Site Address: Brecksville Branch
Principal Address: 9089 Brecksville Road

What date would you have replaced your

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	Building Controls Upgrade	This project included the upgrade of the exisiting building control system to better control systems and improve energy efficiency.	Data was gathered from attachment A and B and analyzed in attachment C. The savings calculated was entered into the custom rebate calculator to determine the rebate.	No specific timeframe. The replaced equipment was fully functional and was upgraded to improve energy efficiency and there was no known repalcement date.	N/A

Docket No. 13-0152

Site: 9089 Brecksville Road

Customer Legal Entity Name: Cuyahoga County Public Libraries

Site Address: Brecksville Branch Principal Address: 9089 Brecksville Road

Weather Adjusted Usage with Energy Efficiency Unadjusted Weather Adjusted Addbacks, kwh Usage, kwh (A) Usage, kwh (B) (c)

Note 1 266,089 266,426 2011 266,089

266,426 266,089 266,089 Average

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ Note 2
1	Building Controls Upgrade	12/27/2011	\$18,720	\$9,360	24,611	24,611		\$1,969	\$1,477
					-	-	-		
					-	-			
					-		-		
					-	-	-		
					-		-		
							-		
		Total	\$18,720		24,611	24,611	0	\$1,969	\$1,477

**Docket No.** 13-0152

Site: 9089 Brecksville Road

#### 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	Utility Avoided Cost \$/MWh	Utility Avoided Cost \$	Utility Cost \$	Cash Rebate \$	Administrator Variable Fee \$	Total Utility Cost \$	UCT
	(A)	(B)	(C)	(D)	(E)	(F)	(Ġ)	(H)
1	25	\$ 308	\$ 7,587	\$ 4,050	\$1,477	\$246	\$ 5,773	1.3

Total	25	\$	308	7,587	4,050	\$1,477	\$246	5 <i>.</i> 773	1.3
		Τ		- ,	.,	Ψ-/	Ψ	-,	

#### **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)

Cuyahoga County Public Libraries  $\sim$  Brecksville Branch Docket No. 13-0152

Site: 9089 Brecksville Road



Place: [BRV] BRECKSVILLE

Meter: [BRVE728281055] BRECKSVILLE

Energy Type: Electric

Cost Center: [BRECKSVILLE] BRECKSVILLE

Account:	[BRVE728	3281055]	11 00 26 42	288 0 2 BRECKSVILLE			Vendor:	[FIRST_ENERGY_S01]	FIRST ENERG	Y SERVICE
2011 - 06	5/23/2011	6/22/2011	30	\$2,860.86	\$2,860.86	26,080	kWh	\$0.110	\$0.110	93
2011 - 07	6/22/2011	7/25/2011	33	\$2,703.23	\$2,703.23	26,240	kWh	\$0.103	\$0.103	87
2011 - 08	7/25/2011	8/23/2011	29	s2,332.69	\$2,332.69	23,200	kWh	\$0.101	\$0.101	71
2011 - 0 <b>9</b>	8/23/2011	9/21/2011	29	51,997.80	\$1,997.80	18,880	kWh	\$0.106	\$0.106	<b>6</b> 9
2011 - 10	9/21/2011	10/20/2011	29	s1,842.05	\$1,842.05	18,560	kWh	\$0.099	\$0.099	59
2011 - 11	10/26/2011	11/17/2011	28	s1,879.91	\$1,879.91	19,360	kWh	\$0.097	\$D.097	58
2011 - 12	11/17/2011	12/20/2011	33	s2,182.45	s2,182.45	23,840	kWh	<b>\$0.09</b> 2	\$0.092	58
2012 - C1	12/20/2011	1/19/2012	30	\$2,17 <b>4</b> .81	\$2,174.81	22,720	kWh	\$0.096	\$0.096	59
2012 - 62	1/19/2012	2/21/2012	33	\$2,365.11	\$2,365.11	25,120	kWh	\$0.094	<b>\$</b> 0.0 <del>94</del>	60
2012 - 03	2/21/2012	3/23/2012	31	\$2,064.51	\$2,064.51	21,280	kWh	\$0.097	\$0.097	57
2012 - 04	3/23/2012	4/24/2012	32	\$2,056.16	\$2,056.16	21,120	kWh	\$0.097	\$0.097	54
2012 - 05	4/24/2012	5/22/2012	28	\$2,033.74	\$2,033.74	19,680	kWh	\$0.103	\$0.103	61
2012 - 06	5/22/2012	6/22/2012	31	\$2,161.89	\$2,161.89	23,200	kWh	\$0.093	\$0.093	66
2012 - 07	6/22/2012	7/25/2012	33	\$2,555.87	\$2,555.87	28,640	kWh	\$0.089	\$0.089	69
2012 - 08	7/25/2012	8/24/2012	30	\$2,203.22	\$2,203.22	23,680	kWh	\$0.093	\$0.093	65
Meter [BRVI BRECKSVILI	E728281055] LE Totals:			\$33,414.30	\$33,414.30	341,600	kWh	\$0.098	\$0.098	986

0800497182 1380090366

## Cuyahoga County Public Library Electric

# Meter Summary by Period BL - 01B

уууу-шш	Date	end Date	# Days	Cost	Cost	Cost	Use	Use Use	Unit Cost Unit Cost U	Init Cost	Demand	Demand
Place:	[BRV] BR	RECKSVILLE	E					Energy Ty	/pe: Electric			
Meter:	[BRVE728	3281055]	BRECK	SVILLE				Cost Cent	ter: [BRECKSVILLE]	BRECKS	VILLE	
Account 2010 - 06	_	<b>728281055</b> 6/23/2010	5] 11 ( 33	00 26 4288 0 \$3,299.08	2 BRECKSVILLE	\$3,299.08	28,160	Vendor:	[FIRST_ENERGY_S01] \$0.117	FIRST \$0.117	ENERGY SE	RVICES CO
2010 - 07	6/23/2010	7/26/2010	33	\$3,639.19		\$3,639.19	32,480	kWh	\$0.112	\$0.112	92	
2010 - 08	7/26/2010	8/24/2010	29	\$3,214.17		\$3,214.17	28,000	kWh	\$0.115	\$0.115	89	
2010 - 09	8/24/2010	9/23/2010	30	\$2,899.71		\$2,899.71	23,520	kWh	\$0.123	\$0.123	90	
2010 - 10	9/23/2010	10/20/2010	27	\$2,743.24		\$2,743.24	31,440	kWh	\$0.087	\$0.087	90	
2010 - 11	10/20/2010	011/19/2010	30	\$2,589.67		\$2,589.67	21,760	kWh	\$0.119	\$0.119	71	
2010 - 12	11/19/2010	012/21/2010	32	\$2,881.62		\$2,881.62	25,280	kWh	\$0.114	\$0.114	68	
	RVE7282810 ILLE Totals:			\$21,266.68		\$21,266.68	190,640	kWh	\$0.112	\$0.112	589	

Meter Read Dt	Days	Bill Amount	Tariff Code	Metered kWh	Metered Demand (KW)	HDD	CDD	kWh/da y	AVG OAT	Adjusted Baseline kWh	Adjusted BaselinekW	Monthly kWh Saved	
6/23/2010	33	\$3,299.08		28160	88				66.439				
7/26/2010	33	\$3,639.19		32480	92				70.479				
8/24/2010	29	\$3,214.17		28000	89				74.104				
9/23/2010	30	\$2,899.71		23520	90				67.257	22,294	1,226		
10/20/2010	27	\$2,743.24		31440	90				52.833	20,208	11,232		
11/19/2010	30	\$2,589.67		21760	71				51.907	20,074	1,686		
12/21/2010	32	\$2,881.62		25280	68				32.231	17,228	8,052		
1/21/2011	30	\$2,668.63		24160	61				72.863	23,105	1,055		
2/22/2011	33	\$2,692.33		24800	59				77.455	23,769	1,031		
3/22/2011	31	\$2,438.30		21280	65				70.997	22,835	(1,555)		
4/21/2011	28	\$2,374.42		19840	69				59.850	21,223	(1,383)		
5/23/2011	32	\$2,797.23		22880	84				48.700	19,610	3,270		
6/22/2011	31	\$2,860.86		26080	93				48.706				
7/25/2011	33	\$2,703.23		26240	87				33.155				
8/23/2011	30	\$2,332.69		23200	71				34.680				
9/21/2011	33	\$1,997.80		18880	69				40.512				
10/20/2011	28	\$1,842.05		18569	59				49.029				
11/17/2011	29	\$1,879.91		19360	58				58.314				
12/20/2011	29	\$2,182.45		23840	58				68.000				
1/19/2012	29	\$2,174.81		22720	59				74.179				
2/21/2012	33	\$2,365.11		25120	60				75.588				
3/23/2012	30	\$2,064.51		21280	57				70.347				
4/24/2012	32	\$2,056.16		21120	54				57.697				
5/22/2012	30	\$2,033.74		19680	61				41.950				
6/22/2012	28	\$2,161.89		23200	66				37.311				
7/25/2012	32	\$2,555.87		28640	69				26.809				
8/24/2012	31	\$2,203.22		23680	65				26.477				

Attachment C

Total kWh Saved

24,611

SUMMARY OUTPUT 
 Regression Statistics

 Multiple R
 0.842428823

 R Square
 0.709686322

 Adjusted R Square
 0.66821294

 Standard Error
 1330.037101

 Observations
 9

ANOVA

F ynificance F 30270841.16 17.1119 0.00437 1768998.691 SS 30270841.16 12382990.84 42653832 Regression Residual Total

 
 P-value
 ower 95Npper 95%
 lower 95.0%
 Upper 95.0%

 5.906780522
 0.0006 7535.99
 17597.5
 7535.989813
 17597.53589

 4.136647255
 0.00437
 61.9571
 227.311
 61.95709646
 227.3107657
 Coefficients 12566.76285 144.6339311 Standard Error 2127.514778 34.96404749 t Stat Intercept X Variable 1

