

2022-2023 Rate Period Implementation Manual Changes

February 24, 2022



Welcome

Jamae Hilliard Creecy
Vice President, Energy Efficiency



General IM Changes

Corinne Mauck
Implementation Manual Coordinator

Universal Changes

Changes made throughout the Implementation Manual:

- When the BPA Energy Efficiency Tracking System (BEETS) launches, the eedocs@bpa.gov document submission channel will be retired. References to eedocs have been removed from the IM body. *Customers will still use this submission pathway until BEETS is operational.*
- IS2.0 will remain in place until BEETS is operational
- Technical Editing – Grammar, formatting, clarity
- Documentation tables have been updated to clarify information reporting requirements
- Many project information forms (PIFs) will no longer be required

Changes to Sector Sections

- The Basis for Savings portion for many measures have been changed. For measures that are RTF approved, the Basis for Savings have been simplified to a basic description of the technology with further details available on the RTF website. Hyperlinks are provided.
- Energy Efficiency Promotional Payment Rates: BPA has retired promotional residential and commercial HVAC payments, as well as promotional performance payment rates, effective March 31, 2022.
- Information from the previous Multisector section has been incorporated into more relevant locations. The Multisector section has been removed, and a new Introduction to the Sectors section has been added.
- Numbering – All sector based sections have gone up by one number.
- All Section 13 measures have been incorporated into sector sections.

New Interim Reporting Instructions

Sections 4-12

Section 7: Agricultural Sector

INTERIM REPORTING INSTRUCTIONS

As noted in the overview, this section provides customers with guidance for the submission of required information for measure reporting to BPA via email to eedocs@bpa.gov and/or in the IS2.0 system. While the language describing measure requirements and specifications in the IM is accurate, in some instances BPA has outlined the temporary way customers will submit required information until BEETS is operational. Should additional questions arise, please contact your energy efficiency representative.

Guidance:

- Any Implementation Manual April 1, 2022 measure project data marked in the measure Documentation Requirements table as required to be input to the BPA Energy Efficiency Tracking System must still be recorded and uploaded using the UES Measure Upload template for IS2.0.
- Project data and documentation required to be recorded in BEETS and not a data field option on the UES Measure Upload template must be submitted to BPA via email to eedocs@bpa.gov.

Changes to Sections 1-3

Jamae Hilliard Creecy
Energy Efficiency Vice President

Section 1: Introduction

- Introduction language has been updated to reflect the role of the IM as outlined in the Energy Conservation Agreement (ECA)
- COTR Request and Acknowledgement Procedure has been relocated and is now in Section 1.7

Section 2. BPA Funding

- Formatting updates throughout section to remove extraneous hyperlinks found within the section.
- 2.1.1 - Funding Terminology (new subsection). Consolidates definitions for BPA funding terms which were previously located in the Definitions section or other areas of Section 2. This includes: Available Implementation Budget, Bilateral Transfer, Initial Implementation Budget, Tier One Cost Allocation, Unassigned Account.
- 2.1.1.2 - Inter-Rate Period Budget Flexibility (Rollover) is clarified to reflect that customers may transfer up to 10% of their initial implementation budget or up to \$50,000 of their available implementation budget, whichever is greater.
- 2.2 - In the Funding Sources table, updated the Implementation Budget description to say "BPA payment in the form of EEI funding according to the terms of the ECA."

Section 3. General Requirements

- 3.3 Oversight – Added oversight purpose statement and records review subsection
 - Oversight is a contract management activity designed to ensure energy efficiency acquired meets BPA's IM requirements. Oversight is conducted for two primary reasons: 1) to ensure that customers comply with the rules and requirements of the IM and the customer's Energy Conservation Agreement (ECA); and 2) to ensure that BPA complies with its statutory and financial obligations.
 - 3.3.1. Records Review ... As part of the oversight review process, BPA reserves the right to perform detailed records reviews of IM's required documentation
 - 3.3.2 Evaluation
 - 3.3.3 Inspections
- 3.5 - Third-Party Operated Programs has been updated to reflect current BPA third-party offerings:
 - Added Comfort Ready Homes and removed Simple Steps

Changes to Section 4 Custom Projects

Erin Hope
Engineering Manager

Section 4: Custom Projects

- 4.1 Custom Projects Payment Rate (table)
 - Reformatted table to show the measure incentive rates with amounts going from low-to-high per measure life.
 - Increased incentive rate to \$0.35 per kWh for New Construction and Major Renovation of Utility Distribution sector measures with a 20+ year measure life.
- 4.2 Limited Availability Emerging Technology Field Test Projects
 - Moved from Multisector section.
- 4.3.2 Custom Projects General Requirements
 - Added Benefit/Cost (B/C) ratio requirements specific to Utility Distribution measures.
 - Utility Distribution projects 800,000 kWh/year or less are not required to meet B/C of 0.5

Changes to Section 5 – Custom Programs

Dave Murphy
Acting Residential Sector Lead

Section 5: Custom Programs

- 5.0 Custom Programs
 - BPA has reinstated Custom Programs on April 1, 2022 with a revised process. The new process includes three required phases:
 1. Prescreening,
 2. Custom Program Proposal, and
 3. Custom Program Completion.The new process will also include pre-determined documentation and submission requirements.

