ILLINOIS MUNICIPAL ELECTRIC AGENCY

ELECTRIC EFFICIENCY PROGRAM

INCENTIVES FOR IMEA MEMBER MUNICIPALITIES & PURCHASERS & THEIR CUSTOMERS

GUIDELINES AND APPLICATION

Program Year 2 Start Date: May 1, 2010

ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY
BUREAU OF ENERGY AND RECYCLING
620 EAST ADAMS STREET
SPRINGFIELD, ILLINOIS 62701

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IMEA
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dceo
ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY

SECTION 1 GENERAL INFORMATION

Overview- This Energy Efficiency and Energy Conservation program is available to the membership (and its member's retail customers) of the Illinois Municipal Electric Agency (IMEA). It is administered by the Illinois Department of Commerce and Economic Opportunity (DCEO) and funded through IMEA. The program runs from May 1, 2010 through April 30, 2011. Funds are allocated to IMEA members based on a prorated share of their electric purchases from the IMEA. Members can apply for funds no later than March 1, 2010 with projects being completed by June 1, 2011. Projects will be reviewed and overseen by the Illinois Department of Commerce and Economic Opportunity. Projects receiving less than $50,000 will be handled as rebates, while those receiving more than $50,000 will be handled as grants.

SECTION 2 ELIGIBILITY CRITERIA

Eligible projects must be located in Illinois and receive wholesale electric service from the IMEA. Projects must produce electricity savings through efficiency improvements in buildings, equipment, or processes. Ineligible projects include repairs of existing equipment, fuel switching, new electric generation or those projects solely related to demand response or demand control. Project paybacks must occur before the projected end of the equipment life.

Incentive Awards. The total incentive cannot exceed 100 percent of the incremental measure cost and 75 percent of the total project cost. The incentive amounts for each program are listed in the attached worksheets. For customized incentives funding will be based on $.08 cents per kWh for one year's worth of estimated electric savings. New breakthrough equipment and devices for exterior lighting will be based at $.20 per kWh. Maximum funding cannot exceed monies available under the allotment to the member by the IMEA.
DCEO and IMEA reserve the right to review applications, withhold funding or negotiate incentive levels. Bid prices must be in line with current market conditions for similar projects/conditions.

Payment Schedule/Reporting and Project Monitoring. The grant agreement will specify the conditions of payment and the payment schedule. Grantees will be required to submit progress and expenditure reports in accordance with the requirements of the grant agreement. Grantee will allow DCEO, Member and IMEA officials access to their site to verify project issues. Energy savings numbers will be shared with DCEO and IMEA (for public release unless specifically noted as confidential or proprietary).

Ownership/Use of Equipment. Equipment must remain in place for the lesser of five years or "useful life".

State and IMEA Not Liable. Grantee shall hold the State of Illinois, the Member and the IMEA harmless from any and all claims, demands, and actions based upon or arising out of any services performed by Grantee or by their agents or employees under a grant agreement. The Department, by entering into a grant agreement, does not pledge or promise to pledge the assets of the state nor does it promise to pay any compensation to the grant Grantee from any moneys of the treasury or the state except such moneys as shall be appropriated and paid to the Grantee by the IMEA.
Indemnity. The Grantee agrees to assume all risks of loss and to indemnify and hold the Department, the Member and the IMEA, their officers, agents and employees, harmless from

and against any and all liabilities, demands, claims, damages, suits, costs, fees, and expenses, incidents thereto, for injuries or death to persons and for loss of, damage to, or destruction of property because of the Grantee's negligence, intentional acts or omissions. In the event of any demand or claim, the Department may elect to defend any such demand or claim against the Department and will be entitled to be paid by the Grantee for all damages.

Term and Application. Applications under this program will be accepted on an ongoing basis, beginning on May 1, 2010, subject to funding availability. Applications shall be printed or typed on the current approved forms included in this document or on the Excel spreadsheet available at www.imea.org. Applications must be complete to receive consideration.

Approved projects will have reserved funds until May 31, 2011. Final application, reflecting the measures and equipment actually installed, must be submitted within 45 days of project completion. Project documentation, such as copies of dated invoices for the purchase and installation of the measures and/or product specification sheets, is required.

Applications must initially be screened by the Member community. The community will then forward the applications to the IMEA for further review. The IMEA will then forward the application to DCEO for processing and implementation. The IMEA member will have final say as to the priority of project funding in its community.

Incentives. The applicant must submit final completion certification to the Department within 45 days of the project completion. This certification must include the project completion and system operation dates. Applicants are also required to provide any information that may be required by the Independent Evaluator to assure Department compliance. Applications that satisfy the general review of program and provide certification of completion will be processed subject to Department approval. For incentives over $50,000, the Department will incorporate a statement of work, budget, and grant requirements into a Grant Agreement between the Department and the Grantee. The Grant Agreement will require the Grantee’s signature before the final Department approval.

APPLICATION AND WORKSHEETS FOR STANDARD AND CUSTOM INCENTIVE PROGRAMS

Pre-Approval Application must include:

- ☐ Copy of electric bill (final pages that list taxes and fees applied)
- ☐ Completed Pre-Approval Application
- ☐ Signed Certification
- ☐ Manufacturer spec sheets
- ☐ Applicable Lighting*, HVAC, Motors and/or Refrigeration Standard Incentive Worksheet(s) or Custom Incentive Application
- ☐ For lighting projects, submit a Light Survey*

Final Application must include:

- ☐ Copy of electric bill (final pages that list taxes and fees applied), unless submitted with Pre-Approval
- ☐ Completed Final Application
- ☐ Signed Certification
- ☐ Manufacturer spec sheets, unless submitted with Pre-Approval or if equipment updated
- ☐ Updated Lighting, HVAC, Motors and/or Refrigeration Standard Incentive Worksheet(s) or Custom Incentive Application
- ☐ Invoices and receipts
- ☐ For lighting projects, submit a Final Light Survey*

*Light Survey for **new fixtures** to include: room/area, quantity of existing fixtures, description and wattage of existing fixtures, quantity of new fixtures, description and wattage of new fixtures.

