

# Implementation Manual Updates: Changes and Corrections Summary

2016-2017 Implementation  
Manual





# Definitions

# Definitions

## Effective October 1, 2016

**Correction: Basis for Energy Savings:** These are provided to help readers understand how savings for Unit Energy Savings (UES) measures are estimated or modeled. The Basis of Energy Savings supports, but does not replace or supersede, the BPA Requirements and Specifications.

**Rationale:** Added language for clarification

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**Correction: Connected Thermostat:** Thermostats that include Wi-Fi or wireless capabilities to connect to the internet. Enabling users to control HVAC functions to maintain zone temperatures via the internet and receive internet access to alerts, monitoring, and programming/control from a remote location.

**Rationale:** Added language for clarification

# Definitions

## Effective October 1, 2016

**Correction: Ton:** A ton is a measure of the cooling or heating capacity of an HVAC system. One ton is equal to 12,000 Btu per hour.

**Rationale:** Added language for clarification

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**Clarification: Zonal electric heating system:** clarification for type of hydronic system

**Rationale:** This change is made to increase definition clarity.

# General Requirements

## Effective October 1, 2016

**Correction:** **Third-Party Operated Program Requirements:** Removed reference to EnergySmart Grocer in paragraph 2

**Rationale:** The ESG Program has ended

# Custom Projects

## Effective October 1, 2016

**Correction: Custom Projects Payment Rate:** Remove references to ESG (i.e. first three rows in table)

**Rationale:** The ESG Program has ended

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**Correction: Custom Projects Payment Rate table** – Remove reference to ESG in retrofit and new construction/major renovation sections.

**Rationale:** The ESG Program has ended

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**Correction: Custom Projects Process Option Overview and Enrollment:** Remove reference to ESG in Option-1 section, and remove “PECI through ESG” in Option-2 section

**Rationale:** The ESG Program has ended



# Agricultural Sector

## Presenter: Tom Osborn



# Agricultural Sector

**Effective October 1, 2016**

No significant changes to announce





# Commercial Sector

## Presenter: John Wilson



# Commercial Sector

**Effective October 1, 2016**

**Change:** Previously, it was required to submit Project Information Forms and calculators for most Commercial measures to [eedocs@bpa.gov](mailto:eedocs@bpa.gov). These files can now be retained in the customer files.

**Rationale:** Reduces the administrative burden for customers.

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**Change:** The Commercial sector has changed the format of measure Requirements and Specifications descriptions to include pre-conditions and post-conditions, with a brief sentence indicating if the measure is for new construction, retrofit or both.

**Rationale:** This change is to add clarity for both interpretation and implementation of the measures.



# Commercial Sector

## Effective October 1, 2016

**Change: Commercial:** All measures now have consistent documentation requirements for invoices. These requirements have been simplified so that only cost and date of installation or purchase are required.

**Rationale:** This change is made to simplify requirements.

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**Correction: Payment Summary:** Removed most of Payment Table section on BPA ESG Program, but retained clarifying language regarding ESG Performance Payments

**Rationale:** Clarifying ESG Program ended March 31, 2016, but ESG Performance Payments for FY16 Close-out may be claimed through Sept. 1 2017 processing deadline.

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**Correction: Payment Summary:** Removing Payment Table section on LED case lighting for Reach-in display cases

**Rationale:** UES measure expired - replaced by lighting calculator



# Commercial Sector

**Effective October 1, 2016**

**Change: Payment Summary:** Removing Payment Table section on LED Motion Sensors for Reach-in cases

**Rationale:** UES measure expired - replaced by Lighting Calculator

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**Change: Payment Summary:** Removing payment table section on LED Case lighting for Open display cases and delamping

**Rationale:** UES measures expired - replaced by Lighting Calculator

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**Change: Payment Summary:** Removing payment table section on Networked Computer Power Management.

**Rationale:** UES measure has expired



# Commercial Sector

**Effective October 1, 2016**

**Change: Payment Summary:** Right Margin – removed link to EnergySmart Grocer

**Rationale:** The ESG Program has ended

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**Change: Commercial HVAC:** Unitary AC has been removed

**Rationale:** UES measure has expired

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**Change: Ductless Heat Pump (BPA Qualified):** Section formatting and description has been updated.

