



## 2012 APPLICATION INSTRUCTIONS

### STEP 1: PRE-APPROVAL (Required for all measures, except where indicated/noted)

*Pre-approval is strongly recommended for all projects, it reserves money for your project.*

- Pre-approval applications must be submitted with the following supporting documentation:
  - Completed and signed 2012 Pre-Approval Agreement (page 2)
  - Completed prescriptive worksheet(s) (pages 4 — 7), and/or completed custom application (page 11)
  - Itemized quote/proposal for material and any applicable external labor (see sample, page 12)
  - Equipment specification sheets for related equipment
  - Copy of a recent electric utility bill
- Incomplete applications will cause delays.
- If a project meets the pre-approval criteria, the customer will receive a pre-approval letter via email indicating that the funds have been reserved.
- **This letter must be signed and returned within 7 business days.**
  - Once the letter is returned, funds are reserved for your project.

### STEP 2: INSTALLATION OF EQUIPMENT

- From the date of issuance of the pre-approval letter, customers will have 90 days to complete the installation and submit all payment approval documentation or the pre-approval application and fund reservation will be cancelled.
- **All projects must be installed and operational by December 31, 2012.**

### STEP 3: PAYMENT APPROVAL

- Upon project completion, customers must submit the following documents in order to receive payment:
  - Completed and signed 2012 Payment Approval Agreement (page 3)
  - Itemized invoice for material and any applicable external labor (see sample, page 12)
- If the scope of a project changes (measures, quantities, equipment models, etc.) after pre-approval is given, or if pre-approval was not required, customers are also required to include:
  - Completed and revised prescriptive worksheet(s) (pages 4 — 7) or revised custom application (page 11)
  - New equipment specification sheets
- **Payment Approval documentation must be received by December 31, 2012.**

**Mail:** City of Dowagiac ENERGY SMART Program  
1400 Abbot Road, Suite 400  
East Lansing, MI 48823

**Email:** [energysmart@franklinenergy.com](mailto:energysmart@franklinenergy.com)

**Phone:** 1-877-NRG-SAV1 (877-674-7281)

**Fax:** 1-517-203-0658

Please visit [www.mienergysmart.com](http://www.mienergysmart.com) to get the latest application and program updates.

**For more detailed instructions, please refer to the Terms and Conditions included with this application.**



**2012 CUSTOMER INFORMATION PAGE \ PRE-APPROVAL AGREEMENT (IF REQUIRED)**

<b>NAME OF BUSINESS</b>	<b>PHONE</b>	<b>EMAIL ADDRESS</b>	
<b>MAILING ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP CODE</b>
<b>INSTALLATION ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP CODE</b>
<b>ANNUAL HOURS OF OPERATION</b>	<b>ELECTRIC ACCOUNT NUMBER</b>	<b>TAXPAYER ID # (SSN/FEIN OF PAYEE)</b>	

**BUILDING USE** - Please Check One Below

Office   
  Retail   
  Warehouse   
  Restaurant   
  Grocery / Supermarket   
  Manufacturing   
  Lodging   
  School: K - 12  
 Other / Miscellaneous   
                         
  Healthcare Facility   
   
  School: College

**FUEL TYPE FOR SPACE HEATING:**   
 Natural Gas   
 Electric   
 LP (Propane)   
 Oil   
 Steam

**HOW DID YOU LEARN ABOUT THE PROGRAM?**

My Utility   
 Utility Website   
 Newspaper   
 Community Event   
 Mail / Bill Insert   
 Contractor   
 Other

<b>NAME OF INSTALLING CONTRACTOR</b>		<b>CONTACT NAME</b>		<b>CONTRACTOR PHONE</b>
<b>ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP CODE</b>	<b>CONTRACTOR EMAIL</b>

**CERTIFICATIONS AND SIGNATURE**

I hereby certify that: 1. The information contained in this application is accurate and complete. 2. All rules of this incentive application have been followed. 3. I have read and understand the **Terms and Conditions** included with this document.

I agree to verification of equipment installation which may include a site inspection by a program or utility representative. I understand that I am not allowed to receive more than one incentive from this program on any piece of equipment. I hereby agree to indemnify, hold harmless and release the utility from any actions or claims in regard to the installation, operation, and disposal of equipment (and related materials) covered herein, including liability from any incidental or consequential damages.

<b>SIGNATURE</b>	<b>PRINT NAME</b>	<b>DATE SUBMITTED</b>

FOR INTERNAL USE ONLY			
Date Received	Post Inspection	Incentive Approval	Date Approved
	Post Inspection Required? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Post Inspection Date:	Amount: \$	



## 2012 PAYMENT APPROVAL AGREEMENT

I certify that I am an eligible City of Dowagiac electric utility customer and that the efficiency measures in this application were installed in this facility in 2012. I certify that I have read and complied with the Terms and Conditions of this application. By submitting this application, I understand that this facility may be inspected by employees or contractors/subcontractors of the City of Dowagiac to verify installation of any and all measures applied for in this application and that the project follows all program guidelines.

