

2017-2019 Implementation Manual

March 14, 2019



Agenda

General changes

Agriculture

Commercial

April change:

- XIV: Published deadline for feedback is now May 24

General changes coming in October:

- All edits from current rate period incorporated
- Chapter 13 New measures incorporated
- Renumbering

Specific changes:

- Fax submission pathway removed
- Non-Reportable and Reportable savings must be submitted separately

Questions?

Agriculture

Stephanie Pettit, Program Manager

Agriculture Themes

Implementing
RTF decisions

Increasing payments
to stimulate uptake

Rounding up
payment amounts

Adding new measures
as soon as possible

Changes Effective April 1, 2019

- New Measures
- Corrections

6.3.1 Irrigation System Upgrades

Documentation Requirements

- “Equipment/contractor invoice is to include: manufacturer, model number, type or size of equipment or product installed/used and quantity, the order/purchase date and cost.”

Correction

- “Equipment/contractor invoice is to include:-type of equipment or product installed/used and quantity, the order/purchase date and cost.”

13.2.1-3 Agriculture Pumps and Variable Frequency Drive (VFDs) (BPA-Qualified)

Current Documentation Requirement

- All Agriculture Pump Measures require use of a deemed savings tool. The tool requires the Pump Curve to be submitted with it.

Correction

- The pump curve (available from pump manufacturer) must be submitted to EE Docs and saved in the customer file.

13.2.1.4 Thermostatically Controlled Outlets

Current Precondition

- Outlet located in pump house or utility room serving a heater that provides freeze protection
- Outlet not already thermostatically controlled

Correction

- BPA will not be verifying the precondition for these measures. Language has been revised to move the preconditions from “Requirements” to “Basis for Savings”

13.2.1.5 Thermostatically Controlled Stock Tank Deicers

Current Precondition

- An electric stock tank deicer that is functional and not thermostatically controlled.

Correction

- BPA will not be verifying the precondition for these measures.
Language has been revised to move the preconditions from “Requirements” to “Basis for Savings.”

13.2.1.6 Sprinkler Package Replacements

Sprinkler package includes

- High Pressure: Nozzle and impact sprinkler
- Low Elevation Sprinkler Application (LESA), Low Energy Precision Agriculture (LEPA), Mobile Drip Irrigation (MDI), Mid-Elevation Sprinkler Application (MESA): Nozzle, low pressure regulator, and rotating or multi-trajectory sprinkler

Requirements

- Center Pivot & Linear Move systems eligible
- Replace leaky packages or as part of an upgrade
- Must not increase flow rate

Package Type	Payment per package/drop (\$)
High Pressure Sprinkler Package	12.00
MESA Sprinkler Package	6.00
LESA/LEPA/MDI Sprinkler Package	3.00

13.2.1.7 Low Elevation Sprinkler Application (LESA), Low Energy Precision Agriculture (LEPA), or Mobile Drip Irrigation (MDI)

Precondition:

- A center pivot or linear move system
- High pressure sprinklers on top, or a MESA configuration

Post-conditions:

- A center pivot or linear move system with a LEPA, LESAs, or MDI configuration

Payment:

- \$12 per drop

13.2.1.7 LESA, LEPA, or MDI

RTF-approved as a planning measure

- Data collection to support proven status

May combine with sprinkler package measure

- \$15-24 per drop, depending on application

May not combine with LESA/LEPA PIF or irrigation upgrade measures because it would be double-counting

- A PIF is already required
- Each component is already included in the package and conversion measures (nozzle, sprinkler, regulator, etc.)

