



# Public Utilities Commission

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

**Case No.: 14-2298-EL-EEC**

**Mercantile Customer:** Charter Manufacturing Co, Inc.

**Electric Utility:** The Cleveland Electric Illuminating Company

**Program Title or  
Description:** Energy Reduction

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.

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

## Section 1: Mercantile Customer Information

Name: Charter Manufacturing Co, Inc.

Principal address: 4300 East 49th Street

Address of facility for which this energy efficiency program applies: 4300 East 49th Street

Name and telephone number for responses to questions: Deborah Kramer / 216 4297685

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

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

## Section 2: Application Information

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

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

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

C) The customer is offering to commit (check any that apply):

- ☒ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☐ Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)

### Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

- ☒ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)). **If Checked, Please see Exhibit 1 and Exhibit 2**
- ☐ Installation of new equipment to replace failed equipment which has no useful life remaining. The customer installed new equipment on the following date(s): \_\_\_\_\_.
- ☐ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): \_\_\_\_\_.
- ☐ Behavioral or operational improvement.

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

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

Annual savings: 30,931,851 kWh

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

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

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

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

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

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

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

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

#### Section 4: Demand Reduction/Demand Response Programs

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

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

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

\_\_\_\_\_

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

\_\_\_\_\_ kW

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

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

A) The customer is applying for:

- ☒ A cash rebate reasonable arrangement.
- ☐ An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.
- ☐ Commitment payment

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

A cash rebate reasonable arrangement.

- ☒ A cash rebate of \$500,000. (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.: 14-2298-EL-EEC**

State of Ohio :

Deborah A. Kramer, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:

Charter Manufacturing Co, Inc., (Charter Steel Division)

[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.

Deborah A. Kramer, Controller  
Signature of Affiant & Title

Sworn and subscribed before me this 19 day of Dec, 2014 Month/Year

[Signature]  
Signature of official administering oath

Deborah A. Kramer, Controller  
Print Name and Title

My commission expires on 10/5/17



KATHLEEN ESPOSITO  
NOTARY PUBLIC  
STATE OF FLORIDA  
Comm# FF055241  
Expires 10/5/2017

Customer Legal Entity Name: Charter Manufacturing Co, Inc.

Site Address: Charter Steel

Principal Address: 4300 E 49th Street

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	Melt Shop Improvements	Continuing with its philosophy of continuous improvement, in 2011 Charter Steel decided, other than reinforcing operational practices and personnel training, to look for investments on new equipment and upgrades that could help to improve the productivity of Cleveland facility and make the steel process more efficient. The average energy consumption during 2011 at the Melt shop was 645 kwh/ton of good billet, during the last ten months of 2014 this consumption was reduced to 578 kwh/good ton which represents a reduction of 10.3 % in energy. Here is a list of the main projects involving equipment investment around the Melshop during the last three years (2012 - 2014). EAF Heat Size Increase, Slag Detection System, ASPEX Equipment, Tru Stir System, etc.	Charter Steel measure the energy (kwh) consumed per ton of good billet produced. Energy of the main production units is measured every heat and results are analyzed every shift in order to take control measures (process adjustments) in case of abnormal results.	The main investment consisted on the New EAF. Charter Steel could continue operating the old equipment (started operations in 2006) for another 10 years.	N/A
2	Rolling Mill Improvements	The Rolling Mill is equipped with 16 housingless mill stands that are original to the mill when it was built in 1994. The equipment was functional but not in optimal conditions (no upgraded) and caused significant unexpected downtime to both operate and repair. This downtime was caused by cobbles related to miss-alignment of the stands and guiding equipment. Over the past few years, we have invested money over several projects to refurbish and modify this equipment and a subsequent decrease in cobble rate has been seen. This cobble rate directly relates to the yield of good product in the Rolling Mill. Here some of the investments: Mill Stands Upgrades (2012 - 2014), Drives Upgrade (2012), Carbide Rolls (2013), Kocks Stands Replacement (2012), Spindle Carriers (2013), Roughing Mill Gear Boxes (2011 - 2014).	Energy consumption per good product (coil) is recorded daily. Any deviation of the normal averages is analyzed and corrective actions are undertaken.	The equipment replaced could continue operating for another three years.	N/A

Docket No. 14-2298

Site: 4300 E 49th Street

## Exhibit 2

**Customer Legal Entity Name:** Charter Manufacturing Co, Inc.

**Site Address:** Charter Steel

**Principal Address:** 4300 E 49th Street

	Unadjusted Usage, kwh (A)	Weather Adjusted Usage, kwh (B)	Weather Adjusted Usage with Energy Efficiency Addbacks, kwh (c) <i>Note 1</i>
2012	348,860,834	348,860,834	348,860,834
2011	367,465,701	367,465,701	367,465,701
2010	367,107,659	367,107,659	367,107,659
<b>Average</b>	<b>361,144,731</b>	<b>361,144,731</b>	<b>361,144,731</b>

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	Melt Shop Improvements	01/01/2013	\$8,211,902	\$4,105,951	23,064,696	23,064,696	-	\$1,845,175	\$250,000	
2	Rolling Mill Improvements	01/01/2013	\$7,856,597	\$3,928,299	7,867,155	7,867,155	-	\$629,372	\$250,000	
					-	-	-	\$2,474,547		
					-	-	-			
					-	-	-			
					-	-	-			
					-	-	-			
	Total		\$16,068,499		30,931,851	30,931,851	0	\$2,474,547	\$500,000	\$0

Docket No. 14-2298

**Site:** 4300 E 49th Street

## Notes

(1) Customer's usage is adjusted to account for the effects of the energy efficiency programs included in this application. When applicable, such adjustments are prorated to the in-service date to account for partial year savings.

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

### Exhibit 3 Utility Cost Test

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh (A)	Utility Avoided Cost \$/MWh (B)	Utility Avoided Cost \$ (C)	Utility Cost \$ (D)	Cash Rebate \$ (E)	Administrator Variable Fee \$ (F)	Total Utility Cost \$ (G)	UCT (H)
1	23,065	\$ 308	\$ 7,110,384	\$ 2,025	\$250,000	\$72,662	\$ 324,687	21.9
2	7,867	\$ 308	\$ 2,425,287	\$ 2,025	\$250,000	\$34,668	\$ 286,693	8.46
<b>Total</b>	<b>30,932</b>	<b>\$ 308</b>	<b>9,535,671</b>	<b>4,050</b>	<b>\$500,000</b>	<b>\$107,330</b>	<b>611,380</b>	<b>15.6</b>

#### Notes

(A) From Exhibit 2, = kWh saved / 1000

(B) This value represents avoided energy costs (wholesale energy prices) from the Department of Energy, Energy Information Administration's 2009 Annual Energy Outlook (AEO) low oil prices case. The AEO represents a national average energy price, so for a better representation of the energy price that Ohio customers would see, a Cinergy Hub equivalent price was derived by applying a ratio based on three years of historic national average and Cinergy Hub prices. This value is consistent with avoided cost assumptions used in EE&PDR Program Portfolio and Initial Benchmark Report, filed Dec 15, 2009 (See Section 8.1, paragraph a).