<b>SIGN AND SUBMIT THIS FORM ONLY AFTER ALL EQUIPMENT HAS BEEN INSTALLED</b>			
<b>NAME OF BUSINESS</b>			
<b>TOTAL PROJECT COST</b>	<b>TOTAL INCENTIVES REQUESTED</b>		<b>PRE-APPROVAL INCENTIVE AMOUNT</b>
<b>MAILING ADDRESS</b>	<b>CITY</b>	<b>STATE</b>	<b>ZIP CODE</b>
<b>INSTALLATION ADDRESS</b>	<b>CITY</b>	<b>STATE</b> MI	<b>ZIP CODE</b>
<b>PRINT NAME</b>	<b>DATE</b>		<b>INSTALLATION COMPLETION DATE</b>
<b>CUSTOMER SIGNATURE (MUST BE SAME PERSON WHO SIGNED PRE-APPROVAL AGREEMENT)</b>			



## PRESCRIPTIVE LIGHTING WORKSHEET – Page 1 of 2

SEE LIGHTING EQUIPMENT GUIDELINES.

Measure	Units	Qty	\$/Unit	Total
<b>SECTION A: Compact Fluorescent Lamps (CFL) and Fixtures - This section does NOT require pre-approval.</b>				
<b>ALL LAMPS MUST BE ENERGY STAR® QUALIFIED AND MUST BE A ONE-FOR-ONE REPLACEMENT OF CFLS.</b>				
1	CFL <30W	Lamp	\$1.50	
2	CFL ≥30W, <115W	Lamp	\$8.00	
3	Specialty CFL	Lamp	\$6.00	
4	CFL Fixture	Fixture	\$20.00	
<b>SECTION A TOTAL:</b>				
<b>SECTION B: LED Lamps and Fixtures - This section does NOT require pre-approval.</b>				
<b>ALL LAMPS MUST BE ENERGY STAR® QUALIFIED AND MUST BE A ONE-FOR-ONE REPLACEMENT OF LEDS.</b>				
1	LED <20W	Lamp	\$10.00	
2	LED MR16 <10W	Lamp	\$5.00	
3	LED PAR <20W	Lamp	\$10.00	
4	LED Downlight (Fixture)	Fixture	\$20.00	
5	LED Exit Signs	Fixture	\$12.50	
<b>SECTION B TOTAL:</b>				
<b>SECTION C: High Performance T8 Fluorescent Systems - This section REQUIRES pre-approval.</b>				
<b>ALL LAMPS AND BALLASTS MUST BE LISTED ON APPROPRIATE CEE1.ORG APPROVED LIST.</b>				
1	T12 4ft 1L to HPT8 4ft 1L (Includes U-Bend)	Fixture	\$5.00	
2	T12 4ft 2L to HPT8 4ft 2L (Includes U-Bend)	Fixture	\$8.00	
3	T12 4ft 3L to HPT8 4ft 3L	Fixture	\$12.00	
4	T12 4ft 4L to HPT8 4ft 4L	Fixture	\$15.00	
5	T12 4ft Delamping - Pre-inspection required	Lamp	\$5.00	
6	T12 8ft 1L to HPT8 4ft 2L	Fixture	\$8.00	
7	T12 8ft 2L to HPT8 4ft 4L	Fixture	\$15.00	
8	T12HO 8ft 1L to HPT8 4ft 2L	Fixture	\$15.00	
9	T12HO 8ft 2L to HPT8 4ft 4L	Fixture	\$25.00	
10	T12 8ft Delamping - Pre-inspection required	Lamp	\$10.00	
11	T12 4ft 1L to RW HPT8 4ft 1L (Includes U-Bend)	Fixture	\$5.00	
12	T12 4ft 2L to RW HPT8 4ft 2L (Includes U-Bend)	Fixture	\$10.00	
13	T12 4ft 3L to RW HPT8 4ft 3L	Fixture	\$15.00	
14	T12 4ft 4L to RW HPT8 4ft 4L	Fixture	\$20.00	
15	4ft 32w T8 to 25w or 28w RW HPT8 lamps - Lamps only	Lamp	\$0.75	
<b>SECTION C TOTAL:</b>				
<b>SECTION D: Lighting Controls - This section REQUIRES pre-approval.</b>				
1	Occupancy Sensor <500w	Sensor	\$30.00	
2	Occupancy Sensor ≥500w	Sensor	\$50.00	
3	Daylight Sensor	Sq Ft	\$0.09	
4	Central Lighting Controls	Sq Ft	\$0.06	
<b>SECTION D TOTAL:</b>				
<b>PRESCRIPTIVE LIGHTING WORKSHEET 1 GRAND TOTAL:</b>				



## PRESCRIPTIVE LIGHTING WORKSHEET — Page 2 of 2

### SEE LIGHTING EQUIPMENT GUIDELINES

Measure	Existing Wattage/Units	Wattage Saved	Quantity	\$/Unit	Total
<b>SECTION E: HID Replacement Systems - This section REQUIRES pre-approval.</b>					
<b>ALL LAMPS MUST BE A ONE-FOR-ONE REPLACEMENT OF HIDS.</b>					
	<b>A</b>	<b>B</b>	<b>C</b>		
1 HID to High Bay Linear Fluorescent	Existing Watts	Watts Saved	Qty	\$0.30	
2 HID to High Bay Linear Fluorescent	Existing Watts	Watts Saved	Qty	\$0.30	
3 HID to High Bay Linear Fluorescent	Existing Watts	Watts Saved	Qty	\$0.30	
4 Interior HID to Induction	Existing Watts	Watts Saved	Qty	\$0.30	
5 Interior HID to Induction	Existing Watts	Watts Saved	Qty	\$0.30	
6 Interior HID to Induction	Existing Watts	Watts Saved	Qty	\$0.30	
<b>Based on nominal wattage of existing lamps:</b>					
7 Exterior HID to LED/Induction (≤175W)	Fixture			\$35.00	
8 Exterior HID to LED/Induction (>175W, ≤250W)	Fixture			\$60.00	
9 Exterior HID to LED/Induction (>250W)	Fixture			\$100.00	
10 Parking Ramp/Garage HID to LED/Induction (≤175W)	Fixture			\$80.00	
11 Parking Ramp/Garage HID to LED/Induction (>175W, ≤250W)	Fixture			\$130.00	
12 Parking Ramp/Garage HID to LED/Induction (>250W)	Fixture			\$150.00	
<b>PRESCRIPTIVE LIGHTING WORKSHEET 2 GRAND TOTAL:</b>					