9/2011-5/2012

HDD Var CDD Var Intercept 144.6339311 12566.76285



Ohio Edison • The Illuminating Company • Toledo Edison

# **Mercantile Customer Program - Custom Project Rebate Calculator**

Project Name and Number:	Cuyahoga County Library Branch Renovation
Site Name:	Brecksville Branch
Completed by (Name):	
Date completed:	

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
Building Control System Upgrade	24,611	1968.88
Total Project Energy Savings kWh	24,611	
Total Custom Prescriptive	Rebate Amount \$	<b>\$ 1,968.88</b>

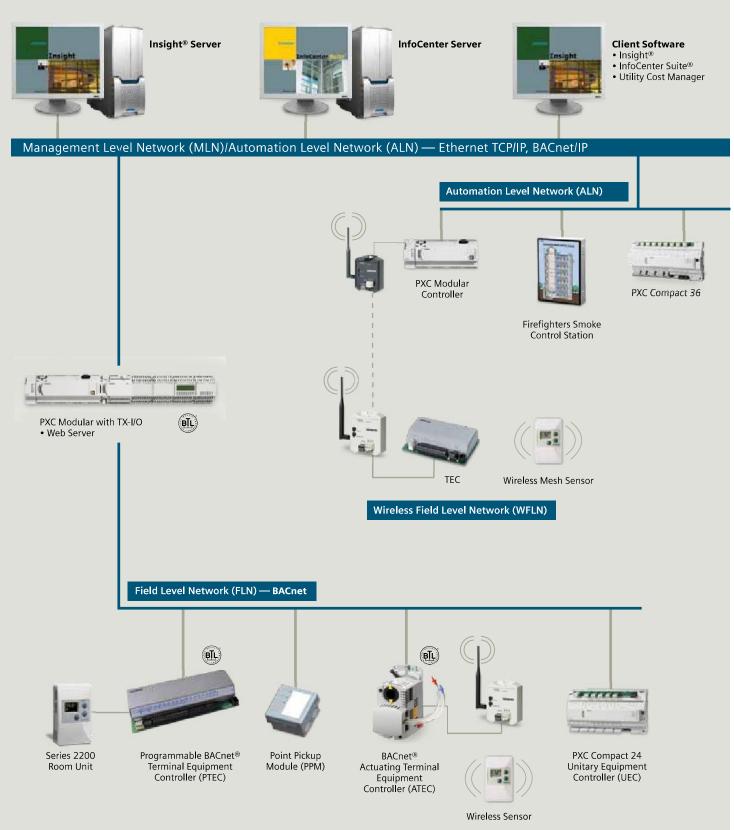
Notes about this rebate calculation:									
	ļ								



Attachment B

# Multiple building systems, one solution.

Improve performance, expand functionality, and adapt to the future







#### **Web Access**

- APOGEE GO® for Insight®
  APOGEE GO® for InfoCenter Suite®
  Field Panel Web Server
- Terminal Services Client
- Tenant Override System

- **Mobile Apps** Smartphone Apps
  - Voice Notification • Browsers
- Pager • SMS • Text Messaging
- E-mail



Insight® UL Listed Life Safety Workstation

## **Integrated Systems** Fuel Tanks Lighting Elevators PXC Modular Controller • Web Server Critical Air Fire / Power & Energy Environments Compressors Life Safety PXC Modular Controller Building Security I Variable Operator Automation Systems Frequency Drives Workstations Access APOGEE' Management Fire Alarm Panel Hotel Systems Industrial Field Level Network (FLN) Point Pickup Module (PPM) Variable Frequency Bus Interface Module Lab Room Controller Factory-Mounted on Venturi Air Valve Lab Room Controller Drives and Other Third-Party Devices (BIM) with TX-I/O™ Factory-Mounted on Terminal Unit

Room Pressurization Monitor (RPM)

Fume Hood Monitor

Terminal Equipment Controllers (TEC)

Room Unit

Digital Energy Monitor (DEM)

Site Address: Chagrin Falls Branch
Principal Address: 100 East Orange 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	Building Controls Upgrade	This project included the upgrade of the building control system to better control systems and improve energy efficiency.	Data was gathered from attachment H and I and analyzed in attachment J. The savings calculated was entered into the custom rebate calculator to determine the rebate.	No specific timeframe. The replaced equipment was fully functional and was upgraded to improve energy efficiency and there was no known repalcement date.	N/A

Docket No. 13-0152

Site: 100 East Orange Street

Customer Legal Entity Name: Cuyahoga County Public Libraries

2011

Site Address: Chagrin Falls Branch
Principal Address: 100 East Orange Street

Unadjusted Usage, kwh (A) Weather Adjusted Usage, kwh (B) Weather Adjusted Usage, kwh (B) Weather Adjusted With Energy Efficiency Addbacks, kwh (c) Note 1

Average 220,562 220,562 220,993

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Eligible Rebate Amount (H) \$ Note 2
1	Building Controls Upgrade	12/27/2011	\$10,000	\$5,000	31,460	31,460	-	\$2,517	\$1,888
					-	-	-		
						-	-		
					-	-	-		
							-		
					-	-	-		
					-		-		
		Total	\$10,000		31,460	31,460	0	\$2,517	\$1,888

**Docket No.** 13-0152

Site: 100 East Orange Street

#### Notes

(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.

<sup>(1)</sup> 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.



#### **Exhibit 3 Utility Cost Test**

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh	Utility Avoided Cost \$/MWh	Utility Avoided Cost \$	Utility Cost \$	Cash Rebate \$	Administrator Variable Fee \$	Total Utility Cost \$	UCT
	(A)	(B)	(C)	(D)	(E)	( <b>F</b> )	(G)	(H)
1	31	\$ 308	\$ 9,698	\$ 4,050	\$1,888	\$315	\$ 6,252	1.6

Total	31	\$	308	9,698	4,050	\$1,888	\$315	6,252	1.6
		т		-,	,	, ,,		-,	

#### **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)

Cuyahoga County Public Libraries ~ Chagrin Falls Branch Docket No. 13-0152

**Site:** 100 East Orange Street

уууу-тт	Start Date	End Date	# Days	LDC Cost	Supplier Cost	Total Cost	LDC Use	Supplier UOM Use		oplier Total Cost Unit Cost	Billed Demand	Actual Demand
Place:	CHF] CHA	GRIN FALLS						Energy Ty	pe: Electric			
Meter:	[CHFE9100	79798] CH/	AGRIN FAL	LS				Cost Cente	er: [CHAGRIN_FAL	LS] CHAGRIN F	ALLS	
<b>Account</b> 2011 - 01	[CHFE910 1/10/2011	0 <b>079798/67</b> 2/9/2011	<b>6054216]</b>	<b>11 00 25 273</b> \$2,642.60	5 6 3 CHA	\$2,642.60	23,200	<b>Vendor: [</b> kWh	FIRST_ENERGY_S	01] FIRST ENER \$0.114	RGY SERVICE	i.
2011 - 02	2/9/2011	3/10/2011	29	\$2,486.70		\$2,486.70	21,680	kWh	\$0.115	\$0.115	33	
2011 - 03	3/10/2011	4/11/2011	32	\$2,440.92		\$2,440.92	21,200	kWh	\$0.115	\$0.115	32	
2011 - 04	4/11/2011	5/11/2011	30	\$2,163.42		\$2,163.42	18,560	kWh	\$0.117	\$0.117	28	
2011 - 05	5/11/2011	6/10/2011	30	\$1,780.42		\$1,780.42	15,842	kWh	\$0.112	\$0.112	27	
2011 - 06	6/10/2011	7/12/2011	32	\$1,646.18		\$1,646.18	16,240	kWh	\$0.101	\$0.101	25	
-	FE910079798] FALLS Totals:			\$13,160.24		\$13,160.24	116,722	kWh	\$0.113	\$0.113	178	

	Slap Date	End Date	# Days	LDC Costi	Supplier ( Total Cost Cost	LDC Use	Supplier UOM Use	LDC Supplier Unit Cost Unit Cost	Total Unit Cost	Biller Actual Demand Demand
Place:	[CHF] CHAG	RIN FALL	S				Energy T	ype: Electric		
Meter:	[CHFE91007	/9798] C	HAGRIN FAL	LS		****	Cost Cen	ter: [CHAGRIN_FALLS]	CHAGRIN FA	LLS
<b>Accoun</b> 2011 - 06	t: [CHFE910 6/10/2011	-	<b>76054216]</b>	<b>11 00 25 273</b> \$1,646.18	<b>35 6 3 CHA</b> \$1,646.18	16,240	<b>Vendor:</b> kWh	[FIRST_ENERGY_S01] \$0.101	FIRST ENERG	GY SERVICE 25
2011 - 07	7/12/2011	8/10/2011	29	\$1,501.78	\$1,501.78	14,640	kWh	\$0.103	\$0.103	24
2011 - 08	8/10/2011	9/8/2011	29	\$1,456.46	\$1,456.46	14,000	kWh	\$0.104	\$0.104	24
2011 - 09	9/8/2011	10/10/2011	32	\$1,811.04	\$1,811.04	18,160	kWh	\$0.100	\$0.100	28
2011 - 10	10/10/2011	11/8/2011	29	\$1,679.50	\$1,679.50	16,560	kWh	\$0.101	\$0.101	28
2011 - 11	11/8/2011	12/7/2011	29	\$1,746.08	\$1,746.08	16,080	kWh	\$0.109	\$0.109	34
2011 - 12	12/7/2011	1/9/2012	33	\$2,436.16	\$2,436.16	24,400	kWh	\$0.100	\$0.100	36
2012 - 01	1/9/2012	2/8/2012	30	\$2,259.70	\$2,259.70	22,400	kWh	\$0.101	\$0.101	34
2012 - 02	2/8/2012	3/8/2012	29	\$2,213.60	\$2,213.60	21,760	kWh	\$0.102	\$0.102	34
2012 - 03	3/8/2012	4/10/2012	33	\$2,167.36	\$2,167.36	22,000	kWh	\$0.099	\$0.099	2
2012 - 04	4/10/2012	5/11/2012	31	\$2,246.22	\$2,246.22	21,840	kWh	\$0.103	\$0.103	33
2012 - 05	5/11/2012	6/13/2012	33	\$1,941.34	\$1,941.34	20,960	kWh	\$0.093	\$0.093	30
2012 - 06	6/13/2012	7/12/2012	29	\$1,759.96	\$1,759.96	18,480	kWh	\$0.095	\$0.095	30
2012 - 07	7/12/2012	8/13/2012	32	\$1,908.90	\$1,908.90	20,800	kWh	\$0.092	\$0.092	29
_	HFE910079798] N FALLS Totals:			\$26,774.28	\$26,774.28	268,320	kWh	\$0.100	\$0.100	391