Please reach out to your Energy Efficiency Representative to begin the pre-screening process.

Payments will be delayed until BEETS

Introduction to the Sectors (formally Multisector)

Margaret Lewis
EE Programs Manager

Section 6 Changes *New!*

- Consolidated and moved the sector introduction/definitions of existing sections to this new IM section. Updated the language to provide additional clarity.
- References COTR request and acknowledgement procedure (Now in section 1.7)
- Includes measure distribution processes (formerly in Multisector)

Agricultural Changes

David Lee, Agricultural Sector Lead

7.6.1 Irrigation System Conversion: LESA/LEPA/MDI

Low Elevation Spray Application (LESA)

Low Energy Precision Agriculture (LEPA)

Mobile Drip Irrigation (MDI)

- The PIF is **no longer required** for LESA/LEPA/MDI system conversions

7.6.3 High to Low Irrigation System Conversion

- Renamed the section
 - Irrigation System Conversion: High Pressure to Low Pressure
- Incorporated the new BPA-Qualified measure for the conversion of **wheel and hand line** irrigation systems from **high-pressure** sprinkler packages to **low-pressure** sprinkler packages
- Kept the existing Mid Elevation Sprinkler Application (MESA) offering
 - Conversion of a **center pivot or linear** move irrigation system, or portion of a system, from **high-pressure** sprinkler packages to MESA

7.6 Irrigation Measures

- **Measures Expiring April 2022**

- Gasket Replacement Replace Leaking Base Boot Gasket with New Gasket Center Pivot or Lateral Move System
- Gasket Replacement Replace Tower/Span/Pivot-Flex Gasket Center Pivot or Lateral Move System
- Pipe Repair Leaking Pipes Wheel-line, Hand-line, or Portable Main-Line System
- Sprinkler Replacements Upgrade Low Pressure Sprinklers to Rotating Type Sprinklers Center Pivot or Lateral Move System
- Sprinkler Replacements Upgrade Impact Sprinkler to Rotating Type Sprinkler Wheel-lines, Hand-lines, Center Pivots or Lateral Move systems

7.6 Irrigation Measures

Expiring Measure	2020	YTD 2021	Total
Gasket Replacement Replace Leaking Base Boot Gasket with New Gasket Center Pivot or Lateral Move System	7	2	9
Gasket Replacement Replace Tower/Span/Pivot-Flex Gasket Center Pivot or Lateral Move System	10		10
Pipe Repair: Repair Leaking Pipes Wheel-line, Hand-line, or Portable Main-Line System	748	77	825
Sprinkler Replacements Upgrade Impact Sprinkler to Rotating Type Sprinkler Wheel-lines, Hand-lines, Center Pivots or Lateral Move systems	661	352	1,013
Sprinkler Replacements Upgrade Low Pressure Sprinklers to Rotating Type Sprinklers Center Pivot or Lateral Move System	379	216	595

7.6 Irrigation Measures

- **Savings and Payments Decreased April 2022**
 - Hub Replacement Replace Thunderbird Wheel Line Hubs Wheel Line System

7.6 Irrigation Measures

- **Savings and Payments Increased April 2022**
 - Sprinkler Upgrade Irrigation System Conversion to MESA from high pressure Center Pivot or Lateral Move System
 - Sprinkler Package Replacements LESA/LEPA/MDI Sprinkler Package Center Pivot or Lateral Move System
 - Sprinkler Package Replacements MESA Sprinkler Package Center Pivot or Lateral Move System
 - Sprinkler Package Replacements High Pressure Sprinkler Package Center Pivot or Lateral Move System
 - Sprinkler Upgrade Irrigation System Conversion to LESA/LEPA/MDI from high pressure, Lateral Move or Center Pivot Systems

7.7.2 VFDs for Centrifugal Ag pumps

7.7.3 VFDs for Turbine Ag pumps

7.7.4 VFDs for new Ag pumps

Variable Frequency Drive (VFD)

- Expand the eligible hp for VFD for pumps UES measures
 - Existing centrifugal or turbine pumps
 - New centrifugal or turbine pumps
 - Will change from 20 hp to 500 hp, to 7.5 hp to 1000 hp

Questions?

Commercial Changes

Eric Mullendore

Commercial and Industrial Sector Lead

Updates to RTF Measure Savings

Updated the energy savings for the measures listed below in the UES Measure List:

- Commercial Insulation.
- Anti-Sweat Heater (ASH) Controls.
- Efficient Refrigeration Evaporator Fan Motor.
- Strip Curtains for Walk-in Coolers and Freezers.
- Commercial Steam Cookers.
- Hot Food Holding Cabinets.
- Electric Convection Ovens.
- Pre-Rinse Spray Valves.
- Vehicle Engine Block Heater Controls.

There are no changes to incentive payments.

Updates to Energy Star Certification Date

Updated the date after which pre-existing models that were ENERGY STAR-Certified at the time they were manufactured are permitted. Changed from October 2019 to April 2022. This applies to the following measures:

- Hot Food Holding Cabinets.
- Commercial Steam Cookers.
- Electric Combination Ovens.
- Electric Convection Ovens.
- Commercial Clothes Washers.

