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

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

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

WHEREAS, the Customer, pursuant to the Public Utilities Commission of Ohio’s (“Commission”) September 15, 2010 Order in Case No. 10-834-EL-EEC, desires to pursue a cash rebate of some of the costs pertaining to its Customer Energy Project(s) (“Cash Rebate”) and is committing the Customer Energy Project(s) as a result of such incentive.

WHEREAS, Customer’s decision to commit its Customer Energy Project(s) to the Company for inclusion in the Company Plan has been reasonably encouraged by the possibility of a Cash Rebate.

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

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

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

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer has the ability to either:
 - i. Take ownership of the Energy Efficiency resource credits resulting from their Customer Energy Project(s) and may be able to bid - or sell - the Energy Efficiency resource credits into the market operated by the grid operator, PJM Interconnection, Inc. (PJM), provided several prerequisites are met; or
 - ii. Allow the Company to take ownership of the Energy Efficiency resource credits associated with their Customer Energy Project(s). The Company shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements.

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

- ☐ Customer would like to retain ownership of its Energy Efficiency resource credits.
- ☒ Customer assigns ownership of its Energy Efficiency resource credits to Company for purposes of bidding these credits into PJM.

- b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively, as appropriate, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations.
 - c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
 - d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of the Commission's standard joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
 - e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
2. **Joint Application to the Commission.** The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" ("Joint Application") in which they will seek the Commission's approval of (i) this

Agreement: (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's Cash Rebate.

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

- i. A narrative description of the Customer Energy Project(s), including but not limited to, make, model and year of any installed and/or replaced equipment;
 - ii. A copy of this Agreement; and
 - iii. A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results.
3. **Customer Cash Rebate.** Upon Commission approval of the Joint Application, Customer shall provide Company with a W-9 tax form, which shall at a minimum include Customer's tax identification number. Within the greater of 90 days of the Commission's approval of the Joint Application or the completion of the Customer Energy Project, the Company will issue to the Customer the Cash Rebate in the amount set forth in the Commission's Finding and Order approving the Joint Application.
 - a. Customer acknowledges: i) that the Company will cap the Cash Rebate at the lesser of 50% of Customer Energy Project(s) costs or \$250,000; ii) the maximum rebate that the Customer may receive per year is \$500,000 per Taxpayer Identification Number per utility service territory; and iii) if the Customer Energy Project qualifies for a rebate program approved by the Commission and offered by the Company, Customer may still elect to file such project under the Company's mercantile customer self direct program, however the Cash Rebate that will be paid shall be discounted by 25%; and
 - b. Customer acknowledges that breaches of this Agreement, include, but are not limited to:
 - i. Customer's failure to comply with the terms and conditions set forth in the Agreement, or its equivalent, within a reasonable period of time after receipt of written notice of such non-compliance;
 - ii. Customer knowingly falsifying any documents provided to the Company or the Commission in connection with this Agreement or the Joint Application.
 - c. In the event of a breach of this Agreement by the Customer, Customer agrees and acknowledges that it will repay to the Company, within 90 days of receipt of written notice of said breach, the full amount of the Cash Rebate paid under this Agreement. This remedy is in addition to any and all other remedies available to the Company by law or equity.
4. **Termination of Agreement.** This Agreement shall automatically terminate:
 - a. If the Commission fails to approve the Joint Agreement;
 - b. Upon order of the Commission; or
 - c. At the end of the life of the last Customer Energy Project subject to this Agreement.

Customer shall also have an option to terminate this Agreement should the Commission not approve the Customer's Cash Rebate, provided that Customer provides the Company with written

notice of such termination within ten days of either the Commission issuing a final appealable order or the Ohio Supreme Court issuing its opinion should the matter be appealed.

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

If to the Company:

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

If to the Customer:

Akron Board of Education
70 East Broadway
Akron, Ohio 44308
Attn: Debra Foulk
Telephone: 330-761-2977
Fax: 330-761-3225
Email: dfoulk@akron.k12.oh.us

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 P. Dargatzis*

Title: V.P. Of Energy Efficiency

Date: 8-21-14

Akron Board of Education_
(Customer)

By: *Debra Foulk*

Title: _____

Date: 6/5/2014

Debra Foulk
Executive Director
Business Affairs

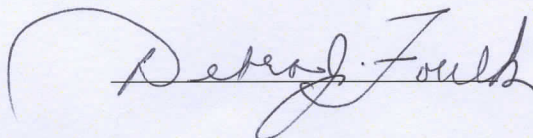
Affidavit of Akron Board of Education – Exhibit _A_

STATE OF OHIO)
) SS:
COUNTY OF Summit)

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

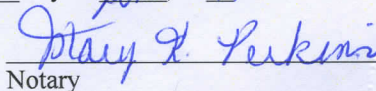
1. I am the Executive Director Business Affairs of Akron Board of Education (“Customer”) As part of my duties, I oversee energy related matters for the Customer.
2. The Customer has agreed to commit certain energy efficiency projects to Ohio Edison Company (“Company”), which are the subject of the agreement 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.



Debra Foulk
Executive Director
Business Affairs

Sworn to before me and subscribed in my presence this 5th day of June, 20 14


Notary

MARY K. PERKINS
Notary Public, State of Ohio
My Commission Expires June 29-18



This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

9/18/2014 11:49:44 AM

in

Case No(s). 14-1016-EL-EEC

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