**Instructions for use:** For watts saved measures (line items 1 – 6), enter existing FIXTURE Wattage from the SWT below in **column A**, enter the Watts saved in **column B** and fixture qty in **column C**.

**Note:** Watts Saved = Existing Fixture Wattage — New Fixture Wattage (use Wattages listed in the table below).

<b>Standard Wattage Table - For Use in Section E and Custom Calculations</b>					
Existing	Input	Proposed	Input	Proposed	Input
HID 50W	61	F32T8 4 lamp	142	Induction 50W	54
HID 75W	95	F32T8 6 lamp	224	Induction 80W	86
HID 100W	120	F32T8 8 lamp	299	Induction 100W	105
HID 150W	194	F32T8 10 lamp	366	Induction 120W	126
HID 175W	194	F32T8 12 lamp	448	Induction 150W	158
HID 200W	230	T5HO 4 lamp	243	Induction 200W	210
HID 250W	290	T5HO 6 lamp	365	Induction 250W	263
HID 400W	455	T5HO 8 lamp	486	Induction 300W	320
HID 750W	850	T5HO 10 lamp	608	Induction 400W	440
HID 1000W	1080	T5HO 12 lamp	730		



## HVAC AND PROCESS WORKSHEET

SEE MECHANICAL EQUIPMENT GUIDELINES

Measure	Units	Qty			\$/Unit	Total
<b>SECTION A: Central Packaged &amp; Split System Air Conditioning (Rooftop Units Included) - This section REQUIRES pre-approval.</b>						
1	CP&SS AC <5.4 tons (1 ph) - 14 SEER	Ton		Tons	Qty	\$6.00
2	CP&SS AC <5.4 tons (3 ph) - 11.6 SEER	Ton		Tons	Qty	\$6.00
3	CP&SS AC <11.3 tons - 11 EER	Ton		Tons	Qty	\$15.00
4	CP&SS AC <20 tons - 11 EER	Ton		Tons	Qty	\$15.00
5	CP&SS AC <63.3 tons - 10 EER	Ton		Tons	Qty	\$15.00
<b>SECTION A TOTAL:</b>						
<b>SECTION B: Central Packaged and Split System Heat Pump (Rooftop Units Included) - This section REQUIRES pre-approval.</b>						
6	CP&SS HP <5.4 tons (1 ph) - 14 SEER	Ton		Tons	Qty	\$30.00
7	CP&SS HP <5.4 tons (3 ph) - 11.6 SEER	Ton		Tons	Qty	\$30.00
8	CP&SS HP <11.3 tons - 11 EER	Ton		Tons	Qty	\$30.00
9	CP&SS HP <20 tons - 11 EER	Ton		Tons	Qty	\$30.00
10	CP&SS HP <63.3 tons - 10 EER	Ton		Tons	Qty	\$30.00
<b>SECTION B TOTAL:</b>						
<b>SECTION C: Air- and Water-Cooled Chiller - HVAC Only - This section REQUIRES pre-approval.</b>						
11	Air Cooled (All Sizes) - $\leq 1.2$ kW/ton full load	Ton		Tons	Qty	\$30.00
12	Water Cooled <150 ton - $\leq 0.79$ kW/ton full load & 0.49 kW/ton part load	Ton		Tons	Qty	\$30.00
13	Water Cooled <300 ton - $\leq 0.63$ kW/ton full load & 0.44 kW/ton part load	Ton		Tons	Qty	\$30.00
14	Water Cooled >300 ton - $\leq 0.58$ kW/ton full load & 0.44 kW/ton part load	Ton		Tons	Qty	\$35.00
<b>SECTION C TOTAL:</b>						
<b>SECTION D: HVAC Controls - This section REQUIRES pre-approval.</b>						
15	Programmable Thermostat (Gas Heat)	Unit				\$20.00
16	Building Temp Controls	1,000 sq ft				\$45.00
17	Demand Control Ventilation	1,000 sq ft				\$20.00
18	Hotel GREM Controls	Unit				\$65.00
<b>SECTION D TOTAL:</b>						
<b>SECTION E: Variable Frequency Drives (VFD) - This section REQUIRES pre-approval.</b>						
19	HVAC Fan	HP		HP	Qty	\$60.00
20	HVAC Pump	HP		HP	Qty	\$100.00
21	Process Pump	HP		HP	Qty	\$80.00
<b>SECTION E TOTAL:</b>						
<b>SECTION F: Industrial Process - This section REQUIRES pre-approval.</b>						
22	Engineered Nozzles	Unit		Each	Qty	\$100.00
23	Barrel Wraps	Ton		Tons	Qty	\$1.00
<b>SECTION F TOTAL:</b>						
<b>MECHANICAL EQUIPMENT WORKSHEET GRAND TOTAL:</b>						