Removal of Project Information Forms

Many Program Information Forms (PIFs) are no longer required documentation. This applies to the following measures:

- Advanced Unit Rooftop Controls
- Connected Thermostats
- Ductless Heat Pump Retrofit and Upgrade (BPA-Qualified)
- Air-Source Heat Pump Retrofit and Upgrade (BPA-Qualified)
- Variable Refrigerant Flow Systems (BPA-Qualified)
- Variable Frequency Drive on Air Handling Unit Fan (VFD on AHU Fan) (BPA-Qualified)
- Commercial Insulation
- Commercial Windows (BPA-Qualified)
- Demand Controlled Kitchen Ventilation
- Generator Block Heaters

The BPA Energy Efficiency Tracking System will incorporate fields to capture project-specific reporting requirements. Save info to customer file in the meantime.

Required Fields in BEETS

Section	Measure Name	Manufacturer	Model	Cost
8.4.1	Advanced Rooftop Unit Control (ARC)	X	X	X
8.4.2	Connected Thermostat	X	X	X
8.4.3	Ductless Heat Pump Retrofit and Upgrade	X	X	X
8.4.4	Air-Source Heat Pump Retrofit and Upgrade	X	X	X
8.4.5	Variable Refrigerant Flow System Retrofit	X	X	X
8.4.6	Variable Frequency Drive on Air Handling Unit Fan	X	X	X
8.5.1	Commercial Insulation			
8.5.2	Commercial Windows			
8.7.1	Demand Controlled Kitchen Ventilation	X	X	X
8.8.1	Generator Block Heaters	X	X	X

UES Measure Reporting

- Continue to submit the UES Measure Upload Template via IS2.0 until BEETS is launched
- Retain 'Manufacturer, model and installed cost' in the customer file for all UES measures that list this information as requirements for BEETS submittal. The information may be recorded in the optional field data collection template provided by BPA or any format that can be shared with BPA upon request. Impacted measures include:
 - 8.4.1 Advanced Rooftop Unit Controls
 - 8.4.2 Connected Thermostat
 - 8.4.3 Ductless Heat Pump Retrofit and Upgrade
 - 8.4.4 Air-Source Heat Pump Retrofit and Upgrade
 - 8.4.5 Variable Refrigerant Flow System Retrofit
 - 8.4.6 Variable Frequency Drive on Air Handling Unit Fan
 - 8.7.1 Demand Controlled Kitchen Ventilation
 - 8.8.1 Generator Block Heaters

Retired Commercial Measures – effective March 31, 2022

- Commercial Electric Fryers
 - RTF updates to this measure left limited opportunity for uptake.
- Commercial Showerheads
 - This measure was deactivated by the RTF.

8.3 Nonresidential Lighting

- Added an additional method to calculate incremental cost for commercial new construction lighting projects: 2.86% of the total project construction cost
- Removed references to retired Nonresidential Lighting Calculators (v4.0 and v5.0)

8.4.3 Ductless Heat Pump (DHP) Retrofit and Upgrade

- Updated the DHP **Upgrade** precondition requirements to also allow for the space to be conditioned by an operational or failed Air-Source Heat Pump
- Added AHRI Certificate as a documentation requirement
- Removed the Ductless Heat Pump Qualified Product List
 - DHP efficiency requirements are listed in the IM and unchanged

8.4.4 Air-Source Heat Pump Retrofit and Upgrade

Added clarification to post-condition requirements:

- Each installed heat pump must individually meet the post-condition requirements

8.5.1 Commercial Insulation

Updated the pre-condition requirements to clarify that the building's *primary* heating system must be electric

8.5.2 Commercial Windows

Updated the precondition requirements to clarify that the building's *primary* heating system must be electric

8.6.2 Efficient Refrigeration Evaporator Fan Motor

Updated post-condition requirements to allow payments for Permanent Magnet Synchronous Motors (PMSMs).

- Electronically Commutated Motors (ECMs) still eligible for payment
- No change to payment levels
- Updated measure name

8.7.5 Electric Convection Ovens

Updated ENERGY STAR-Certified requirement from a minimum of version 2.2 to a minimum of version 3.0

- Aligns with the RTF

8.8.4 Commercial Heat Pump Water Heaters

Eliminated the optional use of the Residential Sector 11.5.4 Unitary Heat Pump Water Heater and 11.5.5 Split-System Heat Pump Water Heater measures for commercial installations, effective March 31, 2022

- Customers must utilize the Commercial Heat Pump Water Heater measure for all commercial applications
- Added note clarifying that Tier 4 units qualify for the Tier 3 commercial measure

Questions?