0800497182 1020000841

Meter Read Dt	Days	Bill Amount	Tariff Code	Metered kWh	Metered Demand (KW)	HDD	CDD	kWh/da y	AVG OAT	Adjusted Baseline kWh	Adjusted BaselinekW	Monthly kWh Saved	
8/13/2012	32	\$1,908.90		20,800	29				76.450				
7/12/2012	29	\$1,759.96		18,480	30				76.479	14,951		3,529.30	
6/13/2012	33	\$1,941.34		20,960	30				67.164	16,423		4,537.45	
5/11/2012	31	\$2,246.22		21,840	33				54.661	18,398		3,442.12	
4/10/2012	33	\$2,167.36		22,000	2				52.218	18,784		3,216.11	
3/8/2012	30	\$2,213.60		21,760	34				35.666	21,399		360.84	
2/8/2012	30	\$2,259.70		22,400	34				33.407	21,756		643.95	
1/9/2012	33	\$2,436.16		24,400	36				35.939				
12/7/2011	29	\$1,746.08		16,080	34				45.614				
11/8/2011	29	\$1,679.50		16,560	28				51.114				
10/10/2011	32	\$1,811.04		18,160	28				61.600				
9/8/201	29	\$1,456.46		14,000	24				70.972				
8/10/2011	29	\$1,501.78		14,640	24				77.759				
7/12/2011	32	\$1,646.18		16,240	25				71.856				
6/10/2011	30	\$1,780.42		15,842					67.140		·		
5/11/2011	30	\$2,163.42		18,560	28				52.563		·		
4/11/2011	32	\$2,440.92		21,200	32				40.666		·		
3/10/2011	29	\$2,486.92		21,680	33				33.279		·		
2/9/2011	30	\$2,642.60		23,200	34				23.057				

Annual kWh Saved: 31460
Attachment J

 Regression Statistics

 Multiple R
 0.99172379

 R Square
 0.983516077

 Adjusted R Square
 0.980219292

 Standard Error
 466.72050

 Observations
 70

ANOVA

	df	SS	MS	F	Significance F
Regression	1	64983731.84	64983731.84	298.3258448	1.19153E-05
Residual	5	1089140.163	217828.0326		
Total	6	66072872			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Jpper 95%	Lower 95.0%	Upper 95.0%
Intercept	27034.20816	510.171202	52.99046291	4.52543E-08	25722.7713	3 28345.6	25722.77133	28345.64498
X Variable 1	-157.997073	9.14752493	-17.27211176	1.19153E-05	-181.511534	4 -134.48	-181.5115344	-134.4826115

Var1 -157,997073 Intercept 27034.20816



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# **Mercantile Customer Program - Custom Project Rebate Calculator**

Project Name and Number:	Cuyahoga County Library Branch Renovation
Site Name:	Chagrin Falls Branch
Completed by (Name):	
Date completed:	

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08			
Building Control System Upgrade	31,460	2516.80			
Total Project Energy Savings kWh	31,460				
Total Custom Prescriptive	Total Custom Prescriptive Rebate Amount \$				

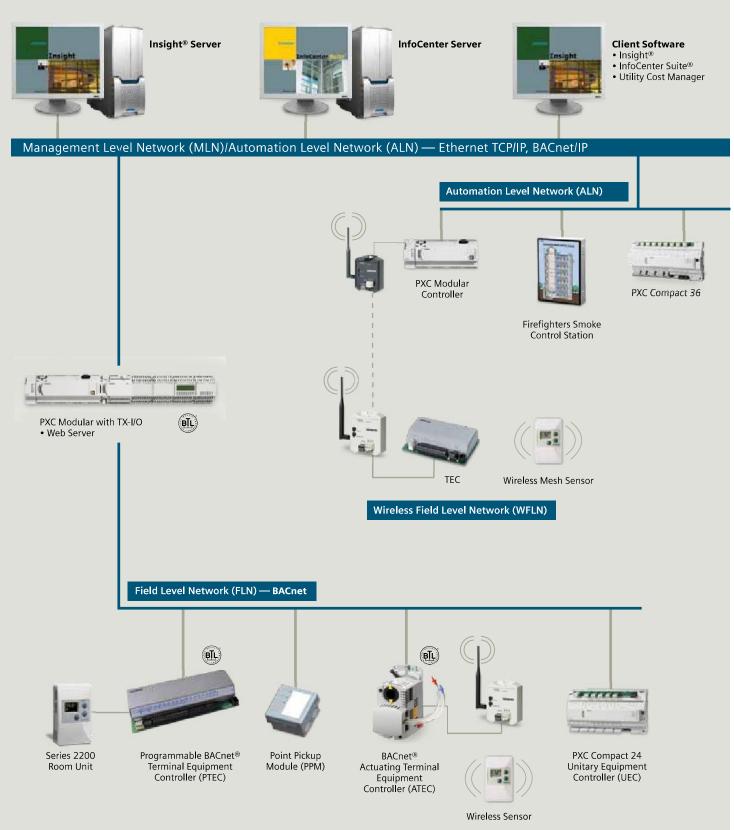
Notes about this repare calculation:							



Attachment H

# Multiple building systems, one solution.

Improve performance, expand functionality, and adapt to the future







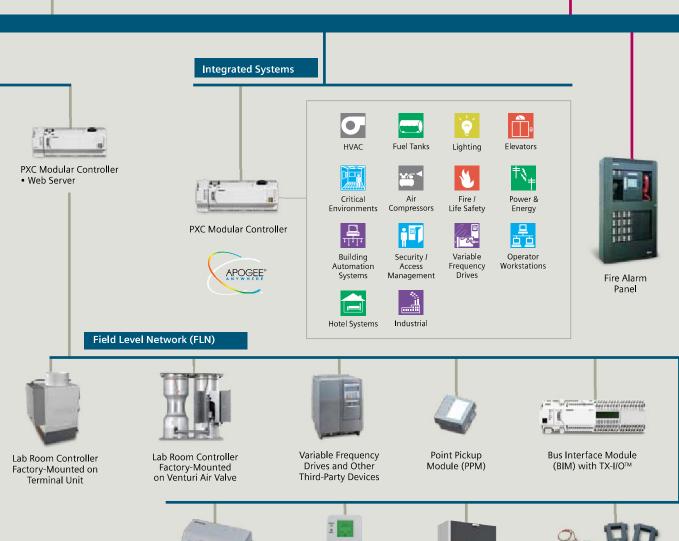
#### **Web Access**

- APOGEE GO® for Insight®
  APOGEE GO® for InfoCenter Suite®
  Field Panel Web Server
- Terminal Services Client
- Tenant Override System

- **Mobile Apps** Smartphone Apps
  - Voice Notification
- Pager • Browsers • Text Messaging
- SMS • E-mail



Insight® UL Listed Life Safety Workstation



Room Pressurization Monitor (RPM)

Fume Hood Monitor

Terminal Equipment Controllers (TEC)

Room Unit

Digital Energy Monitor (DEM)

Customer Legal Entity Name: Cuyahoga County Public Libraries

Site Address: Warrensville Heights Branch Principal Address: 4415 Northfield Road

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		This project includes installation of lighting and occupancy sensor controls that were more efficient than the code requirements.	Data was gathered from attachments M and N. This data was entered into the lighting rebate calculator to determine savings and rebate.	N/A	Code standard lighting and controls that would have been less efficient than what was installed.
2	Whole Building Model	This project includes a whole nuilding model calculating all savings for building envelope and equipment except lighting.	Data was gathered from attachment P for ASHRAE baseline and modeled energy usage. Modeled usage was subtracted from the baseline, then lighting savings from project 1 were subtracted from the whole building savings. The savings were entered into the custom rebate calculator to determine the rebate.	N/A	ASHRAE Code minimum insualtion for windows, walls and roof.

Docket No. 13-0152

Site: 4415 Northfield Road

Customer Legal Entity Name: Cuyahoga County Public Libraries

Site Address: Warrensville Heights Branch

Principal Address: 4415 Northfield Road

Unadjusted Weather Adjusted Usage, kwh (A) Usage, kwh (B) Weather Adjusted Usage, kwh (B) Weather Adjusted Usage, kwh (C) Note 1

2011 570,287 570,287 570,287

Average 570,287 570,287 570,287

Project Number	Project Name	In-Service Date	Project Cost \$	50% of Project Cost \$	KWh Saved/Year (D) counting towards utility compliance	KWh Saved/Year (E) eligible for incentive	Utility Peak Demand Reduction Contribution, KW (F)	Prescriptive Rebate Amount (G) \$	Rebate Amount (H) \$ Note 2
1	Whole building lighting and controls.	04/21/2012	\$247,000	\$123,500	62,191	62,191	7	\$2,146	\$1,610
2	Whole Building Model	04/21/2012	\$4,705,400	\$2,352,700	264,656	264,656	-	\$21,172	\$15,879
					-		-		
					-	-	-		
					-	-	-		
					-		-		
					-		-		
		Total	\$4,952,400		326,847	326,847	7	\$23,318	\$17,489

Fligible

**Docket No.** 13-0152

Site: 4415 Northfield Road

#### Notes

(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.