**MISCELLANEOUS WORKSHEET**

SEE MISCELLANEOUS EQUIPMENT GUIDELINES

Measure		Units	Qty			\$/Unit	Total
<b>SECTION A: Commercial Refrigeration Systems - This section REQUIRES pre-approval.</b>							
1	LED Grocery Case Lighting	Door				\$35.00	
2	Occupancy Sensor for LED Case Lighting	Door				\$10.00	
3	Walk-In or Case Cooler/Freezer ECM	Motor				\$30.00	
4	Cooler Strip Curtains	Sq ft				\$5.00	
5	Freezer Strip Curtains	Sq ft				\$25.00	
6	Cooler/Freezer Door Gaskets	Linear ft				\$5.00	
7	Cooler Night Covers	Linear ft-hr		Feet		Hr	\$1.25
8	Anti-Sweat Heater Controls	Door				\$80.00	
<b>SECTION A TOTAL:</b>							
<b>SECTION B: ENERGY STAR Commercial Kitchen Systems - This section REQUIRES pre-approval.</b>							
9	ENERGY STAR Steam Cooker 3-Pan	Unit				\$450.00	
10	ENERGY STAR Steam Cooker 4-Pan	Unit				\$600.00	
11	ENERGY STAR Steam Cooker 5-Pan	Unit				\$750.00	
12	ENERGY STAR Steam Cooker 6-Pan	Unit				\$900.00	
13	ENERGY STAR Comm. Refrigerator Door <15ft <sup>3</sup>	Unit				\$75.00	
14	ENERGY STAR Comm. Refrigerator Door 15ft <sup>3</sup> - 30 ft <sup>3</sup>	Unit				\$100.00	
15	ENERGY STAR Comm. Refrigerator Door 30ft <sup>3</sup> - 50 ft <sup>3</sup>	Unit				\$150.00	
16	ENERGY STAR Comm. Refrigerator Door >50ft <sup>3</sup>	Unit				\$175.00	
17	ENERGY STAR Comm. Freezer Door <15ft <sup>3</sup>	Unit				\$75.00	
18	ENERGY STAR Comm. Freezer Door 15ft <sup>3</sup> -30ft <sup>3</sup>	Unit				\$100.00	
19	ENERGY STAR Comm. Freezer Door 30ft <sup>3</sup> -50ft <sup>3</sup>	Unit				\$150.00	
20	ENERGY STAR Comm. Freezer Door >50ft <sup>3</sup>	Unit				\$225.00	
21	ENERGY STAR Ice Machine <500 lbs	Unit				\$250.00	
22	ENERGY STAR Ice Machine 500 - 1,000 lbs	Unit				\$400.00	
23	ENERGY STAR Ice Machine > 1,000 lbs	Unit				\$850.00	
24	ENERGY STAR Fryer	Unit				\$80.00	
25	ENERGY STAR Hot Holding Cabinets 1/2	Unit				\$150.00	
26	ENERGY STAR Hot Holding Cabinets 3/4	Unit				\$250.00	
27	ENERGY STAR Hot Holding Cabinets Full	Unit				\$450.00	
<b>SECTION B TOTAL:</b>							
<b>SECTION C: Miscellaneous Equipment - This section does NOT require pre-approval.</b>							
28	Vending Machine Controller - Energy Saving	Unit				\$50.00	
29	Intelligent Surge Protector	Unit				\$10.00	
30	Pre-Rinse Sprayer (Electric Water Heat Only) - Reduced flow vol	Unit				\$25.00	
<b>SECTION C TOTAL:</b>							
<b>MISCELLANEOUS WORKSHEET TOTAL:</b>							



## LIGHTING EQUIPMENT GUIDELINES

### SECTION A – Compact Fluorescent Lamps (CFL) and Fixtures

#### CFLs

Incentives are available for the replacement of an incandescent or halogen lamp with a CFL that is ENERGY STAR rated or meets the ENERGY STAR criteria.

#### Specialty CFLs

Specialty CFL Incentives are available for the replacement of an incandescent or halogen lamp with a CFL that is ENERGY STAR rated or meets the ENERGY STAR criteria and is also a 3-way, dimmable flood lamp or other specialized CFL design.

#### CFL Fixture

CFL Fixture Incentives are available for the replacement of an incandescent or halogen lamped fixture with a hardwired fixture designed for the use of CFL lamps. Incentive is per fixture.

### SECTION B – LED Lamps and Fixtures

All LED Lamps must be listed as an approved product for their specific purpose by ENERGY STAR ([www.energystar.gov](http://www.energystar.gov)) or the Design Lights Consortium (DLC) ([www.designlights.org](http://www.designlights.org)).

#### LED Lamps

Incentives are available for the replacement of an incandescent or halogen lamp between 20 and 100 watts with an LED lamp that is less than 20 watts.

#### LED Downlights (FIXTURE)

Incentives are available for the replacement of an incandescent or halogen recessed downlight in a ceiling or wall with an LED recessed downlight.

#### LED MR16 Lamp

Incentives are available for the replacement of an incandescent or halogen MR16 lamp with an LED MR16 lamp.