(C) = (A) \* (B)

(D) Represents the utility's costs incurred for self-directed mercantile applications for applications filed and applications in progress. Includes incremental costs of legal fees, fixed administrative expenses, etc.

(E) This is the amount of the cash rebate paid to the customer for this project.

(F) Based on approximate Administrator's variable compensation for purposes of calculating the UCT, actual compensation may be less.

(G) = (D) + (E) + (F)

(H) = (C) / (G)

**Charter Manufacturing Co, Inc. ~ Charter Steel**

**Docket No. 14-2298**

**Site:** 4300 E 49th Street



Ohio Edison • The Illuminating Company • Toledo Edison

## Mercantile Customer Program - Custom Project Rebate Calculator

<b>Project Name and Number:</b>	Melt Shop Improvements (1) - Rolling Mill I
<b>Site Name:</b>	Charter Steel
<b>Completed by (Name):</b>	Deborah Kramer
<b>Date completed:</b>	18-Dec-14

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
1 Meltshop Improvements	23,064,695	1845175.60
2 Rolling Mill Improvements	7,867,155	629372.40
<b>Total Project Energy Savings kWh</b>	<b>30,931,850</b>	
<b>Total Custom Prescriptive Rebate Amount \$</b>		<b>\$ 2,474,548.00</b>

Notes about this rebate calculation:
<p>Annual Energy Savings were calculated using the average Kwh/good ton for the last three years (2012-2013-2014) and the average production (good ton) for the same period. The kwh/good ton used as a basis for comparison was 2011</p>

Melt Shop					
	KWH/Good Ton B	Total KWH	Good ton B	% Reduction	KWH Saving
2011	644.7	263,844,134	409,249	0	0
2012	606.2	296,714,769	489,470	-6.0	-18,848,099
2013	609.0	298,935,696	490,896	-5.5	-17,546,519
2014	578.1	284,489,914	492,148	-10.3	-32,799,469
Total Reduction, KWH					-69,194,088
Annual Saving, KWH					-23,064,696

Rolling Mill					
	KWH/Good Ton Roll	Good Ton Roll	Good Ton Roll	% Reduction	KWH Saving
2011	153.4	63,762,804	415,596	0	0
2012	141.2	70,392,890	498,511	-8.0	-6,091,145
2013	140.2	68,530,005	488,747	-8.6	-6,455,989
2014	130.9	64,370,920	491,610	-14.7	-11,054,330
					23,601,464
					7,867,155

Calculation Method 1: Yearly Savings  
Base Year for Saving Calculation is 2011.  
Example for 2012 Savings at the Melt Shop:  
KWH Saved = Energy Consumption Reduction \* Ton of Good Billet 2012  
KWH Saved = (606.2 - 644.7) \* 489470 = - 18,848,099

	KWH/Good Ton B	Good ton B
2011	644.7	409,249
2012	606.2	489,470
2013	609.0	490,896
2013	578.1	492,148
Av. 2012 - 2014	597.7	490,838
Annual Saving, KWH		-23,052,462

	KWH/Good Ton B	Good ton B
2011	153.4	415,596
2011	141.2	498,511
2011	140.2	488,747
2011	130.9	491,610
Av. 2012 - 2014	137.5	492,956
Annual Saving, KWH		-7,873,151

Calculation Method 2: Averages  
Base Year for Energy Consumption is 2011  
Average for the last three years - 2012 to 2014 -were used

Month	Meters Reading Date	Time Meter Reading	MELT SHOP				
			Hts	Good Tons / Heat	KWH	Good Tons	KWH/GOOD TON
Jan	1/29/2011	9:00 AM	375	73.8	18,274,218	27,693	659.9
Feb	2/28/2011	6:30 AM	382	75.2	19,608,883	28,722	682.7
Mar	4/4/2011	6:15 AM	530	76.3	26,685,060	40,419	660.2
Apr	4/30/2011	9:00 AM	436	76.5	20,973,536	33,341	629.1
May	5/28/2011	8:30 AM	451	76.9	21,787,721	34,665	628.5
June	7/3/2011	9:00 AM	554	74.4	26,792,563	41,195	650.4
July	7/31/2011	1:40 PM	459	76.5	22,117,083	35,097	630.2
August	8/27/2011	9:00 AM	335	72.9	15,394,175	24,416	630.5
Sep	10/1/2011	9:00 PM	512	74.7	26,129,059	38,227	683.5
Oct	10/29/2011	6:00 PM	480	76.8	22,107,696	36,851	599.9
Nov	11/16/2011	1:00 PM	441	75.6	20,628,395	33,351	618.5
Dec	12/31/2011	2:30 PM	439	77.9	23,345,745	34,190	682.8
Prod Adjutment						1,082	
	Average/2011				263,844,134	409,249	644.7
Jan	12/28/2012	10:00 AM	480	77.8	23,527,519.0	37,365	629.7
Feb	2/24/2012	2:00 PM	558	78.7	26,513,811.0	43,900	604.0
Mar	3/30/2012	1:30 PM	658	78.3	30,856,352.0	51,550	598.6
Apr	4/27/2012	4:10 PM	562	76.6	25,943,950.0	43,071	602.4
May	5/25/2012	4:30 PM	490	76.9	22,607,981.0	37,659	600.3
Jun	6/29/2012	3:00 PM	683	76.0	30,804,175.0	51,894	593.6
Jul	7/30/2012	3:00 PM	509	76.6	22,317,872.0	38,982	572.5
Aug	8/27/2012	10:00 AM	511	75.1	22,767,468.0	38,377	593.3
Sep	9/29/2012	8:00 AM	610	75.1	28,042,759.0	45,796	612.3
Oct	10/27/2012	8:00 AM	438	74.9	20,166,643.0	32,798	614.9
Nov	11/24/2012	7:00 AM	353	75.5	16,038,578.0	26,661	601.6
Dec	1/2/2013	6:25 AM	489	84.5	27,127,661.0	41,343	656.2
Prod Adjutment						75	
					296,714,769.0	489,470	606.2
Jan	1/26/2013	2:00 PM	425	85.4	22,860,702.0	36,296	629.8
Feb	2/22/2013	4:00 PM	405	87.4	21,836,479.0	35,407	616.7
Mar	4/1/2013	9:15 AM	591	88.6	31,932,640.0	52,334	610.2
Apr	4/29/2013	9:00 AM	479	88.5	25,521,072.0	42,387	602.1
May	5/27/2013	9:15 AM	503	87.89	25,878,483.0	44,207	585.4
Jun	7/1/2013	9:15 AM	504	90.87	27,981,904.0	45,800	611.0
Jul	7/31/2013	9:15 AM	352	90.51	20,016,313.0	31,858	628.3
Aug	8/26/2013	8:00 AM	403	90.66	22,373,705.0	36,537	612.4
Sep	9/30/2013	9:30 AM	501	91.11	27,925,460.0	45,645	611.8
Oct	10/28/2013	9:00 AM	419	91.04	22,699,733.0	38,147	595.1
Nov	11/25/2013	10:00 AM	454	91.35	24,992,655.0	41,475	602.6
Dec	12/30/2013	9:00 AM	455	89.67	24,916,550.0	40,799	610.7
Prod Adjutment						5	
					298,935,696.0	490,896	609.0
Jan-14	1/27/2014	9:00 AM	357	90.27	20,258,516.0	32,225	628.7
Feb	2/21/2014	11:35 AM	442	91.18	24,032,782.0	40,300	596.3
Mar	3/28/2014	11:00 AM	675	91.66	36,045,910.0	61,870	582.6
Apr	4/28/2014	8:30 AM	532	93.06	29,090,664.0	49,507	587.6
May	5/27/2014	8:30 AM	513	92.97	26,776,792.0	47,693	561.4
Jun	6/30/32014	9:00 AM	649	91.12	33,818,006.0	59,135	571.9
Jul	7/28/2014	9:00 AM	426	91.69	22,222,740.0	39,059	569.0
Aug	8/25/2014	9:00 AM	549	90.65	28,523,767.0	49,767	573.1
Sep	9/29/2014	9:00 AM	667	91.83	34,917,814.0	61,249	570.1
Oct	10/272014	9:00AM	564	91.31	28,802,923.0	51,500	559.3
Prod Adjutment						-158	
					284,489,914.0	492,148	578.1