<sup>(1)</sup> 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.



#### **Exhibit 3 Utility Cost Test**

UCT = Utility Avoided Costs / Utility Costs

Project	Total Annual Savings, MWh	ty Avoided Cost \$/MWh	Ut	ility Avoided Cost \$	U	tility Cost \$	Cash Rebate \$	Administrator Variable Fee \$	To	otal Utility Cost \$	UCT
	(A)	(B)		(C)		(D)	(E)	(F)		(G)	(H)
1	62	\$ 308	\$	19,172	\$	2,025	\$1,610	\$622	\$	4,256	4.5
2	265	\$ 308	\$	81,588	\$	2,025	\$15,879	\$2,647	\$	20,551	3.97

Total	327	\$ 308	100,760	4,050	\$17,489	\$3,268	24,807	4.1

#### **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)

Cuyahoga County Public Libraries  $\sim$  Warrensville Heights Branch Docket No. 13-0152

**Site:** 4415 Northfield Road

#### Attacchment P

CCPL Shell REPORT- BEPU	Building	Utility P	erformano	e				DOE-	2.2=47d WE	7/25/20 ATHER FIL	11 14: E- Clevel		L RUN 1
	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRIC KWH	TTY 75622.	0.	77522.	175435.	41073.	0.	11802.	62154.	0.	0.	13084.	46732.	503424.
IT L ELECTRIC KWH	ITY 0.	0.	40515.	0.	0.	0.	0.	0.	0.	0.	0.	0.	40515.
FM1 NATURAL-	GAS 0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Proposed Design

TOTAL ELECTRICITY 543939. KWH 19.640 KWH /SQFT-YR GROSS-AREA 19.640 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.3
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE: EMERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

CCPL Shell	DOE-2.2-47d	7/25/2011	12:01:26	BDL RUN 19
REPORT- BEPU Building Utility Performance	WE	ATHER FILE-	Cleveland	ОН ТИУ2

TASK MISC SPACE SPACE HEAT PUMPS VENT REFRIG HT PUMP DOMEST EXT

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL	
EM1 ELECTRI KWH	CITY 144276.	0.	77568.	380062.	65264.	0.	1.	76248.	0.	0.	13087.	73766.	830271.	1
IT L ELECTRI KWH	CITY 0.	0.	40515.	0.	0.	0.	0.	0.	0.	0.	0.	0.	40515.	J
FM1 NATURAL THERM	-GAS	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	

ASHRAE Baseline

TOTAL ELECTRICITY 870786. KWH 31.442 KWH /SQFT-YR GROSS-AREA 31.442 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.5 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Baseline total= 870,786 kWh Design total= 543,939 kWh Savings = 326,847 Lighting Savings = 62,191 kWh Savings - Lighting = 264,656 kWh



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# **Mercantile Customer Program - Custom Project Rebate Calculator**

Project Name and Number:	Cuyahoga County Library Branch Renovation
Site Name:	Warrensville Heights Branch
Completed by (Name):	
Date completed:	

Energy Conservation Measure	Annual Energy Savings kWh	Eligible Prescriptive Rebate Amount kWh * \$0.08
Whole Building Model minus Lighting	264,656	21172.48
	·	
Total Project Energy Savings kWh	264,656	
Total Custom Prescriptive	Rebate Amount \$	\$ 21,172.48

Notes about this repate calculation:								

# **Lighting Form**

Lighting Inver	ntory Form																	
Applicant Name: Facility Name: Date:				= = =		for Occupany Sensor, DAY for photosensor, H-	.o for bi-level sensors or NONE for none. Controls in spaces where sensors in Column R, will be used to calculate your incentive on the											
Line New Construction	Building Address	Floor	Lichting Zone 2  PROJECT BASIC INFORMATION  Area Crescription Space Description Intelligence Type  Product transfer Production Type  Area Crescription Space Type    Product of Extender   Production Type	Exterior Lighting Description Area Cooling	PRE-INSTALLATION (RET Pre-Fidure Pre-Financ Code Pre-Watts / Pre-	ROFIT) kW   Existing Existing	BASELINE (NEW CONSTRUCTION) Units Lighting Power Density	Daseline kW	Post Post Fixture Code   Post Natio   Post	LLATION KW/ Are	Proposed Proposed	Change in	Applicant Coincide	Energience Interactive Interact	Calculations is Pre Post	Demand Applicant	Prescribed Annual kill	Post Shi Fishers Cut
tem or Retrolt			False	(Enterior Lighting Only)	Pre Finture Code Pre Watts / Pre Finture Code Pre Watts / Pre Finture Sp. (6)	VW / Existing Existing Sensor Gunetity When applicable If multip	DASTLING (NEW CONSTRUCTION)  Units a g. Square Feet (Wunit)  of Square Feet	/Space (kW)	Findum Pintum Sp. (W) (V)	sce Occupan W) Senson Require by Code	y Control Sensor drap down Quantity When applicable	Connected Load (kW)	Coincidence Fact: Factor (CF) Estimate	or Factor Factor (demand) (energ	Controls Controls Factor Factor	Savings Equivalent (kW) Full Load Hours (EFLH)	Equivalent Sawed Full Load Hours	Sheet Number
e.g. Ratolit e.a. Nee-Construction	400 North Street	2	Office Other Interior Office Small	Cooled State	2 F461 112 0.	pina annaidist	is fishins types are used, is only in the total same is only enter the total since the total s		2 CFTSS1-BX 56 0.	17 No.	000 2	0.17	Sets Sets	26% (2%	0% 20%	Estimate  Cris 2801	2.435 646	
e.g. New Construction 1 New Construction 2	Example	1	Assistance Conference, Meeting or Training Room Euterior Relati Small  Ubtary Cliner Insuring - Insuring Room Insuring -	Builing facades (finer thased) Cooled Space Cooled Space		500 27,500	10earž 28	1.89	3 CFTS61 BX 56 B. 5 Exemple Cut Sheet 2 25 B. 1 Cut Sheet 2 28,265 28		DAY S OCC 28 NONE NONE	1.75 7.40 0.00	50% 83% 100% 100%	34% (2%) 5 34% (2%)		0.19 2,008 2.09 8,760 9.91 3,492	2,068 4,013 2,492 62,191	1A
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# **Lighting Form**

New Construction or Retroft	Building Address	Floor A	Ves Description Space Description	PROJECT BASIC INFORMATION Interior of Exterior Predominant Space Type				INSTALLATION (RETROF			E (NEW CONSTRUCTION)			OGT-INSTALLAT										
					Exterior Lighting Description	Area Cooling	Pre Fixture Pre Fixture Code	Pre Watts / Pre kW /	Existing Exis	iting Units	Lighting Power Density	Daseline kW			Are	Proposed Prop	seed Change k	1 Applican		eractive interactive	Pre Post	Demand Applican	Prescribed A	Annual kW
				Fisture	(Exterior Lighting Only)		Oty	Fixture Space (W) (kW)	Control Sec	nsor e.g. Square Feet	(Wunk)	/Space (kW)	Fixture Fixture On On	Space (kW)		Control Sen				factor Factor	Controls Controls Factor Factor	Savings Equivalent (kW) Full Load	Equivalent	
								(W) (KW)	deplese Qua	ntky (tr)		(KM)	Cay (W)	(kW)		Ampriore Quar	ezy (kW)	Factor		emand) (energy)	Factor Factor	(kW) Full Load	Full Load Hours	
										If multiple fixture types are used.					Required by Code?			(CF) Estimate				Hours (EFLH)	- August	
										please only enter the total												Estimate		
										arealdistanceigty once per space.														
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																greater red. F inform	If your total change in han or equal to 50 kW lease see row 4 on the ation on adjusting the j to "Other" and estimat values.	the cell above will instructions tab to predominant spac- ing CF and EFLH	libe or or					

# Project Estimated Annual Savings Summary

Lighting	
Estimated Annual kWh Savings	62,191
Total Change in Connected Load	7.40
Annual Estimated Cost Savings	\$6,219.10
Annual Operating Hours	3,492
Interior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$1,446.10
Exterior Lighting Incentive @ \$0.05/kWh (excluding retrofit CFLs, sensors, or LED exit signs)	\$0.00
Total retrofit CFL Incentive @ \$1/screw-in CFL lamp; \$15/hard- wired CFL lamp (includes all retrofit CFLs, both interior and exterior)	\$0.00
Total retrofit LED Exit Incentive @	\$0.00
\$10/exit sign Total Lighting Controls Incentive @ \$25/occupancy sensor and \$25/daylight sensor (includes all Lighting Controls, both interior and exterior)	\$700.00
Total Calculated Incentive	\$2,146.10
Total Fixture Quantity excluding retrofit	, i
CFLs and LED Exit Signs	1
Total Lamp Quantity for retrofit Screw-In	0