*Light Survey for all lighting **retrofits** to include: room/area, quantity, description of existing fixtures, number of lamps in existing fixtures and number of lamps in retrofit fixtures. Lamp total shall match number of lamps indicated in the Lighting Incentive Spreadsheet. Retrofit lamps and ballasts shall be listed at: http://www.cee1.org/com/com-lt/com-lt-main.php3

*Light Survey for Occupancy Sensors to include: room/area, wattage of fixtures controlled.

Check one: ☐ **Pre-approval** ☐ **Final Application**

Required: ☐ **Attach Electric Bill**

Name of Applicant:*	
Proposed Start Date:	**Planned Completion Date:**
Address where measures installed, if different from authorized signature address below: (Attach list if multiple locations)	
Address: **City:**	**Zip:** ___ ___ ___ ___ ___
Project Manager:	
Telephone #: **Fax #:**	**Email Address:**
IMEAEE Incentive Requested** **$ _____**	**Contractor Information (if known)** **Contact Name:**
Other Public Incentive Funds **$_____**	**Company:**
Specify Other Public Funds * _____**	**Phone:**
Total Project Cost** **$ _____**	**Email Address:**

Complete this form along with the appropriate forms in Appendices B and C.

*Applicant means a customer receiving wholesale electric service from the IMEA
** Incentive cannot exceed 100 percent of the incremental measure cost and 75 percent of total project cost.
***Such as State Energy Program (SEP), Energy Efficiency and Conservation Block Grant (EECBG), Illinois Clean Energy Community Foundation (ICECF).
****Total Project Cost = Equipment + Labor+ Engineering & Design

APPLICANT CERTIFICATIONS FOR STANDARD AND CUSTOM INCENTIVE PROGRAMS

Applicant hereby certifies that:

- The project receives wholesale electric service from IMEA or electric delivery service from an IMEA member municipality or power purchaser. **A copy of the electric utility bill or other documentation must be submitted with this Application**.
- All authorizations required to perform the project, described in its application, have either been obtained or will be obtained no later than 90 days following the grant beginning date set forth in the Notice of Grant Award issued by the Department.
- It has not been barred from contracting with a unit of state or local government as a result of a violation of Section 33E-3 or 33E-4 of the Criminal Code of 1961 (720 ILCS 5/33 E-3 and 5/33 E-4).
- It is not in violation of the Educational Loan Default Act (5 ILCS 385/3).
- I understand that the Illinois Prevailing Wage Act (820 ILCS 130/0.01) may apply and that Grantees are responsible for determining if their projects will trigger compliance.
- As of the submittal date, the information provided in its application is accurate, and the individuals signing below are authorized to submit this application.

Authorized Official (signature*) Telephone

Typed/Printed Name Fax

Title Date

__ __ -- __ __ __ __ __ __ __

FEIN Number (9 digits, Federal Employment Id Number, does not start with "E") Applicant**

Authorized Signature Address

Authorized Signature City, 9 Digit Zip (find 9-Digit Zip at http://zip4.usps.com/zip4/welcome.jsp)

Authorized Signature E-mail Address

*Electronic signatures not acceptable. Please supply Certifications (this page) with original signature via mail, fax or electronically (scanned document)

Appendix B: Lighting Incentive Worksheet - DCEO Public Sector Electric Efficiency Program – Year 2

Equipment Type	Incentive	Unit	# of Units	Incentive Subtotal
Compact Fluorescent Lamps (Screw-in)				
15 W or Less	$1.50	Lamp		
16 W - 26W	$1.50	Lamp		
27 W or Greater	$2.00	Lamp		
Hardwired Compact Fluorescent Fixtures				
29 W or Less	$27.50	Fixture		
30 W or Greater	$55.00	Fixture		
Delamp, Permanent Lamp Removal – *(Pre-approval application is*				
Delamp, 4-foot Lamp, Ballast, Holders	$6.50	Lamp		
Delamp, 8-foot Lamp, Ballast, Holders	$8.50	Lamp		
Delamp, 4-foot Lamp, add Reflector	$13.00	Lamp		
Delamp, 8-foot Lamp, add Reflector	$17.50	Lamp		
4-foot T8 Lamp and Ballast	$7.50	Lamp		
4-foot T8 Reduced Watt Lamp Only	$1.00	Lamp		
Reduced Wattage 8-foot T8				
8-foot Lamp and Ballast	$11.00	Lamp		
8-foot Lamp Only	$1.00	Lamp		
Specialty T8 Lamps and Ballasts				
4-foot U Tube and Ballast	$3.00	Lamp		
2-foot Lamp and Ballast	$3.00	Lamp		
3-foot Lamp and Ballast	$5.00	Lamp		
LED Lighting				
LED T-1 Electroluminescent Exit Signs	$22.00	Signs		
LED Lamp/Fixture	$10.00	Lamp		
LED Open Sign	$40.00	Fixture		
LED Channel Sign ≤ 2 feet Interior	$10.00	Letter		
LED Channel Sign > 2 feet Interior	$25.00	Letter		
LED Channel Sign ≤ 2 feet Outdoor	$6.00	Letter		
LED Channel Sign > 2 feet Outdoor	$20.00	Letter		
Metal Halide				
Integrated Ballast Ceramic Metal Halide Lamps	$5.00	Fixture		
Pulse Start or Ceramic, 100W or Less	$22.00	Fixture		
Pulse Start or Ceramic, 101W – 200W	$38.00	Fixture		
Pulse Start or Ceramic, 102W – 350W	$44.00	Fixture		
Induction Lighting				
Interior Induction Fixture	$30.00	Fixture		
Cold Cathode				
Cold Cathode	$3.25	Lamp		
Controls				
Occupancy Sensors	$0.11	Connected Watts Controlled		
Plug Load Occupancy Sensor	$20.00	Sensor		
Bi-Level Stairwell/Hall/Garage Fixtures w/ integrated sensors	$25.00	Fixture		
T8/T5 New Fluorescent Fixtures with Electronic Ballast *(Pre-approval application is required)*	**Incentive Per Watt Reduced**		**Connected Watts Reduced**	
Total Existing Fixture Watts less total New Fixture Watts	$0.44	Connected Watt Reduction		
Total Existing Fixture Watts less total New Fixture Watts	$0.44			
Total Existing Fixture Watts less total New Fixture Watts	$0.44			
Total Existing Fixture Watts less total New Fixture Watts	$0.44			

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LED traffic signal modules. LED Signal Head consists of 1 red, 1 green and 1 yellow ball module. Arrow and Pedestrian LED Modules consist of 1 module (any color). Pedestrian Combo consists of walk/hand/countdown.				
8" Traffic LED Signal Head	$83.00	Module		
12" Traffic LED Signal Head	$100.00	Module		
8" Arrow LED Module	$22.00	Module		
12" Arrow LED Module	$38.00	Module		
8"-9" Pedestrian LED Module	$33.00	Module		
12" Pedestrian LED Module	$38.00	Module		
16"x18" Pedestrian Combo	$38.00	Module		
Total				

Lighting Specifications

All lighting projects are expected to comply with the Illuminating Engineering Society of North America (IESNA) recommended lighting levels or the local code.