Industrial Changes

Eric Mullendore
Commercial and Industrial Sector Lead

10.0 Energy Management: Energy Project Manager (Optional ESI Component)

Expired this measure and the Energy Project Manager Calculator v6.1 on March 31, 2022

10.0 Strategic Energy Management: SEM Projects (Optional ESI Component)

Expired the SEM Projects measure and the Strategic Energy Management Calculator v8.1 on March 31, 2022

10.3.1 Energy Project Manager

- Added the Energy Project Manager (EPM) measure effective April 1, 2022
- Applicable to the Industrial and Commercial sectors
- Lesser of \$0.025 per kWh of verified energy savings or \$150,000 per site, per rate period
- Documentation Requirements
 - Enrollment Application
 - Comprehensive Site Plan (Initial)
 - Comprehensive Site Plan (Updated)
- ESI supports Industrial Sector EPMs

10.3.1 EPM, cont'd

- Comprehensive Site Plan (Initial) must include:
 - EPM name and contact info
 - Site name
 - Commencement Date (April 1, 2022 or later, unless existing EPM)
 - List of proposed projects and estimated savings for each
 - Estimated savings that exceed 200,000 kWh
 - At least one project categorized in end-use other than lighting
- Payment is available upon submittal of Comprehensive Site Plan (Updated) detailing eligible projects from initial plan that have been approved for payment

10.3.1 EPM, cont'd

Until BEETS launches, submit the following to EEDocs for review:

- Enrollment Application
- Comprehensive Site Plan (Initial)
- Comprehensive Site Plan (Updated)
- EPM Calculator v6.2

Upload approved EPM Calculator v6.2 into IS2.0 for payment

10.3.2 Strategic Energy Management

- Added Strategic Energy Management (SEM) measure effective April 1, 2022
- Applicable to the Industrial and Commercial sectors
- \$0.025 per kWh of verified energy savings
- Documentation Requirements
 - Enrollment Application
 - Annual SEM Report
 - SEM Calculator
- ESI supports Industrial Sector SEM participants

10.3.2 SEM, cont'd

- Enrollment Application must include:
 - Site name, address, and contact details
 - Estimated Baseline Annual Energy Consumption (kWh/yr)
 - Confirmation that site has committed to a minimum two-year performance period
 - Estimated SEM Energy Savings Potential for the two-year performance period
 - Estimated Performance Period Start Date (April 1, 2022 or later unless current SEM participant)
- Verified Energy Savings must be calculated following an M&V option described in C&I SEM M&V Reference Guide

10.2.2 SEM, cont'd

- Annual SEM Report must include:
 - Verified SEM Savings
 - Site-specific written summary describing SEM systems and practices implemented including persistence strategies.
 - Documentation of M&V compliance with BPA C&I SEM M&V Reference Guide
 - Opportunity register that documents individual energy efficiency measures implemented including subsystem, measure name and description, and when it was implemented

10.3.2 SEM, cont'd

Until BEETS launches, submit the following to EEDocs for review:

- Enrollment Application
- Annual SEM Report
- SEM Calculator v8.2

Upload approved SEM Calculator v8.2 into IS2.0 for payment

10.2.3 Performance Tracking System

- Added the Performance Tracking System (PTS) measure effective April 1, 2022
- Applicable to active SEM participants in the Industrial and Commercial sectors
- No savings directly attributable to PTS
- PTS Initial Install: Lesser of PTS costs or \$15,000 per two-year performance period
- PTS Maintenance: Lesser of PTS costs or \$10,000 per two-year performance period
- Documentation Requirements
 - Site name and SEM measure affiliation
 - Description of PTS system
 - Verification of installation through photos and/or data
 - Documentation demonstrating the PTS system data is valid
 - Cost documentation

UES Measure Reporting

- Continue to submit the UES Measure Upload Template via IS2.0 until BEETS is launched
- Submit project calculators and supporting invoices for all UES measures that require one to eedocs@bpa.gov. Impacted measures include:
 - 10.3.3 Performance Tracking Systems
 - 10.6 High Frequency Battery Charger Upgrade
 - 10.7 Welder Upgrade
 - 10.8 Water System Leak Abatement

10.9 Green Motors

- Green motors has been moved from Multisector to Industrial

Questions?

Residential Changes

Dave Murphy
Acting Sector Lead

Residential Rate Period Overview: Simplification

Removal of Forms (Data collection tools will remain available)	Simplification of Measure
PTCS	Washers
DHPs	PTCS
Advanced Smart Thermostats	Exterior Insulated Doors

Residential Rate Period Overview: Measure Changes

Measure Expiration	Savings Changes	Payment Changes
Some LEDs	Some LEDs ↓	Some LEDs ↓
IR + PC Interacting Advanced Power Strips	Level 2 EV Chargers ↓	Advanced Smart Thermostat (compared to pre-promotional rate) ↑
Showerheads, Aerators, Combo Thermostatic Shut off Valves	Heat Pump Water Heaters ↓↑	
Kits (but will replace)	PTCS ↓	
	Zonal Ductless Heat Pumps ↓	
	Line Voltage Thermostat ↑	
	NEEM ↓	
	Weatherization ↓↑	

Documentation Requirements - NEW

- BPA will not require IM Measure Documentation Requirements table data elements that are **already reflected in the UES RefNo.**
- The utility is required to select the correct UES RefNo.
- COTRs will not be reviewing this information as part of Oversight Reviews.
 - If a utility provides documentation during Oversight that does not match the RefNo submitted on the invoice, the COTRs will work with the utility to reconcile that to reflect the correct RefNo.
- The Programs team can provide customer training to support the COTRs as needed.