Total Lamp Quantity for retrofit Hard-Wired CFLs	0
Total Fixture Quantity for retrofit LED Exit Signs	0
Total Quantity for Occupancy Sensors	28
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)
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DESIGNATION		LAMP(	(S)	В	ALLAST(S)	FIXTURE	FIXTURE	FIXTURE DESCRIPTION	CATALOG	NOTES
TYPE	TYPE	WATTS	QUANTITY	TYPE	QUANTITY	WATTAGE	VOLTAGE	LED 6" DIAMETER, 8" DEEP SHALLOW FIXTURE OPEN REFLECTOR	SERIES PORTFOLIO LD615	
D	LED 3500K	25	1	NA	NA	25	120	RECESSED DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, 1500 LUMEN OUTPUT, INTEGRAL DRIVER, AND WHITE PAINTED FLANGE.	PRESCOLITE LF6LED GOTHAM 6DR4 OMEGA OM6LED	
D1	CF DTT	26	1	E	1	30	120	COMPACT FLUORESCENT 8" DIAMETER, 7" DEEP MAX. OPEN REFLECTOR RECESSED DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT REFLECTOR, AND WHITE PAINTED FLANGE.	PORTFOLIO C72 LITHONIA GOTHAM AF OMEGA OM82HQPL PRESCOLITE CFR8 LIGHTOLIER 8056 INDY 708R	1
D2	CF TRT	42	1	E	1	45	120	COMPACT FLUORESCENT 10" DIAMETER, 7" DEEP MAX. OPEN REFLECTOR RECESSED DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT REFLECTOR, AND WHITE PAINTED FLANGE.	PORTFOLIO C72 LITHONIA GOTHAM AF OMEGA OM82HQPL PRESCOLITE CFR8 LIGHTOLIER 8056 INDY 708R	1)(15)
DW	CF DTT	18	2	Е	1	40	120	FLUORESCENT 8" DIAMETER, 7" DEEP MAX. OPEN REFLECTOR RECESSED WALL WASH DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) SPECULAR CLEAR, LOW IRIDESCENT REFLECTOR, WHITE PAINTED FLANGE, AND HORIZONTAL LAMPS.	PORTFOLIO C72 LITHONIA GOTHAM AFW OMEGA OM82HQPLWW PRESCOLITE CFR8WW LIGHTOLIER 8086 INDY 728R	1
ES	INC	8	2	NA	NA	20	120/277	EMERGENCY SURFACE MOUNTED FIXTURE WITH WHITE POLYCARBONATE HOUSING, NICKEL CADMIUM BATTERY, 90 MINUTES MINIMUM BATTERY CAPACITY, BATTERY CHARGER, TEST SWITCH, INDICATOR LIGHT AND (2) ADJUSTABLE LAMP HEADS.	SURE-LITES CC5-NC LITHONIA QUANTUM 6ELM2 N EMERGI-LITE ESCORT ECC PRESCOLITE NV3N-9W LIGHTOLIER E2 LIGHTGUARD U18N	3 5
IC	Т8	32	4	E	1	60	120	FLUORESCENT 4' LONG CHAIN MOUNTED INDUSTRIAL FIXTURE WITH 20% UPLIGHT, STEEL HOUSING, BAKED WHITE ENAMEL FINISH AND CHAIN HANGER KIT.	METALUX DIM LITHONIA AF DAY-BRITE 2F COLUMBIA KL4 LIGHTOLIER TF HE WILLIAMS 824	4
L1	Т5НО	54	1	E	1	60	120	FLUORESCENT SUSPENDED 7"x4'x6" LINEAR DIRECT ALUMINUM FIXTURE WITH PARABOLIC ACRYLIC LOUVER, RIBBED ALUMINUM HOUSING, PERFORATED SIDES AND GRAY FINISH.	FOCAL POINT EVOLUTION PRUDENTIAL MOLY DAY-O-LITE JOSA	2 6 10 13
L2	Т8	32	2	E	1	60	120	FLUORESCENT SUSPENDED 9"W x 3'H x 4' LONG LINEAR DIRECT/INDIRECT (70% DIRECT / 30% INDIRECT) STEEL FIXTURE WITH WHITE BAFFLES, ACRYLIC OVERLAY AND WHITE POWDER COAT FINISH. MOUNT AT 12'0" ABOVE FINISHED FLOOR.	LEDALITE CENTRIS CURELITE CLASS A D/1	2 6 10 13
P1A	CF TRT	32	2	E	1	70	120	PENDANT MOUNTED 19"D x 13" HIGH SPHERICAL FLUORESCENT FIXTURE WITH THREE SUSPENSION RODS WITH FINISH AND SUSPENSION LENGTH AS SELECTED BY ARCHITECT.	VIBIA 0105	(1) (2) (6)
P1B	CF TRT	32	4	E	2	140	120	PENDANT MOUNTED 27"D x 23" HIGH SPHERICAL FLUORESCENT FIXTURE WITH THREE SUSPENSION RODS WITH FINISH AND SUSPENSION LENGTH AS SELECTED BY ARCHITECT.	VIBIA 0100	1 2 6
P2A	CF TRT	26	1	E	1	30	120	PENDANT MOUNTED FLUORESCENT FIXTURE WITH 12"D GLASS GLOBE, WHITE CORD SUSPENSION, WHITE CEILING CANOPY WITH FINISH AND SUSPENSION LENGTH AS SELECTED BY ARCHITECT.	LOUIS POULSON WOHLERT	(1) (2) (6) (15)
P2B	CF TRT	32	1	E	1	35	120	PENDANT MOUNTED FLUORESCENT FIXTURE WITH 16"D GLASS GLOBE, WHITE CORD SUSPENSION, WHITE CEILING CANOPY WITH FINISH AND SUSPENSION LENGTH AS SELECTED BY ARCHITECT.	LOUIS POULSON WOHLERT	(1) (2) (6) (15)
P3	CF TRT	26	4	E	2	120	120	PENDANT MOUNTED FLUORESCENT FIXTURE WITH CONCENTRIC ALUMINUM BANDS 18"D MAXIMUM, SINGLE ALUMINUM SUSPENSION ROD, WITH FINISH AND SUSPENSION LENGTH AS SELECTED BY ARCHITECT.	SHAPER 420	(1) (2) (6) (15)
P4	CF TRT	13	43	E	29	645	120	SECTIONAL PENDANT IRREGULAR SHAPED SYSTEM DOWNLIGHT, AIR CRAFT CABLE MOUNTED, TOP AND BOTTOM ACRYLIC DIFFUSER, AND WHITE FINISH. FIXTURE CONSISTS OF THE FOLLOWING PIECES: (3) 2200, (3) 2205, (5) 2210, (3) 2215, (4) 2220. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LAYOUT.	VIBIA AMEBA	2
R	HAL MRI6	50	2	NA	NA	100	120	RECESSED INCANDESCENT FIXTURE WITH MULTIPLE ADJUSTABLE HEADS WITH GIMBAL RING LAMP HOLDERS, WHITE FINISH AND BLACK INTERIOR.	RSA STAN-216-50-FS	1 2 5
R*	HAL MRI6 T5HO	50	4	NA E	NA 1/2 LAMPS	225 250 275 300 325	120	COMBINATION RECESSED FLUORESCENT AND INCANDESCENT FIXTURE 6" W WITH NOMINAL LENGTH INDICATED BY NUMBER ON PLAN DRAWING WITH 2" DEEP SEMI-SPECULAR, LOW IRIDESCENT GIMBAL RING LAMP HOLD AT ENDS AND WHITE FINISH. PROVIDE T5HO LAMPS ENTIRE LENGTH BETWEEN ADJUSTABLE END FIXTURES.	RSA CR11650A-T5HO39	1 2 5 13 18
RI2 RI4	Т5НО	54	2	E E	1 2	110	120	FLUORESCENT 2'x4'x6" DEEP RECESSED TROFFER WITH CENTER MOUNTED PERFORATED BASKET, PAINTED AFTER FABRICATION HOUSING, AND BAKED WHITE ENAMEL FINISH.	METALUX RDI FOCAL POINT FLU-24-NB DAY-BRITE 2PF COLUMBIA STR-24 LIGHTOLIER MBS2GPW	1 9
RI6 RI6E	Т5НО	24	3	E	2	75	120	FLUORESCENT 2'x2'x6" DEEP RECESSED TROFFER WITH CENTER MOUNTED PERFORATED BASKET, PAINTED AFTER FABRICATION HOUSING, AND BAKED WHITE ENAMEL FINISH.	METALUX RDI FOCAL POINT FLU-22-PS DAY-BRITE 2PF COLUMBIA STR-22 LIGHTOLIER QHE2GPF	1 9 13 14
\$3 \$4	T8 T8	25 32	2 2	Е	1	50 60	120	FLUORESCENT 3' OR 4' LONG, STANDARD STRIP FIXTURE WITH STEEL HOUSING AND BAKED WHITE ENAMEL FINISH.	METALUX SSF LITHONIA C DAY-BRITE T COLUMBIA CS LIGHTOLIER SW HE WILLIAMS 764	7
SA	MH PS	400	1	E	1	440	208	PULSE START METAL HALIDE POLE MOUNTED FIXTURE 18" WIDE X 31 1/2" LONG X 6 1/2" HIGH WITH ALUMINUM HOUSING, SEGMENTED TYPE II OPTICS, AND BRONZE FINISH. FIXTURE SHALL BE MOUNTED ON 25 FOOT HIGH ALUMINUM ROUND POLE, WITH MATCHING FINISH.	GARDCO G18-1-2XL-400PSMH- -208-BRP	(11)
SB	MH PS	400	1	E	1	440	208	PULSE START METAL HALIDE POLE MOUNTED FIXTURE 18" WIDE X 31 1/2" LONG X 6 1/2" HIGH WITH ALUMINUM HOUSING, SEGMENTED TYPE II OPTICS, BRONZE FINISH, AND HOUSE SHIELD. FIXTURE SHALL BE MOUNTED ON 25 FOOT HIGH ALUMINUM ROUND POLE, WITH MATCHING FINISH.	GARDCO G18-1-2XL-400PSMH- -208-BRP-HS	11)