CHARTER STEEL – CLEVELAND FACILITY  
ENERGY SAVING REPORT  
2012 - 2014



## First Energy – Energy Saving Programs

**Date of Submittal: December 12, 2014**

### Customer Information

Customer Name: Charter Steel

Account Number: 110039165961

Premise Address: 4300 E. 49<sup>th</sup> Street

Premise City/State: Cleveland, OH

### Usage/Demand information

Year	Charter Data Annual Usage (kWh) All Site
2011	327,606,938 (Correction to Original)
2012	367,107,659 (Correction to Original)
2013	367,465,701 (Correction to Original)
2014 (Up to October 2014)	348,860,834 (Correction to Original)

### BUSINESS INFORMATION:

Charter Steel, a division of Charter Manufacturing, is a leading American supplier of carbon and alloy steel bar, rod and wire products with distribution and manufacturing facilities in Wisconsin and Ohio.

As an integrated steelmaker, providing the highest degree of service to our customers is our primary focus. Our capabilities include steel melting, bar and rod rolling, coil processing and wire drawing.

NAICS Number:

Hour of operation per day: 24 hour/day

Days per week of operation: 7

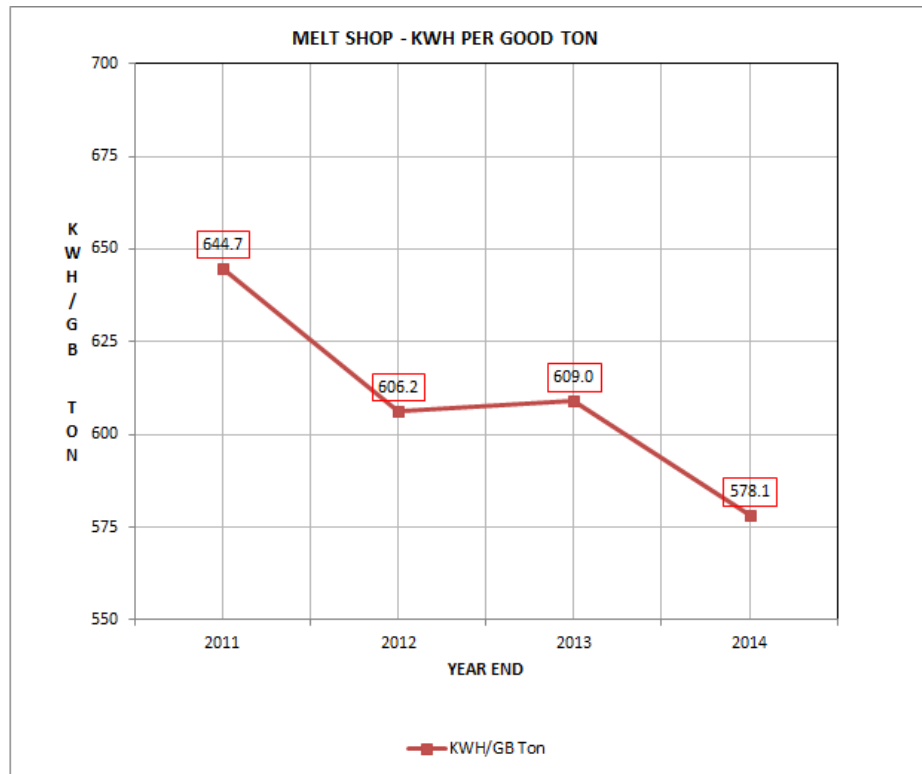
## **CHARTER STEEL CLEVELAND FACILITY – OVERVIEW OF ENERGY SAVINGS:**

Charter Steel has placed an emphasis on constant improvement since it acquired the existing American Wire and Steel Rod Facility in 2002 and it added a new Melt Shop in 2006. The energy efficiency improvements shown in this report are directly related to targeted and defined process improvements involving investments or equipment upgrades to reach this goal (energy savings)