#### LED PAR Lamp

Incentives are available for the replacement of an incandescent or halogen PAR lamp with an LED PAR lamp.

#### LED Exit Sign

Incentives are available for the replacement or retrofit of an incandescent or fluorescent exit sign. Qualifying exit signs must be UL or ETL listed, have a minimum lifetime of 10 years, and have an input wattage of  $\leq 5$  watts per face, or be ENERGY STAR listed. Fixtures may use Electroluminescent, T1 or LED technology.

### SECTION C – Consortium of Energy Efficiency (CEE) Approved T8 Fluorescent Systems

To qualify, the existing fixture must be a T12 fixture matching a description in section E and be replaced with a high performance T8 fixture. To be considered a high performance T8 fixture both the lamps and ballast must be listed on the CEE approved products list. The approved lists can be found at [www.cee1.org/com/com-ll/com-ll-main.php3](http://www.cee1.org/com/com-ll/com-ll-main.php3). Reduced Wattage (RW) HPT8 fixtures must have both lamps and ballasts on the RW list. The delamping incentive is available for projects which permanently reduce the quantity of lamps used per fixture when replacing or retrofitting a T12 fixture to a HPT8 fixture. If a delamping incentive is claimed, the HPT8 fixture can also be claimed based on the new fixture configuration.

### SECTION D – Lighting Controls

#### Occupancy Sensor

Incentives are available for occupancy sensors which automatically turn lights on when movement is detected and automatically turn lights off when no movement is detected after a set length of time. The sensors can be passive infrared (PIR) or ultrasonic. All sensors should be hardwired and control interior fixtures. Incentives are based on the total wattage of lights controlled.

#### Daylight Sensor Controls

Incentives are available for daylight sensor controls in spaces with reasonable amounts of sunlight exposure and areas where task lighting is not critical. The controls can be on/off, stepped, or dimming. The on/off controller should turn off artificial lighting when the interior illumination meets the desired indoor lighting levels. The stepped controller should dim the lights by 50% when the interior illumination levels reach 50% of the desired lighting levels. Dimming controllers should dim the lighting levels proportional to the amount of sunlight. Controllers are required to be commissioned in order to ensure proper sensor calibration and energy savings. The floor plan and control schedule must be submitted for pre-approval. Incentive is paid based on the square feet of lighting area controlled.

#### Central Lighting Controls

All central lighting controls must operate the function of the lights within a minimum of 10,000 square feet. The schedule of occupancy needs to be taken into account when programming the system. The incentive is eligible for systems that utilize time clocks, package programmable relay panels, and building automation. Incentive for occupancy sensors or daylight sensor controls cannot be received on the same fixtures. Control schedule and floor plans are required for pre-approval showing functional control and reduction in operating time due to precise automatic control. Incentive is paid based on the square feet of lighting area controlled.

### SECTION E – High Intensity Discharge Replacement Fixtures

#### Linear Fluorescent High Bay Fixtures

Incentive is for the replacement of an interior HID fixture (Metal Halide, Mercury Vapor, High Pressure Sodium) with a T5HO or T8 4 foot linear fluorescent high bay fixture. Fluorescent high bay fixtures must be marketed as either High Bay fixtures or as F-Bay fixtures and include reflector. Incentive is offered based on the total wattage reduced per fixture. Wattages used in this application need to come off of the Standard Wattage Table found in this application.

#### Indoor Induction Lamps

Incentives are available for the replacement or retrofit of a T12, Incandescent, or HID fixture used in an interior installation with a permanently wired induction lamp retrofit or new induction fixture. Incentive is offered based on the total wattage reduced per fixture. Wattages used in this application need to come off of the Standard Wattage Table found in this application.

#### Parking Garage Metal Halide/HID Replacement with LED/Induction Fixtures

Incentive is available for the replacement or retrofit of an exterior Metal Halide or HID fixture with an Induction or LED fixture which has a reduced input wattage of at least 40%. Incentives are per fixture and are based on the nominal lamp wattage of the original fixture. Incentives are further separated by fixtures that operate 24/7 (8,760 hours annually) and fixtures that operate less than 24 hours per day.



## **MECHANICAL EQUIPMENT GUIDELINES**

### **SECTION A – Central Packaged and Split System Air Conditioners (Including Rooftop Units)**

Incentives are available to install replacement air conditioning systems that meet or exceed the qualifying cooling efficiencies listed in the application. They can be either split system or single package units. Water cooled systems, evaporative coolers, and water source heat pumps are not eligible for this incentive, but are encouraged to submit a custom application. All packaged and split system cooling equipment must meet AHRI standards (210/240, 320, or 340/360), be UL listed, and use a minimum ozone-depleting refrigerant. Split system efficiency must be for air handling and condensing unit combined. Incentives are per ton of refrigeration.

### **SECTION B – Central Packaged and Split System Air-Source Heat Pumps (Including Rooftop Units)**

Incentives are available to install replacement air-source heat pumps that meet or exceed the qualifying cooling efficiencies listed in the application. They can be either split system or single package units. Water cooled systems, evaporative coolers, and water source heat pumps are not eligible for this incentive, but are encouraged to submit a custom application. All packaged and split system cooling equipment must meet AHRI standards (210/240, 320, or 340/360), be UL listed and use a minimum ozone-depleting refrigerant. Split system efficiency must be for air handling and condensing unit combined. Incentives are per ton of refrigeration.