					LI	GHTING	FIXTU	RE SCHEDULE		
DESIGNATION TYPE	TYPE	LAMP(:	S) QUANTITY	B TYPE	ALLAST(S)  QUANTITY	FIXTURE WATTAGE	FIXTURE VOLTAGE	FIXTURE DESCRIPTION	CATALOG SERIES	NOTES
SC	MH PS	400	1 (PER HEAD)	E	1 (PER HEAD)	880	208	PULSE START METAL HALIDE POLE MOUNTED FIXTURE 18" WIDE X 31 1/2" LONG X 6 1/2" HIGH, TWIN ASSEMBLY WITH ALUMINUM HOUSING, SEGMENTED TYPE II OPTICS, AND BRONZE FINISH. FIXTURE SHALL BE MOUNTED ON 25 FOOT HIGH ALUMINUM ROUND POLE, WITH MATCHING FINISH.	GARDCO G18-2-2XL-400PSMH- -208-BRP	11)
SD	MH PS	100	1	E PS	1	130	208	HIGH, WITH STAINLESS STEEL VERTICAL STRUTS AND DARK BRONZE	ARCHITECTURAL AREA LIGHTING INDF-RD-100MH-PMAT	
SE	МН	70	1	E	1	90	120	HIGH GROUND MOUNTED FLOODLIGHT WITH ALUMINUM HOUSING, HORIZONTAL FLOOD LIGHT DISTRIBUTION AND BRONZE FINISH.	GARDCO DF5-C-HFL-T70CMHE-120- -BRP ALLSCAPE FL-02 KIM AFL10	5
SF	LED 5000K	12/FT	NA	NA	NA	370	120	LED SURFACE MOUNTED 1.5" W x 2" D FIXTURE, EXTRUDED ALUMINUM HOUSING, UV RESISTANT ACRYLIC LENS, 80 DEGREE DISTRIBUTION, UL WET LABEL, 400 LUMENS/FT, ADJUSTABLE MOUNTING, BLACK FINISH AND INTEGRAL 24V DRIVER. PROVIDE REMOTE WEATHERPROOF 500VA, 120V-24V TRANSFORMERS.	WINONA V-LINE 10 2.0	2 (16
SG	CF TRT	42	1	E CS	1	45	120		FAILSAFE RDS	2
SH	MH PS	400	1	E	1	440	208	PULSE START METAL HALIDE POLE MOUNTED FIXTURE 18" WIDE X 31 1/2" LONG X 6 1/2" HIGH WITH ALUMINUM HOUSING, SEGMENTED TYPE V OPTICS, AND BRONZE FINISH. FIXTURE SHALL BE MOUNTED ON 25 FOOT HIGH ALUMINUM ROUND POLE, WITH MATCHING FINISH.	GARDCO G18-1-2XL-400PSMH- -208-BRP	(11)
UC2	Т8	17	1	E	1	20	120	WITH 0.125" THICK ACRYLIC PRISMATIC LENS, SOLID FRONT, STEEL HOUSING AND BAKED WHITE ENAMEL FINISH.	FAIL-SAFE MAS LITHONIA N2S DAY-BRITE UCS ALKCO SF317 HE WILLIAMS 2SF TERON HVC400	8
WL	Т5НО	54	1	E	1	60	120	FIXTURE WITH WHITE BAFFLES, ACRYLIC OVERLAY AND WHITE POWDER COAT FINISH. MOUNT AT 8'-0" AFF.	LEDALITE CENTRIS CURELITE CLASS A D/1	6 (13
WS1	Т8	32	2	E	1	60	120	WHITE FINISH AND 0.125" THICK ACRYLIC PRISMATIC DIFFUSER.	METALUX BC LITHONIA WC DAY-BRITE WB COLUMBIA W LIGHTOLIER KDL HE WILLIAMS 204	6
WS2	CF DTT	26	2	E	1	55	120	DISTRIBUTION, AND ALUMINUM HOUSING.	INVUE ENC ARCHITECTURAL AREA LIGHTING ES3	12)
X	LED	4	NA	NA	NA	4	120	PANELS, MIRRORED BACKGROUND FOR DOUBLE FACE SIGNS, BRUSHED ALUMINUM HOUSING, FACES, ARROWS AND MOUNTING AS INDICATED ON DRAWINGS.	SURE-LITES ELX LITHONIA PRECISE LRP McPHILBEN 45VL PRESCOLITE LEP LIGHTOLIER LEA LIGHTGUARD SLDLX	3

# × LIGHTING FIXTURE SCHEDULE NOTES:

VISIBLE FOR EGRESS INDICATION.

- MOUNTED IN EITHER LAY-IN OR DRYWALL CEILING. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE PROPER MOUNTING
- 2. ALTERNATES FOR FIXTURES WITHOUT EQUALS MUST BE PRE-APPROVED BY ENGINEER AND ARCHITECT PRIOR TO BID.
- 3. WALL MOUNTED EXIT SIGNS SHALL BE ABOVE DOORS, CENTERED BETWEEN DOOR AND CEILING WHERE PRACTICAL, OR AT A SIMILAR HEIGHT IF NOT ABOVE DOORS. MOUNT EMERGENCY BATTERY PACKS AT SIMILAR HEIGHT. EXIT SIGNS SHALL BE
- 4. CHAIN SUSPEND FIXTURES AT 8'-0" AFF UON. IF A DRY WALL CEILING OCCURS, SURFACE MOUNT FIXTURES. SURFACE MOUNTED FIXTURES SHALL HAVE CLOSED TOP REFLECTORS.
- 5. AIM FIXTURES FOR OPTIMUM COVERAGE OF TASK AS DIRECTED IN FIELD BY THE
- 6. VERIFY MOUNTING HEIGHT WITH ARCHITECT. PROVIDE CUSTOM SUSPENSION LENGTH AS REQUIRED.
- 7. FIXTURES MOUNTED IN COVE. REFER TO ARCHITECTURAL DETAILS. INTERCHANGE 3 FT. AND 4 FT. FIXTURES FOR BEST FIT. BAFFLE OR LENS (IF REQUIRED FOR COVE) PROVIDED BY GC. COORDINATE INSTALLATION REQUIREMENTS WITH ARCHITECT.
- 8. FIXTURES MOUNTED UNDER CABINETS. REFER TO ARCHITECTURAL DETAILS.
- COORDINATE INSTALLATION REQUIREMENTS WITH ARCHITECT. 9. SECOND BALLAST PROVIDED FOR MULTI-LEVEL CONTROL OR FOR NIGHT LIGHTING.
- 10. SUSPENDED FIXTURES SHALL BE PROVIDED WITH INTERLOCK MOUNTING ACCESSORIES AS RECOMMENDED BY MANUFACTURER. EC SHALL PROVIDE INTER-WIRING AS REQUIRED. PROVIDE MATCHING PENDANTS AT EACH END OF ROW FOR CONCEALED CIRCUIT WIRING. PROVIDE AIRCRAFT CABLE SUSPENSIONS IN BETWEEN AS RECOMMENDED BY MANUFACTURER. PROVIDE MATCHING CEILING CANOPIES AT PENDANTS AND CABLES. PROVIDE ALL MOUNTING ACCESSORIES, INCLUDING JUNCTION BOXES, UNISTRUT AND THREADED RODS, FOR SUPPORT ABOVE CEILINGS AS RECOMMENDED BY THE MANUFACTURER. SUM OF RATINGS FOR MOUNTING AND SUPPORTING HARDWARE SHALL EXCEED THE WEIGHT OF EACH FIXTURE ASSEMBLY. VERIFY EXACT INSTALLATION METHODS WITH MANUFACTURER PRIOR TO BIDDING. COORDINATE EXACT PENDANT AND AIRCRAFT CABLE LENGTHS REQUIRED (BELOW AND ABOVE CEILING) WITH ARCHITECT'S FINAL FIXTURE ELEVATIONS. SUBMITTALS SHALL BE PROVIDED, INCLUDING 1/8" SCALE INSTALLATION
- 11. POLE SHALL BE 25 FT., 6" DIA. ROUND STRAIGHT ALUMINUM WITH FINISH TO MATCH FIXTURE. REFER TO BASE DETAILS ON DRAWINGS.

DRAWINGS INDICATING FIXTURE LAYOUTS.

- 12. MOUNT EXTERIOR FIXTURE OVER DOOR OR AT LOCATION AS DIRECTED BY ARCHITECT. MOUNTING HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS AND DETAILS. PROVIDE ALL MOUNTING BACKBOXES AND ACCESSORIES AS RECOMMENDED BY FIXTURE MANUFACTURER. ALL CONDUIT SHALL BE CONCEALED. WHERE NOT POSSIBLE, ROUTE WITHIN STRUCTURE AS DIRECTED IN FIELD BY ARCHITECT. PAINT EXPOSED CONDUIT TO MATCH STRUCTURE. SEE DRAWINGS FOR ADDITIONAL MOUNTING REQUIREMENTS.
- 13. LIGHTING FIXTURES UTILIZING T5 AND T5HO LAMPS SHALL BE MOUNTED 4' FROM DIFFUSERS, MINIMUM.
- 14. RI6E FIXTURE SHALL INCLUDE A GENERATOR TRANSFER DEVICE WIRED AHEAD OF THE NORMAL BALLAST TO SWITCH TO EMERGENCY POWER UPON THE LOSS OF NORMAL POWER. REFER TO MANUFACTURER'S WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
- 15. PROVIDE "MAXIMUM WATTAGE LABEL" ON FIXTURE TO MATCH SPECIFIED LAMP. 16. MOUNT IN SIGN TO BACKLIGHT PERFORATED METAL SCREEN. REFER TO DRAWINGS E1.1 FOR FIXTURE LENGTHS AND A5.5 SIGN DETAILS.
- 17. FIXTURES WITH LINE VOLTAGE DRIVERS ARE ACCEPTABLE. COORDINATE MOUNTING OF TRANSFORMER WITH GENERAL TRADES CONTRACTOR.
- 18. FIXTURES SHALL BE WIRED FOR TWO CIRCUIT OPERATION ONE CIRCUIT FOR FLUORESCENT LIGHTING AND ONE CIRCUIT FOR DIRECTIONAL LIGHTING.