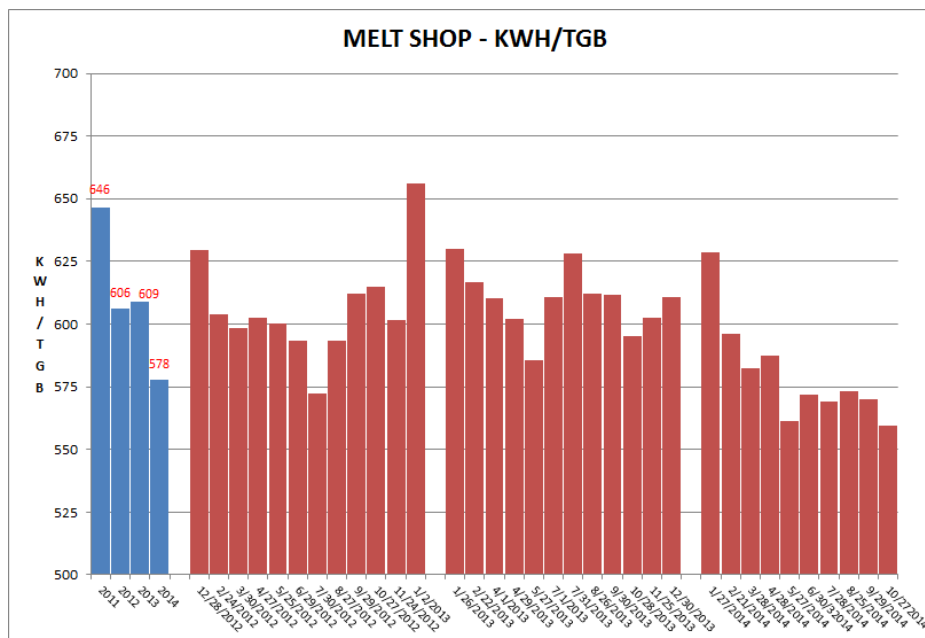
The graphs below illustrate the energy efficiency improvements that have been attained within the following production areas within the Charter Cleveland operations during the last three years. Figures indicate averages during specific year. 2011 Average is included as the base line to show the energy trend of last three years.

### **Melt Shop**

Figure 1 shows the energy consumed per year and Figure 2 indicates both: monthly and annual consumption for the last three years. From these figures we can observe that the kWh of electric energy required per ton of steel produced (Good Ton Billet) has declined from 645 kWh/ton to 578 kWh/ton, or a 10.3 % reduction. The 10.3 % energy reduction was achieved through the implementation of several defined projects that also helped to increase the plant productivity; these projects are described in this report.



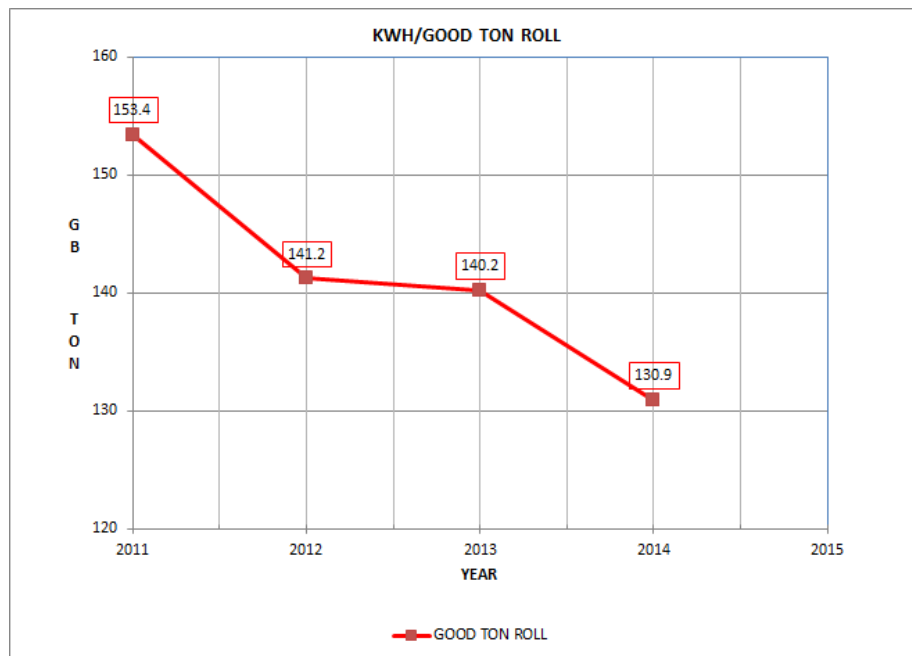
**Figure 1: Melt Shop – Year Average**



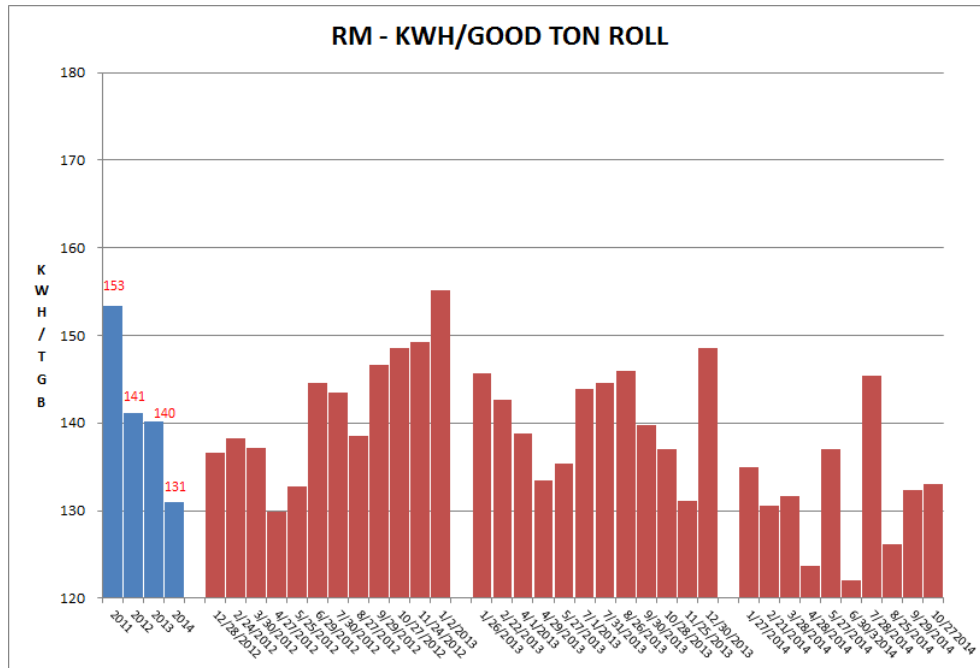
**Figure 2: Melt Shop – Year and Month Averages**

## Rolling Mill

The second major production area of the Charter Steel operations is the Rolling Mill. Energy requirements in the rolling mill have been reduced from 153 kWh to 131 kWh/Good ton roll during the 2011-2014 time periods, this represents 14.7 % reduction. The 14.7 % energy reduction was achieved through the implementation of several defined projects. The annual impact of these projects on energy use is illustrated in Figure 3. Figure 4 indicates both: Monthly and Annual Consumptions.



**Figure3. Rolling Mill – Year Average**



**Figure 4: Rolling Mill – Year and Month Averages**

At the end of 2008 Charter Steel submitted a report to First Energy showing investments, procedures and practices implemented, since the startup of the Melt shop (2006), in order to make more efficient the steel making process at the Cleveland facility.

In a continuous improvement effort, in 2011 Charter Steel decided, other than reinforcing and modifying operational practices and personnel training, to look for investments on new equipment and equipment upgrades that could help to improve the productivity of the facility and continue optimizing the efficiency of the process.