Documentation & Requirements - NEW

- For measures with **multiple delivery** channels reference section 6.2, the Introduction to the Sectors, for the documentation requirements specific to each channel
- Some requirements are conditional based on the utility reporting method
 - If using the measure distribution log, information is stored in the customer file
 - If **not** using the measure distribution log, information is required in BEETS

Consumer Products

April 1, 2022

11.2 Residential Lighting

Delivery Channels Removed	Savings and Payments	Requirements Removed
Retail: LED Lamps, LED Fixtures, TLEDs	Savings: Most decreased, some increased	Direct Install - The RBSA room type table moved from the "Requirements and Specifications" section and to the "Additional Information" section for both Lamps & TLEDs
Mailed Non-Request: LED Lamps	Payments: Decreased or stayed the same	
Direct Install: LED Fixtures		
By Request: LED Lamps (WA Only)		

11.3.1 Residential Advanced Power Strips

- Offerings Removed
 - Infrared Sensing Advanced Power Strips (Home Entertainment Centers)
 - PC Interaction Sensing Advanced Power Strips(Personal Desktop Computers)
- Reduced Payment
 - By Request payment for Load Sensing Advanced Power Strips have been reduced
- Requirements Removed
 - Home Entertainment application has been moved from the "Requirements and Specifications" section and added to the "Additional Information" section

11.3.2 Energy Saver Kits

- All kits have been deactivated and new kits are available; savings and payments will change
- Kit configuration offerings that include LED bulbs are eligible for all states except Washington
 - Due to newly adopted lighting standards in Washington, the baseline is the efficient case for LED bulbs - they have been omitted from kits available in Washington State

11.4 Residential Appliances

- Simplified measure and reporting requirements
- Delivery Channel language in IM Removed
 - By Request
 - Direct Install
- All CEE Tier Clothes Washer Measures have been removed
- The verbiage "and top loaders must be rated CEE Tier 1 or above" has been removed from the Requirements and Specifications
- Payments are now levelized by load configuration and ENERGY STAR

11.5 Electric Vehicle Chargers

- Reduction in Savings
 - Level 2 Electric Vehicle (EV) Chargers
- EV chargers now have a Qualified Products List in the IM document library instead of linking to the ENERGY STAR website list of certified products

11.6.1 Thermostatic Shut-Off Valves

- Offerings Removed
 - Showerheads
 - Aerators
 - Combination Thermostatic Shut-Off Valves (TSVs)
- **Combination units are still allowed in the TSV measures but savings and payments are now based on the stand-alone TSV savings only**
- The savings for stand-alone TSVs decreased
- The payment for By Request stand alone decreased
- Fuel source documentation has been updated to include absence of natural gas within a service territory to claim electric measures without verification of fuel type

Heat Pump Water Heaters

April 1, 2022

11.6.2 Heat Pump Water Heaters

- Any size tank measure has been renamed 50 gallon and above
 - Complementary change with release of 40 gallon measure in October 2021
- 40 gallon units must use 40 gallon measures for reporting
- Savings changed, some up, some down
 - Range between a ~76 kWh increase to a ~120 kWh decrease

11.6.2 Heat Pump Water Heaters

- Unitary HPWHs are no longer eligible for residential new construction (split systems are still allowed in new con)
 - Tier 1-3 HPWH measures no longer have state level measure identifiers in the measure list
- All HPWH types are now eligible for multi-family
- Language regarding “one-to-one” replacement has been removed and is covered by other text in the section

11.6.2 Heat Pump Water Heaters

- Commercial Heat Pump Water Heater installations
 - Will no longer be eligible for reporting using Residential Unitary measures or Residential Split-System measures
- Split-system Heat Pump Water Heater measures
 - Will be made eligible for multifamily housing
 - Detailed qualifications for split-system water heaters will be moved from basis for savings to additional information

Questions?

PTCS Program Changes

April 1, 2022

Gary Smith
PTCS Program Lead

11.7.2 Performance Tested Comfort Systems

Program Changes

- Entire PTCS Measure Suite was simplified, including:
 - Specifications and participation requirements (as presented Dec 2, 2021 webinar)
 - Forms – revised to reflect PTCS Redesign changes and deemed “optional” – BPA is relying on Registry instead
 - Forms – renamed to add “Optional Data Collection Tool” in header
 - Currently: **PTCS Air Source Heat Pump** Form (ASHPs and VSHPs and CC&S)
 - Renamed: PTCS Air Source Heat Pump Optional Data Collection Tool
 - Currently: **PTCS Ground Source Heat Pump** Form PTCS Duct Sealing
 - Renamed: PTCS Ground Source Heat Pump Optional Data Collection Tool
 - Currently: **PTCS Duct Sealing** Form
 - Renamed: PTCS Duct Sealing Optional Data Collection Tool
 - Currently: **Prescriptive Duct Sealing** Form
 - Renamed: Prescriptive Duct Sealing Optional Data Collection Tool

Rationale: To accommodate changes recommended through the PTCS redesign workgroup

11.7.2 Performance Tested Comfort Systems

Removal of Documentation Requirements

- The following forms are no longer required to be stored in the Customer File, but may be retained by the utility:
 - For Air Source Heat Pumps (ASHPs, VSHPs, CC&S):
 - PTCS Air Source Heat Pump Form (renamed Optional Data Collection Tool)
 - CheckMe!® Heat Pump Protocol Data Entry Form
 - PTCS Heat Pump and Central Air Conditioner Sizing Calculator
 - Heat load/heat loss calculations and associated balance point worksheet
 - For Ground Source Heat Pumps:
 - PTCS Ground Source Heat Pump Form (renamed Optional Data Collection Tool)
 - Heat load/heat loss calculation; and
 - Balance point worksheet (i.e. a calculator, graph or chart); and
 - Loop-design documentation

Rationale: Program simplification

11.7.2.1, 11.7.2.2, 11.7.2.3, 11.7.2.4, 11.7.2.5, 11.7.3: PTCS Air Source Heat Pumps, Variable Speed Heat Pumps, Commissioning, Controls & Sizing, Ground Source Heat Pumps, & Prescriptive Duct Sealing

Removal of Documentation Requirements (Continued...)