**Rationale:** Change is made to improve measure interpretation and overall clarity.



# Commercial Sector

**Effective October 1, 2016**

**Change: Ductless Heat Pump (BPA Qualified):** Building size restriction ("less than 20,000 square feet of conditioned floor area") removed.

**Rationale:** Change is made in recognition that DHPs are a suitable equipment choice for a range of building sizes and spaces.

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**Change: Ductless Heat Pump (BPA Qualified):** New payment is \$800 per ton.

**Rationale:** Reflects implementation of change notice.

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**Change: Heat Pump Conversion:** Section formatting and description has been updated. Description updated to remove reference to Heat Pump Upgrade, which is a new measure.

**Rationale:** Change is made to improve measure interpretation and overall clarity.



# Commercial Sector

## Effective October 1, 2016

**Change: Heat Pump Upgrade:** Added Heat Pump Upgrade measure is now a deemed measure and no longer requires a calculator.

**Rationale:** This measure is now available.

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**Correction: Connected Thermostat:** Section formatting and description has been updated.

**Rationale:** Change is made to improve measure interpretation and overall clarity.

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# Commercial Sector

## Effective October 1, 2016

**Correction: Connected Thermostat:** New payment is \$200 per unit.

**Rationale:** Reflects implementation of change notice.

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**Change: Variable Refrigerant Flow System:** Language has been added for this new measure.

**Rationale:** This measure is now available

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**Change: Commercial Insulation (UES and BPA Qualified):** The requirement for pre-existing insulation levels will be changed from R-0 to less than or equal to R5 ( $\leq R5$ ).

**Rationale:** This change was made to expand measure eligibility so that it is applicable to conditions where there is no or very little existing insulation.





# Commercial Sector

**Effective October 1, 2016**

**Clarification: Commercial Water Heating:** This section has been reorganized. Electric Resistance Water Heaters and Heat Pump Water heaters are now included in this category as separate measures.

**Rationale:** This change is made to increase section clarity.

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**Change: Electric Resistance Water Heaters:** The incentive is now \$50/water heater.

**Rationale:** The incentive and savings will increase as a result of the RTF updating the analysis for existing baselines.



# Commercial Sector

## Effective October 1, 2016

**Change: Heat Pump Water Heater (BPA Qualified):** New measures will be created for all HPWH Tiers. Payment and savings depend only on the tier.

**Rationale:** Modified to be more consistent with residential HPWH since they both rely on the same qualified products list.

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**Change: Heat Pump Water Heater (BPA Qualified):** Existing water heaters must be electric. Existing gas water heaters will not qualify for payment.

**Rationale:** This change is made to clarify measure eligibility.

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**Change: Refrigeration:** Removed "and rate power consumption" from refrigeration documentation requirements.

**Rationale:** Change is made to simplify the Specification Sheet requirements and make consistent with other measures.



# Commercial Sector

## Effective October 1, 2016

### **Change: BPA EnergySmart Grocer (ESG) Program - Performance**

**Payments:** Removed most ESG program language, but adding clarifying language about continuation of the ESG Performance Payments.

**Rationale:** The ESG Program has ended, but ESG Performance Payments may be claimed through processing deadline of September 1, 2017

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**Change: LED case lighting - Reach-in cases:** This section has been removed (7.7.2)

**Rationale:** UES measure has expired- replaced by Lighting Calculator

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**Change: LED Motion Sensors - Refrigerated case lighting:** This section has been removed (7.7.3)

**Rationale:** UES measure has expired- replaced by Lighting Calculator



# Commercial Sector

## Effective October 1, 2016

**Change: LED Case Lighting - Open display cases:** This section has been removed (7.8.4)

**Rationale:** UES measure has expired- replaced by Lighting Calculator

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**Change: Anti-sweat heater (ASH) Controls:** Removed reference to the measure's availability outside of ESG Program. Also, clarifying measure is for retrofit only.