13.2.1.9 Tower/Span/Pivot Gasket

- May be called a tower gasket, a span gasket, or a pivot flex joint gasket
- Applies to leaking gaskets in-between the spans of a center pivot or linear move
- Usually 10-12 per pivot
- \$2 per gasket
- 7 kWh

Changes Effective October 1, 2019

- Changes in savings and payments
- Expiring measures

6.3.1 Irrigation System Upgrades: Savings and Payment Increase

Measure	Site Savings	Revised Savings	Current Payment (\$)	Revised Payment (\$)
Center pivot base boot gasket	1252	2216	175.00	275.00
Rebuild or replace leveler	2	5	0.75	1.00
Pipe repair	41	56	10.00	12.00

6.3.1 Irrigation System Upgrades: Increase Payment, Decrease Savings

Measure	Site Savings	Revised Savings	Current Payment (\$)	Revised Payment (\$)
Drain and/or drain gasket replacement	20	13	1.00	3.00

6.3.1 Irrigation System Upgrades: Savings and Payment Decrease

Measure	Site Savings	Revised Savings	Current Payment (\$)	Revised Payment (\$)
New hubs for wheel lines	58	32	14.50	7.00
New, rotating type sprinklers that replace impact sprinklers	20	4	4.00	1.00
New rotating-type sprinklers that replace low-pressure models	20	4	4.00	1.00
Replace leaking impact sprinkler with rebuilt or new impact sprinkler	25	4	3.75	1.00

6.3.1 Irrigation System Upgrades: Savings Decrease

Measure	Site Savings	Revised Savings	Current Payment (\$)	Revised Payment (\$)
New nozzle for center pivot and lateral moves	35.00	31	3.00	3.00

6.3.1 Irrigation System Upgrades: Payment Increase

Measure	Site Savings	Revised Savings	Current Payment (\$)	Revised Payment (\$)
Replace leaking pipe section and riser cap gaskets for wheel or hand lines, or portable main line gasket with new gasket	20	20	2.75	4.00

6.3.1 Irrigation System Upgrades: Expiring Measures

1. Drop tube for low-pressure pivot sprinklers
2. Gooseneck elbow for new drop tubes (convert to LEPA/LESA)
3. Multi-trajectory sprays that replace impact sprinklers
4. Multi-trajectory sprays that replace low-pressure sprinklers
5. Multiple configuration nozzles for low-pressure pivot sprinklers
6. Flow-controlling nozzle for impact sprinklers
7. New nozzle for impact sprinkler
8. Low-pressure regulators

6.3.4-5 LESA/LEPA Expiring Measures

- Low Energy Precision Agriculture (LEPA) (BPA-Qualified)
- Low Elevation Sprinkler Application (LESA) (BPA-Qualified)

6.4 Variable Frequency Drive (VFD) in Agricultural Turbine Pumps

- Payment will increase from \$60/HP to \$80/HP
- Aligns payment with VFD for New Agriculture Pump Installation measure (Added October 2018)

6.5 Transformer De-Energization

- Payment for this measure will go up from \$0.025 to \$0.03 per kWh at busbar
- The fractional cent incentive was causing problems in IS2.0

Questions?

Commercial

Michelle Lichtenfels, Sector Lead

Dave Murphy, Program Manager

Commercial Themes

Nonres Lighting

Big changes in payments
via LC 5 series

Custom

Updated Commercial
Custom Project HVAC rates

HVAC

All HVAC measures savings
and payments tuned up

Other UES

RTF updates and
measure expirations

4.0 Custom Projects

- **Commercial HVAC custom projects**
 - Increased payment for by 15%
 - All other end uses remain the same
- **Nonresidential Lighting custom projects**
 - See 7.3 Nonresidential Lighting slides

7.3 Nonresidential Lighting – Effective April 2019

- Releases LC 5.0, with new payment levels

Category	LC 4.0	LC 5.0 (New Calculator)
Calculated	\$0.18 per kWh	\$0.13 per kWh
Custom	\$0.18 per kWh	\$0.13 per kWh
TLEDs	\$4.00 per tube	\$2.00 per tube
Exit signs	\$40 per sign	\$20 per sign
Linear fluorescent	Multiple payment types	Removed

- Small language update to remove requirement for a functionality that does not exist in the LC 4.0 or LC 5.0 calculator