- The following is no longer required in the Customer File – Is already captured in Registry
 - A. “Documentation that measure requirements have been met (manufacturer, model number, type, size, quantity of equipment of product installed or used”), and
 - B. “Proof that the required forms for the claimed measures have been accepted in the PTCS Site Registry of certified systems”, and
 - C. “Registry Installation Report.”

Rationale: East HUB Roundtable feedback – Remove duplicative info already captured in Registry

11.7.2.1, 11.7.2.2, 11.7.2.3, 11.7.2.4, 11.7.2.5: PTCS Air Source Heat Pumps, Variable Speed Heat Pumps, Commissioning, Controls & Sizing, Ground Source Heat Pumps, PTCS Duct Sealing

Clarification of Documentation Requirements:

- Replaced this requirement -----> “Site Registry Measure ID”
- With this requirement -----> “Site Registry Measure ID reflecting ‘BPA Approved’ status”
 - Check marked boxes for BPA Energy Efficiency Tracking System, and PTCS Site Registry

Rationale: For PTCS measures to be claimed, we require the Registry contain a Site Registry Measure ID showing 'BPA-Approved' status, which reflects full compliance with PTCS specifications.

11.7.2.1, 11.7.2.2, 11.7.2.3, 11.7.2.4, 11.7.3: PTCS Air Source Heat Pumps; Variable Speed Heat Pumps; Commissioning, Controls & Sizing; Ground Source Heat Pumps; Prescriptive Duct Sealing

BPAQ labels added

- IM section headers were changed to add the term: "(BPA-qualified)."

Rationale: Measures were changed from RTF to BPA-Qualified Basis For Energy Savings

- Prescriptive Duct Sealing was always BPA-Qualified but not noted in the IM, so we also added that clarification in the section header

11.7.2.1, 11.7.2.2, 11.7.2.4: PTCS ASHPs, VSHPs, GSHPs

Savings reduced

- kWh savings decreased
- No change to payments

Rationale: RTF changed the kWh savings

11.7.2.1, 11.7.2.2: PTCS ASHPs and VSHPs

RefNos were consolidated resulting in elimination 30 RefNo's

- RTF created measures that do not have cooling zone identifiers and instead opted for a simpler measure set that has heating zone identifiers tied to “All Cooling Zones.”
- Additionally, BPA decided to keep the refnos for the cooling zone 1 measures and rename them “All Cooling Zones.”

Rationale: Program simplification

11.7.2.4 PTCS Ground Source Heat Pump

Specifications were consolidated

- PTCS Ground Source Heat Pumps: Combined two spec documents into one spec document.
 - **From this:**
 - PTCS Ground Water Source Open Loop Installation Specifications, and
 - RTF Residential Ground Source Heat Pump System Installation Standards
 - **To this:**
 - PTCS Ground Water Source Open Loop Heat Pump & Ground Source Closed Loop Heat Pump Installation Specifications
- Updated the GSHP install form to accommodate this change and removed unused checklists from form.

Rationale: Program Simplification

11.7.2.5 and 11.7.3: PTCS and Prescriptive Duct Sealing

Resealing of previously sealed ducts will be allowed beginning April 1, 2022:

- At discretion of utility (i.e. only a second duct sealing allowed)
- Applicable to PTCS and Prescriptive Duct Sealing

Rationale: Additional flexibility

11.7.3 Prescriptive Duct Sealing

Changed Documentation Requirements table

- **Added:** Primary Heating System Type (needed for evaluation data collection purposes). Is already captured on form and in Registry. **Will be required in BEETS when BEETS goes live.**
- **Removed:** Registry Installation Report
- **Clarified:** Installation Information required, including one of the following is required:
 - 1) “Site Registry Measure ID reflecting ‘BPA-Approved’ status” (if the job was entered into the PTCS Site Registry), or
 - 2) Prescriptive Duct Sealing form (if job not entered into Registry, or if form supports a pre-approved utility certification program that does not utilize the Registry) - stored in Customer File.

