Ohio | Public Utilities Commission

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

NOTE: AK Steel Corporation is seeking pre-construction PUCO approval for this project. The project described in this application is NOT COMPLETE and by executing this document AK Steel in NO WAY commits to the construction of this project.

Case No.: ___-___-EL-EEC

Mercantile Customer:

Electric Utility: Duke Energy

Program Title or Description: Lighting Retrofit Project

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: AK Steel Corporation

Principal address: 9227 Centre Point Drive West Chester, Ohio 45069

Address of facility for which this energy efficiency program applies:

AK Steel Middletown Works 1801 Crawford St. Middletown, Ohio 45043

Name and telephone number for responses to questions: Lucas Dixon, 614-580-3352

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

- x 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):

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

B) The electric utility is: ___Duke Energy Corporation ___

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.)
- x 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):

x 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)). The customer would have replace equipment with like inefficient technology when it fails as the company has done for the last 20 years. Average life of a fluorescent fixture (ballast) is 5-6 years, so for a newly installed fixture the expected replacement date would be March, 1 2019.

□ 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): _Anticipated install date of _

□ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 1,233,538.52 kWh

* Calculations provided in Addendum A1

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:

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment.

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:

   Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment- AK Steel has rejected continuing to replace the existing T-12 ballasts and lamps and instead replace them with modern T-8 high efficiency ballasts and bulbs.

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):

x 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? _June 1st 2015 (14 months from the expected approval of this document)

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

___140.81 _ Total kWh savings divided by 8760 because the lights run every hour of the year. (1,233,538.52/8,760= 140.81 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

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

OR

□ Commitment payment

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

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

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

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

X An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for 1 months (not to exceed 24 months). (Attach calculations showing how this time period was determined.) See Addendum A1 for rider exemption calculations.

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):

x Total Resource Cost (TRC) Test. The calculated TRC value is: __2.8 yrs_ (Continue to Subsection 1, then skip Subsection 2)

□ Utility Cost Test (UCT) . The calculated UCT value is: _____ (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 $414,468.77
Our program costs were _$0
The incremental measure costs will be $147,853.00
TRC Test Result 2.8

(Calculations in Addendum B1)

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 _____.

The utility's program costs were _____.

The utility's incentive costs/rebate costs were _____.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

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

Ohio | Public Utilities Commission

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

Case No.: ____-____-EL-EEC

State of Ohio :

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

1. I am the duly authorized representative of:

   AK Steel Corporation
   [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

Sworn and subscribed before me this 17th day of April, 2014 Month/Year

Signature of official administering oath

Jeffrey Lee Zackerman, Attorney at Law
Print Name and Title

My commission expires on N/A

JEFFREY LEE ZACKERMAN Attorney at Law
Notary Public, State Of Ohio
My Commission Has No Expiration Date
Section 147.03

AK Steel Energy Efficiency Rider Exemption Overview and Commitment Form:

Commitment of Savings: By signing and accepting this application AK Steel Corporation affirms its intention to commit and integrate the energy efficiency projects contained within this application towards Duke Energy Corp.'s peak demand reduction, demand response and/or energy efficiency programs for the life of the lighting equipment.

Additionally, AK Steel Corporation agrees to serve as joint applicant in any future filings necessary to secure approval of this arrangement as required by the PUCO and to comply with any information and reporting requirements imposed by rule or as part of that approval.

Finally, AK Steel Corporation affirms that all application information submitted as part of this application pursuant to this rider exemption application is true and accurate. Information in question would include, but not be limited to, project scope, equipment specification, equipment operation details, project costs, project completion dates, and the quantity of energy conservation measures installed.

Committed Project Overview: AK Steel agrees to commit the energy savings generated from the energy efficient lighting upgrade equal to 1,233,538 kWh per year for the life of the equipment.

Confidentiality: AK Steel Corporation requests that the PUCO, Duke Energy Corporation and all other parties keep all relevant parts of this application strictly confidential. The steel business is highly competitive and AK Steel Corporation views the information contained within this application as a confidential business advantage directly affecting its business operation.

Non Compliance: AK Steel agrees that if for any reason the kWh promised as part of this application and measured per the requirements outlined in this application are not delivered during the stated delivery year AK Steel will be liable for the rider value associated with the kWh shortfall. This shortfall would be paid to the Duke Energy Company by the 3rd month after the end of the delivery year and after the shortfall is certified and agreed upon by Duke Energy Company, the PUCO and AK Steel.

Measurement and Verification Methodologies: AK Steel Corporation agrees to an International Performance Measurement and Verification Protocol (IPMVP) standard based measurement and verification protocol for this rider exemption eligible project. For the project in question AK Steel will provide all calculations to support the efficiency gains of the pre to post lighting project and to include all the documentation to support these calculations.