**Rationale:** The ESG Program has ended

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**Change: Floating head pressure control - Single Compressors:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended



# Commercial Sector

**Effective October 1, 2016**

**Change: Compressor Head Cooling Fan:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended

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**Change: Walk-in or display case evaporator fan motor - Shaded pole to ECM:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended

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**Change: Walk-in Evaporator ECM Fan Speed Control:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended



# Commercial Sector

## Effective October 1, 2016

**Change: Door Gasket Replacement for Walk-in and Reach-in Coolers and Freezers:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended

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**Correction: Door Gasket Replacement for Walk-in and Reach-in Coolers and Freezers:** Changed payment table column header from "Per ECM Motor" to "per Door."

**Rationale:** This corrects an error in prior IM

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**Change: Strip Curtains for Walk-in coolers and freezers:** Removed reference to ESG program and clarified measure is for retrofit only.

**Rationale:** The ESG Program has ended



# Commercial Sector

## Effective October 1, 2016

**Change: Demand Controlled Kitchen Ventilation:** Added language to clarify the measure only applies to existing construction (i.e. not new construction)

**Rationale:** This implements a prior change notice to clarify applicability of the measure

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**Correction: Electric commercial steam cookers:** Corrected requirements from Energy Star v2.0 to Energy Star V1.2

**Rationale:** Change is made to match RTF and UES measure list

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**Correction: Electric commercial steam cookers:** Added language to clarify measure applies to 10 pan "or greater"

**Rationale:** The payment table in Oct. 1, 2015 left out "or greater" in description of the 10-pan unit.



# Commercial Sector

## Effective October 1, 2016

**Correction: Hot Food Holding Cabinets:** Corrected requirements from Energy Star v1.2 to Energy Star V2.0.

**Rationale:** Change is made to match RTF and UES measure list

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**Change: Smart Power Strips:** “Load sensing” has been removed from the measure title so that motion sensing power strips also qualify for payment.

**Rationale:** The RTF savings estimate for Smart Power Strips was based on both load sensing and motion sensing power strips.

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**Change: Networked Computer Power Management:** This section has been removed (7.10.1)

**Rationale:** UES measure has expired





# Industrial Sector

## Presenter: Steve Brooks



# Industrial Sector

## Effective October 1, 2016

**Correction:** **SEM Projects (Optional Energy Management Feature):** The TUNE UP (OPTIONAL) Action Item Implementation table under Component Implementation has been removed

**Rationale:** Duplicative information



# Residential Sector

## Presenter: Gary Smith



# Residential Sector

## Effective October 1, 2016

**Change:** **ENERGY STAR CFLs and Linear Fluorescent Fixtures:** The requirement for CFLs distributed via Direct Install must replace incandescent or halogen bulbs has been removed.

**Rationale:** This change is made to simplify requirements.



# Residential Sector

## Effective October 1, 2016

**Change:** **ENERGY STAR LEDs:** LED Lumen bins on the UES Measure List has changed.

**Rationale:** In August of 2015 the RTF passed updated residential lamp measures shifting the lumen bin ranges to match the EISA (Energy Independence and Security Act) lumen bins. This happened because EISA federal standards are due to make a significant impact on the residential lamp baseline in 2020. In order to map the baseline products to the efficient case products and estimate a stream of savings, the lumen bins must map to the EISA lumen bins each which have their own product standards taking effect. Future lamp updates will be made easier and more transparent by aligning with EISA lumen bins.



# Residential Sector

## Effective October 1, 2016

**Change: Appliances:** New tiers were added for ENERGY STAR Electric Clothes Dryers. BPA now offers Tier 1, 2, and 3.

**Rationale:** This change distilled 12 tiers down to 3 – so a consolidation. We dropped vented and ventless designations.

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**Change: Thermostatic Shut-off Valves:** A new measure was added for Thermostatic Shut-Off Valves.

**Rationale:** This new measure is now available for all housing types.

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**Change: Heat Pump Water Heater:** A new measure was added for Heat Pump Water Heaters (HPWH) - Tier 3. BPA also dropped the gallon size designations and replaced them with “any tank size”.

**Rationale:** This measure is now available



# Residential Sector

## Effective October 1, 2016

**Clarification: Heat Pump Water Heater:** additional language has been added to the Requirements and Specifications. "In existing homes, the HPWH must replace an electric storage water heater on a one-for-one basis."