Compact Fluorescent Lamps (Screw-in)
This incentive applies to screw-in compact fluorescent lamps (CFLs) and applies only if an incandescent or high intensity discharge (HID) lamp is being replaced. All screw-in CFLs must be ENERGY STAR®-rated. The lamp/ballast combination must have an efficacy of ≥40 lumens per Watt (LPW). For screw-in CFLs, electronic ballasts are required for lamps ≥18 Watts.

Hardwired Compact Fluorescent Fixtures
For hardwired CFL fixtures, only complete new fixtures or modular hardwired retrofits with hardwired electronic ballasts qualify. The CFL ballast must be programmed start or programmed rapid start with a power factor (PF) ≥90 and a total harmonic distortion (THD) ≤20%.

De-lamp, Permanent Lamp Removal
Incentives are paid for de-lamping, permanent removal, of existing fluorescent lamps. De-lamp is the net reduction in the number of lamps in a fixture. Applicants are responsible for determining whether or not to use reflectors in combination with lamp removal in order to maintain adequate lighting levels. Lighting levels are expected to meet the Illuminating Engineering Society of North America (IESNA) recommended light levels. Unused lamps, lamp holders, and ballasts must be permanently removed from the fixture and disposed of in accordance with local regulations. This measure is applicable when retrofitting from T12 lamps to T8 lamps or reconfiguring a T8 fixture to reduce the number of lamps. Removing lamps from a T12 fixture that is not being retrofitted with T8 lamps are not eligible for this incentive. A **Pre-approval Application is required** for lamp removal projects in order for DCEO to conduct a pre-retrofit inspection.

High Performance 4-foot T8 Lamps and Ballast
This measure consists of replacing existing T12 lamps and magnetic ballasts with high performance T8 lamps and electronic ballasts. This measure is based on the Consortium for Energy Efficiency (CEE) high performance T8 specification (www.cee1.org) and is listed in Table l. A list of qualified lamps and ballasts can be found at: http://www.cee1.org/com/com-lt/com-lt-main.php3. Both the lamp and ballast must meet the specification in order to qualify for an incentive. Incentives for this measure are calculated per lamp installed. A manufacturer's specification sheet must accompany the application.

Table 1. High Performance 4-foot T-8 Lamps and Ballasts

Performance Characteristics for Systems				
Mean System Efficacy	≥ 90 Mean Lumens per Watt (MLPW) for Instant Start Ballasts			
	≥ 88 MLPW for Programmed Rapid Start Ballasts			
Performance Characteristics for Lamps				
Color Rendering Index (CRI)	≥ 80			
Minimum Initial Lamp Lumens	≥ 3100 Lumens*			
Lamp Life	≥ 24,000 hours			
Lumen Maintenance or Minimum Mean Lumens	≥ 90% or ≥ 2,900 Mean Lumens			
Performance Characteristics for Ballasts				
Ballast Efficacy Factor (BEF) BEF = (BF x 100) / Ballast Input Watts	**Instant-Start Ballast (BEF)**			
	Lamps	Low BF ≤ 0.85	Norm 0.85 < BF ≤ 1.0	High BF ≥ 1.01
	1	> 3.08	> 3.11	NA
	2	> 1.60	> 1.58	>1.55
	3	≥ 1.04	≥ 1.05	≥ 1.04
	4	≥ 0.79	≥ 0.80	≥ 0.77
	Programmed Rapid Start Ballast (BEF)			
	1	≥ 2.84	≥ 2.84	NA
	2	≥ 1.48	≥ 1.47	≥ 1.51
	3	≥ 0.97	≥ 1.00	≥ 1.00
	4	≥ 0.76	≥ 0.75	≥ 0.75
Ballast Frequency	20 to 33 kHz or ≥ 40 kHz			
Power Factor	≥ 0.90			
Total Harmonic Distortion	≤ 20%			

*For lamp with color temperatures ≥ 4500K, Minimum Initial Lamp Lumens must be ≥ 2950 Lumens

Table 2. Reduced Wattage 4-Foot Lamps and Ballasts

Performance Characteristics for Lamps[1]		
Mean System Efficacy	≥ 90 MLPW	
Color Rendering Index (CRI)	≥ 80	
Minimum Initial Lamp Lumens	≥ 2585 Lumens for 28 W ≥ 2400 Lumens for 25 W	
Lamp Life[2]	> 18,000 hrs at three hours per start	
Lumen Maintenance or Minimum Mean Lumens[3]	≥ 94% - or - ≥ 2430 Lumens for 28 W ≥ 2256 Lumens for 25 W	
Performance Characteristics for 28 and 25 W Ballasts		
Ballast Frequency	20 to 33 kHz or ≥ 40 kHz	
Power Factor	≥ 0.90	
Total Harmonic Distortion	≤ 20%	
Performance Characteristics for Ballasts[4], 28 W systems		
Ballast Efficacy Factor (BEF) BEF = [BF x 100] / Ballast Input Watts **Based on:** (1)Type of Ballast (2)No. of lamps driven by Ballast (3)Ballast Factor	**Instant-Start Ballast (BEF)**	
	Lamps	All Ballast Factor Ranges
	1	≥ 3.52
	2	≥ 1.76
	3	≥ 1.16
	4	≥ 0.88
Performance Characteristics for Ballasts[4], 25W systems		
Ballast Efficacy Factor (BEF) BEF = [BF x 100] / Ballast Input Watts **Based on:** (1)Type of Ballast (2)No. of lamps driven by Ballast (3)Ballast Factor	**Instant-Start Ballast (BEF)**	
	Lamps	All Ballast Factor Ranges
	1	≥ 3.95
	2	≥1.98
	3	≥ 1.32
	4	≥ 0.99

[1] Lamps ≥ 4500 K and/or 24000 hours have a system efficiency specified > 88 MLPW. Minimum initial and mean lumen levels are specified as follows: for 28 W lamps, limits are 2600/2340. For 25 W lamps, limits are 2300/2185.