19. WIRE EMERGENCY BATTERY PACK AHEAD OF LOCAL CONTROL.

# LIGHTING FIXTURE SCHEDULE KEY: LAMP TYPE:

- CF = COMPACT FLUORESCENT DTT = DOUBLE TWIN TUBE, COMPACT FLUORESCENT "QUAD" HAL = HALOGEN
- INC = INCANDESCENT LED = LIGHT EMITTING DIODE
- MH = METAL HALIDE PS = PULSE START
- T5HO = HIGH OUTPUT LINEAR FLUORESCENT T8 = LINEAR FLUORESCENT TRT = TRIPLE TUBE, COMPACT FLUORESCENT
- BALLAST TYPE: CS = COLD STARTING

PS = PULSE START

**GENERAL SITE LIGHTING NOTE** 

- D = DIMMING BALLAST E = ELECTRONIC
- NA = NOT APPLICABLE
- HPF = HIGH POWER FACTOR ENERGY SAVING MAGNET P = PROGRAMMED START ELECTRONIC

Attachment M

#### ) SITE LIGHTING POLES - POLES 20 FEET AND HIGHER SHALL BE PROVIDED WITH FACTORY INSTALLED VIBRATION DAMPENERS. POLE MANUFACTURER SHALL PROVIDE POLES DESIGNED FOR A STEADY WIND VELOCITY OF 80 MPH WITH A 1.3 GUST FACTOR FOR THE NORTHEAST OHIO AREA, OR AS APPROPRIATE FOR THE AREA THIS PROJECT IS LOCATED IN. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ADEQUATE SLACK IN THE WIRING AT THE BASE OF THE POLE TO COMPENSATE FOR WIND MOVEMENT. ALL POLES SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC AND ANY OTHER LOCAL CODES, OR AS INDICATED ON THE POLE BASE DETAILS, WHICHEVER

ARE MORE STRINGENT. THE BASE DETAILS INDICATED ON THE DRAWINGS SHALL BE USED AS GUIDES ONLY AS THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND TEMPLATE DRAWINGS MUST BE UTILIZED DURING INSTALLATION. ONLY THE BOLT AND NUT KITS SUPPLIED BY THE POLE MANUFACTURER SHALL BE USED. THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE CIVIL BASE DIMENSIONS AND DEPTHS SHALL BE ADJUSTED AS RECOMMENDED BY THE STRUCTURAL ENGINEER.

# FLUORESCENT ELECTRONIC BALLAST SCHEDULE

## NOTES ADVANCE BALLAST SERIES PROGRAMMED START ICF-2S18 -XX-XX N/A ICF-2S26 -XX-XX N/A ICN-2S24 N/A ICN-2S54 IOPX-P32SC IOP-XS32-SC N/A

# HID BALLAST SCHEDULE

LAMP(S)		ADVANCE BALLAST SERIES					
TYPE	WATTS	ELECTRONIC	MAGNETIC				
MH PS	400	IZTEMH400 3PS-X5	71A 6092-001D				
МН	35/39 70 100	IMH-50A-XX IMH-100A-XX IMH-100A-XX	71A 5081 71A 5292-001D 71A 5390-001D	4			

# **SECOND SECURITY SECU**

- 1. PROVIDE PROGRAMMED START BALLASTS FOR OCCUPANCY SENSOR APPLICATIONS.
- 2. BALLASTS UTILIZING INTEGRAL DUAL LEVEL CONTROL (SUFFIX -2LS) SHALL NOT BE PROVIDED.
- 3. 13W TRT AND 18W BIAX LAMPS ARE ONLY AVAILABLE WITH MAGNETIC BALLASTS. PROVIDE HIGH POWER FACTOR TYPE.
- 4. REFER TO FIXTURE SCHEDULE FOR BALLAST TYPE REQUIRED (MAGNETIC OR ELECTRONIC).
- 5. BALLASTS LOCATED IN FIXTURES AT HIGH TEMPERATURE HIGH BAY AREAS SHALL BE 90° C RATING.

# **GENERAL LAMP AND BALLAST NOTES**

- REFER TO LIGHTING SPECIFICATION SECTION FOR ADDITIONAL BALLAST AND LAMP REQUIREMENTS. LAMP AND BALLAST MANUFACTURERS LISTED SHALL BE PROVIDED. PROVIDE SHOP DRAWINGS AS REQUIRED BY ELECTRICAL GENERAL PROVISIONS SPECIFICATION SECTION. ELECTRONIC BALLASTS SHALL OPERATE ABOVE A FREQUENCY OF 40KHZ. ELECTRONIC BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 90%, A MINIMUM BALLAST FACTOR OF 85%, A MAXIMUM CREST FACTOR OF 1.7, AND A MAXIMUM TOTAL HARMONIC DISTORTION OF 10%, WHEN USED AT
- NOMINAL VOLTAGE WITH PRIMARY LAMP.
- MANUFACTURER "GENERIC" BALLASTS ARE NOT ACCEPTABLE. BALLASTS SHALL BE AS MANUFACTURED BY ADVANCE, OR EQUAL BY OSRAM-SYLVANIA OR UNIVERSAL. PERFORMANCE CRITERIA SHALL BE EQUIVALENT.
- 4. ALL LIGHTING FIXTURES WITH DOUBLE ENDED FLUORESCENT LAMPS THAT HAVE A BALLAST(S) SHALL INCORPORATE A LUMINAIRE BALLAST DISCONNECT, PER THE NEC. IF THIS DISCONNECT IS NOT AVAILABLE BY THE FIXTURE MANUFACTURER, THE EC SHALL PROVIDE THE DISCONNECT, AND WIRE PER THE
- 5. LOW WATTAGE COMPACT FLUORESCENT LAMPS NOT INDICATED ARE ONLY AVAILABLE WITH MAGNETIC BALLASTS.
- 6. REFER TO SPECIFICATIONS FOR SPECIAL BALLASTS (DIMMABLE, EMERGENCY, ETC.).

# **ASHRAE 90.1-2007** LIGHTING COMPLIANCE DOCUMENTATION

INTERIOR AUTOMATIC LIGHTING CONTROL METHOD: PROGRAMMABLE RELAY PANELS AND OCCUPANCY SENSORS

INTERIOR LIGHTING POWER CALCULATION

GROSS AREA OF BUILDING: 27,500 SQUARE FEET
INTERIOR LIGHTING POWER: 28,355 W CALCULATED USING BUILDING AREA METHOD MAXIMUM INTERIOR LIGHTING POWER ALLOWANCE: 35,750 W

EXTERIOR AUTOMATIC LIGHTING CONTROL METHOD: PROGRAMMABLE RELAY PANELS WITH PHOTO SENSORS

\_\_\_\_\_W + \_\_\_\_\_W ≥ \_\_\_\_\_W

FOR LIBRARY BUILDING TYPE

EXTERIOR LIGHTING POWER CALCULATION TRADABLE + UNRESTRICTIVE ALLOWANCES ≥ TRADABLE CONNECTED POWER 16,168 W + <u>808</u> W ≥ <u>9,484</u> W NON-TRADABLE + UNRESTRICTIVE ALLOWANCES ≥ TRADABLE CONNECTED POWER \_\_\_\_\_W + \_\_\_\_\_W ≥ \_\_\_\_\_W

TOTAL SUM OF UNRESTRICTIVE ALLOWANCE'S ABOVE IS LESS THAN MAXIMUM UNRESTRICTIVE ALLOWANCE (5% \* (TOTAL TRADABLE + TOTAL NON-TRADABLE))

ALL EXTERIOR LUMINAIRES THAT OPERATE AT GREATER THAN 100W MEET THE MINIMUM LAMP EFFICACY RATING OF 60 LUMENS/WATT OR IS EXEMPT.