## EQUIPMENT INVESTMENTS

Main investments during the last three years are indicated in Tables 1A and 1B

<b>Melt Shop Improvements</b>			
Heat Size Increase	Melt Shop	2012-2014	\$7,084,294
Oxygen Valve Stand	Melt Shop	2012-2014	\$27,678
ASPEX Automated Inclusion	Melt Shop	2012-2014	\$250,890
Tundish Continuous Temp Readout	Melt Shop	2012-2014	\$41,545
Mold Powder Level Detection	Melt Shop	2012-2014	\$150,576
Radiation Detection	Melt Shop	2012-2014	\$238,268
TruStir Argon System	Melt Shop	2012-2014	\$239,995
Caster Turret Weigh System	Melt Shop	2012-2014	\$178,656
			<b>\$8,211,902</b>

**Table 1A: Energy Reduction Projects Summary – Melt Shop**

<b>Rolling Mill Improvements</b>			
Mill Stand Refurbishment	RM	2012 - 2014	913,812
NTM Motor Drive Replacement and Upgrade	RM	2012 - 2014	2,989,216
Carbide Rolls	RM	2012 - 2014	196,000
Kock Mills Replacement	RM	2012 - 2014	930,400
Spindle Carriers Upgrade	RM	2012 - 2014	416,298
Roughing Mill Upgrade	RM	2012 - 2014	39,134
Gearboxes Replacement and upgrade	RM	2012 - 2014	2,371,737
<b>Total</b>			<b>7,856,597</b>

**Table 1B: Energy Reduction Projects Summary – Rolling Mill**

## SAVINGS SUMMARY

The implementation of the Projects listed in Table 1A and 1B associated with proper practices/procedures have resulted on the following energy savings:

Melt Shop			
KWH/Good Ton	Good ton B	% Reduction	KWH Saving
644.7	409,249	0	0
606.2	489,470	6.0	18,848,099
609.0	490,896	5.5	17,546,519
578.1	492,148	10.3	32,799,469
Total Reduction, KWH			69,194,088

Rolling Mill			
KWH/Good Ton	Good Ton Roll	% Reduction	KWH Saving
153.4	415,596	0	0
141.2	498,511	8.0	6,091,145
140.2	488,747	8.6	6,455,989
130.9	491,610	14.7	11,054,330
			23,601,464

Table 2: Energy Savings- Last Three Years

## **PROJECTS DESCRIPTION:**

Looking for Energy Reduction opportunities Charter Steel Management team decided to put an effort on implement projects directed to reduce re processing of the steel produced and decreasing the amount of metal loses during the process. These actions and the continuous effort to increase the reliability of the production units have allowed achieving significant reduction on the energy required to produce a ton of good product at the Melt Shop and Rolling Mill and increase the throughput of the facility.

### **MELT SHOP**

#### **HEAT SIZE INCREASE:**

During 2011 Charter Steel start looking for potential investments to increase productivity and reduce all kind of metallic units lost during the steel making Process. One of the main decisions at that time was to look for the best option to increase the heat size of the melting unit (EAF) and equipment related (ladles). The decision of increasing the heat size was based on the following aspects:

- Improvement on the Furnace Yield (ton of liquid steel tap/ton of scrap melted). A bigger furnace would allow keeping for longer time the slag during the process and in this way avoiding earlier losses of metallic due to slag coming out of the furnace during earlier stage: This yield improve would reduce the energy required to produce one ton of good product.
- Reduce the % of steel per heat that, due to quality requirements, is lost at the Caster Process (Liquid Steel remaining in Tundish and Ladle at the end of the casting process). The new heat size will bring an improvement on the shop yield (ton of good billet/ton of scrap melted). This yield improve would reduce the energy required to produce one ton of good product.
- Improvement of productivity and thermal efficiency during the melting process: By increasing the furnace size and consequently the heat size to tap,



the amount of idle time per ton produced decreases and consequently thermal losses follow the same trend.

A new EAF was installed on December 2012; new furnace was designed with a new heat size of 95 ton instead of the 77 ton of the original EAF (2006). During 2013 new EAF was fully commissioned and crews were trained during that year. New practices for the bigger heat size were also developed and implemented during 2013.

#### EAF Thermal Slag Detection

- A thermal vision camera was added at the EAF tapping station to provide consistent tapping weights and minimize slag carry out, which increased the average good tons produced per heat, and thus per sequence. By producing more good tons per sequence, the yield in the melt shop is increased due to a reduction in crops and tundish skulls.

#### EAF Oxygen Valve Stand modification

- In order to reduce re work on heats due to high contents of Nitrogen during the melting process a modification to the oxygen valve stand was required. The modified valve stand eliminates the need of purging lines with air during certain stages of the process. Reducing the amount of air entrance to the EAF during the melting process brings less Nitrogen content on the steel to be produced and less re work on the heat.

#### Aspex Equipment

- The purchase the Aspex equipment allowed the melt shop to refine the calcium and aluminum additions at the steel refining area. Optimizing these additions reduces pour backs due to clogging. A pour back in the melt shop causes us to rework the steel adding additional electrical energy per good ton.

## TruStir Equipment

- The TruStir system allowed to have a precise control of the steel movement during its processing at the LRF, this system help to reduce miss chemistries due to oxidation of some alloying elements and reduce inclusions (defects) on the final product

## Continuous Temperature

- The installation of a continuous temperature probe in tundish at the caster has allowed for an improvement in temperature control. Improved temperature control helps minimize the amount of scrap billets due to low or high temperatures at the caster. A continuous temperature reading provided to the refining area of the shop allows for an earlier reaction to a low or high temperature which will help prevent pour backs due to an aborted cast. A pour back in the melt shop causes us to rework the steel adding additional electrical energy per good ton.

## Mold Powder Feeder and Detection Equipment

- This equipment improved the mold level control at the caster which allows us to control the erosion on the casting nozzle. By controlling the erosion rates the time cast on each nozzle was increased. Two separate studies were complete since the start of 2013. The corresponding good tons produced per casting sequence are shown in the chart below. By producing more good tons per sequence, the yield in the melt shop is increased due to a reduction in crops and tundish skulls (Figure 5).