7.3 Nonresidential Lighting – Effective April 2019

Sets retirement dates for LC 4.0 and 5.0

- LC 4.0: Complete and report/invoice projects by **December 31, 2019**
- LC 5 Series (planned): Complete and report/invoice projects by **December 31, 2021**
 - Lends predictability to calculator transitions
 - Reflects movement to “rate period” calculator
 - Lays groundwork for 2022-23 LC 6 series

7.3 Nonresidential Lighting

- **New Construction projects**
 - Adds new invoice documentation requirement
- **Custom lighting project requirements**
 - Moved to IM Section 4.0 Custom Projects
 - Decreased payment for to ensure consistency with Lighting Calculator 5 series
- **Updated IM language**
 - Promote clarity and ease of understanding
 - Numbering for quick reference
 - Incorporate requested clarifications

7.4.1 Advanced Rooftop Unit Control Retrofit

- BPAQ measure replaced with new RTF measure
- Small decrease in savings
- Simplified payment structure
 - Two categories instead of four

IM Number	Measure	2018-2019	2020-2021
7.4.1	Advanced Rooftop Unit Control Retrofit	\$100–\$225/ton	Full: \$200 Lite: \$100

7.4.2 Ductless Heat Pump Retrofit

- The measure formerly known as “Ductless Heat Pump”
 - The new DHP Upgrade measure addresses failed heat pumps
- Updated efficiency specification aligns with equipment on the market: Based on 75th percentile of performance
- Outdoor condenser unit minimum 11.0 HSPF
 - Single or multi head
- Savings increase

IM Number	Measure	2018-2019	2020-2021
7.4.2	Ductless Heat Pump Retrofit	\$800/ton	\$1000/ton

7.4.2 Ductless Heat Pump Upgrade - NEW

- Replaces a DHP or installs a new one
- Updated efficiency specification aligns with equipment on the market: Based on 75th percentile of performance
- Outdoor condenser unit minimum 11.0 HSPF
 - Single or multi head

IM Number	Measure	2018-2019	2020-2021
7.4.2	Ductless Heat Pump Upgrade	N/A	\$300/ton

7.4.3 Heat Pump Retrofit

- The measure formerly known as Heat Pump Conversion
- Removed 20 ton individual unit size cap
- Updated efficiency specification aligns with equipment on the market: Based on 75th percentile of performance
 - Now inline with the IM – not a separate IM Document Library reference
- Savings increase

IM Number	Measure	2018-2019	2020-2021
7.4.3	Heat Pump Retrofit (nee Conversion)	\$500/ton	\$1000/ton

7.4.4 Heat Pump Upgrade

- Removed 20 ton individual unit size cap
- Updated efficiency specification aligns with equipment on the market: Based on 75th percentile of performance
 - Now inline with the IM – not a separate IM Document Library reference
 - Same as Heat Pump Retrofit
- Savings decreased with the alignment to code
- Small reduction in payment
 - New payment: a straight \$150/ton

IM Number	Measure	2018-2019	2020-2021
7.4.4	Heat Pump Upgrade	<6 tons: \$1,000/heat pump 6–20 tons: \$200/ton	\$150/ton

7.4.5 Connected Thermostat

- BPAQ measure replaced with new RTF measure
- New measure incorporates a second payment type for verification of thermostat programming
 - A Project Information Form will be required

IM Number	Measure	2018-2019	2020-2021
7.4.5	Connected Thermostat	\$200/ thermostat	\$150/thermostat (Initial Install) \$50/verification

7.4.6 Variable Refrigerant Flow

- Updated efficiency specification aligns with equipment on the market: Based on 75th percentile of performance
 - Now inline with the IM – not a separate IM Document Library reference
- Removed 100,000 SF building size cap
- Savings increased

IM Number	Measure	2018-2019	2020-2021
7.4.6	Variable Refrigerant Flow System	\$800/ton	\$1000/ton