ENGINEERING

F 216.391.0108 A NEW BUILDING FOR CUYAHOGA COUNTY PUBLIC LIBRARY WARRENSVILLE HEIGHTS BRANCH

karpınskı

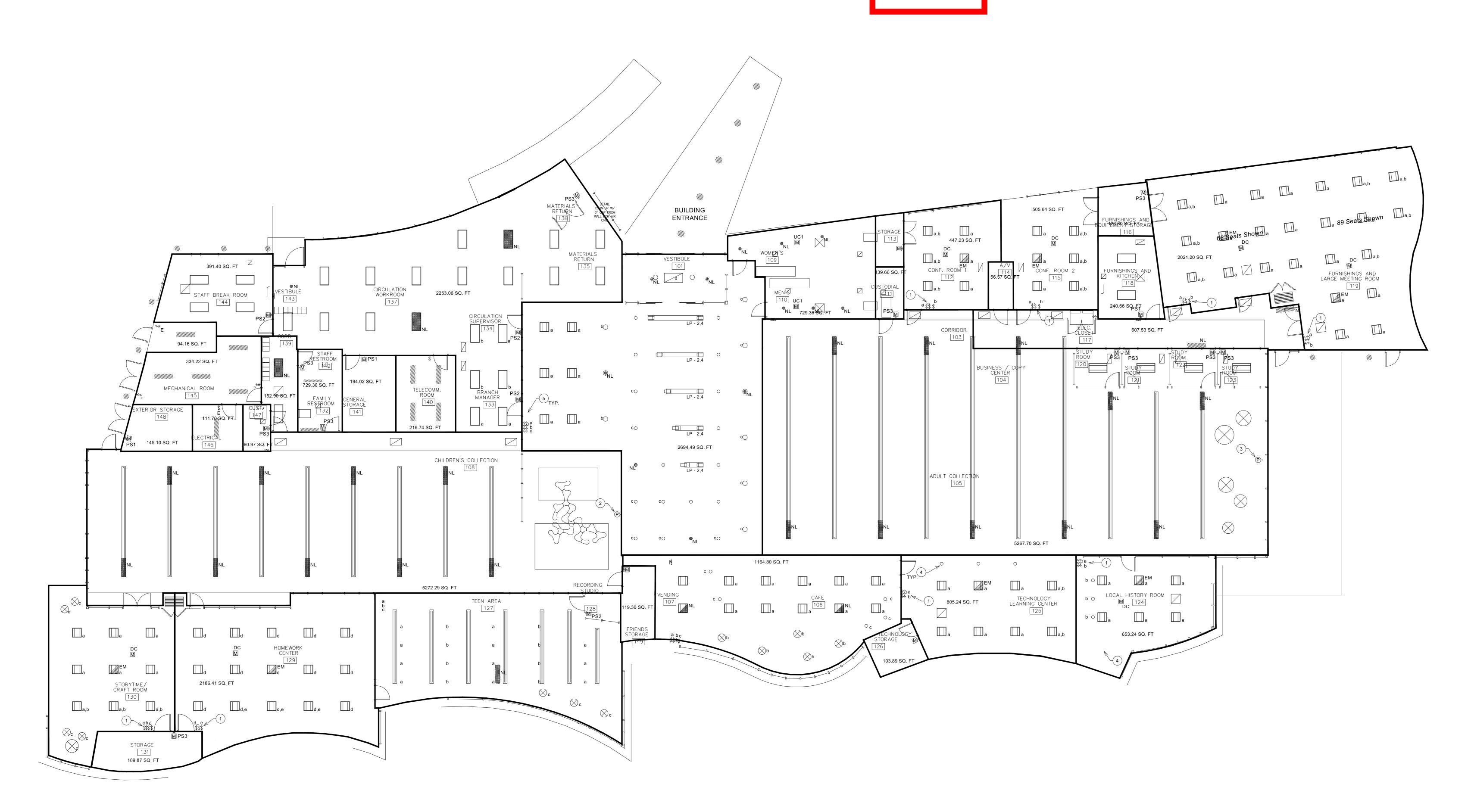
P 216.391.3700

3135 EUCLID AVENUE

CLEVELAND, OH 44115

NORTHFIELD ROAD WARRENSVILLE HEIGHTS, OHIO 44128 PROJECT NO: 10003 FIXTURE FINAL PLAN APPROVAL SCHEDULE

Holzheimer Bolek + Meehan I Architects 7227 Chagrin Road Chagrin Falls, 🛭 44023 440.247.9800 ☐ Copyright by Holzheimer Bolek + Meehan Architects 2010



# GENERAL NOTES:

- ALL NIGHT LIGHTS AND EXIT SIGNS ON THE NORTH SIDE OF THE BUILDING (COL. LINE 6) SHALL BE WIRED TO PANEL EM CIRCUIT 6 AND THE SOUTH SIDE TO CIRCUIT 8.
- 2. IN SPACES WHERE OCCUPANCY SENSORS OR LOW VOLTAGE PUSHBUTTON STATION AND WALL MOUNTED SWITCHES ARE INDICATED THE OCCUPANCY SENSOR OR LOW VOLTAGE PUSHBUTTON STATION SHALL BE WIRED AHEAD
- OF ALL OTHER CONTROLS.

  3. ALL OPEN AREAS SHALL BE WIRED THROUGH RELAYS. REFER TO RELAY SCHEDULE ON SHEET EX.X.

# × PLAN NOTES:

- 1. WHERE (3) SWITCHES ARE INDICATED, THE SINGLE "b" SWITCH SHALL OPERATE (2) LAMPS IN THE FIXTURES NEXT TO THE SCREEN. THE (2) "a" SWITCHES SHALL OPERATE ALL SINGLE (CENTER LAMP) AND REMAINING OUTBOARD LAMPS. SWITCHES LABELED "d" AND "e" SHALL HAVE SIMILAR OPERATION.
- 2. MOUNT PHOTOSENSOR AT 17'-0" AFF. SENSOR SHALL BE PROGRAMMED TO PROVIDE 40FC ON WORK SURFACE. WHEN NO DAYLIGHT IS AVAILABLE ALL FIXTURES SHALL BE ENERGIZED, AS DAYLIGHT INCREASES CIRCUIT 25 SHALL BE DISABLED AND WHEN MAXIMUM DAYLIGHT IS AVAILABLE CIRCUITS 27 AND 29 SHALL BE DISABLED. AS DAYLIGHT DIMINISHES OPERATION SHALL REVERSE. CONTRACTOR SHALL PROVIDE OWNER DIRECTED FIELD ADJUSTMENTS 3 MONTHS AFTER OWNER HAS OCCUPIED SPACE.
- 3. MOUNT PHOTOSENSOR AT 17'-0" AFF. SENSOR SHALL BE PROGRAMMED TO PROVIDE 40FC ON WORK SURFACE. WHEN NO DAYLIGHT IS AVAILABLE ALL FIXTURES SHALL BE ENERGIZED, AS DAYLIGHT INCREASES CIRCUITS 31, 33, AND 35 SHALL BE DISABLED AND WHEN MAXIMUM DAYLIGHT IS AVAILABLE CIRCUITS 37 AND 39 SHALL BE DISABLED. AS DAYLIGHT DIMINISHES OPERATION SHALL REVERSE. CONTRACTOR SHALL PROVIDE OWNER DIRECTED FIELD ADJUSTMENTS 3 MONTHS AFTER OWNER HAS OCCUPIED
- 4. CIRCUIT FIXTURE TO OPERATE WITH (2) LAMPS OF RI6 FIXTURE.
- 5. REFER TO LOW VOLTAGE SWITCH DETAILS ON SHEET E4.3.



# 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 Cuyahoga County Public Library, Taxpayer ID No. 34-6000819 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:

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

- a. By committing the Customer Energy Project(s) to the Company, Customer acknowledges and agrees that the Company shall control the use of the kWh and/or kW reductions resulting from said projects for purposes of complying with the Statute. By committing the Customer Energy Project(s), Customer further acknowledges and agrees that the Company shall take ownership of the energy efficiency capacity rights associated with said Project(s) and shall, at its sole discretion, aggregate said capacity into the PJM market through an auction. Any proceeds from any such bids accepted by PJM will be used to offset the costs charged to the Customer and other of the Company's customers for compliance with state mandated energy efficiency and/or peak demand requirements
- b. The Company acknowledges that some of Customer's Energy Projects contemplated in this paragraph may have been performed under certain other federal and/or state programs in which certain parameters are required to be maintained in order to retain preferential financing or other government benefits (individually and collectively, as appropriate, "Benefits"). In the event that the use of any such project by the Company in any way affects such Benefits, and upon written request from the Customer, Company will release said Customer's Energy Project(s) to the extent necessary for Customer to meet the prerequisites for such Benefits. Customer acknowledges that such release (i) may affect Customer's cash rebate discussed in Article 3 below; and (ii) will not affect any of Customer's other requirements or obligations.
- c. Any future Customer Energy Project(s) committed by Customer shall be subject to a separate application and, upon approval by the Commission, said projects shall become part of this Agreement.
- d. Customer will provide Company or Company's agent(s) with reasonable assistance in the preparation of the Commission's standard joint application for approval of this Agreement ("Joint Application") that will be filed with the Commission, with such Joint Application being consistent with then current Commission requirements.
- e. Upon written request and reasonable advance notice, Customer will grant employees or authorized agents of either the Company or the Commission reasonable, pre-arranged access to the Customer Energy Project(s) for purposes of measuring and verifying energy savings and/or peak demand reductions resulting from the Customer Energy Project(s). It is expressly agreed that consultants of either the Company or the Commission are their respective authorized agents.
- 2. Joint Application to the Commission. The Parties will submit the Joint Application using the Commission's standard "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" ("Joint Application") in which they will seek the Commission's approval of (i) this Agreement: (ii) the commitment of the Customer Energy Project(s) for inclusion in the Company Plan; and (iii) the Customer's Cash Rebate.

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

- 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:
    - 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:

Cuyahoga County Public Libraries 2111 Snow Road Parma, Oll 44134 Attn:Scott Morgan Telephone:216-749-9503

Fax:216-749-9517

Email:smorgan@cuyahogalibrary.org

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

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

/(Co	nd Electric Illuminating Company_	
Ву:	li Carga	
Title V.P. 0	Of Energy Efficiency	
Date:	1-21-13	
Cuyahogy	county Public Library stomer)  pendions Director Fiscal	
Title: O	perations Director Fiscal	<i>વિનિદ્ધ</i>
Date:	1/15/13	

Alfidavit of Cuyahoga County Public Library - Exhibit \_A \_

COUNTY OF Cuyahoga )

STATE OF OHIO

1, Scott Morgan, being first duly sworn in accordance with law, deposes and states as follows:

- 1. I am the Operations Director of Cuyahoga County Public Library ("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.

Sworn to before me and subscribed in my presence this 15 day of Jone, 26 2013

That that M. Slexy

MARTHA M. SHEEDY, Notary Public In and for the State of Ohlo

My Commission Expires Dec. 2, 2015

This foregoing document was electronically filed with the Public Utilities

**Commission of Ohio Docketing Information System on** 

6/6/2013 4:36:23 PM

in

Case No(s). 13-0152-EL-EEC

Summary: Application - Part 10 of 10 - Application to Commit Energy Efficiency/Peak Demand Reduction Programs of The Cleveland Electric Illuminating Company and Cuyahoga County Public Library electronically filed by Ms. Jennifer M. Sybyl on behalf of The Cleveland Electric Illuminating Company and Cuyahoga County Public Library