[2] Life rating is based on an instant Start Ballast tested in accordance with ANSI protocols. When used for Program Start Ballast, life may be increased depending upon the operating hours per start.

[3] Mean lumens measured at 7,200 hours.

[4] Multi-Voltage Ballasts must meet or exceed the listed Ballast Efficacy Factor when operated on at least one of the intended operating voltages.

Reduced Wattage 4-foot T8 Lamps and Ballasts
Incentives are available for replacing T12 systems with reduced wattage lamp and electronic ballast systems. The lamps and ballasts must meet the Consortium for Energy Efficiency (CEE) specification (www.cee1.org). Qualified lamps and ballast products can be found at http://www.cee1.org/com/com-lt/com-lt-main.php3. Both the lamp and ballast must qualify per Table 2. Incentives are calculated per lamp installed. A manufacturer's specification sheet must accompany the application.

Reduced Wattage 4-foot T8 Lamp Only
Incentives are available when replacing 32 Watt T8 lamps with reduced wattage T8 lamps when an electronic ballast is already present. The lamps must be reduced wattage in accordance with the Consortium for Energy Efficiency (CEE) specification (www.cee1.org). Qualified products can be found at http://www.cee1.org/com/com-lt/com-lt-main.php3. The nominal wattage of new lamps must be 28W (≥2585 Lumens) or 25W (≥2400 Lumens) to qualify. A manufacturer's specification sheet must accompany the application.

Reduced Wattage 8-foot T8 Lamps and Ballast
This measure is for the replacement of existing T12 lamps and magnetic ballasts with reduced wattage 8-foot T8 lamps and electronic ballasts. Lamps must have a minimum mean lumen per watt (MLPW) of 90 and must have a nominal wattage of less than 57W. A manufacturer's specification sheet must accompany the application.

Reduced Wattage 8-foot T8 Lamps Only
Incentives are available for replacing 59 Watt T8 lamps with reduced wattage 8-foot T8 lamps. Lamps must have a minimum mean lumen per watt (MLPW) of 90 and must have a nominal wattage of less than 57W. The incentive level is calculated on a per lamp basis and ballast replacement is not necessary. A manufacturer's specification sheet must accompany the application.

U-tube T8 Lamps and CEE Qualified Ballasts
This measure consists of replacing existing U-tube T12 lamps and magnetic ballasts with U-tube T8 lamps and CEE qualified electronic ballasts. The lamp must have a color rendering index (CRI) $\geq$ 80. Qualified ballasts can be found at: http://www.ceel.org/com/com-lt/com-lt-main.php3. A manufacturer's specification sheet must accompany the application.

2 and 3 foot T8 Lamps and Ballasts
This measure consists of replacing existing T12 lamps and magnetic ballasts with T8 lamps and electronic ballasts. The lamp must have a color rendering index (CRI) $\geq$ 80 and the ballast must have a total harmonic distortion (THD) $\leq$ 32% at full light output, and the power factor (PF) must be $\geq$ 0.90. A manufacturer's specification sheet must accompany the application.

Exit Signs
High-efficiency exit signs must replace or retrofit an existing incandescent exit sign. Electroluminescent, photoluminescent, T1 and light-emitting diode (LED) exit signs are eligible under this category. Non-electrified and remote exit signs are not eligible. All new exit signs or retrofit exit signs must be UL 924 listed, have a minimum lifetime of 10 years, and have an input wattage ≤5 Watts per face.

LED Lighting
LED recessed downlight luminaries up to 18 Watts or screw-in base lamps qualify. The LED recessed downlight must have a minimum efficacy of 35 lumens per Watt. The product must meet ENERGY STAR® version 1.1 criteria. LED lamps with ANSI sockets will qualify based on the July, 2009 ENERGY STAR® specification. See www.energystar.gov for more information. LED lamps and downlight luminaries over 18 Watts may qualify for custom incentives.

LED Channel Signs
LED channel sign incentives are available for retrofitting or replacing incandescent, HID, argon-mercury or neon-lighted channel letter signs. Replacement signs cannot use more than 20% of the actual input power of the sign that is replaced. Maximum letter height determines incentive category.

LED "Open" Sign
LED "open" signs must replace an existing neon open sign. Replacement signs cannot use more that 20% of the actual input power of the sign that is replaced.

Integrated Ballast Ceramic Metal Halide Lamps
Qualifying lamps are 25 watt or less integrated ballast ceramic metal halide PAR lamps with a rated life of 10,500 hours or greater.

Metal Halide Fixtures - Pulse Start or Ceramic
This incentive applies to retrofits of high intensity discharge fixtures with either pulse start metal halide or ceramic metal halide fixtures. Total replacement wattage must be lower than existing wattage to insure energy savings. Retrofit kits may be used on existing mercury vapor, standard metal halide or high pressure sodium fixtures only.

Interior Induction Fixtures
Only new, hard-wired induction fixtures qualify. New fixtures must replace, one for one, existing incandescent, mercury vapor, T12/High Output fluorescent, T12/Very High Output fluorescent, standard metal halide, or high pressure sodium fixtures in interior installations. The new fixtures must not exceed the maximum Wattage listed in the table below for each range of lamp Wattage being replaced.

Basecase Wattage	Replacement Fixture Wattage (Maximum)
≥ 400 Watt	360W
176 – 399 Watt	180W
101 – 175 Watt	160W
≤ 100 Watt	95W

Cathode
All Cold Cathode Fluorescent lamps (CCFLs) must replace incandescent lamps of greater than or equal to 10 Watts and not greater than 40 Watts. Cold cathode lamps may be medium (Edison) or candelabra base. Product must be rated for at least 18,000 average life hours.