**Rationale:** This clarification is made to increase section clarity.

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**Change: CFL Fixtures, Refrigerators and Freezers have been removed from the Simple Steps program (10.7)**

**Rationale:** UES measure has expired



# Residential Sector

## Effective October 1, 2016

**Change: Ductless Heat Pumps:** The April 1, 2016 IM Change Notice contained a notice requiring a vacuum pump during the installation of Ductless Heat Pumps. This requirement has been removed effective October 1, 2016.

**Rationale:** More data is needed to determine if additional requirements are needed.

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**Change: Air Source Heat Pumps and Variable Speed Heat Pumps:** New Measures were added for Variable Speed Heat Pumps for Manufactured Homes.

**Rationale:** These new measures are now available.





# Residential Sector

## Effective October 1, 2016

**Correction:** Ground Source Heat Pumps: The Additional Information section for Ground Source Heat Pumps was updated to remove the reference to a PTCS Heat Pump and Central Air Conditioner Sizing Calculator.

**Rationale:** The PTCS Heat Pump and Central Air Conditioner Sizing Calculator is not applicable for Ground Source Heat Pumps.

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**Correction:** Montana House: Effective October 1, 2016 Montana House New Construction measures will use the Montana House 2.0 Specification dated April 14, 2015 available in the Document Library.

**Rationale:** The Montana House 2.0 Specification accompanies the updated measures noticed in the April Change Notice and represents a simplification of this new construction specification.



# Residential Sector

## Effective October 1, 2016

**Change: Low-E Storm Windows:** A new measure was added for Low-E Storm Windows.

**Rationale:** This new measure is now available for all housing types.

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**Change: Low Income Weatherization, Ductless Heat Pumps and Duct Sealing:** Low Income multifamily income requirements for low-income weatherization measures were updated. For multifamily properties, a minimum of 50% of the households must meet eligibility requirements in order for the weatherization of the entire building to qualify for low-income payments. Utilities, however, may set more stringent requirements at their discretion.

**Rationale:** This threshold was clarified at the request of BPA COTRs.



# Residential Sector

## Effective October 1, 2016

**Change: Low Income Weatherization, Ductless Heat Pumps and Duct Sealing:** A new measure was added to the Low-income section for Low-E Storm Windows.

**Rationale:** This new measure is now available for all housing types.

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**Clarification: Ductless Heat Pumps:** Clarification for type of hydronic system

**Rationale:** This change is made to clarify requirements and specifications by better defining the electric baseline for electric hydronic ductless and ducted HP systems.

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**Clarification: Air Source Heat Pumps and Variable Speed Heat Pumps:** Clarification for type of hydronic system in the baseline.

**Rationale:** This change is made to clarify requirements and specification.

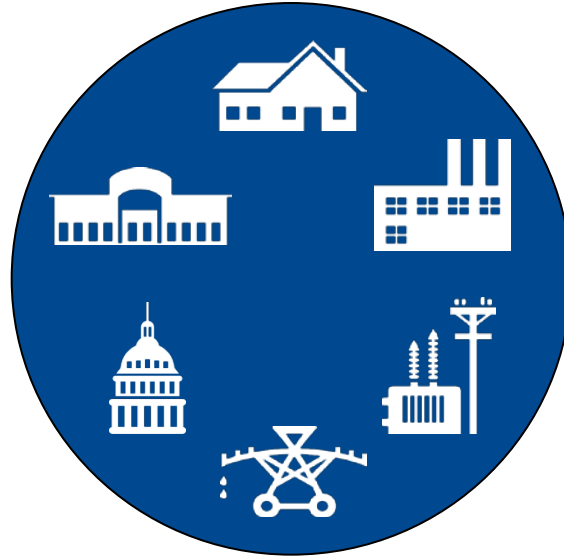


# Residential Sector

## Effective October 1, 2016

**Clarification: Ground Source Heat Pumps:** Clarification for type of hydronic system in the baseline.

**Rationale:** This change is made to clarify requirements and specification by better defining the electric baseline for electric hydronic ducted and ductless systems.



# Multi Sector

Presenter: Gary Smith

# Multi-Sector

## Effective April 1, 2016

**Change: Measure Distribution Processes:** Effective October 1, 2016, Retail appliance, showerheads and advanced power strip measures must be reported using the Retail Sales Allocation Tool, or an alternate methodology may be provided to BPA for review and approval.