7.4.7 Variable Frequency Drive on Air Handling Unit Fan

Removed requirements that impede implementation

- Post-condition requirement for VFD trending
- Minimum building operating hours

IM Number	Measure	2018-2019	2020-2021
7.4.7	Variable Frequency Drive on Air Handling Unit Fan	\$300/ horsepower	No change

7.5 Commercial Shell measures

- Seek to align with EE Implementation Plan/ Resource Program findings
- **Insulation:** Overall 65-77% increase in payment depending on heating zone
- **Windows:** Increases payments by 3X
- No changes in savings

IM Number	Measure	2018-2019	2020-2021
7.5.1	Insulation	\$0.45–\$1.25/ square foot	\$0.45-\$2.05/ square foot
7.5.2	Windows for Commercial Buildings	\$3–\$6/ square foot	\$9-\$18/ square foot

7.6 Electric water heaters

- **Electric Resistance:** Removed this expired RTF measure
- **HPWH:** Now available as a cross-sector measure using the Residential measure
 - The Commercial measure has always been designed for “residential style” applications

7.7 Commercial Refrigeration

- Expiring 4 measures: Low uptake and anticipated 2019 RTF sunset dates
- All remaining measures have a slightly updated Basis for Energy Savings
- New requirements: 7.7.4 and 7.7.7
 - Requirements previously embedded in the Basis for Energy Savings
- No payment or savings changes

IM Number	Measure	Notice Item
7.7.2	Floating Head Pressure Control on Single Compressor Systems	Measure expiration
7.7.3	Compressor Head Cooling Fan - Shaded Pole to Electronically Commutated Motor (ECM)	Measure expiration
7.7.5	Walk-In Evaporator ECM Fan Speed Control - Constant to Variable	Measure expiration
7.7.6	Door Gasket Replacement for Walk-In and Reach-In Coolers and Freezers	Measure expiration

7.8 Kitchen & Food Service

- All measures have a slightly updated Basis for Energy Savings
- Pre-Rinse Spray Wash Valves
 - New requirement previously embedded in the Basis for Energy Savings
 - Valve is required to be WaterSense qualified or have a minimum spray force of 4.0 ounces-force
- Most measures updated with 2018 RTF values and ENERGY STAR specifications

7.8 Kitchen & Food Service (Cont'd)

IM Number	Measure	2018-2019	2020-2021
7.8.2	Electric Commercial Steam Cookers	\$50–\$200/ steamer pan	\$500/ 6-pan
7.8.3	Hot Food Holding Cabinets	\$75–\$200/ cabinet	Half: \$250 Full: \$500 Double: \$1,000
7.8.4	Electric Combination Ovens	\$500/oven	No change
7.8.5	Electric Convection Ovens	\$300/oven	Half Oven: \$200 Full Oven: \$400
7.8.6	Commercial Electric Fryers	\$300/fryer	\$250/large vat
7.8.7	Pre-Rinse Spray Valves	\$100/spray valve	No change

7.9.2 Smart Power Strips

- RTF updated the measure in November 2018
 - Revised measure requirements to match RTF; resulted in more clear requirement language
- Removed language about false switching
- Small decrease in savings

IM Number	Measure	2018-2019	2020-2021
7.9.2	Smart Power Strips	\$15/strip	No change

7.9.5 Vehicle Engine Block Heater

- BPAQ measure replaced with new RTF measure
- Slight increase in payment
- Removed PIF
- Decrease in savings

IM Number	Measure	2018-2019	2020-2021
7.9.5	Vehicle Engine Block Heater Controls	\$160/unit	\$200/unit



Commercial Support & Training

1. Spring 2019 Trade Ally Network NW workshops

- Include a preview of 2020-2021 changes

2. Network Field Specialist support

- Outreach to utilities and Trade Allies in Summer 2019
- Want individualized utility-only training? Contact your EER!

3. EFX19 pre-conference HVAC training opportunity for utilities

- Monday, May 13 1:30-4:30pm
- Visit <https://conduitnw.org/Pages/Community.aspx?rid=242#custom30>

Questions?

Thank you
for your time

See you again on March 21, 2019