Occupancy Sensors
Passive infrared, ultrasonic detectors and fixture-integrated sensors or sensors with a combination thereof are eligible. All sensors must be hard-wired and control interior lighting fixtures. The incentive is per Watt controlled. To assist in rebate processing, please provide the inventory of the controlled fixtures with the Final Application.

Plug Load Occupancy Sensor
This rebate applies to passive infrared and/or ultrasonic detectors only. Plug-load sensors must control electricity using equipment in office or cubicles, including lighting, shared copiers, and/or printers.

Bi-Level Stairwell/Hall/Garage Fixtures with Integrated Sensors
Existing fixtures must be a two-lamp T12 fixture. Eligible fixtures are hardwired two-lamp T8 fluorescent fixtures with electronic ballasts and manufacturer integrated occupancy sensors used in areas where code requires lighting 24 hours a day (such as stairwells, hall, and garages). Fixtures with manual override capabilities are not eligible. During occupied periods, the fixture should operate at full light output. During unoccupied periods, the fixture should operate at lower light output and wattage. This measure is not eligible for the occupancy sensor or T12 to T8 incentive.

New T8/T5 Fluorescent Fixtures with Electronic Ballast (Pre-Approval Required)[1]
This measure consists of replacing one or more existing fixtures with new fixtures containing T8 or T5 lamps and electronic ballasts. The T8 or T5 lamps must have a color rendering index (CRI) ≥ 80. The electronic ballast must be high frequency (≥20 kHz), UL listed, and warranted against defects for 5 years. Ballasts must have a power factor (PF) ≥ 0.90. Ballasts for 4-foot lamps must have total harmonic distortion (THD) ≤20% at full light output. For 2- and 3-foot lamps, ballasts must have THD ≤32% at full light output. High output T5/T8 lamps also qualify for this rebate.

Incentives for this measure are calculated based on the reduction in connected watts. **A Pre-approval Application is required** for this measure in order for DCEO to conduct a pre-retrofit inspection. Specifications of the new fixtures must accompany the final application. Incentives are only available for new fixtures. Retrofit Kits are not considered new fixtures.

Note: PCB ballasts and lamps are hazardous materials and should be disposed of properly.

LED Traffic and Pedestrian Signals
LED traffic and pedestrian signals must replace or retrofit an existing incandescent traffic signal. Each lamp must have a maximum LED module wattage of 25. Incentives are not available for spare lights. Lights must be hardwired and single lamp replacements are not eligible, with the exception of pedestrian hand signals. The traffic signal LED modules shall fully comply with the Institute of Transportation Engineers (ITE) latest adopted specifications.

[1] Projects with metal halide, T8, or T5 measures that have documented operating hours exceeding 6,000 per year (such as 24-hour facilities) may apply under the Custom Program.

HVAC Incentive Worksheet			
Equipment Type	**Size Category**	**Qualifying Efficiency**	**Incentive (per ton)**
Unitary and Split Air Conditioning Systems and Air Source Heat Pumps	< 65,000 Btuh (5.4 tons)	14 SEER	$16.50
		15 SEER	$33.00
	≥ 65,000 Btuh and < 240,000 Btuh (5.5-20 tons)	11.5 EER/11.9 IPLV	$16.50
		12 EER/12.4 IPLV	$33.00
	≥ 240,000 Btuh and < 760,000 Btuh (21-63 tons)	10.5 EER/10.9 IPLV	$16.50
		10.8 EER/12.0 IPLV	$33.00
	≥ 760,000 Btuh (> 63 tons)	9.7 EER/11.0 IPLV	$16.50
		10.2 EER/11.0 IPLV	$33.00
Water-Cooled Chillers	ALL	Level 1 (see specifications)	$22.00
		Level 2 (see specifications)	$44.00
Air-Cooled Chillers	ALL	1.04 kW/ton-IPLV	$33.00
Room Air Conditioners	ALL	Level 1 (see specifications)	$33.00
		Level 2 (see specifications)	$55.00
PTAC/PTHP	ALL	13.08-(0.2556 x Btuh/1000) EER	$33.00

HVAC Equipment Type	**Make and Model**	**Unit Efficiency***	**(A) Unit Size (tons)**	**(B) Quantity**	**(C) Incentive per ton**	**(A*B*C) Incentive**
Total**						

Variable=Speed Drive on HVAC Motors VSD Application Description	**(A) VSD Size (HP)**	**(B) Quantity**	**(C) Incentive per HP**	**(A*B*C) Incentive**
			$50	
			$50	
			$50	
Total**				

Demand Control Ventilation for Kitchen Exhaust Hoods	**New Hood**		**Retrofit Hood**		
Unit Description	**(A) Exhaust Fan HP**	**(B) Incentive Per HP**	**(A) Exhaust Fan HP**	**(B) Incentive Per HP**	**(A*B) Incentive**
		$300		$400	
		$300		$400	
		$300		$400	
Total **					

* Unit efficiency for chillers should be provided in kW per ton – IPLV. Unit efficiency for ac units less than 65,000 Btuh should be provided in SEER. Unit efficiency for all other equipment should be provided in EER.
IPLV= Integrated Part Load Value

** Incentive cannot exceed 75 percent of total project cost.

Specifications for HVAC Measures

Unitary and Split Air Conditioning Systems and Air Source Heat Pumps
New unitary air conditioning units or air source heat pumps that meet or exceed the qualifying cooling efficiency shown in the HVAC Incentive Worksheet Table are eligible for an incentive. They can be either split systems or single package units. The efficiency of split systems is based on an ARI reference number. Water-cooled systems, evaporative coolers, and water source heat pumps do not qualify under this program, but may qualify under the Custom Incentive Program. All packaged and split system cooling equipment must meet Air Conditioning and Refrigeration Institute (ARI) standards (210/240, 320 or 340/360), be UL listed, use a minimum ozone-depleting refrigerant (e.g., HCFC or HFC). All required efficiencies are based on the Consortium for Energy Efficiency (CEE) high efficiency commercial air conditioning and heat pump specifications (www.cee1.org). **A manufacturer's specification sheet indicating the system efficiency must accompany the application.** Disposal of the existing unit must comply with local codes and ordinances.