Project Timeline/Rider Exemption Timeline: (see addendum C1) Once the lighting project has been placed in operation, AK Steel will submit the first months of kWh savings data as an additional item to this application and ask that it serve as the initiator of the rider exemption. AK Steel asks that when submitted this will retroactively exempt AK Steel from the energy efficiency rider from the equipment start date and that the rider exemption continue for the approved amount of time per this application and supported by the monthly production reports.

AK Steel Energy Efficiency Rider Exemption Overview and Commitment Form:

Annual Report: AK Steel agrees to provide the Utility Company and the PUCO a formal annual report that documents the energy savings and electric utility peak-demand reductions achieved for this project. This report shall be submitted electronically to the Utility Company and the PUCO no later than 15 days after the end of the delivery year and will contain all calculations and measurements to document and support the installed system's performance.

Permission to Measure: AK Steel Corporation agrees to allow the Utility, the PUCO Staff and any associated consultants access to data and access to the proposed project for inspection and verification as long as they can meet AK Steel's, confidentiality, safety and insurance requirements and that a written request for access is provided by USPS or electronically 10 business days prior to desired access date.

Signature:

I, Larry Schutte certify that I am eligible to sign and certify this document on behalf of AK Steel Corporation.

Larry Schutte

Customer Signature

4/17/2014

Date

NOTE: AK Steel Corporation is seeking pre-construction PUCO approval for this project. The project described in this application is NOT COMPLETE and by executing this document AK Steel in NO WAY commits to the construction of this project.

Application to Commit
Energy Efficiency/Peak Demand
Reduction Programs

Addendum A1

AK Steel currently uses 34 watt T-12 bulbs with magnetic ballasts to light there engineering and administration building. The buildings lights run 24/7 365 as activity persists in the plant 8760 hours a year. Plug Smart conducted an energy usage, replacement cost, and rider exemption value study of the building and determined that the economics are favorable for replacement of the lighting. Plug Smart designed a retrofit solution that provides the best energy savings to investment ratios. AK Steel is now looking to move forward and is respectfully asking the PUCO for pre-construction approval of the rider exemption value. AK Steel will alert the commission and Duke Energy when the project is complete and it is appropriate to begin the exemption.

Calculations:

Operating Hours- 8760 hours per year

Hourly Savings of 140.8 kW

Annual kWh Savings= 1,233,538.52 kWh annual savings

The average annual total electricity consumption for AK Steel Middletown Works over the past three years is 1,310,095.9 MWh. (2013-2011)

Total Usage for 2011 was 1,302,509 MWH
Total Usage for 2012 was 1,315,525 MWH
Total usage for 2013 was 1,321,254 MWH

Since 1% annual reduction is required to offset the rider for the year 2014, the annual rider reduction requirement is: 0.01*1,310,096 MWh = 13,100,960 kWh.

This project will offset 1,233,538kWh /13,100,960kWh= 9.4% of the annual rider requirement

This is equivalent to just over one months worth of rider exemption.

Addendum B1

Total Resource Cost Test (TRC) Calculations:

Annual Production: kWh	
Average kWh Rate:	$ 0.042
Minimum Useful Life: years (Conservative)	8
Electric Utility's Lifetime avoided supply costs=	$414,468.77
Our program costs were:	$0
The incremental measure costs will be:	$147,853.00
Total Costs	$
Total Resource Cost Test:	2.8

Calculations Explained:	
Savings x kWh Rate x minimum useful life= Electric utility's avoided supply costs	
Avoided Supply Costs/ (Program costs+ Incremental measure costs)= TRC Test	

Addendum C1: Timeline

This project is expected to be complete in 8 weeks from time product arrives and has a target completion date of May 31, 2014.

Addendum D1: Project Specifications

(See attached product specification Sheets)