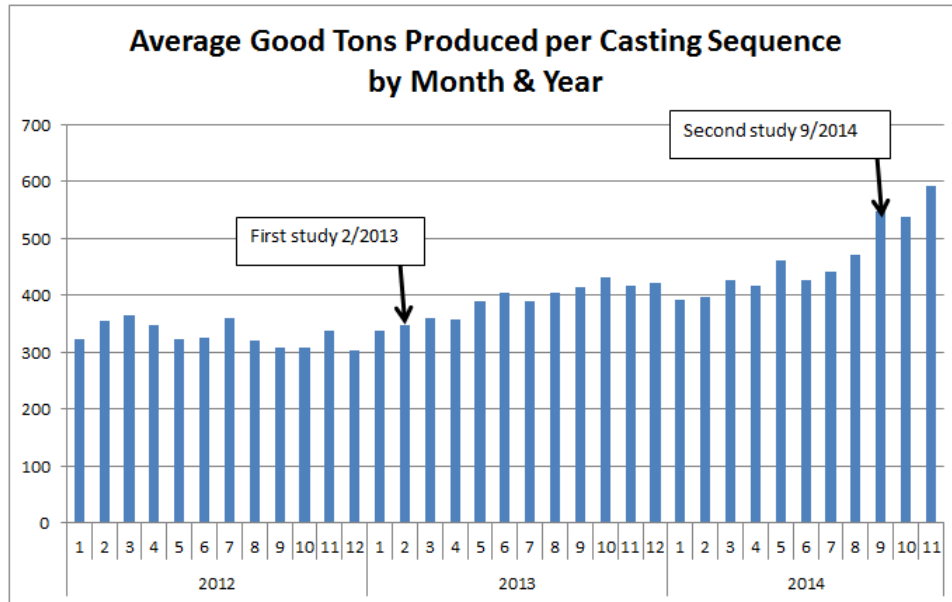


Figure 5: Good ton of Steel per Sequence

#### Tundish/Turret Load Cell Installation and Improvements

- The installation of new load cells for weighing the amount of steel in the tundish and ladle at the turret at the caster has allowed us to decrease the amount of steel left in the tundish and ladle at the end of each casting sequence. Once the installation of the equipment was complete a team was dedicated to developing the calibration and verification practices. The team then developed and implemented a program that optimized the amount of steel left in the tundish and ladle. By reducing the amount of steel left in the tundish and ladle at the end of the casting sequence the overall yield in the melt shop increased (Figure 6).

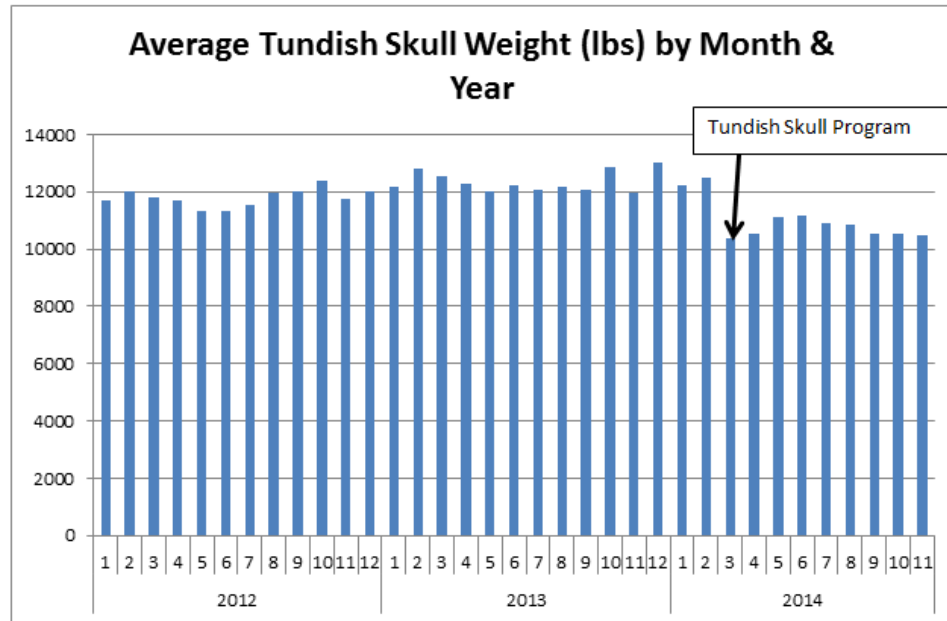


Figure 6: Tundish Skulls Weight

#### Upgrade to the Berthold Radiation System and New Radiation Sources

- An upgrade made to the system which controls the level of steel in the mold while casting was complete in early 2014. The upgrades to this system have resulted in a decrease in scrap billets due to level fluctuations in the mold. The increase in control of this level also allows for a more efficient erosion profile on the casting nozzle which helps in producing longer casting sequences.

## **ROLLING MILL**

#### Mill Stand Refurbishments and Redesign

- The Rolling Mill is equipped with 16 housingless mill stands that are original to the mill when it was built in 1994. The equipment was in poor shape and caused significant unexpected downtime to both operate and repair. This downtime was caused by cobbles related to miss-alignment of the stands and guiding equipment. Over the past few years, we have invested money

over several projects to refurbish and modify this equipment and a subsequent decrease in cobble rate has been seen. This cobble rate directly relates to the yield of good product in the Rolling Mill. The decrease since 2011 can be seen below (Figure 7).

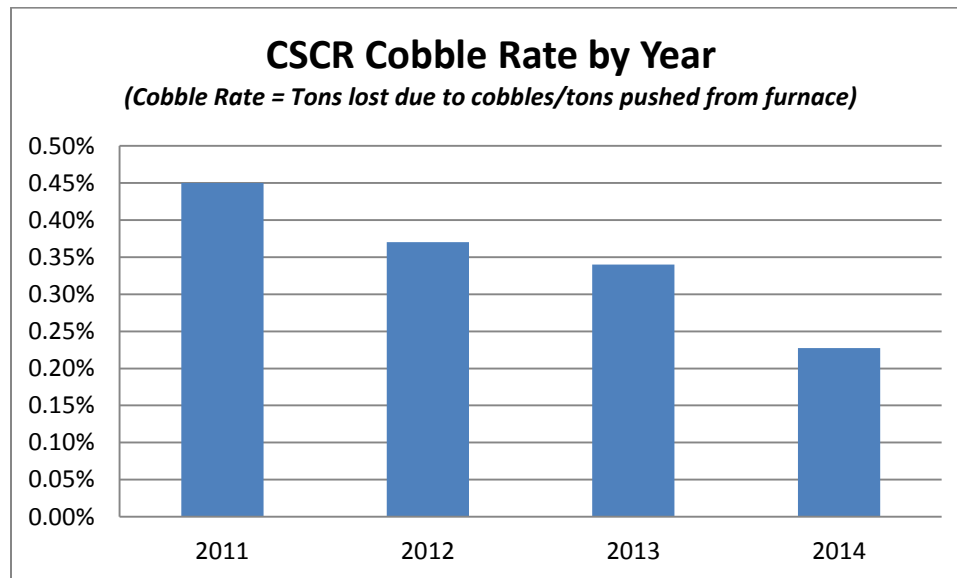


Figure 7: Cobble Rate per Year

#### CSCR NTM Motor Drive Replacement and Upgrade

- In 2011 and 2012, the area of the mill that had the most unexpected downtime was the Finishing Mill. The motor itself was not able to recover from the impact at high speeds and would result in a motor fault and shut down causing significant unplanned downtime. The drives were obsolete and parts availability was limited, which meant extended delays when a failure occurred. In December of 2012 the motor and drives were upgraded. The new system is not only more reliable, but also runs more efficiently. The outcome of this is reduced unexpected downtime related to the finishing mill but also increased throughput rates when we are running. The capability of the new motor/drive system allows the mill to be operated at higher speeds throughout the entire mill, therefore decreasing the kwh/ton usage while producing. Figure 8 shows this improvement.