Water- and Air-cooled Chillers
Chillers are eligible for an incentive if they have a rated kW/ton for the Integrated Part Load Value (IPLV) that is less than or equal to the qualifying Level 1 and Level 2 efficiency shown in the table below. The chiller efficiency rating must be based on ARI Standard 550/590-2003 for IPLV conditions and not based on full-load conditions. The chillers must meet ARI standards 550/590-2003, be UL listed, and use a minimum ozone-depleting refrigerant (e.g., HCFC or HFC). The ARI net capacity value should be used to determine the chiller tons. **A manufacturer specification sheet with the rated kW/Ton-IPLV or COP-IPLV must accompany the application.** Qualifying efficiencies for chillers are summarized below.

Chiller type	Size (Tons)	Level 1 kW/ton IPLV	Level 2 kW/ton IPLV
Scroll or Helical-Rotary	< 150	0.61	0.54
	150 to 300	0.57	0.50
	>= 300	0.51	0.46
Centrifugal	< 150	0.60	0.54
	150 to 300	0.54	0.48
	>= 300	0.49	0.44
Reciprocating	ALL	0.63	0.56
Air-Cooled	ALL	1.04	NA

Room Air Conditioners
Room air conditioning units are through-the-wall (or built-in) self-contained units that are 2 tons or less. There are two eligible efficiency levels as listed by the CEE (www.ceel.org) . A unit can either qualify under ENERGY STAR standards or under Super Efficient Home Appliance (SEHA) Tier 1 standards. The minimum requirements and eligible equipment are listed in the CEE high efficiency room air conditioning specifications (www.ceel.org). These units are with and without louvered sides, without reverse cycle (i.e., heating), and casement. The qualifying efficiencies for both levels are provided below. Disposal of existing unit must comply with local codes and ordinances.

	Level 1	**Level 2**
Size (Btuh)	2000 ENERGY STAR (EER)	SEHA Tier 1 (EER)
< 8,000 (0.67 tons)	10.7	11.2
8000 to 13,999 (0.67-1.2 tons)	10.8	11.3
14,000 to 19,999 (1.3-1.7 tons)	10.7	11.2
>= 20,000 (>1.7 tons)	9.4	9.8

Package Terminal AC and Heat Pump Units (PTAC/PTHP)
Package terminal air conditioners and heat pumps are through-the-wall self contained units that are 2 tons (24,000 Btuh) or less. Only units that have an EER greater than or equal to 13.08 – (0.2556 * Capacity / 1000), where capacity is in Btuh, qualify for the incentive. All EER values must be rated at 95 °F outdoor dry-bulb temperature.

Variable-Speed Drives on HVAC Motors
Variable-speed drives (VSDs) which are installed on existing chillers, HVAC fans, HVAC pumps and packaged units are eligible for this incentive. New chillers with integrated VSDs are eligible under the chiller incentive. VSDs on new equipment are not eligible. The installation of a VSD must accompany the permanent removal or disabling of any throttling devices such as inlet vanes, bypass dampers, and throttling valves. VSDs for non-HVAC applications may be eligible for a custom incentive. The incentive is per controlled HP.

Demand Control Ventilation for Kitchen Exhaust Hoods
The measure consists of installing a control system that varies the exhaust rate of kitchen ventilation (exhaust and/or makeup air fans) based on the energy and effluent output from the cooking appliances (i.e., the more heat and smoke/vapors generated, the more ventilation needed). This involves installing a temperature sensor in the hood exhaust collar and/or an optic sensor on the end of the hood that senses cooking conditions and allows the system to automatically vary the rate of exhaust to what is needed by adjusting the fan speed accordingly.

Refrigeration Incentive Worksheet

Refrigeration Measures				
Measure	**Incentive Unit**	**Quantity**	**Incentive/Unit**	**Incentive**
Strip Curtains on Walk-Ins	Per Square Foot		$4.00	
Anti-Sweat Heater Control	Per Linear Foot		$30.00	
EC Motor for Walk-in*	Per Motor		$50.00	
EC Motor for Reach-in*	Per Motor		$35.00	
Refrigeration Economizer	Per Compressor HP		$80.00	
Evaporative Fan Control	Per Motor		$60.00	
Automatic Door Closers for Walk-in Freezers	Per Door		$160.00	
Beverage Machine Control	Per Unit		$100.00	
Snack Machine Control	Per Unit		$30.00	
ENERGY STAR Refrigerated Vending Machine	Per Unit		$100.00	
LED Refrigeration Case Lighting	Per Door		$20.00	
Total**				

High-Efficiency Ice Makers					
Size (lbs / 24 hrs)	**Qualifying kWh per 100 lbs**	**Installed kWh per 100 lbs**	**Quantity**	**Incentive per Ice Maker**	**Incentive**
101-200	8.5			$150.00	
201-300	7.7			$150.00	
301-400	6.5			$200.00	
401-500	5.5			$225.00	
501-1000	5.2			$300.00	
1001-1500	5.0			$400.00	
>1500	4.6			$400.00	
Total**					

***EC= Electrically Commutated**

** Incentive cannot exceed 75 percent of total project cost.

Specifications for Refrigeration Measures

Strip Curtains on Walk-in Coolers and Freezers
New strip curtains or clear plastic swinging doors must be installed on doorways of walk-in boxes and refrigerated warehouses. This incentive is not available for display cases or replacing existing strip curtains that have useful life left. A pre-inspection may be performed. Incentive is based on square footage of doorway.

Anti-Sweat Heater Controls
For this measure, a device is installed that senses the relative humidity in the air outside of the display case and reduces or turns off the glass door (if applicable) and frame anti-sweat heaters at low-humidity conditions. Technologies that can turn off anti-sweat heaters based on sensing condensation (on the inner glass pane) also qualify. Rebate is based on the total linear footage of the case.

Electrically Commutated (EC) Evaporator Fan Motor (Refrigerated Cases or Walk-ins)
This measure is applicable to the replacement of an existing standard-efficiency shaded-pole evaporator fan motor in refrigerated display cases or fan coil in walk-ins. The replacement unit must be an Electronically Commutated Motor (ECM). This measure cannot be used in conjunction with the Evaporator Fan Controller measure.

Refrigeration Economizer
The incentive is for installing economizers and controls for walk-in coolers at least 1,000 cu ft. in size. The outdoor air and exhaust dampers must close automatically when the outside air temperature exceeds 34^{o} F.