Rationale: For compliance purposes, BPA needs either the Registry record, or the form

Residential HVAC (non-PTCS) April 1, 2022

**Nell Burns
HVAC Programs**

11.7.1 Ductless Heat Pumps (DHPs)

- Savings in zonal single family and manufactured home applications decreased. There are no changes to payments
- DHPs are no longer available in new residential single family applications; they are still available in new manufactured homes
- BPA no longer maintains a Qualified Products List (QPL) for this measure. Customers are required to maintain a copy of the AHRI certificate that demonstrates that the ductless heat pump meets our requirements in the customer file
- BPA no longer requires completion of the DHP Project Information Form (PIF). Once BEETS is operational, customers are required to include the manufacturer, model and installed cost on the updated UES template.
- Utilities will need to gather required information noted in the IM
 - Optional data collection tool created for utility use, available in the IM document library

11.8.1 Line Voltage Thermostats

- Savings increased slightly
- Payments remained the same

11.8.2 Advanced Smart Thermostats

- BPA no longer requires completion of the Advanced Smart Thermostat Project Information Form (PIF)
- Payments increased to \$165 for Direct Install and \$140 for all other delivery channels for all qualified models
- Once BEETS is operational, customers are required to include the manufacturer and model on the updated UES template. Utilities will need to gather required information noted in the IM
 - Optional data collection tool created for utility use, available in the IM document library

Questions?

Residential New Construction

April 1, 2022

11.9.1 Northwest Energy Efficient Manufactured Homes (NEEM)

- Savings for Northwest Energy Efficient Manufactured Home (NEEM) decreased
- Payments remained the same

11.9.4 Montana House

- The Montana House measure will no longer be available beginning October 1, 2023
- We are providing extra advance notice to ensure that utilities are aware that projects permitted prior to that date but not completed until afterward will not be eligible for a payment.

11.9.5 and 11.9.6 New Multifamily Construction

- BPA no longer allows custom projects for new multifamily construction.
- Calculating the savings above code requires highly complex and specialized energy models to verify what the savings are. BPA does not have the resources to do this. We rely on the third party implementation programs referenced in the UES measures to perform this modeling and determine the code trade-offs utilized.

Questions?

Weatherization

April 1, 2022

11.10 Multiple Weatherization Measures

- **Savings have changed for many single family, manufactured home, and some multifamily weatherization measures.** No incentive changes have been made; please reference the UES measure list for specific changes
- **Insulation (11.10.1) & Prime Window & Patio Doors Replacements (11.10.2):** Removing requirement that limits utilities that are claiming multiple existing single family insulation, prime window, or patio door replacement projects on the same invoice to using either the “Any Electric Heat” measures or HVAC-specific heating type measures, but not both
- **11.10.5 & 11.10.6 (Whole House & Prescriptive Air Sealing):** Removing the requirement to document the age of the home

Measure	Savings Change
Air Sealing: Manufactured Home	Down
Air Sealing: Single Family	Down
Attic Insulation: Manufactured Home	Up
Attic Insulation: Multifamily Low Rise	Slightly Down
Attic Insulation: Single Family	Slightly Down
Roof Insulation: Multifamily Mid/High Rise	Down
Floor Insulation: Manufactured Home	Slightly Up
Floor Insulation: Multifamily Low Rise	Down
Floor Insulation: Single Family	Down
Wall Insulation: Multifamily Low Rise	Down
Wall Insulation: Multifamily Mid/High Rise	R0 to R11: Slightly Down
Wall Insulation: Single Family	Down
Insulated doors: Manufactured Home, Multifamily, and Single Family	Down
Prime Windows: Manufactured Home	Up (about 3%)
Prime Windows: Multifamily Low Rise	Slightly Up
Prime Windows: Multifamily Mid/High Rise	Down
Prime Windows: Single Family	Down
Storm Windows: Manufactured Home	Up
Storm Windows: Multifamily Low Rise	Up
Storm Windows: Single Family	Down

11.10 Multiple Weatherization Measures

- **Primary heating system types for most ‘Any Electric’ weatherization measures must be entered into BEETS.**
 - This will add a requirement to capture the primary heating system type for Low-E Storm Windows (11.10.3) and Exterior Insulated Doors (11.10.4)
 - Excludes Prescriptive and Whole-House Air Sealing
 - There is no change to the “Any Electric” RefNos, they will continue to have higher payments

11.10.1 Insulation

- BPA has retired the measure option for Single Family Attic Insulation R38 to R49 to align with the RTF
 - All other attic insulation measures remain
 - Please use the measure for Single Family Attic Insulation from R30 to R49 instead
- Clarification added that knee walls should be invoiced as wall insulation and not attic insulation per Weatherization Specification Section 8 (Wall Insulation: Site Built Homes)
- Corrected the guidance to state that the sloped surface of an A-frame home must be insulated and invoiced per Weatherization Specification section 4.7: Sloped Roofs and Unfinished Attics
- Clarification added that manufactured roof insulation with blown-in attic and rigid insulation covered by an EPDM roof can be claimed as one roof insulation measure based on total insulation value
- ***NOTE: This clarification will not be required until BEETS is operational*** Clarification will be added that the reported project square footage shall be rounded to the nearest whole number.

11.10.2 Prime Windows & Patio Door Replacements

- Adding clarification that prime windows and patio doors should be reported on the invoice using the reference number that accurately reflects the pre-existing pane count. If single- and double-pane windows were replaced, square footage of each type should be reported separately
- ***NOTE: This clarification will not be required until BEETS is operational.*** Clarification will be added that the reported project square footage shall be rounded to the nearest whole number. Guidance on two different calculation methods are available to account for different types of installations.