### **SECTION C – Air and Water Cooled Chillers**

Incentives are available for air-cooled chillers that have a rated Full Load Energy Efficiency (kW/ton) and Integrated Part Load Value (IPLV) that are less than or equal to the qualifying efficiencies listed on the application. The chiller efficiency rating must be in accordance with ARI Standard 550/590-2003. The chillers must be UL listed. Incentives are per ton of refrigeration.

### **SECTION D – HVAC Controls**

#### Programmable Thermostat

Incentives are available for buildings which have central air conditioning and replace any non-programmable thermostats with units that automatically adjust the temperature at pre-selected times. They must be capable of maintaining two separate programs (to address the different comfort needs of weekdays and weekends) and up to four temperature settings for each program.

#### Demand Control Ventilation

Installation of controls that use carbon dioxide sensors to determine occupancy levels and modify the percentage of outside air based on variable levels. Only buildings with cooling applications are eligible. Conditioned spaces must be kept between 65 and 75 degrees Fahrenheit during occupied hours. Systems must have current fresh air requirements equal or greater than the AHRAE 62 standard. Carbon dioxide sensors must be installed in conjunction with fully functioning air side economizers. Dual temperature air-side economizers with zone-level carbon dioxide sensors for rooftop units qualify and return system carbon dioxide sensors are acceptable for VAV systems. The building floor plan and control schedule are required for pre-approval.

#### Guest Room Occupancy Sensors

Incentives are available on a per room controlled basis and not a per sensor basis. The sensors must provide automatic control of HVAC equipment. New systems only, upgrades and replacements of existing GREM system / components are not eligible.

### **SECTION E – Variable Frequency Drives**

Incentives are available for the addition of a Variable Frequency Drive (VFD) to a motor which was not originally controlled by a VFD. The VFD must have an input signal which results in a reduction in motor speed. HVAC applications must operate at least 1,800 hours per year. Process application must operate at least 2,000 hours per year. Process application must have a motor that is 50 hp or less. All other applications must apply for custom incentives. To qualify, all existing controls and throttling strategies must be removed or permanently decommissioned. New VFDs on redundant or back-up motors do not qualify.

### **SECTION F – Industrial Process**

#### Compressed Air Engineered Nozzle

The new nozzle must replace open pipe/tube assemblies connected to a compressed air system. The engineered nozzle must be between 1/8" and 1/2" in diameter.

#### Barrel Wraps for Injection Molding Machines

Incentives are available for installing insulating blankets on the barrels of extruding or injection molding machines. Blankets must be installed in accordance with machine manufacturer recommendations on previously uninsulated barrels. Incentive is per machine ton.



## MISCELLANEOUS EQUIPMENT GUIDELINES

### SECTION A – Commercial Refrigeration Systems

#### LED Grocery Case Lighting

Incentives are available for the replacement of T12 or T8 linear fluorescent lamps with LED lighting. Incentive is per fluorescent fixture replaced.

#### Occupancy Sensor for LED Case Lighting

Incentives are available for sensors which automatically turn on LED case lighting when motion is detected. The lights need to automatically turn off when motion is no longer detected after a set length of time. The minimum time length set point needs to be 10 minutes. Incentive is per door controlled.

#### Walk-in or Case Cooler/Freezer ECM

Incentives are available for the replacement of permanent split capacitor (PSC) or a shaded pole motor in an existing walk-in or case cooler with an electronically commutated motor (ECM). Incentive is per motor.

#### Cooler Strip Curtain

Incentives are available for the new curtains which separate a walk-in cold storage area with a conditioned space. Incentives are available for new curtains where no curtains previously existed or where the current curtains are exceptionally deteriorated. The incentive is per square foot of new curtain installed.

#### Freezer Strip Curtain

Incentives are available for new curtains which separate a walk-in cold storage area with a conditioned space. Incentives are available for new curtains where no curtains previously existed or where the current curtains are exceptionally deteriorated. The incentive is per square foot of new curtain installed.

#### Cooler/Freezer Door Gaskets

Incentives are available for new door gaskets which seal and prevent air infiltration on a cooler or freezer door. Incentives are available for new gaskets where no gaskets previously existed or where the current gaskets are exceptionally deteriorated. The incentive is per linear foot of new curtain installed.

#### Cooler Night Covers

Incentives are available for vertical covers designed to be used to separate conditioned space and chilled areas of an open refrigerator or freezer display cases. Horizontal covers are not eligible. The purpose of night covers is to reduce the amount of heat loss from the open refrigerated display case into the conditioned space of the facility during non-operating hours. Incentive is based on the linear length of case being covered and the time per day that the cover will be used.

#### Anti-Sweat Heater Controls

Incentives are available for anti-sweat heater controls which monitor relative humidity in the air outside the display door and turns off the door and frame anti-sweat heaters during low humidity conditions. Technologies that detect condensation and are able to shut off the heaters are also eligible. Incentive is per door controlled.

### SECTION B – ENERGY STAR Commercial Kitchen Systems

#### ENERGY STAR Steam Cookers

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

#### ENERGY STAR Solid Door Refrigerators

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

#### ENERGY STAR Solid Door Freezers

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

#### ENERGY STAR Ice Machines

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

#### ENERGY STAR Fryers

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

#### ENERGY STAR Hot Holding Cabinets

- Must be ENERGY STAR rated and replacing non-ENERGY STAR rated

### SECTION C – Miscellaneous Equipment

#### Vending Machine Controller (for cold beverage machines)

Incentives are available for retrofitting existing vending machines with beverage vending machine controllers. The controller must include a passive infrared occupancy sensor to turn off fluorescent lights and vending machine systems when surrounding area is unoccupied for 15 minutes or longer. Control logic should power on the machine at a minimum of every 2 hours to maintain proper product temperature.