Evaporative Fan Controls
This measure is for the installation of controls in medium temperature walk-in coolers. The controller reduces airflow of the evaporator fans when there is no refrigerant flow. The measure must control a minimum of 1/20 HP where fans operate continuously at full speed. The measure also must reduce fan motor power by at least 75% during the off cycle.

This measure is not applicable if any of the following conditions apply:

1) The compressor runs all the time with high duty cycle
2) The evaporator fan does not run at full speed all the time
3) The evaporator fan motor runs on poly-phase power
4) The evaporator fan motor is not shaded-pole or permanent split capacitor (PSC)
5) Evaporator does not use off-cycle or time-off defrost.

Automatic Door Closer for Walk-in Freezers
This measure is for installing an auto-closer to the main insulated opaque door(s) of a walk-in freezer. The auto-closer must firmly close the door when it is within one inch of full closure.

Beverage Machine Control
The beverage machine is assumed to be a refrigerated vending machine that contains only non-perishable bottled and canned beverages. Controller for both types of systems must include a passive infrared occupancy sensor to turn off fluorescent lights and other vending machine systems when the surrounding area is unoccupied for 15 minutes or longer. For the beverage machine, the control logic should power up the machine at 2-hour intervals to maintain product temperature and provide compressor protection.

ENERGY STAR® Refrigerated Beverage Vending Machine
ENERGY STAR beverage vending machines qualify for an incentive. Qualifying machines can be found at http://www.energystar.gov/ia/products/prod_lists/vending_machines_prod_list.pdf.

High-Efficiency Ice Makers
The incentive covers ice machines that generate 60 grams (2 oz.) or lighter ice cubes, flaked, crushed, or fragmented ice. Only air-cooled machines qualify (self contained, ice making heads, or remote condensing). The machine must have a minimum capacity of 101 lbs of ice per 24-hour period (per day). The minimum efficiency required is per ENERGY STAR or CEE Tier 2*. A manufacturer's specification sheet must accompany the application that shows rating in accordance to ARI standard 810.

LED Refrigeration Case Lighting
Incentives are for replacing fluorescent refrigerated case lighting with light emitting diode (LED) source illumination. Fluorescent lamps, ballasts, and associated hardware are typically replaced with pre-fabricated LED light bars and LED driver units.

* The websites have a list of qualifying model numbers, www.energystar.gov or www.cee1.org.

Motors Incentive Worksheet

NEMA Premium-Efficiency Motors – Minimum Qualifying Efficiencies							
Horse Power	3600 RPM		1800 RPM		1200 RPM		Incentive per Motor
	Open	Closed	Open	Closed	Open	Closed	
1	77.0%	77.0%	85.5%	85.5%	82.5%	82.5%	$11.00
1.5	84.0%	84.0%	86.5%	86.5%	86.5%	87.5%	$14.00
2	85.5%	85.5%	86.5%	86.5%	87.5%	88.5%	$18.00
3	85.5%	86.5%	89.5%	89.5%	88.5%	89.5%	$25.00
5	86.5%	88.5%	89.5%	89.5%	89.5%	89.5%	$32.00
7.5	88.5%	89.5%	91.0%	91.7%	90.2%	91.0%	$56.00
10	89.5%	90.2%	91.7%	91.7%	91.0%	91.0%	$72.00
15	90.2%	91.0%	93.0%	92.4%	91.7%	91.7%	$96.00
20	91.0%	91.0%	93.0%	93.0%	92.4%	91.7%	$120.00
25	91.7%	91.7%	93.6%	93.6%	93.0%	93.0%	$128.00
30	91.7%	91.7%	94.1%	93.6%	93.6%	93.0%	$144.00
40	92.4%	92.4%	94.1%	94.1%	94.1%	94.1%	$160.00
50	93.0%	93.0%	94.5%	94.5%	94.1%	94.1%	$200.00
60	93.6%	93.6%	95.0%	95.0%	94.5%	94.5%	$240.00
75	93.6%	93.6%	95.0%	95.4%	94.5%	94.5%	$280.00
100	93.6%	94.1%	95.4%	95.4%	95.0%	95.0%	$285.00
125	94.1%	95.0%	95.4%	95.4%	95.0%	95.0%	$314.00
150	94.1%	95.0%	95.8%	95.8%	95.4%	95.8%	$370.00
200	95.0%	95.4%	95.8%	96.2%	95.4%	95.8%	$515.00

Motor Make/Model	Quantity	Motor Size (HP)	3600 RPM	1800 RPM	1200 RPM (Check one for each motor)	Open	Closed (Check one)	Motor Efficiency	Incentive per Motor	Incentive (Incentive per Motor x Quantity)
Total*										

Specifications for Premium Motors

Motors eligible for an incentive are three-phase AC induction motors, 1-200 HP, of open drip-proof (open) and totally enclosed fan-cooled (closed) classifications. Rewound motors do not qualify. Incentives are based on the motor's Nominal Full Load Efficiencies, tested in accordance with IEEE (Institute of Electrical and Electronics Engineers) Standard 112, method B, that meet or exceed the NEMA premium efficiency standards on the Motors Incentive Worksheet. The application must include the manufacturer's performance data sheet that at least shows equipment type, equipment size, model number, and efficiency rating. Applicants should consider matching RPMs of the existing pump or fan when installing energy efficient motors that inherently have higher speeds (less slip), which may affect electric energy use.

* Incentive cannot exceed 75 percent of total project cost.

APPENDIX C: APPLICATION FOR CUSTOM INCENTIVE PROGRAM

Facility Type

The project will be (please check all that apply):

Part of new facility Addition to existing facility Replacement for existing equipment

Is equipment operational? Yes No
Was the project identified in a DCEO Retro-commissioning Study? Yes No

Project Description

_____
_____
_____

Existing Equipment: Describe existing equipment and current operation strategy (i.e., operating hours, efficiency, etc.)

_____
_____
_____

Proposed Equipment: Describe proposed equipment and current operation strategy (i.e., operating hours, efficiency, etc.)

_____
_____
_____

Calculation Method: Briefly describe the method used to calculate annual electric energy savings in kWh (attach documentation if available.)