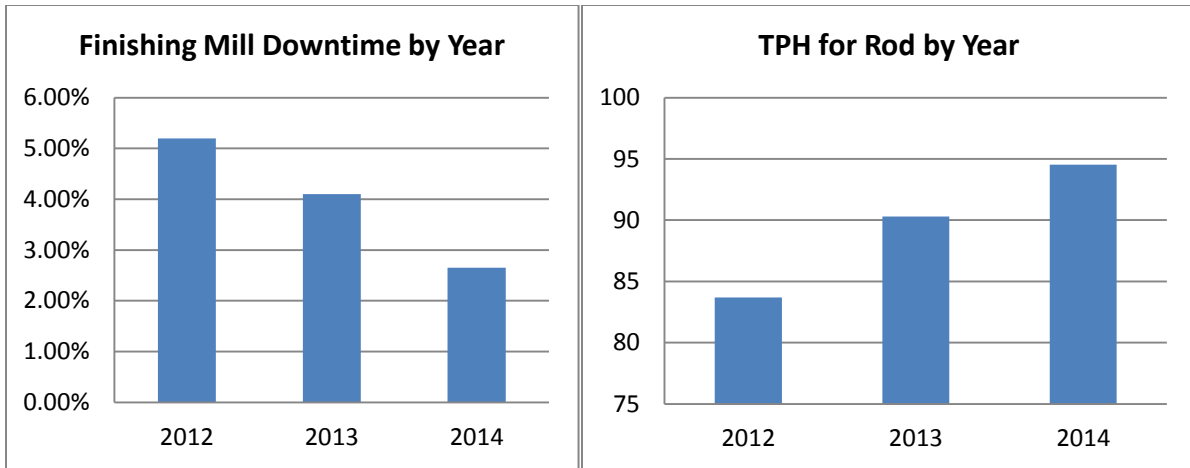


Figure 8: Down time reduction and ton/hr. increase

#### Carbide Rolls for Stands 15 and 16

- Prior to purchasing carbide rolls for Stands 15 and 16, the rolls were made of iron. The iron rolls would wear very quickly at the high speeds utilized in these stands and would require downtime every day to change a pass at each stand. The carbide rolls hold up much better to wear and achieve almost 10x as much life per pass as the iron rolls. This allows us to schedule pass changes during down days rather than while the mill is operating. Any work that can be done during a planned downtime rather than as unplanned downtime requires less energy usage because most of the mill components are powered off at this time. This equates to approximately 40 minutes per operating day that we no longer need to take as unplanned downtime, therefore increasing operating efficiency.

#### Kocks Mill Stands Addition

- The Rolling Mill utilizes up to 5 Kocks stands while running and we had approximately 5 spare stands. In 2012/2013 we increased our number of spare stands by four which allowed us to decrease downtime for size changes at the Kocks Mill but also increased flexibility by having additional

stands available. Again, all of this relates back to less un-planned downtime and increased efficiency.

#### Upgraded Spindle Carriers:

- Of the 16 housingless stands utilized in the mill, eight of them are size 515. Similar to the issues with the stands themselves mentioned above, the drive spindle carriers were also in poor condition. An unexpected failure of a drive spindle carrier would result in an average of 2 hours of unexpected downtime. In 2013 an engineering redesign of these spindles carriers was commissioned and in 2013/2014 several of the new design spindle carriers were purchased and installed. The advantage of the new design is not only improved reliability but also increased run time and decreased bearing failures in the stands themselves. All of this directly reduces unplanned downtime, similar to the above projects.

#### Roughing Mill Stands Gearboxes Upgrade:

- An engineering redesign of the gearboxes for the first four roughing stands was started in 2011 and installation of the new design gearboxes started in 2012. The new gearboxes were engineered to be large which allowed for faster throughput. Probably more importantly, they were also equipped with online vibration monitoring equipment. This now allows us to more accurately predict when a gearbox is nearing failure and schedule planned downtime to repair. Without this, the failure was not realized until it occurred and therefore led to unplanned downtime.

## **CONCLUSION**

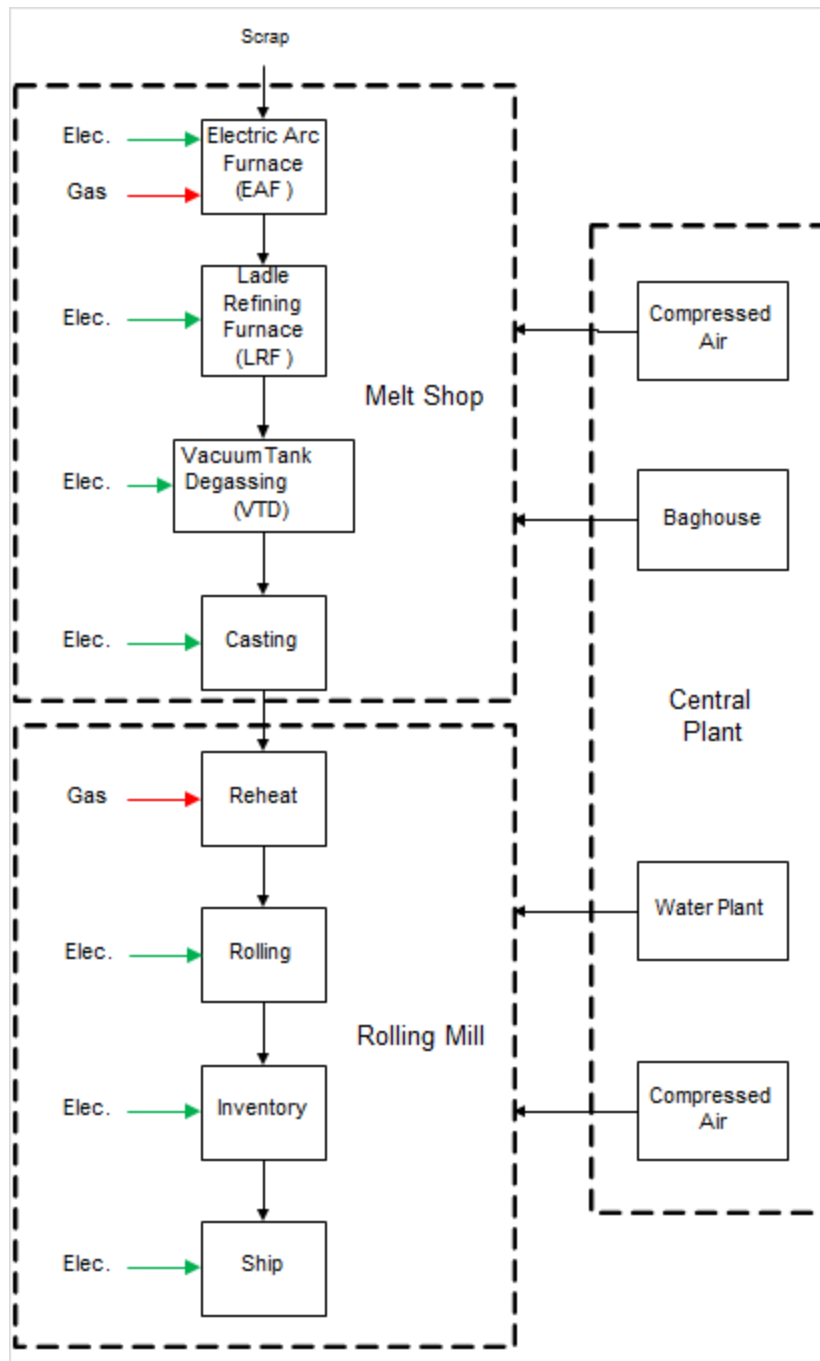
The investment on the equipment (\$ 19,352,270.00) listed above and related procedures/practices have been key factors to achieve higher throughputs and reduction on energy consumption at Charter Steel – Cleveland facility.