#### Intelligent Surge Protector

Incentives are available for surge protectors with built-in plus-load detection and control capabilities. The intelligent surge protector must include at least one uncontrolled socket where a primary device can be connected. Turning the primary device on or off will turn on or off all associated devices in the power strip. The strip may also contain sockets for uncontrolled devices.

#### Pre-Rinse Sprayer

Incentives are available for low-flow pre-rinse sprayers using less than 1.6 gallons per minute. Sprayer must replace a sprayer which uses 2.2 gallons per minute or more. The water must be heated using electricity.



## CUSTOM APPLICATION

Submit completed application for pre-approval: Written approval (notice to proceed) must be obtained from the City of Dowagiac before purchase or installation of new equipment or systems.

**On a separate sheet(s) of paper, please provide the following REQUIRED items:**

- Describe the project in one or two paragraphs.
- List all known factors, assumptions, and issues in any calculations you provide for kW and kWh energy savings. Fill out the Estimated Project Savings chart with results from calculations.
- Provide clear and logical step-by-step calculations detailing the estimated energy savings (showing all units of measure). See Sample Calculations section (below) for help with showing calculations and Standard Wattage Table (page 5) for custom wattage calculations.
- Calculation methods must be shown separately and clearly. Spreadsheets are accepted and encouraged but hand-calculations are accepted as well.
- Provide a copy of the vendor proposal showing pricing detail, quantity, size, type, make/model and external labor costs if applicable.

Note: Projects are paid at \$0.08 per kWh. City of Dowagiac will pay up to 40% of total project cost (proven by invoices) or \$4,000, whichever is lower.

Estimated Project Savings				
Measure Description <sup>e</sup>	Demand Savings (kW)	Annual Energy Savings (kWh)	Annual Cost Savings <sup>a</sup>	Total Project Cost <sup>b, c, d</sup>
1				
2				
3				
4				
Totals:				

<sup>a</sup> All savings resulting from the project, to include - but not limited to - savings from energy reduction, conservation from controls, etc. Operations and maintenance savings are not to be included.

<sup>b</sup> Measure cost is either the cost to remove/replace existing operational equipment or it is the incremental cost to upgrade non-operational equipment from standard efficiency to high efficiency equipment. See instructions for additional information.

<sup>c</sup> Costs must be itemized by measure.

<sup>d</sup> Costs may include materials, disposal, permit fees, equipment rental and external labor related to the project. Internal labor cannot be included in the total project cost.

<sup>e</sup> Measure refers to specific energy efficient components. Examples would be "chiller replacement," "Energy efficient lighting conversion", etc.

Sample Calculations	
kW =	wattage x quantity / 1000
Demand Savings =	(existing kW x existing quantity) - (new kW x new quantity)
kWh =	kW x annual hours of operation
Annual Energy Savings =	existing kWh - new kWh
Annual Cost Savings =	kWh savings x electric rate
Electric Rate =	monthly bill total (including all taxes and fees) / total monthly kWh usage




## SAMPLE QUOTE OR INVOICE

This is an example of an invoice that contains all required information for the Energy Smart program. Quotes and invoices are not required to be identical to the example below but all quotes and invoices are required to have the following information:

- Contractor information
- Customer information
- Date of document
- Complete product model numbers
- Product quantity
- Line item cost for each material
- Labor and other expenses listed separately
- Total invoice amount

**CONTRACTOR INFORMATION**



ABC Contractor  
 123 ABC Street  
 ABCTown, MI 55555  
 517-555-1234

**DATE**

Date	Invoice #
3/25/2012	54005-1

**CUSTOMER INFORMATION**

<b>Bill To:</b> GHI Customer 123 GHI Avenue GHIVille, MI 44444	<b>Ship to:</b> GHI Customer 123 GHI Avenue GHIVille, MI 44444
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Part #	Description	Qty	Rate	Amount
JKL232RST-T8	2 lamp HPT8 ballast	103	\$10.85	\$1,117.55
F32T8XYZ4100	F32 HPT8 lamp	206	\$2.24	\$461.44
CFL20AB841	20 watt CFL	118	\$2.33	\$274.94
RST-70UVW	Wirenut	46	\$36.00	\$1,656.00
Labor	Labor	1	\$600.00	\$600.00
Disposal	Disposal and Recycling	1	\$250.00	\$250.00
Subtotal				\$4,359.93
Tax				b.00% \$261.80
Grand Total				\$4,621.53