_____
_____
_____

Total Project Cost (Dollars)_____

Expected Measure Life* (Years):_____ ____

Annual Electric Savings (kWh): _____

Estimated Annual Electric Savings (Dollars): _____

Payback** Total Project Costs : _____
Estimated Annual Electric Savings

Incentive Amount*** (Dollars):_____

* Incentive amount equals 8 cents per annual kWh saved for measures with a payback of 1 – 7 years and involve capital investment in new equipment.
Exterior lighting incentive amount equals 20 cents per kWh for demonstration of breakthrough equipment and devices.
** Maximum allowable payback is 7 years.
*** Incentive cannot exceed 100 percent of the incremental measure cost and 75 percent of the total project cost.

ADDITIONAL DOCUMENTATION FOR CUSTOM PROJECTS

The method and assumption used by the applicant to calculate the annual savings will be reviewed by DCEO. **DCEO is solely responsible for the final determination of the annual energy savings to be used in calculating the incentive amount**. DCEO also reserves the right to require specific measurement and verifications activities such as monitoring both before and after the retrofit and to base the incentive payment on the results of these activities.

The following information should be provided as supporting documentation along with the information required in this application. DCEO reserves the right to request additional documentation if necessary to determine or verify the energy savings.

- Description of the affected facility (i.e., building type, facility size, major business activities performed)
- Concise project description: Describe BOTH the existing (pre-retrofit or "base case") system and the proposed (post-retrofit or "efficient-case") system. Be as precise, yet concise as possible in the descriptions - include specific quantities and equipment descriptions.
- Provide the quantity, make, model number and rated capacity of BOTH the existing and the new equipment that is being installed. Condition and age of existing equipment. Also provide other nameplate information like operating voltage and rated full load amps where appropriate. The scope of work from the proposal to the client is often helpful to describe the new equipment.
- Provide copies of the manufacturer's specifications and/or performance rating sheets and the website address where further technical information about the equipment performance might be found.
- Identify equipment using the terminology or numbering system used by the Client. (e.g. "Replace compressor #3 with a new variable speed compressor" or , "install a VFD on VAV AHU #3,5,7,8,9").
- Provide copies of sketches, drawings, equipment lists, or inventories that help to clarify the scope.
- Describe the locations where the equipment is installed.
- Describe BOTH the facility operating hours and the equipment operating schedule for each day of the week. Where equipment operation varies with days of the week or seasons, be sure to provide a description of the operation for all days of the week and all seasons.
- Electronic files containing monitoring and trending data used to determine the savings
- Operation schedule of the facility or the affected process
- Describe the fractional loading of the equipment during the hours that it operates.
- Description and documentation of any model used to estimate electric energy consumption
  (provide the actual model with its various input files if possible)
- Annotate all assumptions or constants used in engineering calculations.
- List of all assumptions utilized in estimating the savings and the source for these assumptions
- Provide the name of the person(s) who did the savings calculations so that staff can discuss questions.
- Use accepted engineering algorithms and procedures from recognized technical organizations such as ASHRAE, SMACNA, ANSI, etc.
- Use rated performance factors tested under accepted procedures specified by recognized rating agencies such as ARI, AGA, ANSI, ASTM, etc. Provide an explanation when equipment performance rating conditions vary from standard conditions.

PROJECTS FREQUENTLY APPROVED FOR CUSTOM EFFICIENCY REBATES

The Custom Efficiency program provides IMEA member municipalities and power purchasers and their customers with incentives to help offset your costs for almost any type of energy-saving project from equipment installation to process improvements. This list gives examples of projects we frequently approve through our program, but other projects are equally likely to qualify. Please submit a preapproval application to determine whether your custom project is eligible for a rebate. All Custom Efficiency incentives require preapproval before purchase and installation.

Building envelope

Additional wall/roof insulation

Compressed air

Air storage with controls
Controls
More efficient air dryers
New efficient compressors
Piping reconfiguration and storage
Reduce oversized hp of compressors
Sequencer
Variable frequency drive (VFD) compressors

Controls-applications

CO2 based ventilation
Compressed air systems
Daylighting
Energy management systems (EMS)
Energy recovery
HVAC control (PTAC controls)
Morning preheat/cool down
Night setback, day setup
Start/stop
Temperature resets
Lighting

Controls-concepts

Match system operation to occupancy or line speed
Reduce equipment operational hours

Cooling and heating-concepts

Eliminate simultaneous heating and cooling
Improve chilled water flow
Match operation and equipment with current occupancy
Minimize equipment cycling (boilers, cooling fans, etc.)
Minimize supply and return fan amps
Optimize enthalpy control of economizer function
Optimize mixed air control based on occupancy
Optimize operation during periods of low occupancy
Optimize supply air temperature and relative humidity
Reduce CFM during periods of low occupancy
Improve economizer function

Cooling and heating-equipment

Air conditioning economizers
Chillers
Economizers
Free cooling
HVAC heating and cooling control schemes (weekday, weekend, evening settings)
Insulation (ceiling, wall, water heaters, hot-water distribution pipes)
New energy-efficient HVAC equipment

Lighting

Efficient use of lighting (mapping and resource needs assessment, lighting level reduction)
Situation where new fixtures save energy but are not a one-to-one exchange. Efficient lighting fixtures include electronic ballasts, compact fluorescent lamps, LED signage, pulse start metal halide, high-bay fluorescents, T8's and super T8
LED Street Lighting
Induction exterior lighting

Miscellaneous electric equipment

Computer monitors (LCD)
Elevator modernization
Humidification
Insulated dock doors
Pool Covers
Transformers
Vacuum pumps
Ventilation hoods
Welders
Washers

Motors

Adjustable/variable speed drives
Efficient motors > 200 hp
System motor hp reduction

Office equipment

Energy Star office equipment options (monitors), copiers, inkjet printers, etc.)

Process equipment installation (examples)

Controls to reduce energy input
New process (layout, piping modifications)
New system produces more output than the old system while using the same amount of energy as the old system
New system produces the same output as old system using less energy
Remove/reduce horsepower, motors (oversized, staging)

Refrigeration

Anti-condensate heater control
Compressor sequencing
Floating head pressure control
Insulated freezer doors
Suction level separation
VFD for compressor