**Rationale:** BPA has reviewed risks and has determined that utility allocation methodologies that address any risk of double counting savings are acceptable.

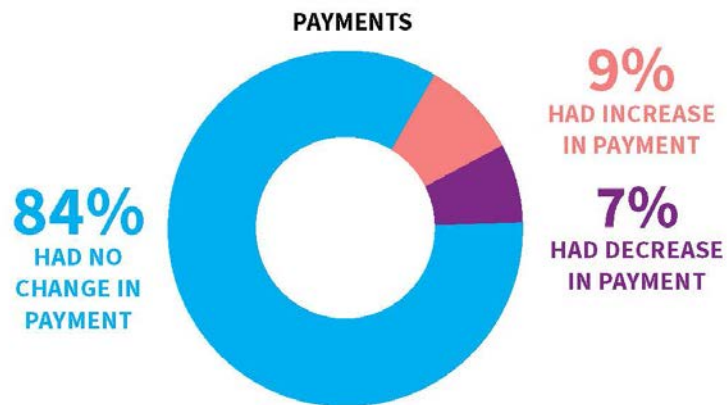
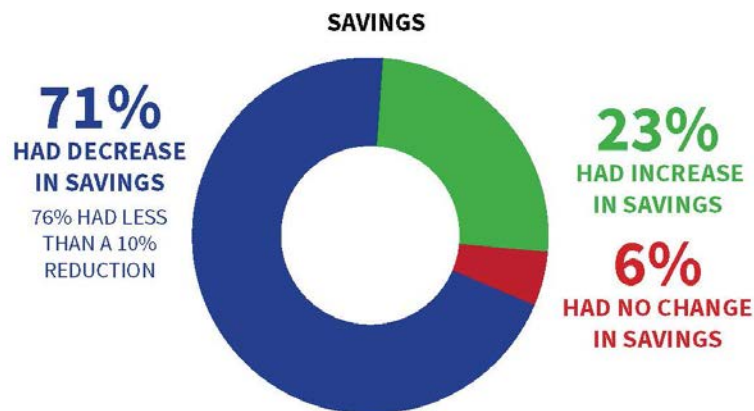


# Planning

Presenter: Phillip Kelsven

# Planning

## UES Measure List Changes



### ACTIVE MEASURES

	April 2016 UES Measure List	October 2016 UES Measure List
<b>Residential</b>	<b>1574</b>	<b>1454</b>
<b>Commercial</b>	<b>471</b>	<b>406</b>
<b>Total</b>	<b>2191</b>	<b>2006</b>

**251** MEASURES EXPIRED AS OF OCTOBER 2016



# Planning

## RTF Measure Changes

1.5

- New list reflects over 1.5 years of RTF updates

SEEM

- Large changes in HVAC, Manufactured Home Weatherization, DuctSealing, and DHP measures are due to SEEM model calibration update.



- RTF created new measure structure for some measures, splitting them out or combining them



- New RTF cost-effectiveness methodology (in updated Pro Costmodel) includes capacity values based on new load shape methodology and data



- Cost-effectiveness has changed for many measures depending on their load shape and capacity value



- Measure sets now have individual multipliers to calculate busbar savings from site savings rather than a single multiplier for all



- More precise and complete distribution and transmission system kW savings values are now provided

# Planning

New planning documents are now available on the Interim Solution 2.0 Files webpage:

- **UES Measure List v.5.0**
- **Peak Savings & CO<sup>2</sup> Emissions Detail**
- **Reference Number Cross Walk**

## UES Measures List

[Version 4.2](#) (Current. Valid through Sept. 30, 2016)

[Version 5.0](#) (New! Valid beginning Oct. 1, 2016)

[Peak Savings and CO<sub>2</sub> Emissions Detail](#) (New! Beginning October 1, 2016)

[Reference Number Cross Walk](#) (New! Beginning October 1, 2016)

<https://www.bpa.gov/EE/Policy/Solutions/Pages/default.aspx>

# Planning

...and coming soon on Thursday September  
8<sup>th</sup> ...

**The UES Measure List BrownBag!**

# Questions



If you have any additional questions, please don't hesitate to contact your Energy Efficiency Representative