**LABOR AND OTHER EXPENSES LISTED SEPARATELY FROM MATERIALS**

**TOTAL INVOICE AMOUNT**

**LINE ITEM PRICE FOR EACH MATERIAL**



## TERMS AND CONDITIONS

- 1 **Incentive Offer:** Projects must be implemented (completed) by December 31, 2012. Projects must result in reduced electric energy usage due to improvement in the system efficiency; control upgrades may also qualify. Reduced electric use resulting from peak shaving, demand limiting, fuel switching, power generation, renewable energy, or operating schedule changes does not qualify. To qualify, lighting must be used a minimum of 1,800 hours per year and other equipment must operate a minimum of 1,500 hours per year.
- 2 **Compliance:**
  - a. All projects must comply with applicable federal, state and local laws and building codes.
  - b. All equipment must be new or retrofitted with new components per the program specifications. Used or rebuilt equipment is not eligible for incentives. Existing equipment, not part of a retrofit, must be removed or permanently disconnected.
  - c. New equipment must meet specification requirements.
  - d. Existing equipment must be operational when the application is submitted.
  - e. Only one incentive will be granted for each project.
  - f. Customers can submit multiple projects in a calendar year, however, the incentive totals cannot exceed the "incentive limit" cap per year.
  - g. All projects must be a retrofit/replacement installation in an existing building (not available for new construction).
  - h. If the project is in a leased building, the term of the lease must be at least three (3) years and a lease agreement may be requested.
  - i. Up to 24 months of Utility Usage information may be requested.
- 3 **Delivery:** Applications must be delivered using one of these methods: mail to ENERGY SMART Program, 1400 Abbot Road, Suite 400, East Lansing, MI 48823, e-mailed to [energysmart@franklinenergy.com](mailto:energysmart@franklinenergy.com), or faxed to 1-517-203-0658.
- 4 **Pre-Approval Agreements:** Original applications must have complete information and be submitted with 1) the entire completed application signed by the customer 2) An itemized quote(s) from the chosen contractor for the project which includes at least one line item per incentive measure, and includes the quantity, size, type, make, model of proposed items, and external labor costs (if applicable). Note: Internal labor cannot be included in the total project cost. 3) The manufacturer (OEM) specification sheets for all items to be installed as described in the application. 4) A copy of the most recent utility bill for the Electric Utility. If a project requires pre-approval, it must receive written pre-approval BEFORE purchase and installation. If your project meets the pre-approval criteria, you will receive a letter via e-mail (or standard mail if e-mail is unavailable) within two weeks indicating the funds have been reserved for your project. This letter must be signed and returned within 7 days. From the date of issuance of this letter, you will have 90 days to complete your project and submit all final documentation. After 90 days, your application will expire.
- 5 **Payment Approval Agreements:** Payment approval agreements must have complete information and be submitted with 1) A completed and signed "2012 Payment Approval Agreement" page. 2) Completed Incentive worksheet(s) reflecting any applicable quantity or measure changes from the Pre-Approval Agreement. 3) An itemized invoice from the installing contractor and/or vendor for the project which includes a separate line item for each incentive measure. It must include the date, quantity, size, type, make and model of installed items, and labor costs, if applicable. **Note:** Internal labor cannot be included in the total project cost. 4) The manufacturer (OEM) specification sheets for any items that were part of project application change.
- 6 **Prescriptive Incentive Limit:** Purchase and install qualifying equipment and receive an energy efficiency incentive of up to \$4,000 per customer per calendar year. Incentives for Prescriptive measures may not exceed 50% of the total project cost, including materials, external labor, permits, equipment rental or disposal.
- 7 **Custom Incentive Limit:** Custom incentives will not be provided for projects with less than a one-year simple payback or greater than a seven-year simple payback. Purchase and install qualifying equipment and receive an energy-efficiency incentive of up to \$4,000 per customer per calendar year. Incentives for custom projects may not exceed 40% of the total project costs, including materials, external labor, permits, equipment rental or disposal.
- 8 **Payment:** Once completed paperwork is submitted, incentive payments are usually made within 6 to 8 weeks. Incomplete applications will either delay payments or result in denial of application approval. The City of Dowagiac reserves the right to refuse payment and participation if the customer or contractor violates program terms and conditions. The City of Dowagiac must receive 100% of the energy savings for the rated life of the product(s) or for a period of three (3) years from receipt of incentive, whichever is less. If you do not provide the energy savings, if the facility in which the installed projects are located closes or ceases operation within the three (3) years from receipt of incentive or if you cease to be a customer of the City of Dowagiac during the three (3) years, you shall refund a prorated amount of incentive dollars based on the time installed.
- 9 **Inspection:** Program staff reserves the right to conduct pre-inspections and post-inspections of proposed and installed projects.



## **TERMS AND CONDITIONS**

- 10 Publicity: The City of Dowagiac reserves the right to publicize your participation in this program, unless you specifically request otherwise.
- 11 Program Discretion: Incentives are available on a first-come, first-served basis. Incentive amounts and offerings are subject to change or termination without notice at the discretion of the City of Dowagiac.
- 12 Logo Use: Customers or allies may not use the City of Dowagiac nor the Energy Smart name or logo in any marketing, advertising, or promotional material without written permission.
- 13 Disclaimers: The City of Dowagiac:
- a. does not endorse any particular manufacturer, product, labor or system design by offering these programs;
  - b. will not be responsible for any tax liability imposed on the customer as a result of the payment of incentives;
  - c. does not expressly or implicitly warrant the performance of installed equipment or contractor's quality of work (contact your contractor for detailed warranties);
  - d. is not responsible for the proper disposal/recycling of any waste generated as a result of this project;
  - e. is not liable for any damage caused by the installation of the equipment or for any damage caused by the malfunction of the installed equipment.
- 14 Eligibility:  
These incentives are offered to the City of Dowagiac electric customers only. For questions regarding eligibility, call 877-NRG-SAV1 (877-674-7281).