11.10.4 Exterior Insulated Doors (BPAQ)

- Additional path to qualification: In addition to being ENERGY STAR-rated, BPA now also accepts NFRC-rated doors that meet specific U-factor and solar heat gain coefficient requirements based on glazing levels
 - BPA has expanded the allowable documentation to demonstrate qualification to include a copy of the NFRC sticker
- BPA now accepts pre-existing models that were ENERGY STAR-Qualified at the time they were manufactured even if ENERGY STAR specifications have changed
- Clarified that the glazing level refers to the distinction of whether the replacement door is \leq 1/2-Lite, which refers to the proportion of the door that is taken up by a window

Low-Income Energy Efficiency Measures

April 1, 2022

11.11 Low-Income Energy Efficiency Measures

- Low-income deemed measure installed payment cost caps have increased for Ductless Heat Pumps, PTCS Air Source Heat Pumps, and Tier 1, 2, and 3 Heat Pump Water Heaters
- New measures are available, including HPWHs for all housing types

Home Type	Measure Types	Increased Installed Measure Cost Payment	New Measure Payment
Single-Family	Ductless or Ducted Mini-Split Heat Pump(s) or Ductless Heat Pump Upgrade	Increasing from \$3,800 up to \$4,400	
	PTCS Ducted Heat Pump Upgrade or Conversion	Increasing from \$3,800 up to \$6,200	
	Tier 1 Heat Pump Water Heater	Increasing from \$1,360 up to \$1,850	
	Tier 2 or 3 Heat Pump Water Heater	Increasing from \$1,700 up to \$2,000	
Multifamily Low-Rise	Ductless or Ducted Mini-Split Heat Pump(s) or Ductless Heat Pump Upgrade	Increasing from \$3,800 up to \$4,400	
	PTCS Ducted Heat Pump Upgrade or Conversion	Increasing from \$3,800 up to \$6,200	
	Tier 1 Heat Pump Water Heater		Dollar-for-dollar, not to exceed \$1,850
	Tier 2 or 3 Heat Pump Water Heater		Dollar-for-dollar, not to exceed \$2,000
Multifamily Mid/High-Rise	Tier 1 Heat Pump Water Heater		Dollar-for-dollar, not to exceed \$1,850
	Tier 2 or 3 Heat Pump Water Heater		Dollar-for-dollar, not to exceed \$2,000
Manufactured	Ductless or Ducted Mini-Split Heat Pump(s) or Ductless Heat Pump Upgrade	Increasing from \$3,800 up to \$4,400	
	PTCS Ducted Heat Pump Upgrade or Conversion	Increasing from \$3,800 up to \$6,200	
	Tier 1 Heat Pump Water Heater	Increasing from \$1,360 up to \$1,850	
	Tier 2 or 3 Heat Pump Water Heater	Increasing from \$1,700 up to \$2,000	

11.11 Low-Income Energy Efficiency Measures

- BPA has discontinued the retail distribution option for low-income advanced smart thermostats. Only contractor-installed advanced smart thermostats will now qualify for low-income payments.
- Added: Qualifying heat pump water heater repair cost examples
- Updated the Low-Income Documentation Requirements table to reflect changes to the standard income equivalent sections, including updates to the Exterior Insulated Door, Ductless Heat Pump, PTCS, Prescriptive Duct Sealing, and Smart Thermostat requirements.
- Clarification: Gross income should be used to calculate income qualification
- Clarification: Payment rates listed for low-income measures in the UES Measure List and IM standard income sections may not accurately reflect the overall per-unit reimbursement totals for some low-income weatherization measures. Please reference the contractor invoice and report the total low-income measure cost and total cost of eligible repairs.

Questions?

Utility Distribution Changes

Tony Koch

Lead Engineer for Utility Distribution sector

12. Utility Distribution

- Refreshed the overall chapter and reorganized the measures from a bulleted list into a table; to clarify the reporting options.

Utility Distribution Measures

MEASURES	UTILITY REPORTING METHOD	
	CUSTOM PROJECT (OPTION 1 OR OPTION 2)	RE-CONDUCTOR & TRANSFORMER CALCULATOR
CVR or VO	X	
Power transformer replacement	X	X
Service conductor replacement	X	X
Higher distribution primary voltage, including insulator additions and replacement	X	
Transformer load management (replacement of improperly sized transformers for loss improvements)	X	X
Balancing loads and phases	X	
Adding parallel feeders	X	
Operation improvement (recognition and phase balancing)	X	
Power factor improvement to reduce line losses	X	
Volt-amperes-reactive, or VAR (reactive power) management	X	
Fixed and switched capacitors	X	
Lower loss service distribution transformer; single- or three-phase, pole or pad mounted	X	X

12.1 Utility Distribution Custom Projects

- Renamed section and clarified the Requirements and Specifications. Also included reference to Option 1 and Option 2 custom project sections and the Simplified Voltage Optimization M&V Protocol.

12.2 Re-Conductor & Transformer Program (Reporting) Option

- Refreshed opening paragraph and reformatted these subsections
 - Requirements and Specifications
 - Documentation Requirements; and
 - Payment
- Current RT Calc V1-1  RT Calc V1-11 to include new B/C threshold
Will be available April 2022.
- Included additional information about customer submission, reference to RT Upgrade in the BPA Energy Efficiency Tracking System and the review process.

Questions?

**Thank you
for your time**

www.bpa.gov/goto/ImplementationManual