Audit							Solutions					
Area Description	Pic #	Existing	Qty	Input Watts	Hours of Operation	Notes	Solution	New	Product	Qty	Input Watts	Hours of Operation
1		4L-F48-T12-34w	135	144	8760	Troffer 2x4	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	135	87	8760
1		4L-F48-T12-34w	1296	144	8760		Retrofit	4L-F48-T8-25w HBF 4100K	GE-432MV-N+/GEF32T8-25WSPX41EC	648	128	8760
2		4L-F48-T8-32w	42	112	8760	Troffer 2x4	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	42	87	8760
3		4L-F48-T12-34w	10	144	8760	Wrap	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	10	87	8760
4		4L-F48-T12-34w	5	144	8760	8ft ind	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	5	87	8760
5		4L-F48-T12-34w	26	144	8760	8ft louver	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	26	87	8760
6		4L-F48-T12-34w	12	144	8760	I/O	Retrofit	4L-F48-T8-25w NBF 4100K I/O	GE-432MV-L/GE-432MV-L/GEF32T8-25WSPX41EC	12	88	8760
7		4L-F48-T12-34w	28	144	8760	DCP	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	28	87	8760
8		4L-F48-T12-34w	7	144	8760	I/O	Retrofit	4L-F48-T8-25w NBF 4100K	GE-432MV-N/GEF32T8-25WSPX41EC	7	87	8760
9		3L-F48-T12-34w	140	115	8760	DCP	Retrofit	3L-F48-T8-25w NBF 4100K	GE-332MV-N/GEF32T8-25WSPX41EC	140	66	8760
10		3L-F48-T12-34w	52	115	8760	I/O-DCB	Retrofit	3L-F48-T8-25w NBF 4100K	GE-332MV-N/GEF32T8-25WSPX41EC	52	66	8760
11		2L-F48-T12-34w	26	72	8760	Troffer 1x4	Retrofit	2L-F48-T8-25w NBF 4100K	GE-232MV-N/GEF32T8-25WSPX41EC	26	44	8760
12		2L-F48-T12-34w	2	72	8760	Wrap	Retrofit	2L-F48-T8-25w NBF 4100K	GE-232MV-N/GEF32T8-25WSPX41EC	2	44	8760
13		2L-F48-T12-34w	9	72	8760	Strip	Retrofit	2L-F48-T8-25w NBF 4100K	GE-232MV-N/GEF32T8-25WSPX41EC	9	44	8760
14		2L-F48-T12-34w	15	72	8760	4ft louver	Retrofit	2L-F48-T8-25w NBF 4100K	GE-232MV-N/GEF32T8-25WSPX41EC	15	44	8760
15		1L-F48-T12-34w	8	43	8760	Wrap	Retrofit	1L-F48-T8-25w NBF 4100K	GE-132MV-N/GEF32T8-25WSPX41EC	8	23	8760
16		1L-F24-T12-20w	3	26	8760	Wrap	Retrofit	1L-F24-T8-17w NBF 4100K	GE-132MV-N/GEF17T8-841	3	16	8760
17		2L-F24-T12-20w	7	51	8760	Wrap	Retrofit	2L-F24-T8-17w NBF 4100K	GE-232MV-N/GEF17T8-841	7	30	8760
18		40w Inc	4	40	8760	G25	Relamp	7w LED Globe	7wSatcoLED G25	4	7	8760
19		60w Inc	45	60	8760	Keyless	Relamp	9w LED	9w LEDCree	45	9.5	8760
20		75w Inc	4	75	8760	flood	Relamp	9.5w LED Flood	9.5w LED Flood Cree	4	9.5	8760
21		2L-F24-T12U-40w	7	85	8760	Troffer 2x2	Retrofit w/Reflector	2L-F24-T8-17w NBF 4100K	RFP222T8W/GE-232MV-N/GEF17T8-841	7	30	8760
22		2L-F24-T12U-40w	7	85	8760	DCP 2x2	Retrofit w/Reflector	2L-F24-T8-17w NBF 4100K	RFP222T8W/GE-232MV-N/GEF17T8-841	7	30	8760
23		4L-F24-T12-20w	39	102	8760	Troffer 2x2	Retrofit w/Reflector	2L-F24-T8-17w NBF 4100K	RFP222T8W/GE-232MV-N/GEF17T8-841	39	30	8760
24		1L-F48-T12-CF-T9	1	43	8760	Fixture 2x2	New Fixture	1L-F48-T8-25w NBF 4100K	1l-F48-New-Fixture-25w	1	36	8760
25		1L-F48-T17-115w	1	126	8760	4ft Strip	New Fixture	1L-F48-T8-25w NBF 4100K	1l-F48-New-Fixture-25w	1	36	8760
26		70w HPS WP	1	95	4380	WP	New Fixture	26w LED WP	RABWPLED26	1	30	4380
27		400w MH Flood	1	458	4380	flood	New Fixture	78w LED Spot	EZLED78TN	1	88	4380
28		175w MV Wall	2	205	4380	WP wall sconce	Retrofit	2x13.5w LED GE	2x13.5w LED GE-Bi-Base	4	13.5	4380
29		2L-20w Inc Exit	1	40	8760	RED	New Fixture	LED Exit	22743	1	2.3	8760
30		2L-20w Inc Exit	12	40	8760	RED Recessed	New Fixture	LED Exit Retrofit	20714	12	1.4	8760
31		2L-1.5w LED	13	3	8760	RED LED Exit	Existing to Remain	NC	NC	13	3	8760

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in

Case No(s). 14-0751-EL-EEC

Summary: Application In the matter of the application of The AK Steel Corporation, for approval of a special arrangement agreement with a mercantile customer electronically filed by Mr. Lucas Dixon on behalf of The AK Steel Corporation. electronically filed by Mr. Lucas M Dixon on behalf of Dixon , Lucas M Mr. and The AK Steel Corporation and Mr. Michael Schutte