ATTACHMENT

CLEVELAND FACILITY PROCESS DIAGRAM

GLOSSARY





**Figure 6: Charter Steel – Cleveland Process Diagram**

## **DEFINITIONS**

Some of the are used throughout the projects explanation and are provided as a reference.

**Bag house** – A series of large fabric collectors used to separate dust particles from gases.

**Billet** – A bar produced by casting molten steel.

**Cobble** – A defect in a rolled piece resulting from loss over control of its movement

**Cycle Time** – Amount of time that a heat is held in the LRF.

**EAF** – Electric Arc Furnace. At the Charter Steel facility, three AC electrodes are used to strike and arc which in turns melts the scrap metal in the furnace.

**EAF Delay Time** – Amount of time the EAF is unused between heats.

**Good Tons** – Tons of steel that meet product requirements. Good Billets for the Melt Shop, Good Rolled tons for the Rolling Mill

**Melt Shop Yield** – The ratio of Good Billet Tons/Ton of Scrap Melted

**Heat** – A batch of steel processed in the melt shop.

**Idle Power** – Minimum power requirement of rolling mill that occurs during change times.

**Ladle** – A refractory-lined container used for transferring molten metal.

**LRF** – Ladle Refining Furnace. Used as a storage vessel between the EAF and metal casting operations.

**Missed Chemistry** – Improper steel chemistry that does not meet product requirements and must be re-melted.

**Number of Changes** – Quantity of changes in product size tracked by the MES on an on-going basis.

**Pour-backs** – A quantity of molten steel that must be returned to the EAF or LRF for re-processing.

**Power-On Time** – Time that energy is consumed during the EAF and LRF melt processes.

**Pushed Tons** – Amount (weight) of steel that is processed in the rolling mill.

**Starter Bars** – The first billet run through the rolling mill after a size change to ensure tolerances are met prior to running a large number of billets through the mill. All starter bars are not intended for customers and are used as scrap to re-start the melt process.

**Superheat** – Degrees above steel melting temperature.

**Tap-to-Tap Time** – Total operating time of electrical arc in EAF required to raise the temperature of the scrap metal to the melting point.

**Tundish** – A refractory-lined reservoir and distribution system used after the LRF and prior to casting.

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

**THIS MERCANTILE CUSTOMER PROJECT COMMITMENT AGREEMENT** ("Agreement") is made and entered into by and between The Cleveland Electric Illuminating Company, its successors and assigns (hereinafter called the "Company") and Charter Manufacturing Co, Inc., Taxpayer ID No. 39-1138388 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:

**If to the Customer:**

Charter Manufacturing Co, Inc.  
4300 E 49th Street  
Cuyahoga Heights, Ohio  
Attn: Deborah Kramer  
Telephone: 216-429-7685  
Fax:  
Email: [kramerd@chartersteel.com](mailto:kramerd@chartersteel.com)

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

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



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

The Cleveland Electric Illuminating Company\_

(Company)

By: *G. H. C. Davis*

Title: V.P. Of Energy Efficiency

Date: 12-22-14

Charter Manufacturing Co, Inc.\_

(Customer)

By: *Deborah A. Kramer*

Title: CONTROLLER

Date: 12/19/14

Affidavit of Charter Manufacturing Co, Inc. – Exhibit A

STATE OF ~~OHIO~~ <sup>FL</sup> )  
COUNTY OF ~~Cuyahoga~~ <sup>SARASOTA</sup> ) SS:

I, Deborah A. Kramer, being first duly sworn in accordance with law, deposes and states as follows:

1. I am the Controller of Charter Manufacturing Co, Inc. - Charter Steel Division - Cleveland ("Customer") As part of my duties, I oversee energy related matters for the Customer.
2. The Customer has agreed to commit certain energy efficiency projects to The Cleveland Electric Illuminating Company ("Company"), which are the subject of the agreement to which this affidavit is attached ("Project(s)").
3. In exchange for making such a commitment, the Company has agreed to provide Customer with Cash ("Incentive"). This Incentive was a critical factor in the Customer's decision to go forward with the Project(s) and to commit the Project(s) to the Company.
4. All information related to said Project(s) that has been submitted to the Company is true and accurate to the best of my knowledge.

FURTHER AFFIANT SAYETH NAUGHT.



KATHLEEN ESPOSITO  
NOTARY PUBLIC  
STATE OF FLORIDA  
Comm# FF055241  
Expires 10/5/2017

*Deborah A. Kramer*  
*[Signature]*

Sworn to before me and subscribed in my presence this 19 day of Dec, 2014.

*[Signature]*  
Notary

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

**Commission of Ohio Docketing Information System on**

**12/29/2014 11:47:48 AM**

**in**

**Case No(s). 14-2298-EL-EEC**

Summary: Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Cleveland Electric Illuminating Company and Charter Manufacturing Co, Inc. electronically filed by Ms. Jennifer M. Sybyl on behalf of The Cleveland Electric Illuminating Company and Charter Manufacturing Co, Inc.